Business Angels – Academic, Practice, and Policy Contexts

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B. Comm., M.B.A.

This thesis is presented for the degree of Doctor of Philosophy.

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Thesis Abstract

Researchers have been investigating the phenomenon of angel financing for almost 40 years, however, few studies investigate business angels in the Australian context. This thesis presents an examination of business angels through three research papers focusing on academic, practice, and policy. This triumvirate identifies what we know about business angels – the academic – how they make decisions – the practice – and, finally, the interaction of government and business angels – the policy. This 'academic, practice, policy' model is formed into a coherent piece of work using a critical research perspective framework, providing insight, critique, and transformative redefinition.

The first paper, the academic, provides a structured literature review of 84 business angel articles published between 2000 and 2013. The paper identifies what scholars know about angel financing and provides a new research agenda. This agenda calls for future research to focus on six key areas of angel financing – policy, crowd sourced investing, the changing nature of angel markets, gender issues, entrepreneurs, and emerging markets.

The second paper, the practice, investigates the decision-making process of business angels using the Australian context to identify the underlying motivating factors of the investment decision. The paper uses qualitative research interviews with angels which are corroborated by interviews with other actors in the ecosystem. Using an analytical framework that combines the decision-making process with investment criteria, the paper identifies four key drivers motivating the investment decision – personal experience, trust, the need to contribute, and realistic expectations.

The third paper, the policy, examines the perspectives of both investors and policy makers in the Australian context. The paper introduces policy theory to frame the analysis – adopting a problematisation approach – allowing for a critique of the implementation and effectiveness of government intervention. In adopting this approach, a disconnect between investors and government is clearly identified. Alongside this theme, the paper identifies a number of new behaviours not seen in the literature. These include the use of diversification to manage risk, and the provision of human and social capital without financial capital – 'sweat equity'.

This thesis aims to stimulate a wider discourse about angel financing and the behaviour of angel markets more broadly. It encourages the reader to think about what they know from a new perspective. Using the three empirical papers, and adopting a view of research as a process, this thesis discusses three interwoven spheres of insight – the changing nature of angels and angel markets (academic), micro issues – human and social capital (practice), and, macro issues – actor engagement (or market organisation) (policy). The subsequent critique of these spheres gives rise to new investor archetypes, questions the extent of angel human and social capital, and discusses the fragmentation of the Australian angel finance market.

The thesis concludes with transformative redefinition to identify ways of rethinking angel financing. This concluding section motivates a broader discourse on angel financing, identifies hidden complexities, opportunities for alternative understandings, and prompts a rethinking of what we know about angel financing. Rethinking our understanding of what exists enables us, as scholars, to build on what we know and refine our understanding even when this is a continuing struggle that includes much practice and frequent false starts.

Statement of Originality

I certify that the work in this thesis entitled 'Informal Venture Capital and the Initial Investment Decision' has not been previously submitted for a degree nor has it been submitted as part of requirements for a degree at any university or institution other than Macquarie University. I also certify that the thesis is an original piece of research and that it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

In addition, I certify that all information sources and literature used are indicated in the thesis.

The research presented in this thesis was approved by the Macquarie University Human Research Ethics Committee, reference number:

5201600223

Brett White ()

10 August 2018

List of Original Publications & Contributions

While I am the principal author of all the papers in this thesis, I acknowledge the contributions of both my supervisors, Associate Professor John Dumay (Principal Supervisor) and Dr. Erik Lundmark (associate Supervisor). I am indebted to both John and Erik for their patience and advice throughout my PhD.

This thesis is based on the following original publications. These are reproduced with permission from their copyright holders. The contribution ratio of authors is outlined below.

I. White, B., and Dumay, J., (2017), Business Angels: A Research Review and New Agenda. *Venture Capital* 19(3): 183-216. doi: 10.1080/13691066.2017.1290889

Contributions

Brett White	80%
John Dumay	20%

II. White, B. and Dumay, J., (2018), The Angel Investment Decision: Insights from Australian Business Angels. *Submitted to Accounting and Finance*

Contributions

Brett White	80%
John Dumay	20%

III. White, B., Dumay, J., and Lundmark, E. (2018), Angel Finance Policy Perspective – Policy Makers and Investors. *Submitted to Accounting and Finance*

Contributions

Brett White	70%
John Dumay	15%
Erik Lundmark	15%

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Business Angels – Academic, Practice, and Policy Contexts

1. Introduction

For almost four decades scholars have been investigating the angel financing phenomenon. During this time, a diverse body of literature has been published that shows angel investors and their finance market is complex, heterogeneous and evolving. This thesis adds to the research on business angels in three contexts – academic, practice and policy. By applying the tasks of critical management research, the analysis reveals hidden issues within angel financing and proffers alternative understandings of this phenomenon (Alvesson & Deetz, 2000, p. 17) to stimulate a wider conversation about angel financing in the Australian context. It is hoped the findings will facilitate a broader discourse on angel finance in all three contexts.

To identify hidden issues, develop alternative understandings and encourage a rethinking of the angel finance phenomenon, it is necessary to develop a deeper understanding of the practice of angel financing. Through an exploration of the decision-making process of angel investors, and its underlying influence factors, this thesis presents empirical findings that go beyond research outcomes (England, 1994) to reflect on the phenomenon of angel financing more broadly. Angels are heterogeneous (Mason, Botelho, & Zygmunt, 2016), and their realities are the result of their differing experiences. Developing a nuanced understanding of those experiences requires interaction with the subject. This phenomenological approach (Collis & Hussey, 2003) supports the use of qualitative research interviews as the primary method of gathering information.

A qualitative research interview provides a "way for researchers to learn about the world of others" (Qu & Dumay, 2011, p. 239). In this study, responses to questions and prompts often came in the form of a story or an anecdote, which resulted in large amounts of data, much of which went unused in the empirical papers. However, as England (1994, p. 82) points out "Research is a *process*, not just a product." For research to be valuable as a process, its value must lie beyond a sense of completion (Bourke, 2014). The tasks of critical management research, and developing insight and critique in particular, allow for reflection on the research process – the conversations, the interviews, the data – beyond the end product.

This thesis first provides a brief overview of the three empirical papers – the academic, practice and policy contexts – contained in the appendices. Here, I do not provide a detailed discussion or summary of each paper, as doing so only serves to repeat the findings and discussions contained in later content. Instead, using Alvesson & Deetz's (Alvesson & Deetz, 2000) critical management research framework, I provide insights into, and a critique of, angel financing before concluding with a transformative redefinition to enable change. In developing a critical analysis of angel finance, it is useful to review the papers written for this thesis (and contained in Appendices A, B & C). These papers provide a useful platform for understanding and critiquing the Australian angel finance market.

Table I - The three empirical papers comprising this thesis

Paper	**Title**	**Authors**	**Status**
Paper I	Business Angels: A Research Review and New Agenda	Brett White & John Dumay	Published in *Venture Capital* (2017) Vol 19, Issue 3
Paper II	The Angel Investment Decision – Insights from Australian Business Angels	Brett White & John Dumay	Submitted to *Accounting and Finance* – currently under review
Paper III	Angel Finance Policy Perspectives – Policy-makers and Investors	Brett White, John Dumay & Erik Lundmark	Revised and Resubmitted to *Accounting and Finance* per editor in chief's request

The three empirical papers in this thesis are listed in Table I. Paper I contains a structured literature review that offers an overview of the state of our present understanding of angel investors. The topology of the research is varied, and the literature review reveals a progression from static investigations of angel investors to more dynamic approaches that focus on the investments and the interactions between actors (entrepreneurs, business angel networks, angel groups, etc.) rather than on a single investor. A structured approach to conducting a literature review is a useful way of studying the extant research. It provides a depth of understanding that enables critical reflection, the development of insights and the identification of possible future research directions (Massaro et al., 2016).

Paper I contributes to the literature by providing insightful and impactful research in a way that is different to the traditional approach (see Massaro, Dumay, & Guthrie, 2016, p. 767). By analysing 84 angel finance articles published between 2000 and 2013, Paper I identifies the principal avenues for publication and highlights the impact researchers in angel financing are having. It compares research since the year 2000 against the agenda laid out by Mason and Harrison (Harrison & Mason, 1999; Mason & Harrison, 1999a) and their rationale for creating the journal *Venture Capital*. The findings from the literature review show that this agenda has largely been met and concludes with a new research agenda for future scholars.

Paper II provides a detailed look at the practice of angel financing, with a particular focus on the decision-making process. The angel investment decision-making process has been well documented (for example, see Feeney et al., 1999; Mason & Stark, 2004; Paul et al., 2007). However, more recent research shows that scholars are still interested in exploring this process (for example, see Croce et al., 2016; Mason, Botelho, & Zygmunt, 2016; Botelho, 2017). This has important implications for developing insights into angel financing. It suggests that early research, while right for its time, may not be relevant for today's business angel.

Paper II contributes a novel analytical framework to the literature that addresses the challenges of the iterative nature of angel investments. The framework is unique in that it integrates investment criteria with the decision-making process. Paper II also contributes from a methodological perspective by interviewing business angels and related social actors in the angel finance market to provide support and corroboration of the findings. In this paper, I identify the underlying drivers that influence the decision-making process including the role of personal experience, the importance of trust, the early-stage emphasis on post-investment involvement, and the need for realistic expectations.

Paper II also provides a number of interesting findings. Angel investors hold a firm belief in a 'right way' of conducting their practice. Understanding the underlying determinates of this belief adds to the growing body of literature. By examining and questioning the nature of angel decision making, Paper II provides a more precise understanding of what drives business angels in the practice of investing. In doing so, this acknowledges more than just the heterogeneity of business angels, but also the impact of context and how the environment in which an angel operates also influences how decisions are made.

In keeping with the understanding that angel investors are influenced by factors within their environment, Paper III investigates the policy context of angel financing to examine the development and implementation of angel-related policy. This paper introduces policy theory to the analysis of new venture financing. Understanding the triggers for policy initiatives and the perspectives of stakeholders provides a platform for identifying deficiencies in policy practice and addresses some issues with how angel investors perceive policy.

The angel market is clearly active in Australia. However, the analysis in Paper III demonstrates that policy-makers and business angels hold divergent views on the value, structure and operation of current government interventions. From a government perspective, angel-related policies assume a broader approach to new venture financing with the aim of increasing access to different forms of early-stage finance. As a result, angel investors are not adequately considered as a distinct group of stakeholders. Further, there is a disconnect between policy-makers and business angels that is likely the result of the government's broader perspective and may be unique to the Australian context. This disconnect is a new finding that has not been presented in the current literature and is a key contribution to understanding how policy may actually be impeding the development of an efficient angel finance market. This paper also contributes to the literature on business angels by identifying policy 'triggers' that, when viewed through the prism of policy theory, reveals that the current interventions do not address the underlying inefficiencies in the market.

This thesis provides an overview of the Alvesson and Deetz (2000) tasks of critical management research. Following this is the insight and critique of three key areas developed through a reflection on the research process (England, 1994) – the changing nature of angels and angel markets, micro issues – human and social capital, and macro issues – actor engagement (or market organisation). The thesis then moves on to the transformative redefinition component of the critical management research framework, offering understanding that enables change, areas where a rethink and revisit is necessary for scholars and practitioners and, finally, a discussion of the hidden complexities of the angel market. Finally, I discuss the limitations of this thesis and some future research opportunities.

In its entirety, this thesis makes several contributions to the literature on angel finance. First, it contributes through the development of new archetypes in both new venture finance and angel investors. These archetypes are based on an analysis of the empirical data, the contemporary literature and reasoning. Using "transformative redefinition" (Alvesson & Deetz, 2000), three areas have been identified as enablers for change, three areas require rethinking, and two areas contain hidden complexity.

The areas enabling change are policy, practitioners' views toward crowdsourced equity funding, and channels of communication. The problems with policy are largely driven by poor implementation. In terms of crowdfunding, practitioners should reconsider their views on the diversification of angel investments. And all actors need to develop better ways of engaging with one another. In rethinking angel financing, the definition of an angel investor needs to be solidified given the changing nature of the new venture finance market and the angel investors operating within it. Additionally, beyond accepting that the human and social capital angel investors provide adds value, variations in the quality of this capital must be considered. Lastly, we must rethink and challenge our views on the value of angel networks, and consider the possibility that they are not always an appropriate vehicle. The two areas with hidden complexity are sweat equity, and its complications, and the dark side of angel financing. As researchers, we must accept that some business angels behave poorly or immorally and question why, how and the outcomes of such behaviour.

2. A brief overview of the literature

2.1. Introduction

In this thesis, I examine angel financing in three contexts – academic, practice and policy. The academic perspective provides a broad overview of the angel finance literature to develop an understanding of where we, as scholars, are situated in terms of our understanding. It also identifies the areas yet to be explored. Building on an understanding of the academic context, I next explore practice by focussing on the decision-making processes of business angels. The investment criteria of angel investors has been well researched (see, for example, Feeney, Haines, & Riding, 1999; Mason & Stark, 2004; Botelho, 2017) as has the process itself (see, for example, Harrison et al., 1997; Riding et al., 2007), yet few studies explore the underlying factors motivating these investment criteria. Paper II on practice addresses this gap. Finally, Paper III on policy examines the perspectives of both business angels and policy-makers in the Australian context with the goal of identifying how policy influences angel investors.

The following brief overview of the literature serves as an introduction to the research covered in the three empirical papers. The three papers provide a much more detailed discussion of the specific literature related to each context. Unlike the literature reviews in the papers, this overview aims to frame the central focus of this thesis, which is the factors that influence angel investors during their decision-making processes to facilitate a broader discussion on angel financing and its evolving nature.

2.2. Defining business angels

Business angels clearly represent an important source of capital. But what is a business angel? Providing a definition may seem simple; however, past attempts have created debate and uncertainty over what exactly constitutes a business angel. The first definition was offered by Wetzel (1981, p. 217), who states that business angels are:

Investors who provide risk capital other than small business investment corporations, venture capital, other institutional investors, and public equity markets; those with high net worth and financial sophisticated; excludes family, friends and debt instruments.

This approach to defining business angels is exclusionary – it defines business angels as anyone who is not one of the categories offered. From this point on, the definition of business angels has been debated and changed multiple times. The term business angel has sometimes been used synonymously with the term 'informal venture capital' (for example, see Wetzel, 1987; Hindle & Wenban, 1999; Haines et al., 2003; Paul et al., 2003). It has also been restricted to a time period. For example, a business angel is an active investor who has made at least one investment in, say, the last three years (for example, see Fiet, 1995; Van Osnabrugge, 1998b). A third approach includes the use of debt as a viable instrument for defining angel investments (for example, see Aram, 1989; Sullivan & Miller, 1990).

Wetzel's definition provided researchers with a starting point from which to explore the phenomenon of angel financing. And while this exploration led to various definitions, more importantly, it identified that the business angel population was not homogenous (Sørheim & Landström, 2001). The heterogeneous nature of business angels has implications for defining business angels: How does one define a population that is, by its very nature, extremely diverse? Despite this, and the almost 40 years of business angel research since, there is still no uniform definition of business angels (see Avdeitchikova et al., 2008).

Perhaps a useful definition is offered by the most prolific authors in the field, Mason and Harrison (2008, p. 309), who define a business angel as:

> *… a high net worth individual, acting alone or in a formal or informal syndicate, who invests his or her own money directly in an unquoted business in which there is no family connection and, who, after making the investment, generally takes an active involvement in the business, for example, as an advisor or member of the board of directors.*

This definition captures the essence of the term business angel. It is specific to a particular type of investor and, in doing so, highlights five elements of a business angel. First, personal assets are used to make the investment. Unlike venture capital funds, which invest other people's money, business angels invest their own money and bear the resultant risk. Second, they may either invest in a firm on their own or as part of a formal or informal syndicate. Third, the investment is made in an unquoted (private) business. Business angels do not invest in publicly-traded companies even though they may have separate investments in share markets. Rather, they invest in private firms that might remain illiquid for several years given the lack of a secondary trading market. This raises an interesting question that has occupied the minds of many researchers: Why do business angels prefer a liquidity-constrained investment rather than investing in the share market? Fourth, business angels invest in firms where there is no family connection. That is, business angel finance is not 'love money'. Business angels are not motivated by the need to support a friend or family member. They invest for other reasons: to realise a financial gain, for the enjoyment of work, or for the excitement of being involved in a new venture. Adding support to this, and building on the ‘funding escalator’ concept, angel financing typically occurs at a later stage in the financing process to that provided by ‘love money’.

The fifth and last component of the definition is one that fundamentally differentiates angel investors from all other early-stage private equity investors – active involvement. Active involvement spans all non-monetary resources business angels provide to support an investment, such as time, energy, knowledge or contacts. However, angel investors may not always provide any or all forms of non-monetary contributions. This is particularly true when a business angel invests as part of a syndicate and may adopt a more passive role (Botelho, 2017). This characteristic is sometimes articulated as “smart money” (see Sapienza et al., 1996; Mason, 2006; Wilson, 2015) and involves using an angel’s human and social capital to add value to a firm.

These five components are central to a definition of a business angel. However, one point is missing from our breakdown of Mason and Harrison’s definition – the high net worth component – because introducing a wealth measure also introduces some ambiguity. If an individual meets all other criteria in the definition but fails to meet the arbitrary amount imposed by a financial institution or government regulation, does that preclude them from being a business angel? Further, the changing nature of the angel market, its heterogeneity, the growing presence of angel groups and syndicates, means that investors are able to pool their funds. They may not have large amounts of personal capital, but, when pooled with other investors, can make more modest investments personally. It is worth noting, however, that pooled funds using ‘crowd investing’ does not constitute part of the definition of a business angel, though they may use these platforms in a different capacity.

While the use of the term high net worth individual is certainly debatable within the context of a definition of business angels, the other major components are still relevant today. Indeed, while the context of angel investing has changed, in opening up new avenues of inquiry and in reflecting on my own journey toward understanding business angels, I assert that the most appropriate definition of a business angel is the one offered by Mason and Harrison (2008, p. 309) with the exclusion of the term high net-worth individuals. So, a business angel is:

> *An individual, acting alone or in a formal or informal syndicate, who invests his or her own money directly in an unquoted business in which there is no family connection and, who, after making the investment, generally takes an active involvement in the business.*

This definition includes the five components of the original Mason and Harrison (2008) definition but excludes the high net worth component. Like the original definition, it is also useful because of what it does not include – channelling requirements and the form of security. Avdeitchikova, Landström, and Månsson (2008) posit that requirements relating to the channelling of an investment create a grey area for definitions. This requirement means that business angels may use private companies as a way to manage their investments. Some studies, such as Fiet (1995), see these investors as 'quasi-angels', rejecting those who fit into this category. The absence of channelling in the definition is unproblematic. The funds used by these private investment channels are the funds of the owner, who is, in all other respects, still a business angel.

In terms of the form of security, again, its absence from the definition is also unproblematic. Excluding this criterion allows for more flexibility when determining a form of securitisation (a decision made by the business angel). The use of equity, debt, or a hybrid security, such as a convertible note, does not preclude the investor from being defined as a business angel. There may be sound risk management reasons for using different forms of securitisation. The absence of both channelling requirements and security forms does not create a definitional problem. These can be attributed to individual angel characteristics (or perhaps typologies). Indeed, the inclusion of these two 'grey areas', like the inclusion of a high net worth requirement, would exclude many angel investors from being defined as such.

2.3. Business angels – the academic context

Business angels represent an important source of capital for entrepreneurs. Historically, they are the primary source of external equity capital for new businesses (Wetzel, 1983; Aram, 1989; Freear & Wetzel, 1990). A defining characteristic of business angels is their contribution to post-investment in a firm, that is, the human and social capital they bring in addition to their financial investment (Mason & Harrison, 1999b; Harrison & Mason, 2000). The contribution of this "value-add" (see Fairchild, 2007; Severinsen et al., 2012) is important to the development of an entrepreneurial ecosystem. Having a better understanding of the behaviour of angel investors, and how they are influenced by and interact with policy that is designed to increase the supply and demand for new venture finance. can facilitate the development of the Australian entrepreneurial ecosystem.

The research into business angels is extensive, covering a diverse range of topics across three generations of literature. The first generation spans the 1980s to the early 1990s; the second generation spans the early 1990s to 1999 and marks the introduction of a key venue for publishing angel research *Venture Capital*; and the third generation describes research from 2000 and beyond. Each generation brings a new perspective to the angel finance phenomenon.

First-generation research largely profiles the angel ecosystem, focussing on the European and US markets – a trend that continues. Subsequent studies investigated the investment process and the then emerging presence of formal angel networks. These studies, however, were hampered by a lack of large-scale datasets (Harrison & Mason, 1999, p. 99). This problem has not been completely resolved and is particularly true in Australia, where fragmentation, jurisdictional regulations and geography hinder the development of nation-wide angel networks. Third-generation studies began to explore the phenomenon more fully with analytically and geographically diverse research, with studies continuing to investigate profiles beyond the confines of Europe and North America.

These research generations are a neat way of classifying periods of inquiry, but this does not mean that early studies were exhaustive. Indeed, what could be viewed as first-generation studies have been published as recently as 2017 (Harrison et al., 2017). Likewise, the business angel investment decision-making process still holds relevance for current scholars (Botelho, 2017). This continued, or possibly renewed, interest in these subjects is likely driven by the heterogeneous nature of business angels and the changing market, and serves as an indication that these issues have not yet been fully explored; opportunities to push beyond the boundaries of our ignorance still exist.

According to Riding (2008), business angels represent a hidden financial resource. But understanding their motivations for investing, and the varying levels of importance placed on company and entrepreneur attributes only goes part of the way to improving our understanding of angel behaviour, and viewing the angel investor in isolation only provides some knowledge. Angel investors, with their varying criteria and heterogeneous nature, do not operate in a vacuum. Clearly, the entrepreneur and their business play an important role in influencing decisions. A third actor within the ecosystem, one which aims to address some of the market inefficiencies present in the funding escalator, is government. It is reasonable then to question the role that government plays in supporting the angel market.

2.4. Decision making and investment criteria – the practice context

The literature on business angel decision making is diverse and extensive (see Paper I). The extant research addresses decision-related topics, such as investment readiness (Brush et al., 2012), trust, agency and risk (Van Osnabrugge, 2000; Maxwell & Lévesque, 2010; Maxwell et al., 2011). It also explores whether angels are influenced by the opportunity or the entrepreneur (the so-called 'horse and jockey' debate) (Clark, 2008; Mitteness et al., 2012). In addition to these criteria-based studies, scholars have developed formal models of business angel decision-making processes (particularly, Tyebjee & Bruno, 1984; see also, Haines, Madill, & Riding, 2003; Riding, Madill, & Haines, 2007). An overview of these decision-making models is provided in Paper II.

While extensive, the research on business angel decision making does have limitations. These can be broken down into three main areas. First, research focussing on the decision-making process frequently presents models that are linear and/or sequential in nature (for example, see Van Osnabrugge, 2000), yet the process is usually unorderly and iterative (Paul, Whittam, & Wyper, 2007). Second, the research does not acknowledge a post-investment involvement stage with some models even excluding the exit stage of the process (for example Dal Cin et al., 1993; Feeney, Haines, & Riding, 1999). Finally, the research views post-investment involvement as a monitoring activity rather than one of adding value (see Van Osnabrugge, 2000; Paul, Whittam, & Wyper, 2007).

Understanding the decision-making process of angels is useful for both entrepreneurs and nascent angels alike (see Paul, Whittam, & Johnston, 2003; Harrison et al., 2015). For entrepreneurs, it provides insight into the way angels make decisions and the stages they go through during the process. It also serves as a warning that the process is neither straightforward nor neat (Paul, Whittam, & Wyper, 2007), and the ability to manage impressions throughout the process is critical (Mason & Harrison, 2003a). For new angel investors, this type of research provides an understanding of the importance of each stage, and that the process is iterative.

The decision-making process cannot be separated from the investment criteria angel investors consider when making their decisions. Here again, a number of studies examine the investment acceptance and rejection criteria of business angels (for example, see Sudek, 2006; Carpentier & Suret, 2015). The criteria identified in the literature can broadly be classified into three categories: financial factors, relating to financial information, such as valuation, revenues and capital requirements; business strategy factors, which include market-based criteria, such as competition, scalability and barriers to new entrants; and personal factors, such as the entrepreneur's characteristics and their fit with the angel investor.

Understanding the criteria on which business angels accept or reject a deal is clearly important for entrepreneurs. However, what is missing from these studies is the weight given to different stages of the decision-making process. That is, business angels may consider a particular stage of the process to hold some importance in evaluating the opportunity. Most notably, both the deal origination and exit strategy could possibly influence the decision-making process. These factors are notably absent from the majority of criteria-based studies, with the exception of Paul (2007) who does consider deal origination to be a criterion.

A key characteristic of angel investors is their involvement in the firm following their financial investment (Mason & Harrison, 2008). That business angels bring both human and social capital to a firm is well established in the literature (for example, see Ehrlich et al., 1994; Macht & Robinson, 2009). These value-adding activities represent an important aspect of angel investment and necessitate a good working relationship with the founder of the firm and their management team. It is, therefore, not unreasonable to expect that a business angel would also consider their post-investment involvement as an important criterion. However, while the characteristics of an entrepreneur are typically considered as one of the acceptance or rejection criteria (see Mason & Stark, 2004; Sudek, 2006), post-investment activities are not.

Both the decision-making process and angel investment criteria are well researched, though as discussed, the extant literature is not without its limitations. Even after four decades of angel finance research, further opportunities exist to develop our understanding. This is evidenced by contemporary scholars who continue to investigate areas that can be considered as early-stage subjects – for example, Botelho's (2017) doctoral thesis examining angel decision-making criteria.

To unpack the complexity of angel investment, it is necessary to look beyond the mechanics of the investment decision and identify the underlying factors that motivate the beliefs and actions of angel investors. It is important for scholars to consider and examine how both the decision-making process and the investment criteria are interrelated and what elements influence an angel investor during the decision-making process.

2.5. Government intervention – the policy context

Understanding the investment process and the criteria of investors is clearly important. However, angel investors are also influenced by factors beyond the angel-entrepreneur relationship. With the changing nature of angel investing from an individual to a collective approach (Mason et al., 2013), it is important to understand the effect of others in the investment decision. This is particularly so in Australia given the recent introduction of policies targeting angel investors and the increased public consciousness toward angel financing. This thesis contributes to our understanding of external influencing factors by investigating the role of public policy in angel financing.

Governments see angel investment as important and have therefore sought various ways of stimulating this segment of the funding escalator (Riding, 2008). However, while some small parts of the Australian public policy do target investors, the majority of interventions have taken a much broader approach to new venture finance. As a result, angels have generally not been sufficiently considered as a separate group of stakeholders in shaping policy. Nevertheless, these interventions aim to increase supply and demand for early-stage finance (Wilson, 2015). As a result, it is reasonable to assume that they have some influence on the way business angels go about their activities.

Government intervention into the new venture finance market is motivated by the need to address market inefficiencies resulting in a lack of access to capital (Mason & Harrison, 2003b). Two factors identified in the literature are offered as explanations for this problem. First, information asymmetries result in high uncertainty for investors (Collewaert et al., 2010). The second source of market failure is that of research and development externalities (Collewaert, Manigart, & Aernoudt, 2010), meaning that benefits are generated for parties outside the firm conducting the research (Lerner, 1999). Both these factors mean investors are less willing to provide finance or that they provide less finance than is optimal.

In attempting to address market inefficiencies and the resulting lack of access to capital for new ventures, governments intervene in three main ways (Wilson, 2015). First, through supply-side interventions, such as direct capital provision, tax-incentives and crowdfunding. Second, through demand-side initiatives that aim to increase the quality of new ventures. Finally, through matchmakers that facilitate connections between entrepreneurs and investors. In Australia, most of these policies have been implemented at all three levels of government to varying degrees. The exception is policies relating to matchmakers – primarily business angel networks – which are privately created. In addition to government initiatives, there are a large number of private and university initiatives, known as spin-off incubators or accelerators.

As this thesis explores the factors influencing business angels, it is helpful to view the policy-related literature and decision-making literature. To this end, the angel finance literature dealing with policy consists of three main types of papers. The first category includes articles that evaluate government interventions and the responsiveness of angels to the various policy measures (for example, Collewaert, Manigart, & Aernoudt, 2010; Bilau et al., 2017). These articles are particularly helpful in examining the role they play in the angel investment process. The second category of articles is those that discuss the role of government policy and policy approaches more broadly (for example, Christensen, 2011; Baldock & Mason, 2015). The last category includes articles that identify policy implications and policy lessons (for example, Mason & Harrison, 2015; Wilson, 2015). These articles are particularly helpful for classifying the different policies used by governments.

The policy literature raises interesting questions when viewed in the context of recent Australian policy measures (for example, at the Federal level, see DPM&C, 2015). For example, the introduction of crowdsourced equity funding (CSEF) has enabled businesses to raise capital as small amounts of money from a large number of investors. In fact, in Australia, companies are allowed to raise up to $5 million a year using CSEF (ASIC, 2017). However, the volume of investors means there is little interaction between the firm's managers and its crowd investors. Viewed in the context of a problem the policy seeks to solve, such as information asymmetry, this lack of interaction can be problematic. In this example, reducing information asymmetry to create trust would require face-to-face contact between the investor and investee (see Aernoudt, 1999; Collewaert, Manigart, & Aernoudt, 2010). If crowd investors are largely passive (Larralde & Schweinbacher, 2012), but face-to-face contact is required to reduce information asymmetry, then this government policy is not likely to provide a solution. This issue is compounded in Australia where the burden of disclosure and compliance has been significantly reduced (Nehme, 2016; Cawson, 2017), meaning less information is available to investors.

This particular example, while seemingly esoteric, highlights some of the contradictions in government policy. These contradictions make measuring the success of government interventions difficult. Further, from a policy theory point of view (Cairney, 2012; 2016), these contradictions mean that the government interventions are often unsuccessful at addressing the problems inherent in the new venture finance market (see Wilson, 2015).

In terms of the influence that government interventions have on business angels, there is some evidence to suggest that government policy has a positive impact on business angels

(Bilau, Mason, Botelho, & Sarkar, 2017). This is an interesting finding given the preceding discussion on the contradictions and problems inherent in policy approaches. This combined with the broader approach that governments take to new venture finance (i.e., they do not specifically target angel investors), suggests that policies may not be effective or that they may not have an influence on angel investors.

From a research perspective, it is important to understand how business angels view government policy in the context of their decision making. Given the juxtaposition between policy, academia and the subsequent contradictions in government policy, it is also important to understand the perspective of policy-makers. This may provide scholars with more nuanced insight into the operation and development of government interventions.

2.6. Conclusion

Business angels operate in a dynamic and evolving market (see Mason, Botelho, & Harrison, 2016) and their changing nature means that our understanding of the angel financing phenomenon must also evolve. This thesis explores angel financing through the lens of their decision-making process and the factors that influence them. This lens provides an opportunity to develop a broader understanding of angel financing beyond a mechanical examination of the decision-making process. Identifying the influential factors elucidates angel investor behaviour and frames the contemporary angel financier. Viewing the influences on angel investors also allows this study to move beyond a simple understanding of one facet of angel financing and draw a broader commentary about the essence of the phenomenon.

3. The importance of business angels

Since Wetzel's early studies, researchers have tried to understand, and even measure, the importance of business angels and their contribution. This is an enormous challenge because the hidden nature of business angels creates a data limitation. Given that many investments are made on an informal basis and are not publicly reported, the business angel investment market is difficult to quantify. Nevertheless, researchers and peak associations continue to evaluate the importance of the angel market and measure its size. The majority of attempts to measure the size of the angel market have looked at the visible market (such as angel networks) and then tried to extrapolate the size of the total market (Mason & Harrison, 2000; Botelho, 2017). However, this is by no means the only approach.

Other approaches to estimating the size of the angel market include: a market-based approach, a firm-based approach, and a capture-recapture approach (Mason & Harrison, 2000). The market-based approach estimates the number of business angels by considering the demand and supply side of the market. Researchers make assumptions based on the number of start-ups created each year and their position on the funding escalator. This is corroborated by viewing the supply side. As an example, Wetzel (1986) used the Forbes' 'rich list' to identify the proportion of people who were 'self-made', fitting the view that business angels are typically entrepreneurs, and then applied this percentage to the population of people with a net worth of over $1 million. Wetzel then made a final assumption that half of these people invest in any year. The problem with this, aside from the definitional concerns, is that it is based on fragmented pieces of data and is a crude estimate.

The firm-based approach is equally crude, using random samples of firms to identify those that received finance from business angels and deriving the number of investors from the total number of firms and the percentage having business angels, multiplied by the average number of investors per firm (giving the total number of investors). This figure is then multiplied by the average investment per investor, which is subsequently divided by the investment holding period to give an estimate of the annual amount of investment (see Arum, 1987; Gaston, 1989).

The final approach, the capture-recapture method, used by Riding and Short (1988) is based on the number of times each of 50 investors in a sample of business angels is nominated by others in the sample – a method that was originally used to estimate the population of a species in biology (Mason & Harrison, 2000). This produces an estimate of the size of the business angel population in a geographic region, which can be used to estimate the percentage of investors in a total population. Mason and Harrison (2000) identify a number of problems with this method. However, its most notable weakness relates to the strength of a business angel's networks and their willingness to volunteer the names of other investors

In Australia, estimates of the size of the sector vary wildly. Bygrave (2003) estimated the amount of informal investment in Australia to be $2.5 billion, or seven times the amount of institutional venture capital invested that year. Peacock (2004) estimated that, in Australia in 2004, the total amount of informal equity investment was approximately $1 billion, significantly less than Bygrave. Earlier research suggests that the informal venture capital market is at least as large as, or is similar in size to, institutional venture capital funds (Freear & Wetzel, 1990; Benjamin & Margaulis, 1996). In 2017, the amount of venture capital invested in Australia was $429 million (AVCAL, 2017), a significant decrease from the Peacock estimate.

Estimating the size of the population of business angels, or the size of the angel investment market is clearly difficult. Moreover, these estimations rely on different definitions of angel investors, which vary widely and may include the 'pre-angel' stages of the funding escalator. However, while business angels contribute financially, this financial investment is only a single component of the definition of a business angel. Business angels provide significant non-financial inputs to the growth and viability of the firms in which they invest (Riding, 2008). They provide mentoring, advice, contacts and other forms of value-added knowledge, including accreditation with respect to further institutional financing (Madill et al., 2005) – they may act as a positive signal for later stage investors.

Setting aside the financial capital they provide, business angels also provide human and social capital. This added value can be expanded to include a strategic role, a monitoring role, a resource acquisition role, and a mentoring role (see Severinsen, Ragnøy, & Dybvik, 2012). The value-added activities of business angels are well established in the literature. Table II provides an overview of the research on these activities.

Table II – Value-added angel activities

Classification	Value-added Activity[1]	Research	Examples
Human Capital Development	Strategic Role	Harrison and Mason (1992) Ehrlich et al (1994) Stevenson and Coveney (1994) Lumme et al (1998) Tashiro (1999) Ardichvili et al (2002) Politis & Landström (2002) Paul et al (2003) Brettel (2003) Madill et al (2005) Macht and Robinson (2009)	• Board role • Business 'know-how' • Business concept/model development • Development of strategies and plan • Evaluation of activities • Fill knowledge and experience gaps • Industry knowledge and insights
	Monitoring Role	Ehrlich et al (1994) Lumme et al (1998) Ardichvili et al (2002) Sætre (2003) Brettel (2003) Amatucci & Sohl (2004)	• Financial advisory • Operational management assistance • Strategic management and control
Social Capital Development	Resources Acquisition Role	Ehrlich et al (1994) Lumme et al (1998) Prasad et al (2000) Ardichvili et al (2002) Paul et al (2003) Brettel (2003) Sætre (2003) Amatucci & Sohl (2004) Sørheim (2003) Madill et al (2005) Macht and Robinson (2009)	• Access additional sources of capital • Access to industry networks and contacts • Networking activities • Recruitment • Signal to later stage investors
	Mentoring Role	Freear et al (1995) Brettel (2003) Sætre (2003)	• Coaching • Mentoring

Note: Lumme, Mason, and Suomi (1998) provide a detailed list of specific contributions linked to the value-added role of business angels. 1 - see Politis (2008)

The literature establishes that business angels play a key role in new ventures. They provide financial, human and social capital. The angel investment market is recognised as the most important source of early-stage equity capital for new ventures (Berger & Udell, 1998; Bygrave & Hunt, 2004). This market's importance to early-stage ventures derives not only from financial contributions but also from the corresponding value-adding activities – business angels are 'smart money' investors (Mason & Harrison, 2008). Governments see angel investment as important and have sought various ways of stimulating this segment of the funding escalator (Riding, 2008). Aernoudt (2005b) argues that, because formal venture capitalists focus on later stages of a firms development, business angels have become more important. As a result, policy measures have been introduced by many governments to stimulate the angel investment market. Angels are, therefore, important to both new ventures and to governments. The behavioural characteristics of business angels – their smart money – and the underlying drivers motivating the investment decision-making process are the subject of this thesis.

4. Research methodology

The objective of this section is to align the tasks of critical management research with the different approaches that can be used to develop empirical research in angel financing. Scholars have traditionally been confronted with the choice of two distinct paradigms by which to conduct their research: positivistic or phenomenological (Collis & Hussey, 2003). These approaches are commonly referred to as quantitative and qualitative. Proponents of positivism argue that the reality is independent of the researcher (Morcol, 2001). Supporters of the phenomenological approach argue that reality is subjective and the researcher interacts with what is researched (Collis & Hussey, 2003).

This thesis seeks to identify the factors that influence business angels during their investment activities. These factors may be internal and behavioural, such as those based on past experiences, or they may be external, such as public policy or social trends. To develop a deeper understanding of the angel decision-making process, it is necessary to ask how and why decisions are made. This is a search for explanations and the operational links that need to be traced over time, rather than mere frequencies of incidence (Yin, 2014). To explore these types of issues, it is necessary to develop a rapport with the subject, enabling them to elaborate on thoughts and reflect on their responses. Given the need to interact with what is researched – in this case, angel investors and related social actors – a phenomenological approach (Collis & Hussey, 2003) with a qualitative research interview as the methodology is appropriate.

Investigating the factors that influence angel financing and angel investment decisions requires the researcher to look for detailed information about thoughts and behaviour. Interviews provide a good platform for an in-depth exploration of these types of issues (Boyce & Neale, 2006). They provide the researcher with the opportunity to learn the individual perspectives and experiences that are useful for discovering nuance (Jacob & Furgerson, 2012).

There are three broad categories of interviews – structured, semi-structured, and unstructured (Qu & Dumay, 2011). The structured approach uses pre-established questions, which allows for limited responses and precludes follow-up questions. This approach limits the researcher's ability to reveal deeply considered views. The unstructured approach encourages participants to 'talk around' a theme (Rowley, 2012), but this makes data comparison difficult. The semi-structured approach has the advantage of being able to probe responses, while still providing a useful body of comparable data. This is the approach I employed for this research.

Business angels are notoriously difficult to identify, a problem that has plagued scholars since the early days of research in the field (Wetzel, 1983). To identify the participants, I contacted several well-known people in the angel investment community with the view to using chain referral sampling (see Coleman, 1958; Biernacki & Waldorf, 1981) to build up the number of interviews. This approached yielded several interviews, but the chain went no further than one link. As a result, I used my own personal networks, and the networks of my doctoral supervisor, to identify additional participants. In addition, during conversations with colleagues, I took any opportunity to ask if they knew of people that may be appropriate to interview. These latter two methods provided the majority of participants given that chain referral sampling proved to be of little use. Although, interestingly, it did highlight some intriguing evidence, which is discussed further in the conclusion to this thesis.

The participants were located in Sydney, Melbourne, Brisbane, regional New South Wales and Auckland, New Zealand. Given the geographic diversity, most of the interviews were conducted either via Skype or telephone. Some Sydney-based interviews were conducted face-to-face. All interviews were recorded and transcribed. Prior to each interview, I typed up a brief background on the participant (if known) and undertook pre-interview reflection. During the interviews, I took frequent notes on general issues that I thought were worth reflecting on, along with specific points that were interesting or unusual, points that supported (or did not support) what others had said, and points that required follow-up questions. Following the interviews, I reflected on the information and wrote a brief post-interview reflection (see Appendix D). These reflections were based on the interview itself and the notes taken during the interview. I found that Skype interviews provided me with more time and flexibility to take notes compared to face-to-face interviews.

A professional service was used to transcribe the interviews. The transcriptions were then imported into NVivo. This allowed me to organise what had been said, when, and by whom (Welsh, 2002). As noted in Paper II, the data was coded to generic nodes based on the literature review followed by an iterative coding process, which resulted in new nodes. During the coding process, I added annotations based on my reflections and using my knowledge of the literature to guide my comments. This resulted in points that did not always correlate with what was stated in the extant research. In some cases, this was a one-off event, while in other cases the issue arose more regularly. Where this occurred, I reflected on how I could use the data in either the empirical papers or the subsequent synthesis.

Given that research is a process (England, 1994) rather than a distinct outcome, I felt it important to reflect on all the data I gathered, much of which went beyond decision making and public policy. Rather than seeing this extra data as a disadvantage, or a task that required a large amount of effort to 'weed out' the relevant material, I saw it as an advantage of the semi-structured interview. The extra data allowed me to study the facts, without neglecting their meaning and context (Alvesson, 2003). I, therefore, used this extra information to inform and extend my overall findings beyond the three papers.

5. The three papers

In light of the critical stance taken in relation to angel financing, the main objective of this thesis is to investigate and examine angel financing in three contexts – academic, practice, and policy. The three papers comprise the empirical content of this thesis. Examining each of these contexts aids our understanding of the angel financing phenomenon and expands the "boundaries of our ignorance" (Wetzel, 1986, p. 131).

Using the Australian context for Papers II and III provides an interesting background to understanding the behaviour of business angels and their interactions with their operating environment. The new and dramatic shifts within this context provide an opportunity to investigate business angels when their activities are at the forefront of the public consciousness.

The following section provides an overview of the research questions and findings from each paper. The aim is not to repeat the conclusions as they are presented in each paper. Instead, the summary of findings presented in Table III provides a useful anchor point for the discussion on the critical perspective framework.

5.1. The academic context

Paper I examines the academic context using a structured literature review that builds on work by Harrison and Mason (Harrison & Mason, 1999; Mason & Harrison, 1999a) in their rationale for establishing the journal *Venture Capital* – the primary avenue for the dissemination of angel finance research. Paper I reviews 84 business angel articles published between 2000 and 2013 and conducts a meta-data analysis using the structured literature review methodology (Massaro, Dumay, & Guthrie, 2016). This approach answers three research questions based on the three outcomes of critical management research: insight, critique, and transformative redefinition (Alvesson & Deetz, 2000). The three questions answered by Paper I are:

1) *How has the business angel research developed since 1999?*

2) *What is the critique of business angel research?*

3) *What is the future for business angel research?*

In answering these questions, Paper I makes a key contribution by proposing a new research agenda while acknowledging that there are still gaps in our understanding of early research typologies. Given the changing nature of the angel market, it is particularly important to revisit earlier research to revise and develop our understanding of the impact both time and change has on scholarly research. What scholars discovered in the early years of angel research was correct for the time; however, the evolving nature of angel finance means that what 'we knew then' does not necessarily apply now.

5.2. The practice context

Paper II explores the practice of angel finance with a focus on the decision-making processes of Australian business angels. The paper relies on an analytical framework that emphasises the relationship between the investment process and the investment criteria. There is already a significant amount of research into angel investment decisions. Yet, much remains unknown about the unique attitude that business angels have toward investment criteria (see Van Osnabrugge, 1998a; Mason, 2002). Further, the evolving nature of angel finance requires revisiting earlier understandings to determine their current relevance.

The characteristics of business angels have a bearing on the way they make decisions, most notably in deal origination and post-investment involvement. Paper II answers the following research question:

- *What underlying drivers influence business angels during the investment decision-making process?*

Paper II makes a number of contributions to the research beyond identifying limitations in the literature. These contributions are both methodological and research-oriented. Beyond identifying broad themes of personal experience – trust, the need to contribute and realistic expectations – Paper II identifies four interesting quirks in the Australian market: diversification, sweat equity, the operations of formal networks and the value of the 'pitch'. All have implications for our understanding of angel financing and for past and future research and practice. And all give rise to the need to update existing typologies.

5.3. The policy context

Paper III is an investigation of angel finance policy and the perspectives of both policy-makers and investors. This paper makes a novel contribution by incorporating policy theory to analyse the implementation of new venture finance policies. The policy papers relating to angel finance provide insight into the value of policy; they are either evaluative, discussing the role of policy in angel finance or identifying policy implications and lessons (for example, see Collewaert, Manigart, & Aernoudt, 2010; Baldock & Mason, 2015; Mason & Harrison, 2015). While they do not discuss policy theory, they do discuss motivations for intervention from a policy theory perspective, which is the topic to be addressed.

To analyse policy, Paper III adopts a problematising approach, that is "what the problem is represented to be" (see Bacchi, 2009). This approach allows the 'problem' to be identified (sometimes referred to as a 'trigger event') by interrogating the policy and its practical operationalisation. This provides an opportunity to question our assumption that policies solve problems. Further, interviewing policy-makers and investors helps to develop insights into the implementation of a policy and determine whether it, in fact, does solve the targeted problem, such as market inefficiencies, information asymmetry, externalities, and so on (see Lerner, 2009; Collewaert, Manigart, & Aernoudt, 2010; Wilson, 2015).

Paper III elucidates the perspectives of policy-makers and investors during a time of increased focus on public policy. Understanding the perspectives of these stakeholders is important for developing an angel market that facilitates this form of capital raising, rather than hinders it. In addition to identifying if a policy solves the problems it represents, the policy theory approach allows for the analysis of policy implementation via the perspectives of investors and government.

Ultimately, the paper challenges the reader to recognise that our current status quo is not necessarily the best or only way of developing an efficient angel finance ecosystem (or even a new venture finance ecosystem). As a result, the research question for Paper III is:

- *What problems trigger new venture finance policy and how do business angels and policy-makers view its implementation?*

While the perspectives angels and policy-makers hold on specific interventions are interesting, the more important observations are born from analysing and reflecting on the aggregate of responses. Overall, Paper III contributes to the literature by identifying a theme of disconnect between investors and policy-makers. To some extent, this explains the behaviour of business angels and actors in the Australian market. Using a problematisation approach to policy theory (Bacchi, 2009) and understanding that policy interventions are motivated to resolve market inefficiencies (Wilson, 2015), Paper III contributes to the literature by identifying that these policy triggers remain unaddressed.

5.4. Conclusion

Viewed in their entirety, the three empirical papers, along with their subsequent analysis and this thesis, offer an overarching critical examination of business angels from a theoretical, practical and policy perspective. This thesis is a discussion from a critical perspective and a reflection and critique of reality. It is hoped this thesis will engender a discourse between academics, practitioners and policy-makers that enables change (Dumay, 2008). This change is not for its own sake, but rather change based on a reasoned analysis so that the full benefits of a strong and well-organised angel finance community can be realised.

Table III – Paper findings, contributions and implications

Paper & Context	Research	Practice	Policy
Paper I. The Academic – Business Angels: A Research Review and New Agenda	Policy and programs Crowd investing (Crowdsourced equity funding) Changing nature of the angel market Gender issues Entrepreneurs Emerging markets, localism and internationalisation	Social capital improvement (individual angels) Social capital improvement (market)	Increasing the supply of funds Increasing demand for funds Facilitating connections Educating entrepreneurs
Paper II. The Practice – The Angel Investment Decision: Insights from Australian Business Angels	Use of corroborating interviews Changing nature of business angels Sweat equity Diversification as risk management Angel typologies Value of the "pitch" Market structure and organisation	Pitches may not be worthwhile Value of "sweat equity" investors Direct approaches to BANs not effective Matching entrepreneurs and angels Entrepreneurs must focus on cash flow, business model optimisation, and harvesting Need to develop social capital (entrepreneurs and angels) Deploying "smart" money	Facilitating connections Entrepreneur education of business fundamentals
Paper III. The Policy – Angel Finance Policy Perspectives – Policy Makers and Investors	Identification of disconnect Post-incubation capital raising Program efficacy using multiple methods Market structure and organisation Application of policy theory to angel finance (Trigger points and solution effectiveness)	Government and angel engagement Developing angel human and social capital	Communication of policy Facilitating connections Developing angel human and social capital Market organisation Simplification of policy processes Encouraging large firms to buy from new ventures Governments as customers of new ventures

6. The tasks of critical management research

At this point in the thesis, it is necessary to ensure that the reader has read and engaged with the three empirical papers in the appendices because what follows refers back to them.

The following sections use the three papers, plus additional evidence from the research process (see England, 1994) not included in the papers, and Alvesson & Deetz's (2000) tasks of critical management research.

6.1. Introduction

This section contains an overarching discussion of the main features of the thesis from a critical perspective. The discussion does not include a detailed reworking of the individual papers contained in the thesis, but rather provides an overall synthesis of the insights elucidated by the papers using the tasks of critical management research.

The goal is to stimulate a wider discourse about angel financing in Australia and the behaviour of angel markets more broadly. Such a discussion is important as it uses past practice to inform future practice of business angels. The tasks of critical management research provide a framework with which to question, interpret and "disrupt" a social reality (Alvesson & Deetz, 2000, p. 1). The role of the critical researcher is "one of enabling an open discourse among the various stakeholders" (Alvesson & Deetz, 2000, p. 139). To this end, this section discusses the findings from this thesis through the frameworks three "legs" – insight, critique and transformative redefinition. The following discussion lays out the main contributions of this thesis beyond the findings in the three context papers, challenging the reader to consider what they already know about angel financing in a different light.

Importantly, this section follows the three-context framework and is structured according to each of the contexts – academic, practice, and policy. While insights are developed from an exploration of practice and policy, the academic context is considered through critique and subsequent discussion. As a result, all three contexts are closely related.

This section begins with a discussion on insight and critique in the context of the tasks of critical management research, followed by the insights drawn from the papers, as summarised in Table I, and my critique of these insights. The section concludes with the third leg of critical management research – transformative redefinition.

6.2. Insight and critique

The primary purpose of critical insight is to develop both meaning and understanding. Insight is practical knowledge – structured “along the lines of the powerful exemplar rather than the mass of data” (Alvesson & Deetz, 2000, p. 141). Insight is the result of an interpretation that “a) addresses something non-obvious, b) makes sense of something, and c) is perceived as enriching and understanding – it adds to what the subject understood prior to the insight” (Alvesson & Deetz, 2000, p. 141). The insights in this section have been developed by interpreting the collective results of the three papers in this thesis and reflecting on the data gathered from interviews and conversations.

Critique cannot be separated from insight and within insight lies a critical element in the sense that our previous understanding is unsatisfactory (Alvesson & Deetz, 2000, p. 144). The subsequent insights have been developed from an aggregate view of this research. They are not merely present in all three contexts but are closely related to one another. A critique is a detailed analysis and assessment – evaluating, questioning and building on the insights. As such, the insights and subsequent critique are inextricably linked and are discussed together within the context of critical management research, rather than as separate components.

In viewing the data for this thesis and reflecting on the findings presented in the three papers, this section presents three key spheres of insight. These spheres appear across all three contexts of this investigation – academic, practice and policy. Consequently, even though they are organised into sections, they are interrelated. Policy and practice issues provide an opportunity for further academic exploration and discussion. The academic is therefore woven into practice and policy.

The three spheres of insight are good exemplars of the Australian angel finance experience and are built on observations of and interactions with the Australian business angel environment. They are offered to develop a discourse to inform the future of all three contexts and constitute the major contribution of this thesis.

The process of identifying the three spheres, and their subsequent naming, is worth explaining. By reviewing the three papers offered in this thesis, along with reflections on the data, my preand post-interview reflections (see Appendix D) and the many conversations during the course of this study, I identify three spheres of insight. Their names are mechanical in nature, but they focus on three areas that are the "outcomes of interaction" (Alvesson & Deetz, 2000, p. 149) with the business angel environment. The three insight spheres are:

1) the changing nature of angels and angel markets (academic)
2) micro issues – human and social capital (practice)
3) macro issues – actor engagement (or market organisation) (policy)

At first glance, social capital development and actor engagement appear to be the same. I have chosen to separate these on the basis that they can be classified as micro and macro respectively. The first deals with the individual context – angels, entrepreneurs and policy-makers. The latter has a much broader meaning and relates to the organisation of the angel finance market – the engagement between actors within the ecosystem (see Isenberg, 2011).

In the following sections, I discuss each of these three spheres, integrating the academic, practice, policy context framework of this thesis. The themes are interwoven throughout the angel finance phenomenon – at least they are in the Australian context. They aim to capture some of the hidden complexities in the Australian market to inform discourse and, ultimately, to resolve some of these complexities, which contribute to market failures and imperfections (see Wilson & Silva, 2013).

6.2.1. Academic: changing nature of angels and angel markets

Mason, Botelho and Harrison (2013, p. 321) find that the business angel market is transforming from a fragmented and private activity, dominated by individuals investing their own money, to one that is characterised by groups of investors in managed angel groups and networks. While the large number of formal angel networks serves as some evidence of professionalisation in the Australian market, the market is still relatively immature and fragmented. However, this does not mean that the markets and the angels themselves have not changed, merely that they have evolved in different ways to their counterparts in Europe or North America. The Australian context and the actors within this market have contributed to this change in a different direction.

The changes in the market are largely driven by one of three factors. First, the increase in more sophisticated technology, which has enabled access to information, deal origination, and investment management. Second, the introduction of regulation that has increased supply and demand for angel finance and, particularly, regulations designed for catching up to technology. Third, the popularisation of entrepreneurial activity and angel finance via TV programs, such as *Shark Tank* (*Dragon's Den* in some markets) and the prevalence of incubators and accelerators, again, as a result of policy interventions. These factors serve to increase awareness of angel finance in the public consciousness, and they influence the behaviour of business angels and other social actors within the ecosystem.

With almost four decades of research, the literature on angel financing is extensive, and journals, such as *Venture Capital*[1], are invaluable for disseminating the knowledge of scholars working in the field. However, the research is largely dominated by the United Kingdom, Europe and North America (see White & Dumay, 2017). When reviewing the literature and familiarising myself with the state of knowledge, I am very much aware that Australia, or at least my perception of it, seems to operate its angel market in a different way. These differences presented themselves through stories recounted to me by the people I interviewed and spoke with.

The Australian context is much more fragmented and less mature than either Europe or the United States (see Paper III p. 31-32). While the mechanics of these differences are of passing interest, what is more important is the role that context plays in the development and operation of an angel market (see Paper II p. 4). There is precedence for the influence context has on angel finance. Lingelbach's (2016) investigation of sub-Saharan Africa offers insight into angel activity in an economy with weak institutions. Bilau et al. (2017) provide an "austerity economy" as a backdrop for investigating the take-up of government policy. The influence that context has and its underlying changes represent an interesting, though challenging, research opportunity.

I offer three pieces of evidence drawn from the practice and policy papers of this thesis for the changing nature of the angel market. First is the introduction and development of crowdsourced equity funding (CSEF) – a policy issue. Second, the diversification within angel portfolios – a

[1] https://www.tandfonline.com/loi/tvec20

practice issue. And third, the use of sweat equity as a legitimate form of finance – a second practice issue.

These factors, previously unidentified, provide evidence of change in the behaviour of angel investors and the new venture finance market more broadly. Exploration of these changes and new behaviours circle back to the academic. They provide an opportunity to develop investor archetypes within the new venture finance market. These archetypes, which help to identify new behaviours, are a key contribution of this thesis.

6.2.1.1. Practice – diversification

That investors diversify their investment portfolio is not a new concept; many of the investors interviewed talked about diversifying assets. However, diversification was also evident within the angel asset portfolios of individual investors. There is also evidence that angels operating within networks are able to adopt a diversification strategy (see Bonini et al., 2016)). That is to say, these business angels are diversifying the risk of their angel investments by investing in other early-stage businesses (see Paper II). The concept here is that the angels are attempting to manage their risk by diversifying their funds among all assets to achieve a maximum expected return (Markowitz, 1952). The underlying driver is that the law of large numbers will ensure the actual return is almost the same as the expected return (Williams, 1938).

The efficacy of this approach must be questioned in light of the fact that new ventures are high risk (Shane, 2008; 2009). The ability of an investor to reasonably anticipate a return in this environment is significantly diminished compared to a market with long-established, public firms.

It is also questionable as to whether this approach provides better returns or addresses inherent risk. Further, information asymmetry is considerable at this stage of a firm's life (see Wilson, 2015), which adds to the risky nature of these investments.

Following from the problem of information asymmetry is the inability of a business angel with a diverse portfolio to be actively involved post-investment. While business angels do not invest solely as a means of managing risk, their involvement does have an effect on information asymmetry as discussed in Paper I. Further, post-investment involvement allows an angel to assist with firm growth by bringing connections and knowledge (human and social capital).

There are two concerns with diversification. First, the more assets within a portfolio, the more thinly spread the angel's ability to become involved post-investment – too many firms, not enough time. Paper II identifies participants who claim to have as many as 30 active investments. Second, if diversification is an attempt to reduce specific risks related to, say, that particular firm or its industry, and business angels operate within industries they have knowledge and experience of, how can they sufficiently diversify portfolios such that they achieve this objective?

Diversification represents an interesting change in the behaviour of business angels. Its prevalence is unknown, and its efficacy is questionable. Beyond the dubious claims that it can reduce risks in early-stage markets, there are likely more complicated explanations related to self-image for why angels adopt a diversification strategy. Nonetheless, this new behaviour in business angels is worth exploring.

6.2.1.2. Practice – sweat equity

Sweat equity is a relatively straightforward concept – an individual works, without payment, to add value to something. It is relatively common in areas such as retail franchising, real estate development and venture capital (Kaplan & Strömberg, 2003). The features of sweat equity are that a principal possesses capital but is unable to operate a firm, and an agent possesses technical understanding but does not have sufficient finances to launch a new venture (Krishna et al., 2013). The principal finances the agent who, at some point, becomes an owner of the firm.

From the perspective of a venture capitalist, this seems like a reasonable approach. However, from an angel investor perspective, the issue becomes more complex. Sweat equity was introduced in Paper II and represents another noteworthy change in business angel behaviour and an interesting avenue for future research. During the research for this thesis, sweat equity was often raised as being a "legitimate form of angel finance" (often with the justification that "my time is more valuable than my money"). In this case, the approach being used by angels is the opposite of what most venture capitalists would use, i.e., that the principal (the business angel) provides the work, and the agent provides the finance.

Such arrangements are not uncommon in employment contracts, where an employee is paid a relatively low salary in favour of equity. However, the cases discussed by the angel investors in this research had no contract and no regular salary. They provide human and social capital only in return for equity at some later date. The motivation for this behaviour is unknown though, again, it relates to the self-image the individual angel has. The justification of their time being more valuable than their money does not seem to tell the whole story. While the aim of this thesis is not to examine this particular issue, a reasonable explanation is that investing with 'sweat' is a form of risk management. However, there are alternative explanations – for example, the angel may not actually have the money to invest.

There are practical implications for sweat equity as well. The most obvious being the point at which an angel receives equity. Policy-makers should be wary that this is a potential legal minefield. In the case of the interviewed participants who spoke of their sweat equity experiences, their activities were on an informal basis. In short, there did not appear to be any binding contract between the owner of the firm and the sweat-investing angel.

Adding to this potential problem is the issue of accessing follow-on capital. It would be reasonable to question why an angel investor is unwilling to commit their own capital to a business. This contrasts sharply with a finding articulated in Paper II – that angels view founder equity (or "skin in the game") as vital. This contradiction is problematic for business angels and scholars attempting to develop models of angel behaviour. The justification business angels give for insisting an entrepreneur maintain equity in their firm is that, without it, they have "little reason to work hard". However, the same accusation could be levelled at the sweat investor.

6.2.1.3. Policy – crowdsourced equity funding

Changes in the behaviour of angel financiers present many opportunities for researchers to review their previous understanding of the phenomenon. Mason, Botelho & Harrison (2016, p.

321) reasonably argue that the market is moving toward a more collective and formal approach. However, the evidence from this thesis shows that this collectivisation and formalisation is just one way in which the market is changing (see Paper II p 27). New technology, deal flow management and deal origination software are enabling previously inexperienced investors to become angels. Passive crowdfunding investors are the norm; however, some platforms enable the investor to become involved in the strategic operation of the business, which allows post-investment involvement (see Larralde & Schweinbacher, 2012).

CSEF has some interesting implications. Paper I identifies future research opportunities in CSEF, and Paper III highlights the concerns that investors have about its value. From an academic perspective, pecking order theory presents as notably relevant. Pecking order theory argues that firms prioritise their sources of financing, preferring internal funding followed by debt and finally equity (Myers & Majluf, 1984). The opinions expressed about CSEF during this investigation (see Paper III) were those of concern that CSEF investors are unsophisticated and would expose themselves to unnecessary risks. Further, when viewed from pecking order theory, CSEF was seen as a low form of equity – a 'last-ditch effort' to raise capital – by some participants in this research. However, the veracity of these types of opinions needs to be tested.

CSEF platforms are popular because they offer a relatively easy way to raise a large amount of cash quickly. The primary concern raised in Paper III is about the types of investors and their understanding of the risks involved in both these types of platforms and the participating firms. In public equity markets, investors react rationally to the signal of a new equity issuance (Myers

& Majluf, 1984). However, in entrepreneurial ventures, with much higher levels of risk, unsophisticated investors can easily become caught up in the excitement of a new venture and 'a cool new product'. According to Lehner (2013, p. 2), "Crowd investors typically do not look at collaterals or business plans, but at the ideas and core values of the firm." The prevalence of this type of behaviour and the returns these investors experience is worth investigating to help clarify the legitimacy and efficacy of this particular mode of raising capital.

The higher level of risk in new ventures and the fact that entrepreneurs often underestimate their risk (Busenitz, 1999) should be cause for concern for investors using CSEF platforms. The information asymmetry present in these types of scenarios is difficult to address. However, there is the possibility that the small minimum investment size mitigates the problem. Or, at the very least, that an investor may be willing to lose a relatively small amount of money in exchange for a potential return. In this sense, the investment becomes a lottery – an affordable loss with the potential for a high payoff. A further explanation is that crowdfunders want to support a firm, as previously identified (see Lehner, 2013).

CSEF as an investment, as opposed to a form of support, was frequently raised in conversations with business angels (for example, see Paper III), and the general consensus is negative. There are two primary concerns shared by angel investors. First is the level of risk and ease with which an unsophisticated investor can invest in ventures that may be unproven. The second is that these platforms are a last resort – that is, managers cannot secure funding from angels who have sufficient expertise in an industry so, instead, rely on a mass-market approach to funding. This is appealing to what some participants call the “lowest common denominator” in investment terms. This type of language is interesting as it implies that angels see their investments as the only type of smart money available. The concept of self-image is important here (for example, see Fein & Spencer, 1997). The “wisdom of the crowd” and its value to a new firm is an interesting avenue for future research.

6.2.1.4. Academic – archetypes

With the changes in angel behaviour and the introduction of new regulations and technologies comes a need to revisit definitions and typologies of angel investment. The traditional definition, as discussed in the introduction, holds that an angel investor is a high net worth individual. Indeed, the perception of many, such as the corroborating interview participants and policy-makers, is that they are all wealthy. However, this is not true and has implications for policy-makers, e.g., the politics of financial benefits for the wealthy. The ease with which investors can avail themselves of opportunities, and their ability to pool funds in angel networks or via crowdfunding, means that this aspect of the definition is no longer relevant.

The changes in the nature of the angel market and, more broadly, the changes in the market for new venture finance, provide an opportunity to consider the archetypes of investors in this segment of finance. As identified in Paper I, technology has had an influence on the angel market, most notably via crowd investing. These new technologies, and the ease with which investors can access new information and new markets, gives rise to the need to develop new archetypes of investors.

Archetypes are generic: ideal models of a person or a concept. They are patterns of behaviour and appearance that serve as moulds for personalities and for understanding (Voss, 2013, p. 79). The key benefit of an archetype lies in its ability to communicate information quickly about a subject without the need for analysis.

The funding escalator is a variant of the financial growth cycle model and is used to describe the funding requirements of firms at the different stages of its life (North et al., 2013). Typically, a funding escalator identifies a sequence of types of funding available during the development of the firm, with public and private sources frequently complementing each other (Oakey, 2003). Figure 1 is a graphical representation of the Australian funding escalator (see Dodge & Robbins, 1992; Nightingale et al., 2009; Wilson, 2015; Mason, Botelho, & Harrison, 2016) representing the broad types of funding available to Australian firms during the growth cycle. Insofar as this thesis is concerned, the external equity financing is of particular interest. Of interest is the placement of angel investors, crowd sourced equity funding (which, in Australia, allows for a maximum capital raising of $5 million per annum with an individual investor cap of $10,000 per company per year), and early stage venture capital (Early Stage Venture Capital Limited Partnership – ESVCLP). These three sources of early stage external financing in Australia have considerable overlap.

In the context of this thesis, the funding escalator presented in figure 1 allows for the placement of angel investment (and other sources of new venture finance) in the general financial growth cycle of a firm. Other sources of finance, which may be complementary to early stage equity and angel financing in particular, are also represented. Of particular note are government grants and subsidies and government loans. These government supply-side measures may be a part of other programs, such as feasibility grants in government run accelerator/incubator programs, or they may stand alone. Absent from this escalator are private incubators as they operate in a different capacity in the Australian Market – they either charge a fee for service (the most common) or they demand an equity position in exchange for service (decreasingly common).

One important disclaimer with representations of funding escalators is that they represent a post-hoc view of a firm. That is, scholars view a mature firm and how it was financed from start-up to maturity. This means that not all firms may reach the stage of requiring a public listing or private equity. Further, growth in revenue (and profitability) is not linear.

In terms of the funding escalator, new venture finance refers to early-stage external finance, which falls before formal venture capital and is traditionally the domain of business angels. The new venture finance archetypes covered in this section fall into the category of Early Stage Equity, divided into two sets of archetypes. The first set, shown in Table IV, provide the archetypes within the domain of new venture finance domain. The second set, shown in Table V, provide the modern archetypes of angel investors, reasoning that the changes in the nature and behaviour of business angels require a review of the existing typologies (for example, see Sørheim & Landström, 2001).

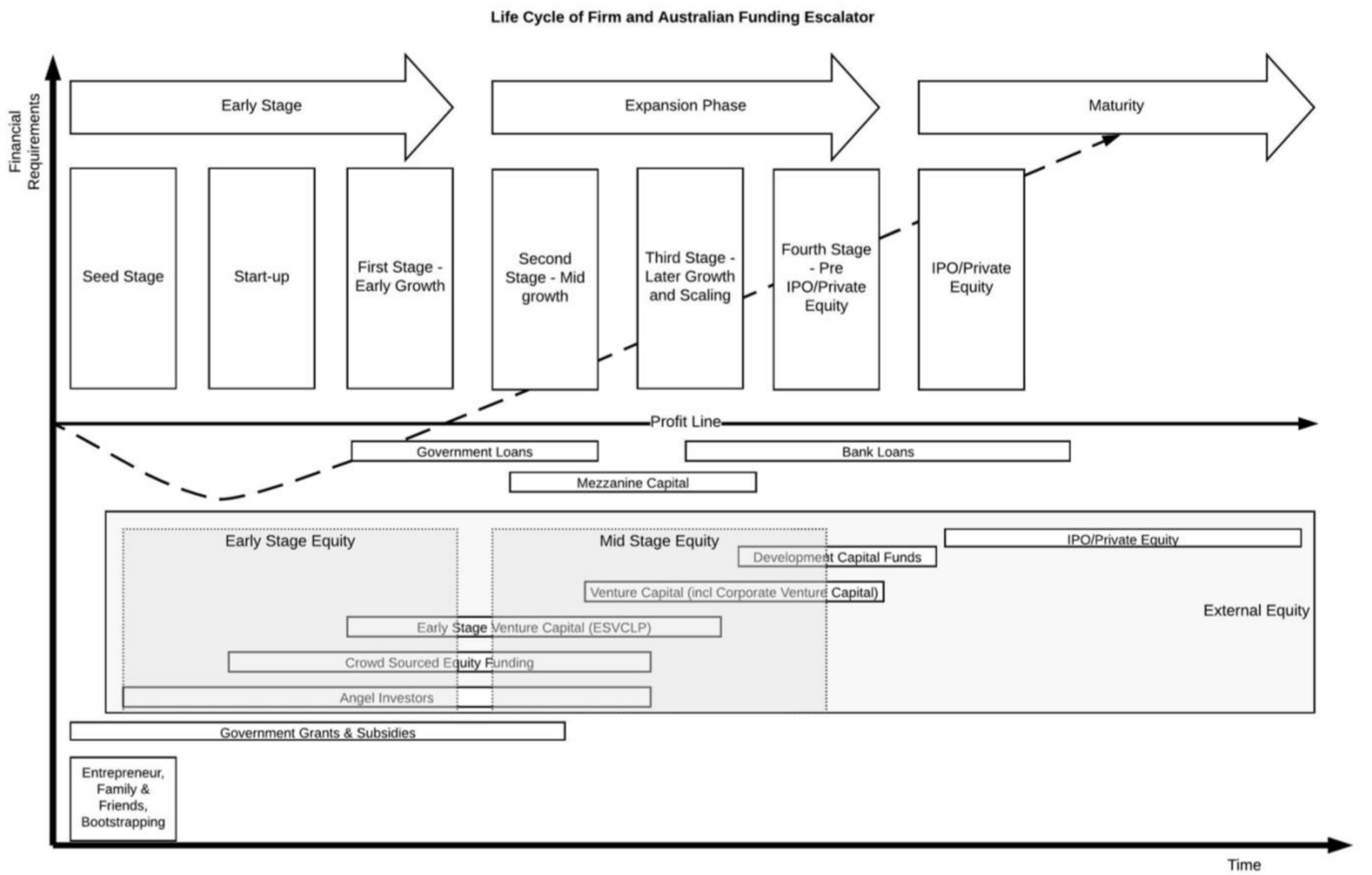

Figure 1 - Life Cycle of Firm and Australian Funding Escalator

New venture finance archetypes

Table IV provides the archetypes of new venture finance investors. The justification for focussing on new venture finance at this point, rather than remaining in the domain of angel finance, is to situate modern angel investors within the broader context of early-stage external equity finance. Further, the models for crowdfunding platforms enable both passive and active investments by the crowd and the more established donation-based model (Lehner, 2013). It seems reasonable, therefore, to separate business angels from other types of investors for analytical purposes.

The introduction of new technology, particularly crowdfunding platforms, has provided opportunities for a new type of investor – the crowdfunder – and a new type of investment category or 'perspective'. It is important to note that Table IV relates specifically to equity-based crowdfunding, rather than the donation-based model (see Larralde & Schweinbacher, 2012). The perspective articulated in Table IV covers both traditional investment and 'supporter' investment. The investment perspective is relatively straightforward. The investor (of any type) invests money in the hope of a financial return. The supporter sees the financial contribution as being motivated by reasons other than a desire for a capital gain.

Table IV's second column concerns the value of the investment in monetary terms from the perspective of the individual investor and not as an equity percentage, i.e., whether the size of investors has a relatively high dollar value or a relatively low dollar value. Post-investment involvement specifies the level of involvement an investor has with the firm – either high or low. It is important to note that this involvement with the company is defined as being direct, usually face-to-face, and occurs regularly.

Viewed from the investment perspective, those who make a high-value investment and have a high level of post-investment involvement are 'traditional angels' and can be defined as per the definition discussed in the introduction to this thesis. Those who have a low-value investment (which may include a zero amount) and a high level of post-investment involvement are 'sweat angels', providing their human and social capital (but no financial capital).

The ‘passive investor’, like a shareholder on a public exchange, invests a relatively high dollar value but does not seek to participate in the business post-investment. This type of investor, according to the entrepreneurs I spoke to, is not particularly valuable as they do not provide the value-adds entrepreneurs are looking for (Politis, 2008). The final archetype in the investment perspective is the ‘passive crowdfunder’, with a low investment size and low level of involvement. This corresponds to Larralde and Scweinbacher’s (2012) passive crowdfunding model.

The archetypes covered in the supporter category include the ‘philanthropist’ who commits a relatively large sum and is actively involved in the organisation. This type of crowdfunding is a well-established means of finance for not-for-profit organisations (Nyssens et al., 2006). The philanthropist is motivated to support a cause they believe to be important beyond the financial (see Nicholls, 2010). A philanthropist may also choose to invest a large sum and not become active within the organisation.

The ‘idealistic crowd funder’ invests a relatively low amount but plays an active role post-investment. This active role includes testing products or supplying their network scope and individual expertise (Larralde & Schweinbacher, 2012). The important factor differentiating the idealistic crowd funder from the traditional angel is their motivation to support the firm for reasons that extend beyond the financial to altruistic motivations (see Konrath & Handy, 2018).

Finally, the 'gambler' archetype places a bet on a particular firm, with a low value and low level of involvement. From this perspective, the gambler supports the firm through a financial contribution hoping that this contribution will lead to a payoff.

Table IV – New venture finance archetypes

Perspective	Value	Post-Investment Involvement	Archetype
Investment	High Value	High Involvement	Traditional angel
	Low Value	High involvement	Sweat angel
	High Value	Low Involvement	Passive investor
	Low Value	Low Involvement	Passive crowdfunder
Supporters	High Value	High Involvement	Philanthropist
	Low Value	High involvement	Idealistic crowdfunder (Active)
	High Value	Low Involvement	Philanthropist
	Low Value	Low involvement	Gambler

Angel investor archetypes

Situating angel investors in the context of both the changes in the new venture market and the angel market, along with the angels' subsequent behaviour, is useful for analytical purposes. It allows the researcher to focus on an individual type of investor. This thesis is directed at angel investors; therefore, it is appropriate to turn our attention to the different archetypes of angel investors that appear as a result of changes in the market.

Table V provides an overview of each archetype. These archetypes have been developed through reasoning about the three components of the angel investor. Investment value, as in Table IV, concerns the financial value from the investor's perspective. Second is the number of investments. Third is the level of post-investment involvement, which has traditionally been a defining characteristic of business angels (see Mason, 2006). And, finally, the archetype. These archetypes provide the reader with an introduction to the diversity of angel investor behaviours.

The first archetype is the ‘traditional angel’. This is the angel defined by Mason & Harrison (2008).

The next is the ‘passive angel’, one who wants to invest money in a few firms but with little post-investment involvement. Entrepreneurs looking for human and social capital will not find these with a passive angel.

The third angel is the ‘sweat angel’. As outlined in the preceding section, this investor adds human and social capital rather than financial capital. The prevalence of the sweat angel is unknown and their motivations for not investing financial capital are likewise undetermined.

The next investor is the ‘syndicate angel’. The transformation of angel markets from an individual focus to more networks and groups (Mason, Botelho, & Harrison, 2016) allows for syndicate angels to invest alongside other angels without necessarily becoming involved in the day-to-day operations of the firm.

The ‘diversifying investor’ has a high number of investments (upwards of 30 in the case of some angels interviewed in this thesis) and a low level of involvement. This type of angel aims to diversify their risks, although the efficacy of this approach, along with their motivations, is questionable.

Finally, the 'working angel' embodies the main elements of a traditional angel, with the exception of the high net worth criteria as discussed in the Introduction. The working angel has a number of motivations – a hobby turned venture or a second income, for example – and it is these motivations that provide an opportunity for future researchers.

Table V – Angel investor archetypes

Value	Number of Investments	Post-investment Involvement	Archetype
High	Low	High	Traditional angel
High	Low	Low	Passive angel
Low	Low	High	Sweat angel
Low	Low or high	Low	Syndicate angel
Moderate	High	Low	Diversifying angel
Moderate	Low	Moderate	Working angel

These archetypes highlight the diversity of angel investors arising as a result of the changes in the market. Archetypes are valuable as they communicate an idea about a subject quickly and effectively. While this is useful in generating future academic discourse, it is also helpful from a policy perspective as it breaks down the stereotype of the "wealthy man" (see Maula et al., 2005; Morrissette, 2007) as the only type of angel investor.

6.2.2. Practice: micro issues – human and social capital

A characteristic of business angels is the deployment of both human and social capital alongside financial capital. "Smart money" is a defining characteristic of business angels (Mason, 2006; Mason & Harrison, 2008) and is well supported and researched in the literature (see Politis, 2008; Collewaert & Manigart, 2016). However, whether or not angel investors contribute human and social capital is debatable in light of the trend toward collective groups of investors investing through managed groups. Mason, Botelho & Zygmunt (2016) questions the ability of business angels in angel groups to add value and challenges the notion that they are smart investors. This is supported by the evidence in this thesis; namely, that some business angels are diversifying their angel investments, which makes post-investment involvement difficult. The introduction of CSEF platforms add to this problem by providing diversifying angels with a consistent flow of deals and, in turn, further opportunities to diversify.

At a micro level, the development and deployment of human and social capital is at least as important as financial capital. Hence, an entrepreneur's preference for business angel financing is understandable (Aernoudt, 2005a). However, business angels do not have a monopoly on human and social capital. Some incubators and accelerators, either privately or via government initiatives, also provide these value-adding forms of capital. In the Australian context, some of these programs, particularly those run by governments, also provide financial capital. In essence, these programs are operating as replacements for business angels.

6.2.2.1. Practice – human capital

From the perspective of practice, entrepreneurs need some form of human capital that serves to increase their ability to discover and exploit business opportunities (Unger et al., 2011). The concept of human capital is well established in the literature and concerns the skills and knowledge that entrepreneurs acquire through experience and education (Becker, 1964). The entrepreneurship literature provides several arguments that human capital should increase the likelihood of entrepreneurial success (for example, see Shane & Venkataraman, 2000; Westhead et al., 2005). The angel investors who participated in this thesis agree that human capital is an important aspect of entrepreneurs. However, for these angel investors, technical knowledge was discussed less than the necessity of understanding the implications of a deal in terms of ownership and their entitlements to a portion of future earnings or in directing the future of the firm. Recounted to me in the form of stories, they expressed concern that Australian entrepreneurs lack an understanding of business fundamentals. Moreover, several angels conveyed their concerns that entrepreneurs did not understand what it meant to be a company (meaning a private company with limited liability).

This lack of understanding about these basic principles of a firm is somewhat surprising. However, the angels' claims were corroborated by conversations with entrepreneurs outside this research project. Some expressed that they should not have to pay back, provide a return, or relinquish any control in exchange for financial capital. While these stories convey the sense that the Australian market is replete with ignorant entrepreneurs, I doubt that this is, in fact, the case. Nevertheless, that these stories are recounted points to potential problems with the human capital of entrepreneurs.

This thesis, however, concerns angel investors, not entrepreneurs. As referenced in Paper III, angel investor training is a demand-side driver that is important for professionalising the industry (Bottazzi et al., 2004). Angel investors are typically experienced business people; therefore, it is often assumed they know-how to invest (Wilson, 2015). This assumption, evident during interviews with policy-makers, goes some way to explaining the lack of attention that angels receive in terms of policy interventions. However, investing in start-ups is different from starting a new venture. It requires technical skills in conducting due diligence and determining value (Wilson, 2015).

While the development of human capital, whether investor or entrepreneur, is important in developing a healthy entrepreneurial ecosystem (O.E.C.D., 2011) and business angel market (Bilau, Mason, Botelho, & Sarkar, 2017), there are a number of interesting contradictions among angel investors. The interviewed angels generally agreed that angel investors needed to have some training. What is particularly interesting is that these views were justified by the dim view these angels held over other angel investors.

However, when it came to their own development as investors, they did not see themselves as requiring training; they were already experienced. This aligns with Bilau et al.'s (2017) finding that business angels do not believe they need training themselves, whereas other angels do. There is a minor difference between the angel investors in this research and those in Bilau et al.'s study. Their research focusses on "the training of young business angels" while, in this research, the angel investors' views that 'other angel investors are poor at what they do' were motivated by poor experiences with other angel investors.

6.2.2.2. Practice – social capital

Social capital is the actual and potential resources a person obtains from knowing others, from being in a social network with them, or merely being known and having a good reputation (Nahapiet & Ghosal, 1998, p. 234). Social capital is important to entrepreneurs for at least two reasons. First, it provides better access to information. Second, it can increase the likelihood of receiving venture capital funds (Baron & Markman, 2000).

Social capital is clearly important for entrepreneurs; however, a key problem for a business angel network (BAN) is its invisible nature (Mason, Botelho, & Zygmunt, 2016). BANs operate in the visible market and, as such, provide opportunities for entrepreneurs to pitch their business to acquire funding. However, a key problem identified in Paper II is the way in which angel networks operate in the Australian market. During the interviews, the angels with a network membership indicated their deals involving a BAN originated from personal networks rather than formal ones. Paper II also demonstrates that angel investors do not consider pitches to be “serious opportunities”, but rather as events that allow them to develop their own social capital.

The implications of this are important. BANs are matchmakers – they match deals with angels (Wilson, 2015). However, the evidence presented in Paper II indicates that BANs are not operating in the traditional sense of a match-maker but, rather, entrepreneurs tend to directly approach the BAN. Therefore, the BAN’s role is more as a form of social capital development for business angels, i.e., a networking opportunity. It may be true that angel network members find out about an opportunity from other network members, but these deals come from other individuals in the network rather than from the network itself. While it is possible to argue that this is still a match-making function, the important factor is the deal origination. As evidenced in Paper II (p. 26), the implication for practice is that directly approaching, and even pitching to, an angel network is an inefficient way of seeking an angel's capital. Instead, developing stronger social connections is more important.

This particular inefficiency has implications for government as well. At the micro level, government-formed incubators and accelerators would improve outcomes for program participants if there were stronger social connections with the angel finance community (see Paper III, p.29). Developing these social connections in the current context is most effective on a one-to-one basis rather than an institutional one. The most logical place to form these relationships is with an angel network because it exists in the visible market (Mason, Botelho, & Zygmunt, 2016). However, if angel networks are not true matchmakers or, at best, inefficient ones, then developing a relationship with a BAN is unlikely to be beneficial.

The most likely scenario of an interaction between a government incubator and an angel network would be where a government representative sends an entrepreneur to pitch to an angel network (no doubt influenced by *Shark Tank*). Disregarding Paper II's finding that there are very poor or non-existent relationships between government representatives and angel networks, the effectiveness of such an approach is poor. The findings in Paper II indicate that personal relationships with individual angel investors provides better access to angel networks than direct approaches to the network. This suggests that government staff should focus on developing relationships with individual angels within the community. While this seems reasonable, given the way angel networks are presented to operate in Paper II (i.e. direct approaches are ineffective), it does little to address the fragmentation in the angel market.

Social capital at the micro level, i.e., building individual-to-individual relationships, is beneficial for the entrepreneurial process (see Davidsson & Honig, 2003). Entrepreneurs improve their chances of raising finance, angels increase their deal flow, and government can address reputational issues and help small businesses grow. However, the fundamental problem with this is that, while it might work within the current market organisation, it does not address the problems inherent in invisible markets. In the words of one BAN manager "we need to flush out the cash".

6.2.3. Policy: macro Issues – actor engagement and market organisation

At the macro level, actor engagement relates to the interactions between the institutional actors in the angel finance ecosystem. While there are a large number of potential stakeholders in the ecosystem, this section refers specifically to the level of engagement between angel networks, incubators and accelerators, and governments. While the entrepreneur is also an important feature of the environment, the concern with actor engagement relates more to the facilitation of a deal and, more importantly, the defragmentation of the Australian angel finance marketplace.

That the angel market is transforming from a fragmented set of individuals acting separately to groups of investors acting together (Mason, Botelho, & Zygmunt, 2016) may be true in the Australian market. It may also be true that, through the influence of technology and the increasing awareness of angel investors, the Australian market has become more organised. However, this assumption – influenced by the extant literature – is not supported by this research. Instead, I was presented with a market that is still fragmented and disconnected, with a lack of willingness to engage and social networks that are not as extensive as they are made out to be.

The fundamental premise of the angel finance market is connecting an entrepreneur with an investor who has available capital, appropriate knowledge, skills and experience, and a good social network. All other mechanisms within the market act to facilitate this connection. A proper functioning market requires these actors to be visible and engaged. Indeed, the development of BANs and angel groups is argued to have made the angel finance market more visible and, hence, easier to access (Bonini, Capizzi, Valetta, & Zocchi, 2016; Mason, Botelho, & Zygmunt, 2016).

The Australian angel market is not operating in a way that facilitates connections between entrepreneurs and business angels. This finding is a key contribution of this thesis and is supported by Paper III (see p. 29). There are two arguments that indicate that this is not the case in the Australian angel market. The first is direct evidence from angels themselves: market immaturity, the *Shark Tank* effect and the value of BANs. The second is indirect evidence: the problems with chain referral sampling and the research experience itself.

6.2.3.1. Policy – market immaturity

An interesting aspect of the many conversations and interviews during the data collection phase is the view of the market and its organisations. Many of the stories and discussions centred around the immaturity and poor organisation of the Australian market. In particular, many investors believe that one of the hindrances to the maturation of the Australian angel market is a lack of understanding about the concept of risk. Many potential and even active angel investors do not fully understand the concept of risk and, as a result, place unrealistic demands on entrepreneurs. (To extend the theologian metaphor, there are ‘fallen angels’ in the market.)

During the interviews, some evidence was also offered that private incubators also adopt this demanding and often counter-productive approach to risk management. Given the privacy rights of the interviewees, that much of this evidence is anecdotal in nature, and the litigious nature of the Australian market (Nelson, 2016), I will not repeat the accusations. Nevertheless, if these behaviours are true, it points to a market that is still grappling with how best to deal with the high levels of risk in the early-stage investment domain. This problem, however, is relatively straightforward to resolve through education, as previously discussed in the section devoted to human capital development.

A second factor pointing to immaturity in the Australian market relates to the *Shark Tank* effect. The program sets up a situation where the sharks (i.e., the business angels) are quick to spot both terrible and brilliant opportunities. They are the epitome of the success story and are heroes, like CEOs (Park & Berger, 2004). To call yourself an angel investor is to put yourself on the same level as the heroes of *Shark Tank*.

These types of investors are more concerned about their personal status than about generating returns. That these types of ‘ego investors’ exist is evidenced through the stories given during interviews and conversations. As one participant put it, “The[y] buy a Ferrari, get a mistress, and call themselves an angel investor." The implication is that status is the driver for these investors. They do not necessarily bring human or social capital, and they may be passive, though one can reason that they may take post-hoc credit for a success. The existence of these types of angels points to a market that has not yet reached maturity. More importantly, these types of investors can be detrimental to a new venture.

6.2.3.2. Policy – questioning the value of business angel networks

The value of BANs should rightly be questioned, at least insofar as the way they operate in the Australian context. The evidence pointing to this need to question their value is complex and, at times, contradictory. Cynicism and optimism about the value of BANs co-exist, often within the same person. Unpacking this is difficult, though worth investigation. Reflecting on the research process, the evidence can be categorised into four types. First, angels who believe that formal networks are bad. Second, those who believe they are good. Third, those who believe their network is good, but others are bad. Finally, those that believe networks are bad but join anyway.

Again, stories were offered by research participants that raise doubts about the efficacy of Australian BANs. Many expressed that they are "amateur" or full of people "who made some money doing one thing and are now business geniuses"; in other words, the ego investor. The peak body for angel networks, the Australian Association of Angel Investors, offers further evidence to question the value of angel networks or, at the very least, the value of their current modus operandi. This organisation, according to its former CEO, is now defunct. (Although, according to its founder, it is still functioning well (Green, 2016)). Depending on who I was talking to, some investors said the organisation "ran out of steam" through too much effort with very little accomplished, while others stated that the failure was due to ego within its management. In either case, the participants' comments on a form of governing body revealed a general distaste for the formalisation and professionalisation of BANs.

Reflecting on the research process, I did not encounter individuals who presented as being ego-maniacs (see Bernhard, 2009). However, there was certainly a degree of self-promotion at times. Moderating for this, one can be given the impression that the market is operating well. For example, during a conversation with an incubator, I was told that they had been approached by an angel network that wanted to work with them. Seen in isolation, this evidence suggests the market is operating normally with attempts at relationship development and deal facilitation. However, an aggregate overview of the findings from this research suggests that these types of occurrences are not the norm.

From the perspective of actor engagement, the information presented is that each individual network operates quite distinctly and separately from each other. This suggests that it is not uncommon for an entrepreneur to pitch to angel networks one after another with no network knowing that the entrepreneur has already presented their plan to another network who has, presumably, rejected the proposal. Indeed, this scenario was relayed to me during interviews and conversations.

The process of bouncing from one network to another seems an inefficient way to organise a market. Engagement between BANs would improve the efficacy of their function. BANs tend to organise themselves based on geography. However, I suggest that it is more efficient to organise the market on the basis of industry sector as some venture capital firms do. This approach would facilitate better communication via a common link and would improve an entrepreneur's chances of raising capital via a more targeted approach. Although, as noted in Paper II, the value of the pitch is questionable.

6.2.3.3. Academic and policy – chain referral sampling

The chain referral sampling method, also known as the snowball method of data collection, is well suited to research that requires knowledge of insiders to locate people for study (Biernacki & Waldorf, 1981). It is arguably well-designed for sampling natural interactional units (Coleman, 1958). However, during research for this thesis, I was struck by the poor results that chain referral sampling elicited. Many of the participants indicated that they were willing to pass on details; however, few followed through.

I raise this problem as a part of reflecting on research as a process (England, 1994), not as a complaint. It is evident that there is a problem with engagement between actors at both a micro and a macro level. Coleman (1958, p. 29) states that chain referral sampling is useful for uncovering a person's "immediate social environment". This is a reasonable expectation. However, if a person is unable to "add a link to the chain", then it is reasonable to conclude that their social network is not as sophisticated as they claim. In short, the technique "follows out the chains of sociometric relations in the community" (Coleman, 1958, p. 29). Therefore, the sample is limited by the extent of the relationships.

This problem occurred frequently, and it was common for people to present themselves as well connected, yet they were either unable or unwilling to provide further contacts. From a methodological perspective, I should note that the request was for people who may be interested in participating in this research, rather than people who would participate. Nevertheless, these requests were not met with a follow-through. Thus, I am led to question the quality of the social capital of the participants.

While the problems that chain referral sampling highlights is a micro issue, it has macro implications. For example, using chain referral to identify contacts for corroborating interviews, such as incubators, accelerators and angel network managers, was ineffective. One government participant worked in an organisation that had two incubators in the same building, yet she was unable to help facilitate a connection. This seems to indicate that these institution (or actors) are not engaging with one another. Explanations for this are numerous, creating an opportunity for an interesting theoretical discussion.

6.2.3.4. Academic and policy – personal research experiences

A number of different institutions were contacted during the research for this thesis. These included formal angel networks, government organisations, and private incubators and accelerators. Many of these institutions did not respond to my requests. This included approaches to the offices of local members of parliament – some of whom are responsible for angel-related programs – to ask for guidance in accessing government departments. These approaches also failed to produce a response. Additionally, one government department told me to email “some questions and they would see what we can do”. One private incubator responded to an initial contact but did not respond to follow-ups. In short, lack of response was the norm during this investigation.

There are a number of explanations for why these actors did not respond. However, it raises a concern that these institutions are only operating within the confines of their immediate environment. This makes the development of social capital all the more important for entrepreneurs as, without it, access to an enormous range of support mechanisms is severely hindered.

What is interesting and challenging for the development of the angel market is that deals still get made. Entrepreneurs meet angels, angels do deals, and governments have participants in their programs. This is an acceptance that the ecosystem is operating as intended, rather than questioning how it can be improved. I liken the market to the astrophysical hypothesis of dark matter – it cannot be seen directly, but we can observe its effects (Clowe et al., 2006). As a result, the angel finance market, at least to those within it, appears to be working effectively. As an observer, and an interactor at times, there is evidence of weak broader engagement within the ecosystem, meaning that it is inefficient, though not ineffective because deals do get made.

The development of insights, and subsequent critique, provides the opportunity to research the theory and practice of angel financing. The critique of the policy framework and the interaction of actors within the ecosystem provides an opportunity to investigate and highlight the macro function of the market. This allows the researcher to become involved with the three contexts –

academic, policy and practice – facilitating a discourse between all three. The result of this discourse should be to increase understanding of the dynamics of business angels beyond theoretical views. I offer the preceding discussion as a reflection of my research process and to motivate the reader to consider what they already know about angel finance and view it from a different perspective.

6.3. Transformative redefinition through future research

The last task of the critical management research framework is transformative redefinition, which is "the development of critical, managerial relevant knowledge and practical understandings that enable change and provide skills for new ways of operating" (Alvesson & Deetz, 2000, p. 19). The task of transformative redefinition is the most difficult. Having explored the issues present in angel financing research and practice, and identified constraints, the role of transformative redefinition is to "indicate ways in which the subjects may rethink what exists – opening a new way of engaging the social world" (Alvesson & Deetz, 2000, p. 151). From the perspective of this thesis, this task is particularly important to the practical objective of transforming a fragmented and individually-driven angel market to one that facilitates capital flows in a cohesive and effective manner.

"Transformative redefinition should not dominate empirical research – these texts tend to be utopian which is not a salient quality in studies with research ambitions" (Alvesson & Deetz, 2000, p. 152). Therefore, this section motivates a broader discourse on angel finance, identifies hidden issues and opportunities for alternative understandings (Alvesson & Deetz, 2000, p. 17) and prompts a rethinking (Alvesson & Deetz, 2000, p. 151) of what we know about angel finance.

One of the great challenges in investigating the market for angel finance is dealing with the wide variety of behaviours. Rational behaviour is not the state of nature (Cosmides & Tooby, 1994). Thus, there are contradictions present in the aggregate research on human behaviours in a particular domain – in this case, the domain of angel finance. This causes the actors within to make assumptions about the behaviours of others. This phenomenon was evident in this thesis, particularly in the policy context (Paper III). As a result, rethinking our understanding of what exists enables us to build on what we know and refine our understanding even when this is "an ongoing struggle including much practice and frequent false starts" (Alvesson & Deetz, 2000, p. 20).

6.3.1. Transformative redefinition: the academic context

6.3.1.1. Changing nature – redefinition

A key theme developed in this thesis is the changing nature of business angels, the angel market and the new venture finance market more broadly. This is identified as an issue for future research in Paper I (p. 204). This theme is also identified Paper II (p. 27) and, from the perspective of the broader new venture finance market, in Paper III (p. 31) as a trigger for policy development.

Given the changing nature of angel financing, and its identification in the academic, practice and policy contexts, we, as scholars, must rethink our understanding of what an angel investor is. Technology provides angels with the ability to act in ways that are different from the early days of angel research. We need to review what we know and revisit our understandings because the current contextual environment is not the same as when pioneering scholars developed their original definitions of angel finance and the angel investor.

The change in the behaviour of angel investors means that scholars can look beyond a single definition of an angel investor and recognise that different behaviours have created a range of angel investors. Developing archetypes for angel investors is difficult, particularly given small sample sizes, which make it hard to put forward robust categorisations (Paul, Whittam, & Johnston, 2003). However, as researchers, we must recognise that as societies change (including markets, wealth and wealth distribution), so do “categories” along with their appeal and usefulness. These social and market changes necessitate the development of archetypes through reasoning. This reasoning must be based on our understanding of angel finance and the identification of new behaviours.

To develop new archetypes, scholars must investigate the behavioural factors of a range of angels, which requires the use of in-depth qualitative methodologies to uncover behaviours and their motivations and meanings. An archetypal framework has analytical usefulness. Situating angel investors in the broader context of new venture finance (see Table IV) and further developing separate angel archetypes (see Table V) addresses problems associated with new behaviours, such as ‘sweat’ equity. This allows future researchers to focus on a particular archetypal behaviour and avoid any complications arising from conflating other investor behaviours (e.g., crowd equity).

Future research and required skills

Both Paper I and Paper II identify the changing nature of business angels as an opportunity for future research. Paper I highlights the influence of technology and the trend toward collective approaches to investment. Paper II, however, highlights behavioural changes, such as diversification, but also the use of sweat equity. These behavioural changes and their prevalence in the angel investor community are clear opportunities to revisit and re-define angel finance.

For the researcher, skills such as developing a rapport and a strong understanding of research methods (Creswell, 1998) are important. The latter of these holds particular relevance for researchers who must be able to address issues of validity. This is particularly true when using the qualitative methods required to explore behavioural changes in angel investors. Good protocols for collection and analysis, such as the use of corroborating data (Creswell, 2016), are important skills for researchers when dealing with a subject that can be difficult to access. The reasoning skills of future researchers are particularly important in re-defining our understanding of angel finance as a phenomenon. Rather than seeking an absolute truth, or developing a rule, researchers need abductive reasoning skills and the confidence to inference what may be. The research must have the “ability to conjure an image” (Liedtka, 2000, p. 15) of what exists in the domain of angel finance.

6.3.1.2. The dark side of angel financing – hidden complexities

People are motivated to believe that the world is a just and fair place (Lerner, 1980), yet there are numerous examples of behaviours, both economic and otherwise, that suggest it is not (see

Pfeffer, 2016). The ego investor identified in Paper II (p. 26) represents an interesting topic of investigation.

An exploration of harmful and immoral behaviour and its justifications are well beyond the scope of this thesis (see Bhattacharjee et al., 2013). However, during this research process, I encountered a range of commentary and behaviour that could not be considered as just or fair. We cannot assume that all actors behave in a moral way. These actors, whether institutions, such as incubators or angel networks, or individual angel investors are not necessarily good. As scholars, we should be willing to explore the dark side of angel investment, acknowledging its existence in a manner similar to the acknowledgement of the dark side of entrepreneurship (see Kets de Vries, 1985; Beaver & Jennings, 2005; Wright & Zahra, 2011).

Angels and related institutions are not evil for the sake of being evil – this is too simple a plot. They may have seemingly reasonable justifications for their behaviour. Our role as researchers in exploring the dark side of the angel finance market is to question whether behaviours are unethical and to go beyond merely identifying poor or immoral behaviours to understand why these actors behave in these ways and the potential damage they do to organisations.

Future research and required skills

The dark side of angel finance arises from reflection on research as a process (England, 1994) and is hinted at in Paper II with the commentary on the ego investor (p. 26). The dark side of angel finance and, indeed, the new venture market more broadly, is an area that has not been previously considered. Exploring it requires special skills as a researcher. In addition to data collection skills, here researchers must be good questioners as well as good listeners. The ability to develop a rapport and to be adaptive while avoiding bias (see Yin, 2014) holds particular importance. Beyond this, the researcher must have an intimate understanding of the current state of research to draw comparisons and develop conclusions as to what behaviours constitute the dark side.

In exploring the dark side of angel investors, researchers must be able to tell what is dark, i.e., exploitative. Assuming scholars are able to define this, a number of questions arise. How do you get close to such processes? How do you get access to the material? Assuming that scholars can identify angel investors who use their influence in some exploitative way, how then do they capture it and, importantly, publish on it? Addressing these problems is not simple, but the challenge is worthwhile in that it could burst the notion of an investor being an angel.

6.3.2. Transformative redefinition – practice

6.3.2.1. Crowdsourced equity funding and diversification – enabling change

Angel investors have questioned the value of crowdsourced equity funding (see Paper III), reasoning that it is not smart money and represents a last-ditch effort to raise capital. However, this conclusion reasons that it is not something to be dismissed as a lower common denominator. It is valuable – active crowd investors acting in the role of an angel investor exist. Practitioners must learn how to use CSEF platforms as a means for improving the outcomes of their angel investments and the prospects of the firm.

Diversification (found in Paper II) is a previously unidentified angel behaviour. However, its value to angel investors must be challenged. Diversification presents a problem for business angels who seek to add value to a firm (see Table II) because it does not necessarily reduce risk or volatility in angel investments. Instead, the most likely impact will be that an angel will spend less time working with a firm, reducing the value they could potentially add. Compounding the problem, they are also more likely to invest smaller amounts in more firms rather than a larger amount in one or two firms. Extending this argument, Vitale, Everingham, and Butler (2006) estimate the average Australian angel investment to be $350,000 (roughly $450,000 in 2018 at an average inflation rate of 2.5%). On the assumption that a diversified portfolio has around 30 stocks (see Fisher & Lorie, 1970), that equates to $15,000 per investment – a relatively unhelpful amount for growing a business. These figures may not be entirely realistic given the changing way angels invest. Even though I have ignored some of the problems with Fisher and Lorie (for example, see Surz & Price, 2000) and the problem of diversifying risk in a high-risk domain, such as angel financing, this nonetheless highlights that smaller individual investments to create a larger diversified portfolio may be counter-productive because such money does not help grow the firm.

The practice of diversification is an interesting finding of this research. However, we must question its efficacy in the context of an angel investor and practitioners should reconsider this practice, even though this may be easier said than done. It is not simply a matter of providing evidence with the expectation that a person will change their behaviour (see Alvesson & Deetz, 2000, pp. 151-153). Practitioners must consider their contributions to the firm's growth and determine their own best practice.

Future research and required skills

The prevalence of diversification is unknown, and this represents a new avenue of inquiry as identified in Paper III. There is potential here for researchers to compare angels acting alone to angels acting as part of a formal group or an informal syndicate, as well as integrating a discussion on post-investment involvement. This would enable a discussion of human capital and the varying levels of contribution different angels bring.

As scholars, we must refrain from being authoritative tellers and provide ways of facilitating reflection as expecting people to change when they are given new information is naïve (Kelly & Barker, 2016, p. 112). The ability to communicate with the angel investor community in a way that encourages reflection is an important skill for a researcher. From the practice perspective, angel investors who diversify must reflect on the value they bring to the firm in terms of human and social capital. They should ask whether this 'smart money' is really growing the firm and, thus, their investment. From the perspective of CSEF, there must be consideration of the potential value it brings to a firm, and how new ventures and business angels can leverage the "wisdom of the crowd" (Hornuf & Schweinbacher, 2014) to add value to the firm.

6.3.2.2. Sweat equity – hidden complexities

The use of sweat equity in the context of angel finance is a complicated one for researchers, practitioners and policy-makers. Angels view sweat equity as a legitimate form of angel capital.

This essentially implies that human and social capital is as valuable or, as in the case of some, more valuable than financial capital. From a theoretical perspective, sweat equity investors act counter to the traditional agent/principal model (see Kaplan & Strömberg, 2003).

Future research and required skills

The key question here is, why? In Paper II, I relay that these angels believe their time is worth more than their money. However, this does not seem reasonable because you cannot employ people or set up an offshore manufacturing facility with sweat alone. This justification is unsatisfactory, so we must question what the real underlying driver is. We need to theorise and reason it may be because angels lie. They have an image of what they want themselves to be, which is not simply a "moral truth teller" (Alvesson, 2003; Qu & Dumay, 2011). Here, excellent interview and questioning skills are required. As scholars, we must be critical of justifications for using sweat equity and identify its underlying value.

6.3.2.3. Human and social capital – rethinking 'smart' money

Are angel investors really smart? Paper III shows that they are not the only type of smart money in the early-stage finance domain, even if they do not recognise this. They do not always bring equal amounts of financial, human and social capital. Paper II (p. 27) highlights the importance of social capital for business angels but questions its effectiveness as a tool for entrepreneurs accessing angel finance. As researchers, we should rethink how we view the human and social capital of business angels and its value to a firm.

In this regard, I do not suggest that 'good' human and social capital is valueless, but rather that angel investors will have different supplies of this capital and that some will fall short – something evident in the problem of chain referral sampling. Our assumption that business angels add value to a firm is too generalised given the diversity in the types of angel investors.

Future research and required skills

Future researchers should reconsider and question the extent to which angel investors actually contribute via human and social capital. If we can accept that an angel's social capital, for example, may not be as good as they claim, then we must question the value of this investor to a firm. From a research skills perspective, the scholar must not only have a good command of the literature and excellent analytical skills but also good people skills and persistence (Jönsson & Lukka, 2006, p. 40).

Theoretical analysis, however, must be complemented by empirical insights. A random selection of participants of both entrepreneurs and angels may be useful in developing an understanding of the value of human capital. Alternatively, carefully selected participants based on their expected contribution to case study research could ensure that these efforts are focused on theoretically useful cases (see Kaplan & Haenlein, 2009). Participants that extend theory by fulfilling conceptual categories – for example, the angel archetypes – are particularly helpful (Eisenhardt, 1989).

6.3.3. Transformative redefinition – policy

6.3.3.1. Policy intervention – enabling change

Paper III focuses on government intervention in the new venture finance market. Governments intervene in a market in response to a problem (Birkland, 2016). In the case of new venture finance, this problem is market inefficiency (see Collewaert, Manigart, & Aernoudt, 2010; Wilson, 2015). Using a problematisation approach (see Bacchi, 2009)), Paper III identifies that "poor access to financial and human capital" is the problem represented by current government policy. However, this is most likely not the case (Shane, 2008), meaning that policy does not actually address the problem. The reality is that the market inefficiencies, such as information asymmetry and externalities, still exist. Further, as identified in Paper III, policies may have the effect of exasperating these problems. Understanding this problem highlights an opportunity to change policy approaches by addressing the underlying problems (e.g., information asymmetries) rather than treating their symptoms (e.g., lack of capital access).

Future research and required skills

Paper III advocates for future research that develops our understanding of policy theory and its application to the angel finance market. Researchers need to revisit the justifications for motivations like market inefficiency and compare and contrast them to the problems that government policy is aiming to resolve. Here, the researcher requires a thorough understanding of both the angel finance literature and the literature on policy theory. They must then use this knowledge to interpret policy and interrogate its motivations. Research design and protocols are particularly important here. Placing boundaries on the scope and scale of the research is important as many countries have multiple jurisdictions with overlapping responsibilities for the entrepreneurial environment.

6.3.3.2. Actor engagement – enabling change

Understanding the issues relating to actor engagement and the challenges associated with market organisation is important for addressing its fragmentation. The disconnect, outlined in Paper III, and the immaturity of the Australian market along with poor social capital, as evidenced by the chain referral sampling method, all point to an inefficient market. Stakeholders must work to address these disconnects to improve the quality and flow of deals by increasing social capital and, as a result, human capital. Further, angel investors should develop a more nuanced understanding of the market to recognise that human and social capital, i.e., smart money, can come from a range of sources.

A logical place to start the process of engagement is through government-run incubators and accelerator programs. Many of these programs have already been marketed to the entrepreneurial community, for example, the Spark Festival sponsored by the NSW Government and the City of Sydney[2]. However, the challenge is engaging with investors. To do this, governments must work hard to change their poor reputation and present themselves in innovative ways.

Approaching angel networks is an obvious first step, with the caveat that not all networks are willing to involve themselves with government agencies. However, by developing relationships with individual angels within the network, they may be able to address reputational issues. This relational capital approach must be based on trust and interaction at an individual level that

[2] See http://sparkfestival.co/spark-2018/

creates learning and know-how transfers across the exchange (Kale et al., 2000, p. 217). Approaches such as these may address the problems associated with a lack of engagement in the market.

Future research and required skills

Fundamentally, the issue of actor engagement concerns how the market is organised. Throughout this research, and during the conversations with angel investors, there was a sense of pessimism about the operation of the market in Australia. Paper III advocates for research into new ways of organising angel markets. This requires the researcher to question what we know about angel financing and to reconsider long-held beliefs over how the market should operate. In developing new models, scholars need to view the market from two perspectives: what is and what should be (Lundvall & Johnson, 2006). Here, an understanding of the current market is less important than the ability to collaborate with scholars in other disciplines – in particular, economics. Developing and testing new models is necessary to further our understanding of the angel finance market and to address the underlying inefficiencies in the present model.

6.3.3.3. Rethinking business angel networks

BANs are an important tool for new venture finance and for developing an entrepreneurial culture (Aernoudt & Erikson, 2002). This may be true where a BAN has been set up to "stimulate regional entrepreneurship" and "reducing financing problems" (see Collewaert, Manigart, & Aernoudt, 2010). BANs with these types of goals are likely born from government policy (see Wilson, 2015). But what if this is not the case? Some BANs, such as those in Paper III, are privately organised. Moreover, BANs do not always act as intermediaries in the sense that they are a direct connection between investors and entrepreneurs (see Paper II p. 21).

BANs may market themselves as supporting the early-stage ecosystem, but what if the reality is different? It seems reasonable that angel networks may prioritise the portfolios of their members and the development of their own human and social capital. If this is the case, then we should question both the organisation and the operation of angel networks.

Future research and required skills

It is reasonable to assume that BANs established by private investors will have different motivators than those established by governments. Accepting this to be true means that we must question the value and efficacy of these types of operations. As scholars, we cannot accept that all BANs operate in the same manner. This necessitates questioning the different models of angel networks. Are they all valuable? We cannot assume that all angel networks operate in a single, beneficial way. We must rethink how we view angel networks.

Here, researchers must have the ability to be adaptive – to see new situations as opportunities to learn. In addition to having a thorough understanding of the literature on angel networks, they must be able to avoid bias (Yin, 2014). As scholars examining a phenomenon that has significantly transformed, we cannot risk accepting that our past knowledge and understanding is still relevant.

7. Limitations

As with any body of research, the findings of this thesis have some limitations. With regards to the individual papers contained in the thesis, the reader is directed to the relevant discussion of the limitations contained in each paper. Rather than repeat these limitations, this section provides a broader view. The goal of this thesis is to open a discourse on angel finance. Hence, this thesis represents the beginnings of this discourse rather than a final theoretical conclusion.

The opportunity for academics, practitioners and policy-makers to engage in discourse is provided through a focus on our scholarly understanding of angel financing: how it is practised and the perspectives held by practitioners and policy-makers. In facilitating a discussion between these stakeholders, I identify and highlight some false assumptions and inefficiencies that hinder the development of the angel finance market and the deployment of this important source of capital.

Each of the empirical papers offers an opportunity for further discourse by way of the possibilities that remain for future research and the implications for both practice and policy, as summarised in Table I. The empirical material contained in this thesis only examines a fraction of the contemporary angel finance marketplace. That business angels are difficult to identify is well established in the literature. Australian business angels are no exception and, given the level of fragmentation and maturity of the market, may perhaps be somewhat more difficult to identify.

In considering limitations of this research from a broader perspective, it is important to reflect not just on the mechanical aspects (e.g., problems with chain referrals and participant access), but also on the entire research process. The qualitative research interviews employed in this thesis are an excellent method for collecting behavioural data. Combined with a semi-structured interview and a localist approach, they are capable of generating a large amount of information. The use of tools, such as NVivo, are useful in dealing with this particular problem, allowing researchers to create 'maps' of the data via coding. However, a limitation lies in the 'thesis by publication' approach.

Publishing work is an important part of an academic career – indeed, it often seems that it is the only thing that matters. For a scholar seeking to return to professional practice, publishing is still important because having an impact on the way we think about a topic is rewarding itself. However, a publication for a journal article requires a very specific focus. Students must separate all the 'bits and pieces' of their data to write about one small aspect, for example, decision making', as in Paper II. This begs the question, "What about the rest of the data?" The key limitation here is the inability to view the connections and threads between all the bits and pieces of information gathered from formal interviews, reflections or informal conversations.

This limitation is, in my opinion, the biggest challenge for researchers undertaking a thesis by publication. To address this particular problem, the approach of Alvesson & Deetz (2000) is particularly useful. The ability to develop insights and critiques from a large amount of data, in other words, to be able to see the forest through the trees, is important. Just as important, however, is the ability to reflect on research as a process (England, 1994), rather than as a means of producing publications. The individual publications are important, of course. But they need to be viewed within the context of the entire research process. Dealing with this "publication focus" is difficult, but the ability to articulate reflections through "insights, critique, and transformative redefinition" (Alvesson & Deetz, 2000) goes a long way to addressing this limitation.

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Appendix A: Paper I – Business Angels – A Research Review and New Agenda

Business Angels: A Research Review and New Agenda provides a structured literature review of 84 business angel articles published between 2000 and 2013, building on the 1999 review conducted by Mason and Harrison. Starting with a metadata analysis of the selected articles, the aim of the paper is to explore the existing literature and map out future research pathways. In providing a systematic analysis of the research, the article creates a picture of the current state of the business angel literature, highlighting the diversity of business angel research. A better understanding of the extant literature provides a foundation for future exploration.

Paper I categorises the literature according to the agenda set out by the editors of the journal Venture Capital, a key avenue for publishing early stage venture capital research. The paper contains two main research sections. First, the analysis of the selected literature maps out focus areas, main data sources, methodologies used, and 'citation classic' articles. Second, the paper classifies each of these articles into generations of research showing the progression scholars have made in investigating the business angel field. A structured approach to reviewing the literature provides a picture of the current state of knowledge, enabling us to identify key gaps.

Business Angels: A Research Review and New Agenda has been published in the journal Venture Capital (Vol 19, Issue 3, 2017). As such, the paper in this thesis is presented in the journal's published format.

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Business angels: a research review and new agenda

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ABSTRACT

This paper provides a structured literature review of 84 business angel articles published between 2000 and 2013, building on the 1999 review contacted by Mason and Harrison. The articles are classified according to the generational framework laid out by Mason and Harrison, which describes first and second generations of articles (prior to 1999) and calls for a third generation of research. We find that Mason and Harrison's agenda has largely been met, with some notable gaps. We also find that the research is diverse, with many articles falling into what Mason and Harrison call first and second generations. Our paper outlines a new agenda for research focusing on six key areas. Finally, we conclude with a discussion of key implications for policy and practice.

ARTICLE HISTORY
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1. Introduction

Business angels provide an important source of risk capital to new ventures (Harrison et al. 2010a) and play a critical role in the creation of an entrepreneurial climate (Mason and Harrison 2008), representing the largest external source of early stage risk capital for new ventures (Wetzel 1987; Gaston 1989; Mason and Harrison 2000c, 2008; Sohl 2003). They fill a critical finance gap between founders, family and friends and institutional funds. They are also able to make smaller seed and start-up investments, below the minimum deal sizes considered by formal venture capital fund managers, due to very low transaction costs (Mason and Harrison 2008). Business angels invest locally, helping recirculate wealth within a region (Mason and Harrison 2008) and contribute their experience, knowledge and contacts to the benefit of the venture.

Governments are focusing on entrepreneurs and their businesses to rebuild their economies and drive innovation since the global financial crisis. As a result, national policy initiatives are focusing on helping entrepreneurs raise capital to fund their businesses. For example, in Australia, the National Innovation and Science Agenda is aiming to grow the angel and microfinancing sector to fund entrepreneurs. Consequently, the Australian Government is introducing laws that enable access to crowdsourced equity funding schemes. This follows the introduction of similar regulations in the United Kingdom (debt- and equity-based crowdfunding is regulated by the Financial Conduct Authority), the United

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States (Jumpstart Our Business Startups (JOBS) Act, Title III) and New Zealand (Financial Markets Conduct Act). Introducing these new equity-sourcing regulations creates new opportunities for start-up businesses and changes the investment landscape, thereby offering the opportunity for researchers to investigate the efficacy of these policy changes. The development of crowd investing websites has given rise to a new form of investor with strong similarities to small business angels (Hornuf and Schweinbacher 2016). Additionally, the technology platforms that drive crowdsourced equity investment are continually evolving, thus offering a further opportunity to investigate the changing nature of angel investment and microfinancing.

From an academic perspective, interest in business angels and venture capital led to the establishment of the specialist journal *Venture Capital* in 1999 by Mason and Harrison (1999). Other journals such as *Journal of Business Venturing* and *Journal of Private Equity* regularly publish articles about business angels and venture capital. Considering the importance of start-up businesses to the worldwide economy, especially since the global financial crisis, it is prudent to understand the literature's contemporary impact and contribution. Thus, this paper's purpose is to provide a review of the business angel research to develop that understanding. This paper's contribution is a structured analysis of the business angel research between 2000 and 2013.

The research for this paper includes a meta-analysis data-set of 84 articles using a structured literature review methodology (Massaro, Dumay, and Guthrie 2016) that has been previously used to select, review and categorise academic articles (see Guthrie, Ricceri, and Dumay 2012). A structured literature review "is a method for studying a body of scholarly research to develop insights, critical reflections, future research paths and research questions"(Massaro, Dumay, and Guthrie 2016, 767). According to Massaro, Dumay, and Guthrie (2016), a structured literature review answers three questions that are adaptable to the domain under study based on Alvesson and Deetz's (2000) three outcomes of critical management research: insight, critique and transformative redefinition (change for the future). The three research questions for this paper are:

(1) How has business angel research developed since 1999?
(2) What is the critique of business angel research?
(3) What is the future for business angel research?

Our review builds on Mason and Harrison's (1999) arguments in their seminal article reviewing research into the informal venture capital sector in the then newly formed journal *Venture Capital*. We selected this article because it established the original research agenda and placed *Venture Capital* as the leading journal in the field. The editorial provides an overview of research before 2000 and lays out the agenda for a "third generation" of research. This third generation of research calls for investigation into methodological, analytical, theoretical and policy issues. We have categorised the 84 articles according to the agenda set out by Mason and Harrison's editorial (1999). We find that the literature is diverse and covers first-, second- and third-generation research. Accordingly, we propose a fourth generation of research covering: efficacy of government policy and programmes, technology and its impact on business angels, the role of business angel networks (as an avenue for finance as well as a source of data for researchers), gender issues, entrepreneurs themselves and, finally, geography and spatial issues (also identified by Mason and Harrison, but not realised in the articles reviewed for this paper).

The remainder of the paper is as follows. First, we present a brief discussion defining the term business angel in the context of this research. Second, we offer a brief outline of the Mason and Harrison editorial. We subsequently discuss the methodology used, and classify each article according to the research agenda set out by Mason and Harrison (1999) before providing a discussion of the contribution of the research. We also identify the top 10 articles by citations (the "citation classics") and provide an overview of this research. We then identify a new agenda for future research, and conclude by outlining future implications for policy, research and practice.

2. Establishing the business angel research field

2.1. Definitions

The definition of the term "business angel" and the use of the term "informal venture capital" present a challenge for researchers because they are not consistently applied. As Avdeitchikova, Landstrom, and Månsson (2008) outline, researchers need to make a clear choice of definition when researching informal investors and/or business angels. The terms "business angels" and "informal investors" are often used interchangeably (see Lumme, Mason, and Suomi 1996; Carpentier and Suret 2007; Riding 2008; Burke et al. 2010), while the term "informal venture capital" is widely used to include both business angels and other sources of non-institutional capital, such as family and friends. Investments made by family and friends are based on considerations that differ from the investment criteria of other, external, investors (Mason and Harrison 2000b; cited in Landström 2007).

Though there are many definitions of business angels, we use the definition offered by Mason and Harrison (2008, 309) as it captures the essence of the term "business angel". They define a business angel as:

> a high net worth individual, acting alone or in a formal or informal syndicate, who invests his or her own money directly in an unquoted business in which there is no family connection and who, after making the investment, generally takes an active involvement in the business, for example, as an advisor or member of the board of directors.

2.2. Mason and Harrison's review

Mason and Harrison (1999) developed a generational framework identifying two established research generations and outlined the agenda for a third, encompassing methodological, analytical, theoretical and policy issues. The first generation of research, dating from 1980 to the early 1990s, is descriptive in nature, providing profiles of markets, angels and the investments they make. Later studies in this generation provide descriptions of the angel phenomena beyond the US and the UK. Second-generation studies, dating from the early 1990s–1999, are split into three categories and include five major themes. Each article can be categorised according to these themes. Category 1 articles include the themes of decision-making (including the investment process), post-investment relationships and angel returns and exits. The second category covers business angel networks and introductory services (non-angel network services facilitate connections between entrepreneurs and angels). Finally, the third category covers theoretical approaches with a focus on the application of theory.

Table 1. research framework for analysing business angel articles.

Journal	Where the article is published
author	Who wrote the article
Year	Year published
Citations classics	top 10 Journal articles by Google Scholar citations
Focus	Business angels themselves entrepreneurs themselves investment process, etc.
Data source	Business angels Business angel networks
Methodologies	Methods used in current literature
research generation	First-generation research Second-generation research third-generation research
Citation classics	Findings of the citation classics

The third generation of research represents the agenda laid out by Mason and Harrison (1999), and it is this agenda that we use to determine whether the research has progressed according to their 1999 call. The agenda has four categories – methodological, analytical, theoretical and policy issues. Mason and Harrison identify seven analytical issues:

(1) more sophisticated size estimates;
(2) development of angel typologies;
(3) organisation of the market place;
(4) geographical perspective;
(5) expansion beyond North America and North West Europe;
(6) business angels' roles in developing tech-based firms; and
(7) demand side perspective.

This paper uses the above framework to measure the progress of the research, allowing us to identify weaknesses in the literature and opportunities for further research. Section 4.7 provides a detailed exploration of the literature using the framework.

3. Methodology

The research for this paper uses a data-set of 84 academic articles investigating business angels. To create this data-set, we searched Google Scholar for articles using the search terms "business angel(s)", "informal venture capital", "angel finance" and "angel investing". This search presents results based on an exact match to the terms and ranks them in order from the highest to lowest citations received (Dumay and Cai 2014; Serenko and Dumay 2015). The search was limited to scholarly output published between 2000 and 2013. The year 2000 was chosen as a starting point as it is the year after the Mason and Harrison (1999) editorial calling for a new "generation" of research. This gives researchers a year to respond. The year 2013 is the end point because scholarly work published after this year has not had sufficient time to gain citations. Google Scholar presents the results with the article title, citation data and the abstract of the article. As Google Scholar provides citations from unpublished manuscripts, working papers and notes, the abstracts were read to ensure relevance of the article. The results also include chapters in text books and research handbooks. After reviewing the abstracts, we identified 95 articles that were of relevance.

After an examination of the results, the article list was refined to ensure the article's concept of business angels is consistent with the definition adopted for our purposes, and to ensure the articles are published in peer-reviewed journals. One exception is articles from *Frontiers of Entrepreneurship Research*, which is a journal of conference proceedings. Two articles from *Frontiers of Entrepreneurship Research* appear in this paper (Maxwell and Lévesque 2010; Smith, Harrison, and Mason 2010). Several conference articles from *Frontiers of Entrepreneurship Research* appear in a revised format in other journals (Maula, Autio, and Arenius 2005; Becker-Blease and Sohl 2007; Morrissette 2007; Wong and Ho 2007) and thus, we only include the other journal versions of these papers.

To analyse the articles, a PDF version of each article was imported into an EndNote database along with the necessary metadata from the publisher's website. An Excel spreadsheet using information such as authors, titles, journals, years and so on was exported from EndNote. The articles were then read with the abstract, methodology, data source, geographic location, keywords and findings added to the Excel spreadsheet. Citation information was taken from Google Scholar for all articles in June 2016. This information was used to develop the top 10 articles by citations per year (CPY) (the"Citation Classics"see 4.3 Citations). The articles were then classified as first, second or third generation and finally, sub-classified according to the Mason and Harrison article.

Table 1 provides the research framework for conducting the analysis of the articles. This framework is based on that of Dumay and Cai (2014). Two additional categories have been added:"methodology"demonstrates the diversity of methods used in researching business angels; and"generations of research" classifies the articles according to the framework and research agenda set out by Mason and Harrison (1999).

4. Results

This section provides an analysis of the selected articles and answers the research questions set out in the introduction. This section works through the categories set out by the research framework to answer questions one and two: How has business angel research developed since 1999? and What is the critique of business angel research?

4.1. Journal

Where researchers and authors publish their articles is important. Of interest to business angel researchers is the appearance of business angel research in journals that sit outside the"business/finance"category. Table 2 lists the journals that published the articles identified in this study ranked by the total articles published by each journal. The table clearly shows the importance of the journal *Venture Capital* for researchers. This journal accounts for 56% of all articles published. The success of the journal *Venture Capital* is important for researchers in the business angel field. While we cannot be certain that the cessation of *Venture Capital* would result in a significant decrease in the number of business angel papers, articles may be crowded out when competing in journals that have a wider scope – such as the *Journal of Business Venturing*, *Entrepreneurship Theory and Practice*, and *International Journal of Entrepreneurial Behaviour & Research*.

Of interest are the Australian Business Dean's Council (ABDC) quality list and the Charted Association of Business Schools'Academic Journal Guide (CABS). The publication of business

Table 2. Journals publishing angel research.

Journal	Total articles	ABDC ranking	Academic Journal Guide 2015 (CABS)
Venture Capital: an international Journal of entrepreneurial Finance	46	B	2
Journal of Business Venturing	6	a*	4
the Journal of private equity	4	C	–
Small Business economics	3	a	3
international Small Business Journal	3	a	3
entrepreneurship and regional Development	4	a	3
Journal of Business Finance and accounting	2	a	3
Frontiers of entrepreneurship research	2	–	–
entrepreneurship theory and practice	1	a*	–
Journal of Small Business Strategy	1	C	–
Vanderbilt law review	1	B	–
Journal of Small Business and enterprise Development	1	C	2
local economy	1	C	–
Journal of Small Business and entrepreneurship	1	C	1
Strategic Change	1	–	2
international Journal of entrepreneurial Behavior and research	1	B	2
regional Studies	1	a*	–
Journal of entrepreneurial Finance	1	–	–
Journal of enterprising Culture	1	C	1
international Business review	1	a	3
Journal of Management	1	a*	4*
international Journal of urban and regional research	1	B	–
Managerial and Decision economics	1	B	2
total articles & Citations	84		

angel research in journals ranked A or A* by the ABDC (nine journals publishing 20 articles), or 4*, 4 or 3 by CABS (seven journals publishing 18 articles) shows that business angel research is of interest to the very highest rated journals. These journals, however, publish significantly fewer articles than the leading journal in the field, *Venture Capital* (rated "B" and "2" by ABDC and CABS, respectively). The number of articles published by *Venture Capital*, and the consistency with which business angel articles are published, shows that business angel research is still fruitful and that there are still opportunities for researchers to make an impact.

Overall, most journals publish a relatively low number of articles. Therefore, there are relatively few opportunities to publish research on business angels. This may be because business angel research is a niche topic in the broader areas of venture capital and finance, and there is a crowding out effect. The lack of articles may also be a supply side problem, either with a lack of submissions or with the quality of submissions. However, given the journal *Venture Capital* was launched (among other reasons) to investigate the evolution of the venture capital industry (Mason and Harrison 1999) – including the emergence of other forms of venture capital such as business angels – it remains the most appropriate journal in which to publish business angel research. Furthermore, with most journals publishing few articles in the 14 years, it is difficult to determine whether these journals are likely to publish business angel articles in the future. Authors may benefit from discussing their

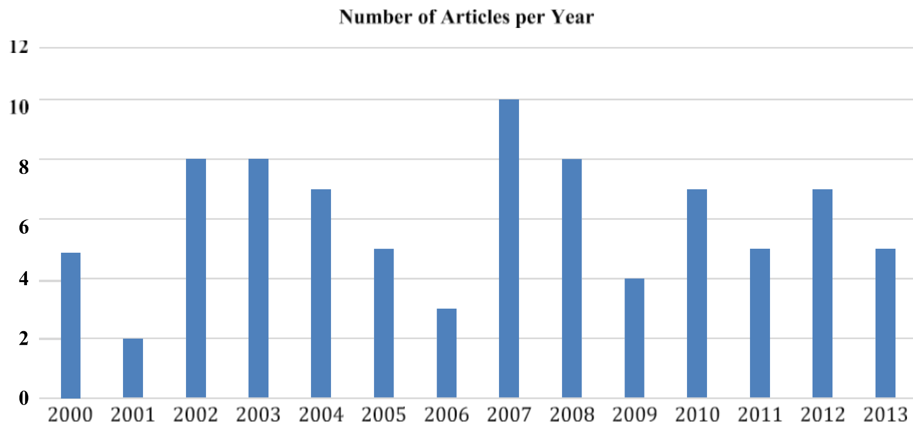

Figure 1. number of articles per year.

research with journal editors to determine if there is interest in publishing business angel articles prior to submission (de Villiers and Dumay 2014; cited in Dumay and Cai 2014).

4.2. Year

Figure 1 shows the number of articles published each year. Since a peak in the number of publications in 2007, there has been a slight decline in the total number of business angel articles published. Prior to the peak of 10 articles in 2007, 38 articles were published and 36 articles have been published post-2007. While there is no clear trend indicated, the fact that business angel research has been consistently published across the period shows that there is still a strong interest in the field and that there are still opportunities to broaden the boundaries of our knowledge.

4.3. Citations

An understanding of the impact of business angel research is important, as there is little point in publishing research that does not contribute to the scholarly discourse (Dumay 2014). This paper offers two methods of determining citation impact. Table 3 presents the top 10 business angel articles by number of citations received. Of note is the presence of the authors Mason and Harrison who, together, have published 5 of the top 10 articles, accounting for 1114 citations.

Of interest is the top cited article by Aernoudt (2004), which focuses on business incubators and not specifically business angels. However, incubators that “nurture young firms, helping them to survive and grow during the startup period”(Aernoudt 2004, 127) are closely linked to business angels in that they also help grow new businesses. Aernoudt points out the importance of these close links and consequently, given the article’s impact, we decided to include the article in this research.

One problem with determining the impact of an article using citations alone is that older articles may accumulate more citations (Serenko and Dumay 2015). To counterbalance this, we calculated CPY dividing the total citations by the current year (2016) minus the year the

Table 3. top 10 business angel articles by citations.

Rank	Authors	Article title	Year	Google Citations June 2016
1	aernoudt, r.	incubators: tool for entrepreneurship Journal: *Small Business Economics*	2004	422
2	Mason, C. M. and Stark, M.	What do investors look for in a Business plan?: a Comparison of the investment Criteria of Bankers, Venture Capitalists and Business angels Journal: *International Small Business Journal*	2004	332
3	Mason, C. M. and Harrison, r. t.	is it worth it? the rates of return from informal venture capital investments Journal: *Journal of Business Venturing*	2002	283
4	Van Osnabrugge, M.	a Comparison of Business angel and Venture Capitalist investment procedures: an agency theory Based analysis Journal: *Venture Capital*	2000	280
5	Mason, C. M. and Harrison, r. t.	Barriers to investment in the informal venture capital sector Journal: *Entrepreneurship & Regional Development*	2002	229
6	Bygrave, W. D., Hay, M., ng, e. and reynolds, p D.	executive forum: a study of informal investing in 29 nations composing the Global entrepreneurship Monitor Journal: *Venture Capital*	2003	160
7	Harrison, r. t. and Mason, C. M.	Does Gender Matter? Women Business angels and the Supply of entrepreneurial Finance Journal: *Entrepreneurship Theory and Practice*	2007	136
8	Sørheim, r. and landström, H.	informal investors – a categorization, with policy implications Journal: *Entrepreneurship & Regional Development*	2001	135
9	Harrison, r. t. and Mason, C. M.	Venture capital market complementarities: the links between business angels and venture capital funds in the united Kingdom Journal: *Venture Capital*	2000	134
10	Becker-Blease, J. r. and Sohl, J. e.	Do women-owned businesses have equal access to angel capital? Journal: *Journal of Business Venturing*	2007	133

article was published. Table 4 presents the top 10 business angel articles by CPY – the citation classics. While Aernoudt's (2004) paper remains in the first position, articles published after 2007 are now taken into account. Of interest is the entrance of two articles written after 2011. Based on this, we argue that published research on business angels continues to have an impact and that interest in the topic has not diminished.

Table 4. top 10 articles by CpY – the"citation classics".

Rank	Authors	Article title	Year	CPY
1	aernoudt, r.	incubators: tool for entrepreneurship Journal: *Small Business Economics*	2004	35.17
2	Mason, C. M. and Stark, M.	What do investors look for in a Business plan?: a Comparison of the investment Criteria of Bankers, Venture Capitalists and Business angels Journal: *International Small Business Journal*	2004	27.67
3	Maxwell, a. l., Jeffrey, S. a. and lévesque, M.	Business angel early stage decision-making Journal: *Journal of Business Venturing*	2011	23.40
4	Mason, C. M. and Harrison, r. t.	is it worth it? the rates of return from informal venture capital investments Journal: *Journal of Business Venturing*	2002	20.21
5	Van Osnabrugge, M.	a Comparison of Business angel and Venture Capitalist investment procedures: an agency theory Based analysis Journal: *Venture Capital*	2000	17.50
6	Mason, C. M. and Harrison, r. t.	Barriers to investment in the informal venture capital sector Journal: *Entrepreneurship & Regional Development*	2002	16.36
7	Harrison, r. t. and Mason, C. M.	Does Gender Matter? Women Business angels and the Supply of entrepreneurial Finance Journal: *Entrepreneurship Theory and Practice*	2007	15.11
8	Becker-Blease, J. r. and Sohl, J. e.	Do women-owned businesses have equal access to angel capital? Journal: *Journal of Business Venturing*	2007	14.78
9	Mason, C. M.	public policy Support for the informal Venture Capital Market in europe Journal: *International Small Business Journal*	2009	13.86
10	Fairchild, r. J.	an entrepreneur's choice of venture capitalist or angel-financing: a behavioral game-theoretic approach Journal: *Journal of Business Venturing*	2011	13.80

4.4. Findings of the citation classics

It is clear that the citation classics are important articles for business angel researchers. They cover almost the full period of this study with the earliest article published in 2000 (Van Osnabrugge 2000) and the most recent articles published in 2011 (Fairchild 2011; Maxwell, Jeffrey, and Lévesque 2011). The studies also represent the three generations of research set out by Mason and Harrison (1999) in *Venture Capital*. The studies range from first-generation profile studies (Harrison and Mason 2007), second-generation studies on decision-making (Van Osnabrugge 2000; Mason and Stark 2004; Maxwell, Jeffrey, and Lévesque 2011) and angel returns (Mason and Harrison 2002b) and third-generation studies covering the organisation of the market place (Aernoudt 2004), demand side perspectives (Becker-Blease and Sohl 2007) and theoretical (Fairchild 2011) and policy issues (Mason and Harrison 2002a; Mason 2009). Mirroring the body of literature reviewed for this paper, the citation classics represent a diverse range of business angel research.

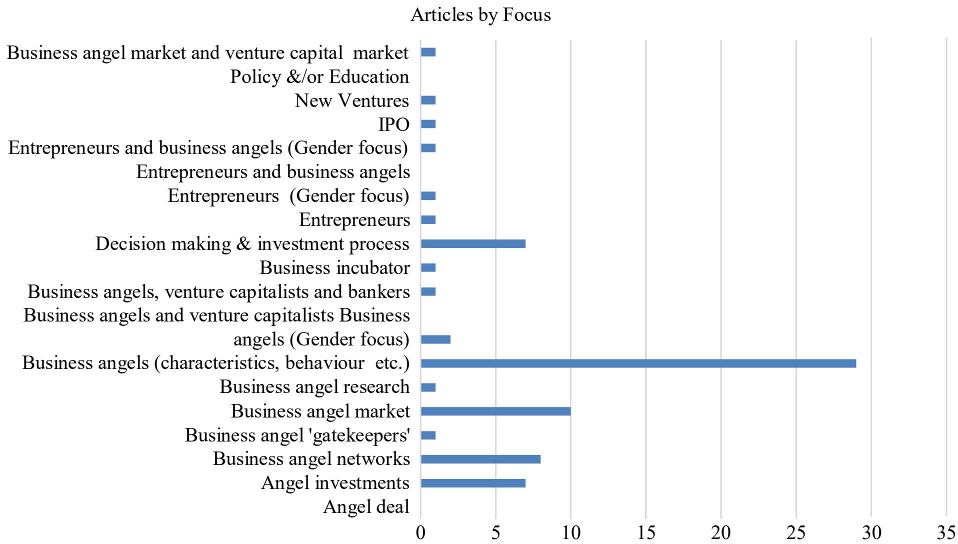

Figure 2. articles by focus.

4.5. Focus

Figure 2 shows the research articles by focus. In developing this figure, articles were categorised according to the main focus with six overlapping articles. The articles that overlap are categorised as "business angels (characteristics, behaviour etc.)". The figure shows that the vast majority of papers (30) focus on the business angel. However, there are several other areas of focus that highlight the diverse nature of the research. Topics include: a focus on decision-making (Clark 2008; Maxwell, Jeffrey, and Lévesque 2011), business angel networks (Aernoudt, San José, and Roure 2007; Collewaert, Manigart, and Aernoudt 2010), the relationships between entrepreneurs and business angels (Bammens and Collewaert 2012; Pollack and Bosse 2013) and the gender of entrepreneurs and business angels (Amatucci and Sohl 2004; Becker-Blease and Sohl 2007; Harrison and Mason 2007; Sohl and Hill 2007). This last category is of particular interest because two of these articles are"citation classics"; gender access is a fruitful area for research. While the diversity in research topics represents a healthy development in the investigation of business angels, there remains a very strong focus on the core – the business angels themselves.

4.6. Data sources

Business angels are notoriously difficult to locate and place a high premium on privacy (Mason and Harrison 2000b). As a result, research into their activities and motivations is difficult (Mason and Harrison 2002a). The literature identifies that lack of access to business angels creates two major problems. First, difficulties regarding sampling methods are said to be driving the definition of a business angel (Farrell, Howorth, and Wright 2008). Farrell, Howorth, and Wright (2008, 331) suggest that the limitations associated with sampling are precipitating"narrow definitions of business angels in order to justify the sampling methods used". Second, research has been based on samples of convenience – samples that cannot

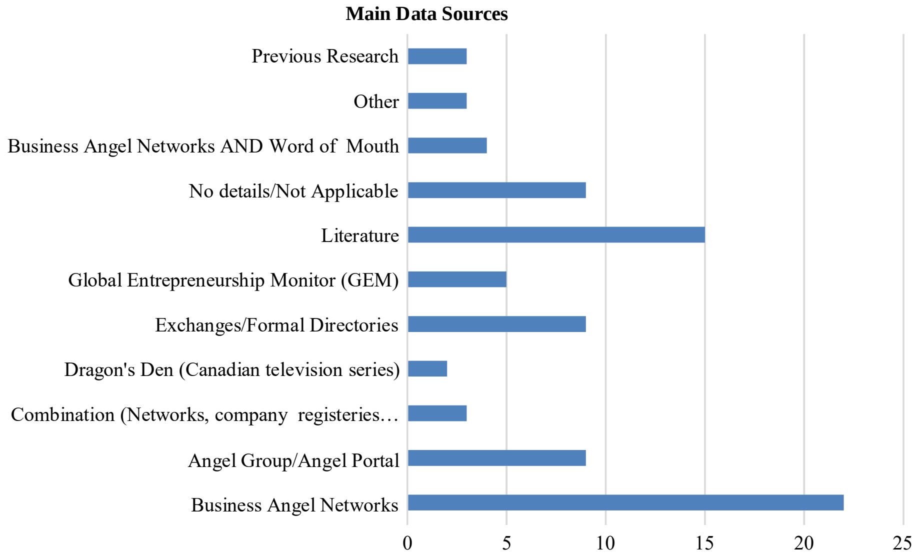

Figure 3. Main data sources.

be verified as being representative of the population (Mason and Harrison 1999) and that are likely to contain biases (Mason and Harrison 2010). The issue of samples of convenience, identified in 1999 by Mason and Harrison, is a continued problem for contemporary researchers (Harrison and Mason 2007; Farrell, Howorth, and Wright 2008; Mason and Harrison 2008, 2010).

Researchers have adopted a range of different approaches to identifying samples of business angels. Most common in early research is the use of large-scale surveys of individuals with a high enough income that they may be involved in informal investments (e.g., Wetzel 1981; Haar, Starr, and MacMillan 1988). While this approach is feasible, it suffers from exceptionally low rates of return where the population of respondents is further reduced according to definitions of a business angel. For example, Aram (1989) sent 40,000 invitations to CEOs asking them to pass on contact details to potential business angels. The final population of qualified responses was 55 – a response rate of less than 0.5%. While these surveys come with major pitfalls, they do address problems associated with self-selection and samples of convenience. The use of technology may help make these types of large-scale surveys more productive.

The main sources of data used in the literature appear in Figure 3. The figure shows that 25% of all data source mentioned in the literature were business angel networks (this increases to 34% when including combination approaches and BANs and word of mouth). To an extent, this supports Avdeitchikova, Landstrom, and Månsson's (2008) position that business angel networks, which are self-selected registers, are one of the most common sources of data for researchers. Of concern is the lack of diversity in the variety of methods used to identify a sample; however, researchers are turning towards angel groups as an emerging source of data.

While business angel networks provide relatively simple access to the exact focus of research, there is the likelihood of significant bias (Farrell, Howorth, and Wright 2008). Many business angels choose not to be a part of a business angel network. As a result, samples of convenience do not represent a random sample of the business angel population (Månsson and Landström 2006). To address the problems associated with using business angel networks, researchers contend that increasing the number of business angel networks will improve results and reduce biases (Stevenson and Coveney 1994; cited in Farrell, Howorth, and Wright 2008). However, this does not necessarily address the biases because these networks are still self-selecting and may still produce samples that are not representative of the population. Further, the motivations for joining a business angel network may also bias the results although there is no research available on this issue.

One interesting data source is the use of the reality television series *Dragon's Den* (Maxwell and Lévesque 2010; Maxwell, Jeffrey, and Lévesque 2011). Like business angel networks, a reality television series represents a sample of convenience, which is produced as a form of entertainment – an artificial environment that changes behaviour (Hight 2001; cited in Maxwell, Jeffrey, and Lévesque 2011). However, the researchers using this programme viewed unedited line tapes rather than edited for television versions. One of the articles using this data source is third on the list of top articles by CPY and was published in the A* *Journal of Business Venturing* (Maxwell, Jeffrey, and Lévesque 2011). Given the ease with which this programme can be accessed, and the fact that it has been produced in the major English-speaking countries (as well as non-English-speaking countries), this data source is potentially fruitful for future research and publication.

Finally, five of the articles made use of the Global Entrepreneurship Monitor (GEM) surveys for their data source. The GEM study is the"only globally harmonized data-set dedicated to the study of individual-level entrepreneurial behaviors"(Levie et al. 2013, 438) across more than 100 countries. The GEM data-set uses the same protocols in all countries and provides representative samples of data, and, importantly, is free from types of self-selection. The GEM study also captures national context information, which is particularly useful in comparing "country-level attributes and the entrepreneurial process" (Levie et al. 2013, 439). Finally, the GEM data-set is a longitudinal report, which is useful for addressing the next stages of research (see Section 5). The GEM study has been used effectively by researchers and the paper by Bygrave et al. (2003) is included in the citation classics. The consistent nature of the GEM studies makes it an attractive data source for researchers investigating the business angel phenomenon.

4.7. Methodologies

A diverse range of methodologies have been used in business angel research. The use of questionnaires and surveys is most prevalent in the literature, and was used extensively before 2000 (e.g., Haar, Starr, and MacMillan 1988; Aram 1989; Landström 1993). Figure 4 shows the methodologies used. The use of such a diverse range of methodologies indicates that the understanding of business angels has broadened and researchers in the field are developing a deeper understanding of the phenomenon.

The top 10 articles by CPY use a range of different methodologies. Six of the articles use questionnaires or surveys; two articles use verbal protocol analysis (in some form); one article uses a game theory approach. The Aernoudt (2004) article offers a theoretical discussion based on literature. This shows that researchers are taking a varied approach to the study of the business angel phenomenon. However, quantitative approaches have a greater impact than other approaches (Figure 5).

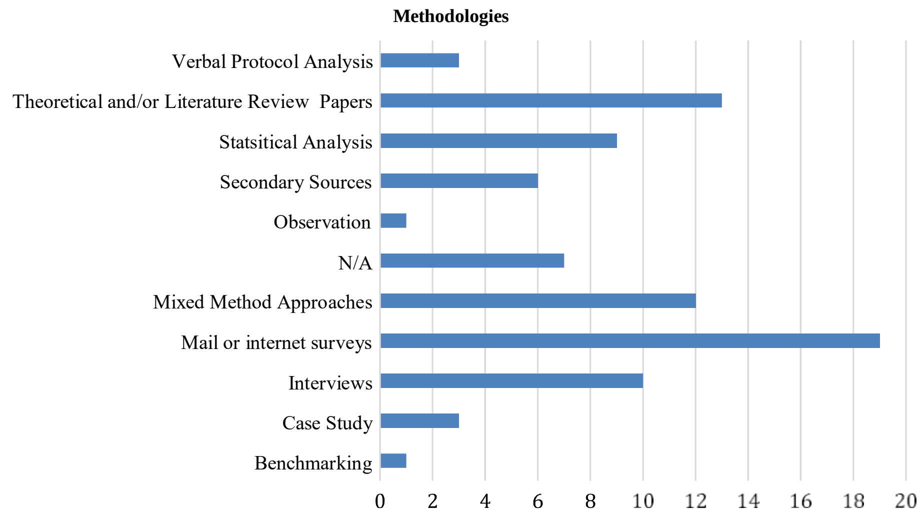

Figure 4. Methodologies.

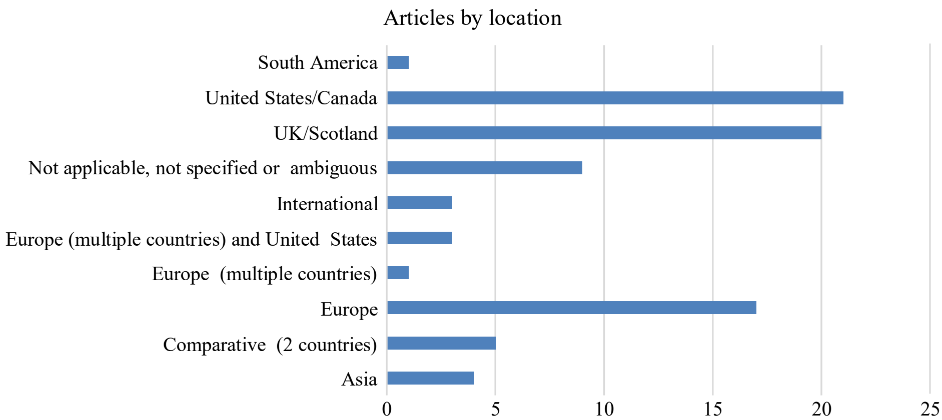

Figure 5. articles by location.

4.8. Geographical focus

Of the 84 articles in the data-set, more than 73% are studies conducted in the UK, Europe and/or North America, with more than 48% of the studies in the UK or North America. Studies conducted in Continental European countries are divers and include Belgium (Aernoudt, San José, and Roure 2007; Collewaert, Manigart, and Aernoudt 2010), Finland (Maula, Autio, and Arenius 2005; Lahti 2011a, 2011b), Germany (incl Switzerland) (Stedler and Peters 2003; Zu Knyphausen-Aufseß and Westphal 2008; Festel and De Cleyn 2013), Italy (Lazzeretti, Propris, and Storai 2004), the Netherlands (Visser and Williams 2001), Norway (Sørheim and Landström 2001; Sørheim 2003; Matlay and Sørheim 2005), Spain (San José, Roure, and Aernoudt 2005) and Sweden (Politis and Landström 2002; Månsson and Landström 2006).

Only five of the articles (Hindle and Lee 2002; Wong and Ho 2007; Scheela and Isidro 2009; Scheela and Jittrapanun 2012; Romaní, Atienza, and Amorós 2013) investigate angel

Table 5. articles fitting the first-generation definition.

Descriptions, profiles and characteristics	Haines, Madill, and riding (2003)
	Harrison and Mason (2007)
	Jensen (2002)
	lindsay (2004)
	Morrissette (2007)
	paul, Whittam, and Johnston (2003)
	politis and landström (2002)
	ramadani (2009)
	Sohl (2003)
	Sohl (2006)
	Sohl and Hill (2007)
	Sørheim (2003)
	Stedler and peters (2003)
Descriptive studies in countries outside north West europe and north america	Hindle and lee (2002)
	lahti (2011a)
* longitudinal study	Månsson and landström (2006)*
	Wong and Ho (2007)

financing outside of the UK/Europe/North America regions. Two of these articles (Hindle and Lee 2002; Wong and Ho 2007) provide profiles/characteristics of business angels in Singapore and can be classified as “first-generation research”. The remaining articles focus on angel financing in emerging markets (Thailand, the Philippines and Chile) providing a discussion of angel investing in regions with political uncertainty and few support mecha- nisms (Scheela and Isidro 2009; Scheela and Jittrapanun 2012) and the development of business angel networks (Romaní, Atienza, and Amorós 2013). Perhaps the most interesting aspect of these articles is the clear internationalisation of business angel research and angel investing as a global phenomenon (Harrison 2017).

4.9. First, second and third generations of research

This section classifies the articles according to the generational framework set out by Mason and Harrison (1999). The Mason and Harrison editorial provides the impetus for reviewing the literature since 2000. This section defines first-, second- and third-generation studies and identifies if the research has progressed along the lines that Mason and Harrison pre- dicted. The 84 articles have been reviewed to determine how they fit within the generational framework by reviewing each article in its entirety. Some of the articles cover more than one category; therefore, they are listed more than once.

4.9.1. First-generation research

First-generation studies (1980 to early 1990s) include the beginnings of research into the business angel market and were pioneered by Wetzel’s (1981, 1983) early research investi- gating the finance gap encountered by small technology firms when attempting to raise capital. The research in this generation is largely descriptive, providing market profiles (Wetzel 1987; Wetzel and Freear 1990) and characteristics of business angels (Aram 1989; Mason, Harrison, and Chaloner 1991) and the investments they make (Haar, Starr, and MacMillan 1988). Further studies of the informal venture capital market occurred in a range of countries, though the main focus remained in the US and UK (Mason and Harrison 1999). Articles categorised as first-generation research are shown in Table 5. This table shows that research providing descriptions, profiles and characteristics is still published and that

Table 6. articles fitting the second-generation definition.

Category 1 Articles	
Decision-making (including investment process)	Brush, edelman, and Manolova (2012a) Clark (2008) ibrahim (2008) Kelly and Hay (2003) lahti (2011b) Mason and Stark (2004) Maxwell and lévesque (2010) Maxwell, Jeffrey, and lévesque (2011) Mitteness, Baucus, and Sudek (2012a) Mitteness, Sudek, and Cardon (2012b) paul, Whittam, and Wyper (2007) Smith, Harrison, and Mason (2010) Sudek (2006) Van Osnabrugge (2000) Visser and Williams (2001)
post-investment relationship	Macht and robinson (2009) Matlay and Sørheim (2005) politis (2008)
angel returns and exits	Mason and Harrison (2002b) riding (2008) roach (2010) Wiltbank (2005)
Category 2 articles	
Business angel networks and introductory services	aernoudt and erikson (2002) Gregson, Mann, and Harrison (2013) Zu Knyphausen-aufseß and Westphal (2008) lange, leleux, and Surlemont (2003) paul and Whittam (2010) romaní, atienza, and amorós (2013)
Category 3 articles	
theoretical (application of theory)	Chahine, Filatotchev, and Wright (2007) De Clercq, Meuleman, and Wright (2012) Maula, autio, and arenius (2005) pollack and Bosse (2013) prasad, Bruton, and Vozikis (2000) Scheela and isidro (2009) Scheela and Jittrapanun (2012) Smith, Harrison, and Mason (2010) Sørheim (2003) Van Osnabrugge (2000)

studies are still US- and UK-dominated. Some of this research provides general descriptions of business angels and the angel market in different countries such as Singapore (Hindle and Lee 2002; Wong and Ho 2007), Canada (Haines, Madill, and Riding 2003), Germany (Stedler and Peters 2003), Sweden (Månsson and Landström 2006) and Finland (Lahti 2011a). Other research focuses on particular types of angels or characteristics, such as women busi- ness angels (Harrison and Mason 2007; Sohl and Hill 2007) and the entrepreneurial charac- teristics of business angels (Politis and Landström 2002; Lindsay 2004). The diversity of these articles shows that there are opportunities for researchers to develop a deep understanding of their characteristics and motivations beyond a simple description.

4.9.2. Second-generation research

Second-generation studies (early 1990s to 1999) are classified into three categories by Mason and Harrison (1999). The first category, new topics, has three themes – decision-making process (Fried and Hisrich 1994), post-investment relationship (Freear, Sohl, and Wetzel 1995; Mason and Harrison 1996) and angel returns and exits (Lumme, Mason, and Suomi 1996; Mason and Harrison 1996). The second category relates to applied studies with a focus on the development of business angel networks/introduction services (Lerner 1998; Aernoudt 1999). Research in this category shows an increasing concern about the poor quality of investment opportunities (Mason and Harrison 1999). This problem may still be evident (Maxwell, Jeffrey, and Lévesque 2011) given that angels are using formal networks/portals to improve the quality of deal flow (Paul and Whittam 2010). The third and final category is the"application and development of finance theory to the informal venture capital market" (Mason and Harrison 1999, 97). Studies include the application of decision theory (Feeney, Haines, and Riding 1999), trust models (Harrison, Mason, and Dibben 1997) and the application of a "networking/relational view of economic action" (Steier and Greenwood 1999, 147). At this stage, development of theoretical concepts, models and framework is hindered by the "virtual absence of large-scale data sets" (Mason and Harrison 1999, 97). The sec- ond-generation studies are organised into three categories shown in Table 6.

The articles fitting the second-generation definition are extensive and cover all three categories classified by Mason and Harrison. Moreover, they cover each of the sub-categories. Of interest is the investigation of the angel decision-making process, accounting for 45% of these second-generation articles. This research covers a broad range of topics including readiness for funding (Brush, Edelman, and Manolova 2012), trust, agency issues and risk reduction (Van Osnabrugge 2000; Maxwell and Lévesque 2010; Lahti 2011b; Maxwell, Jeffrey, and Lévesque 2011; Pollack and Bosse 2013) and whether business angels place emphasis on the opportunity or the entrepreneur (Clark 2008; Mitteness, Baucus, and Sudek 2012; Mitteness, Sudek, and Cardon 2012). Post-investment relationships between the entrepreneur and the angel are investigated in the context of what value business angels bring to the investee companies. The research does not discuss the relationship in terms of risk management. This is surprising, given that business angels, according to research, rely on their relationship with the entrepreneur to manage risk (Carpentier and Suret 2015) – this warrants further investigation. Further to this, there is limited research on the contracting and negotiating stages (with the exception of Kelly and Hay (2003) and Ibrahim (2008)), representing a further avenue of future investigation.

The studies of angel returns and exits provide interesting results that are more sophisticated than a simple profit/loss dichotomy. The earliest work (Mason and Harrison 2002b) provides an investigation of the distribution of returns and general characteristics of the exit and return profile. Wiltbank (2005) investigates whether formal venture capital practices are appropriate in the angel investment setting. Ultimately, he finds that investing earlier and participating more post-investment lead to fewer negative investments. Interestingly, Wiltbank (2005) also notes that investors who did more due diligence experienced more failures and more "homeruns" (return has an IRR > 100%). This contrasts with Roach (2010), who found that the investment process weeds out potential failures but does not bypass potential winners. This may be explained by the fact that Wiltbank studied individual business angels, whereas Roach investigated a theoretical portfolio – that is, all investments made by members of the Keiretsu Forum. Ultimately, the nuances present in the research indicate that angel returns and exits provide an opportunity for researchers to add to our understanding of the business angel phenomenon.

Studies investigating business angel networks include how these organisations operate in different markets (Aernoudt and Erikson 2002; Lange, Leleux, and Surlemont 2003; Paul and Whittam 2010; Gregson, Mann, and Harrison 2013; Romaní, Atienza, and Amorós 2013) and whether these networks deliver value to business angels (Zu Knyphausen-Aufseß and Westphal 2008) – ultimately concluding that angels do not receive sustainable benefits and, in fact, face new risks during the investment process. This has implications for researchers using business angel networks as a data source. If business angels do not receive sustainable benefits (in particular, serial business angels), and actually face new risks, we must question the characteristics and motivations of business angels who join angel networks.

Finally, several articles have applied theoretical models to business angel research. Researchers have borrowed from a range of disciplines when applying theories to business angels. Agency theory (Van Osnabrugge 2000; Kelly and Hay 2003), stakeholder theory (Pollack and Bosse 2013), certification and underpricing theory (Chahine, Filatotchev, and Wright 2007), institutional theory (De Clercq, Meuleman, and Wright 2012) and signalling theory (Prasad, Bruton, and Vozikis 2000) have application to business angels, but research has also applied social capital theory (Sørheim 2003) in exploring the pre-investment process of business angels. The use of behavioural theories, such as social capital theory and planned behaviour theory (borrowed from psychology) (Maula, Autio, and Arenius 2005), highlights the complexity of the business angel phenomenon. Future research applying theoretical frameworks should not be limited to finance and economic theory. Further, it is important that researchers identify the problems associated with applying a single theory to a complex subject such as business angels.

4.9.3. Third-generation research

From an analysis of the research conducted in the first and second generations of study, Mason and Harrison (1999) proposed a third generation of research encompassing methodological, analytical, theoretical and policy issues. In providing a framework for classifying each of the articles for this paper, we have used Mason and Harrison's (1999) proposed agenda for research beyond 2000.

The first agenda identified in the third-generation studies covers methodological issues. There has been limited progress in this area, with no studies investigating research design. One article (Månsson and Landström 2006) does briefly discuss research design issues in the context of comparing two separate data-sets, which were conducted 12 years apart. Clearly, this represents a gap in the current literature and an opportunity for future research.

The article by Dissanaike and Amel-Zadeh (2007) provides a relevant critique of definitions and methodologies used by another study. Given that the critique only applies to the work of Chahine, Filatotchev, and Wright (2007), the article is of limited value in its application to the broader subject of business angel research. Both Avdeitchikova, Landstrom, and Månsson (2008) and Farrell, Howorth, and Wright (2008) identify definition and sampling as issues that need to be addressed in future research. Of note is the varying and arbitrary criterion for definition of the population, including an inconsistent approach to the use of informal investors, informal venture capital investors, private investors and business angels. Sampling issues and the problems associated with the use of samples of convenience (as discussed in the preceding section) are areas that require resolution.

The analytical issues covered in the second agenda represent a diverse range of topics. The seven analytical issues are as follows:

Table 7. articles fitting the third-generation studies.

Category 1 – Methodological Issues	
Methodological	avdeitchikova, landstrom, and Månsson (2008)
*Critiques article by Chahine, Filatotchev, and Wright (2007)	Dissanaike and amel-Zadeh (2007)* Farrell, Howorth, and Wright (2008) Mason and Harrison (2008)
research designs	none found
Category 2 – Analytical Issues	
estimates of market size	Harrison et al. (2010a) Mason and Harrison (2000c)
angel typologies	Festel and De Cleyn (2013) paul, Whittam, and Johnston (2003) Sørheim and landström (2001) Szerb, terjesen, and rappai (2007)
Organisation of the market place	aernoudt (2004) Harrison and Mason (2000) Johnson and Sohl (2012) lazzeretti, propris, and Storai (2004) Mason and Harrison (2000a)
Geography/spatial (impact of distance on the decision to invest)	Harrison, Mason, and robson (2010)
Beyond north america and north West europe	Bygrave et al. (2003) romaní, atienza, and amorós (2013) Scheela and isidro (2009) Scheela and Jittrapanun (2012)
role in technology-based firms	Festel and De Cleyn (2013) Madill, Haines, and riding (2005) Mason and Harrison (2004a)
Demand side perspectives	amatucci and Sohl (2004) Becker-Blease and Sohl (2007) Brush, edelman, and Manolova (2012a) Mason and Harrison (2004b)
Category 3 – Theory	
theoretical issues (development of theory)	Bammens and Collewaert (2012) Fairchild (2011) Florin, Dino, and Huvaj (2013)
Category 4 – Policy related	
policy related	aernoudt, San José, and roure (2007) Christensen (2011) Collewaert, Manigart, and aernoudt (2010) lipper and Sommer (2002) Mason (2009) Mason and Harrison (2002a, 2004b) San José, roure, and aernoudt (2005) Sørheim and landström (2001)

(1) more sophisticated size estimates of the market;
(2) development of angel typologies;
(3) organisation of the market place including mapping diversity in the market and exploration of investor behaviour and activity;
(4) geographical perspective, determining whether there are spatial variations and whether distance plays a role in the decision-making process;
(5) expansion of research beyond the dominant areas of North America and North West Europe;
(6) the role that business angels play in developing technology-based firms; and
(7) focus on the demand for finance, rather than the supply side perspective.

With the exception of the"geography/spatial"issue, there is reasonable coverage of each issue. In addition, the research here spans the entire range of the years in this literature review (2000–2013). This shows that these subjects are still relevant and still have an impact – two of the articles, Aernoudt (2004) and Becker-Blease and Sohl (2007), appear in the top 10 articles by CPY.

Of interest is the research addressing geographical and spatial issues. Angel investment (and informal venture capital more broadly) is typically localised, meaning that wealth is retained and recycled within the one region (Mason and Harrison 1999). Harrison, Mason and Robson (2010) address this issue by examining the geographical characteristics of the investor and the investment to identify a relationship finding, among other factors, that there was no support for their hypothesis that later stage deals are more likely to be less local than seed or early stage investments (Harrison, Mason, and Robson 2010, 132). It should be noted that the issue of geographical factors is also researched by Avdeitchikova (2009); however, the article focuses on informal venture capital and a broader definition than the business angel definition we have chosen.

The third agenda item is the need for theoretically grounded research. Mason and Harrison (1999) highlight the need to apply and develop theoretical perspectives beyond finance and economic theory. They question the applicability and relevance of traditional finance and economic theory, noting that studies in areas such as agency theory have produced conflicting results. The research agenda set out in 1999 calls for development and application of theories that address traditional financial theory, as well as non-financial issues such as social capital. Alternative research designs are suggested to address theoretical shortcomings. These include focusing on types of business angels, the use of case studies to explore a particular aspect, longitudinal tracking of investors, assessment of the impact active ("hands-on") business angels have, the use of verbal protocol analysis during initial screening and the application of conjoint analysis and qualitative approaches to add new perspectives.

Research developing new theories is limited, with each paper building on existing theoretical models. Bammens and Collewaert (2012) use the trust construct in order to determine the degree that trust impacts angel assessments of venture performance. Ultimately, they find that strong trust relationships lead to an emphasis on maintaining trust and, therefore, a pattern of expected behaviours. This finding opens an opportunity for researchers to answer why this may happen and what impact it may have on the overall performance of a venture.

Fairchild (2011) uses game theory to develop a model to analyse the effect of economic and behavioural characteristics on the choice of a financier. The research uses game theory to elaborate on the trade-offs that entrepreneurs make when choosing a financier. Venture capitalists have higher value-creating abilities, but the anticipation of a closer, empathetic and trusting relationship with an angel alleviates problems such as double-sided shirking and expropriation threats. Ultimately, game theory provides a platform for researchers to investigate decision-making in angel financing, both from the perspective of the entrepreneur, in the case of Fairchild (2011), and the perspective of the angel.

Prospect theory forms the basis for Florin, Dino, and Huvaj's (2013) multi-level framework for investigating angel investing. The framework provides multiple levels from the deal, the angel, angel portals, angel networks and, finally, private equity institutional investment. Applied to each of these levels are performance measures, sources of variance and theoretical approaches. Of interest to the research agenda is the theoretical dimension of the framework. The research offers an extensive paradigm for applying various theories to each of the levels as well as the application of alternative theoretical approaches such as agency and institutional theory. The paper provides opportunities for future researchers to apply different theoretical approaches to the various levels of the angel's investing process.

The final agenda item is the need for further policy-oriented research that assesses the need for policies designed to foster investment activity and research that evaluates existing policy platforms. The research categorised as policy-related is further categorised according to these two types. The evaluation of existing programmes plays an important role in the development of future initiatives. Mason and Harrison (1999) note that three areas are particularly relevant: (1) the assessment of tax incentives; (2) the evaluation of the operation, impact and scale of business angel networks; and (3) the assessment of investment readiness of businesses.

Much of the research undertakes an evaluation or review of existing programmes. Aernoudt, San José, and Roure (2007), Christensen (2011), Collewaert, Manigart, and Aernoudt (2010), Mason (2009) and Mason and Harrison (2004b) all evaluate the performance of government-supported angel networks. Lipper and Sommer (2002) conduct an evaluation of the activities across multiple US states, highlighting the Oklahoma Technology Commercialization Corporation as being particularly well designed. Mason and Harrison (2002a) call for policy-makers to remove barriers to investment, such as problems with deal flow, quality of proposals and terms and conditions. San José, Roure, and Aernoudt (2005) call for the creation of "Angel Academies" to educate business angels, and Sørheim and Landström (2001) call for programmes targeting the specific types of informal investors (including business angels). Future research can investigate whether these calls have been met and whether they have been successful.

Table 7 shows the articles that fulfil the third-generation research agenda. Articles appearing in the second-generation agenda apply existing theoretical models while third-generation articles attempt to develop and test theories. Therefore, some crossover exists with some articles appearing in both categories. The research progress on the third generation is substantial, with more than 30 of the reviewed articles contributing to the agenda. While obvious gaps exist, namely in research design and geography and spatial issues, the research has generally responded to the framework laid out by Mason and Harrison. The research is comprehensive but it broadly highlights the limitations of current knowledge in each of the categories. There are still gaps and problems in the areas that represent opportunities for future researchers.

While Table 7 shows that the literature covers most the issues, this does not mean that the issues have been resolved. There are still a great number of opportunities to expand our understanding in each of these areas, as well as an opportunity to tackle the problem of developing a unique theoretical approach that does not rely on existing models.

The final article in the data-set is Freear, Sohl, and Wetzel (2002). This article is not included in the preceding tables as it sits outside the research proposed in the research agenda. The paper provides a review of business angel research and offers a number of research questions for the future. The paper calls for longitudinal studies that address "angel and entrepreneurial behavior, information flows, links to other market segments, information quality, formal and informal networks and the latent angel problem" (Freear, Sohl, and Wetzel 2002, 275). Many of the questions relate to deal flow (appetite for, channels, lead angels in deal flow) and have not been answered. This represents a clear opportunity for researchers to add to our understanding of business angels.

5. Future research – the next agenda

In further providing an answer to our final research question, this section outlines the implications for research resulting from our analysis and review of the literature. We call for a new research agenda – a fourth generation of research studies. This agenda encompasses the following areas of inquiry:

- policy and programmes;
- crowd investing;
- the changing nature of angel markets;
- gender issues;
- entrepreneurs; and
- emerging markets, localism and internationalisation.

5.1. Policy and programmes

Researchers have answered Mason and Harrison's call for policy research; however, we believe there still exists opportunities for researchers to contribute to the literature and to impact government policy. Government policies cannot create an angel market. However, well-designed policy can facilitate its development (O.E.C.D. 2011). Research into the worth of various policy options can inform government on the most appropriate policy designs. The evaluation of policies targeting angel finance is critical in ensuring they have the intended outcomes (O.E.C.D. 2011).

Future research must focus on the accuracy and efficacy of government policy in different economic contexts. Further, research should be longitudinal to determine contextual factors which may impact the effectiveness of policies and to identify where adjustments are necessary. While policy-makers have focused on supply side issues, a full policy mix must include demand side approaches (Wilson 2015). We call for researchers to investigate the accuracy and efficacy, and compare both supply and demand side policies and attempt to determine if these types of policies address the problems associated with using public funding to finance entrepreneurial ventures, as outlined by Shane (Shane 2009).

Of importance is the use of co-investment funds (CIFs) as a means of addressing the equity financing gap and to aid in the development and professionalisation of the angel financing market (O.E.C.D. 2011). To date, there is relatively little literature on CIFs and their impact and effectiveness (Owen and Mason 2016). While many countries have CIFs in place (chiefly Europe, but also New Zealand and Canada), there remains a need to investigate the cost/benefit of these programmes as well as determine if CIFs are a key factor in the development and professionalisation of the angel market.

5.2. Crowd investing

Governments are introducing legislation designed to make capital raising simpler and less expensive for entrepreneurs. The emergence of new technology platforms has provided opportunities for many more people to become equity investors. Platforms such as Venture Crowd, Equitise, Our Crowd and Crowd Cube have reduced transaction costs in the search for capital and investment opportunities. Crowd investing is an Internet-based investment in start-up firms, in exchange for a residual claim on the future cash flows of the company (via debt or equity) (Hornuf and Schweinbacher 2016). The emergence of these platforms creates opportunities for researchers.

Future research can be categorised in three key areas – firms, investors and the investment. Research questions relating to firms can be the types of firms and the amounts of capital being raised. Are these firms limited to start-up firms or do more mature firms access this type of capital? What are the motivations? Are they using these platforms because of lower transaction costs or because they are unable to be sourced from more traditional areas? Who is involved in the firm – traditional angels or founders only? What are the consequences for follow-up funding, or is this follow-up funding?

Research questions focusing on the investors should investigate who is using these platforms. Are these people really similar to business angels and, if not, how do they differ? What are their motivations and how do they differ from business angels? For example, do they invest in areas within their own expertise? What attracts these types of investors to a particular investment and to the use of these platforms? An understanding of the investors will add to our understanding of the changing nature of the angel market.

Finally, research must also investigate the investment itself. First, do these investors operate in syndicates, either informally (offline) or formally (using technology, such as in the case of Equitise)? If so, how are these syndicates formed, what are the requirements and types of investments of these syndicate's. Second, research should focus on the valuations of the firms raising funding. What methods are used to value these firms? What are the costs of capital and how do they compare to other types of financing? What are the returns on these investments and in what form (capital growth and exit opportunities or dividends)?

5.3. Changing nature of the angel market

The business angel market is transforming from"a fragmented and largely anonymous activity dominated by individuals investing on their own to one that is increasingly characterised by groups of investors investing together through managed angel groups"(Mason, Botelho, and Harrison 2016, 321). Further, the introduction of new technology, providing access to information and opportunities not otherwise available, opens new avenues for researchers. We proposed three avenues of inquiry into the changing nature of the angel market – technology; angel networks; and angel groups.

Technology has clearly had an influence on the angel market, most noticeably via crowd investing. There are, however, other opportunities for research to investigate the impact technology has on the angel market: for example, the creation of new typologies of business angels as a result of technology and the access to information and new markets. Researchers must also consider how angel networks and angel groups have harnessed technologies to more effectively identify angels, opportunities and to deploy capital. Finally, research questions can address whether and how technology has played a role in the internationalisation of angel capital.

Business angel networks have been identified early in the literature (Mason and Harrison 1993, 1997; Harrison and Mason 1996), but how have these networks developed given the introduction of new technologies? Research questions should focus on whether and how government policies have professionalised these networks and the extent of this professionalisation. Considering different economic contexts and differing government approaches to angel financing, research should investigate whether formal angel networks are more prevalent in some countries and why this may be so. A final, more fundamental question that must be addressed is whether business angel networks are still relevant, given they were founded to provide a channel between business angels and entrepreneurs looking for capital (Mason and Harrison 1997) – a role which is increasingly redundant given the emer- gence of technology platforms and angel groups.

The third avenue of inquiry focuses on the emergence of angel groups. Research must focus on how angel groups are differentiated from business angel networks and whether they are a replacement for or an evolution of business angel networks? Further questions should investigate how business angels participating in angel groups differ from those belonging to formal angel networks and how they differ from individual angels. Finally, the prevalence of angel groups should be investigated with a focus on geographical and economic contexts – that is, are angel groups more prevalent in some markets than others and why?

5.4. Gender issues

Building on the work by Becker-Blease and Sohl (2007) and Harrison and Mason (2007), research into gender issues represents an opportunity for academics to contribute to our understanding of angel financing and policy. Despite relatively little research investigating women business angels, the subject receives widespread coverage in business trade magazines and journals globally (Amatucci 2016). Of interest are the participation rates of women business angels.

In 2010, the European Business Angel Network (EBAN) published a white paper on women and early stage investing noting that while women comprise 46.3% of US top wealth holders and hold 48% of Britain's wealth, they are underrepresented in the angel investment market (E.B.A.N 2010). The paper estimates that, in Europe, the proportion of women angels remains stable at 5 and 15% in the US. Clearly, further research is needed to identify the barriers for women in angel financing (O.E.C.D. 2011). While studies have identified some of these barriers (see Amatucci 2016), further research that identifies factors which can be addressed by policy will help increase participation rates. The EBAN further sets a target of 20% women investors; however, there is currently no research on whether this target has been achieved. Indeed, Amatucci (Amatucci 2016) identifies eight European countries as having an average of 5.25% women angel investors based on a 2012 study (Center for Strategy and Evaluation Services). Participation rates, barriers to participation and effective policy measures all represent opportunities for researchers.

Beyond these factors, there are still many unanswered questions. The emergence of women angel groups provides further opportunities for research (Sohl and Hill 2007; Amatucci 2016). Amatucci identifies questions relating to women angel group dynamics and the effects they may have on the gender gap. We believe that investigation of success rates of women business angels represents further opportunities. Finally, beyond the initial investment decision, the role women play in post-investment and the impact that gender differences has on this role are questions that need to be addressed. Gender represents a new and challenging area of study for angel finance researchers.

5.5. Entrepreneurs

Every business angel that invests in a business is investing in an entrepreneur. Further, business angels invest for personal satisfaction as well as a financial return (Hindle and Wenban 1999; Freear, Sohl, and Wetzel 2002; Melicher and Leach 2006). Given that a key characteristic of business angels is the post-investment role, there is surprisingly little research on the relationship between angels and entrepreneurs. Collewaert (2016) offers insight into the causes and consequences of angel–entrepreneur conflicts and provides suggestions on future research questions. Of interest is the question arising from comparing differences in angel–entrepreneur and venture capitalist–entrepreneur conflicts. Beyond conflict, issues of trust and trustworthiness represent important questions for researchers. We add to this the changing nature of the relationship between entrepreneurs and angels. How does this relationship change at early, mid- and late stage of the investment? Further, and relating to the investment decision, why entrepreneurs choose angel financing over other types of finance and how do they determine valuations of their firm? Fundamentally, business angels spend a significant amount of their time working with entrepreneurs. It is reasonable, therefore, to investigate the nature of this relationship.

5.6. Emerging markets, localism and internationalisation

Literature from the United Kingdom, Europe and North America continues to dominate. However, research from outside these regions is present in our review (20%) and continues to be published (e.g., in the Handbook of Research on Business Angels (Landström and Mason 2016)). The internationalisation of business angel research has given rise to studies in emerging markets (Harrison 2017) such as China (Li, Jiang et al. 2014; Li, Ling et al. 2014; Wang, Tan, and Liu 2016), Latin America (Romaní and Atienza 2016) and sub-Saharan Africa (Lingelbach 2016). Lingelbach (2016) states that there are differences between the angel experiences in the UK or USA and sub-Saharan Africa. These differences may be a result of economic context; therefore, we believe that research into the impact different economic context has on angels is opportune. Research should include: comparative studies to identify what differences there are between angels in emerging markets and angels in developed markets, how these markets organise themselves and deal with the inefficiencies of the angel market and the role governments have or have not played in developing an angel market in these countries.

The degree of localism and the impact of distance on a business angel's investment decision still represents a fruitful opportunity. Traditionally, business angels play an active role in their invested firms. As such, distance would normally play a role; however, Lingelbach (2016) provides an example of an investor acquiring capital from an angel on a different continent. This leads us to ask, what is the prevalence of these cross-border transactions? Research should investigate the impact that distance has on a business angel's decision and determine if there has been growth in international angel financing. With growth in international financing, future research should focus on the role of international syndication and how it has developed. Contextual issues, such as economic and geographic contexts, new market opportunities, the role of technology and the impact of government policy in foreign markets, represent areas for fruitful research. Opportunities for future research exist beyond comparative and descriptive studies. The presence of business angels in both advanced and emerging markets affords us with an opportunity to further our understanding of business angels.

6. Implications for policy and practice

This section identifies the implications of our research review for policy and practice, further helping answer our final research question. We identify three main areas: (1) programmes to increase supply of and demand for angel funds; (2) programmes to facilitate connections between angels and entrepreneurs; and (3) programmes to educate entrepreneurs.

6.1. Increasing supply of and demand for funds

Governments need to develop programmes that increase the supply and demand for funds. Angel financing represents an agile and resilient form of capital for businesses. Evidence suggests that angel investing continued during the 2008 financial crisis, a time which saw banks decreasing their lending and formal venture capital funds contracting their investments (Mason and Harrison 2015). Policy-makers must therefore consider a range of options to foster this segment of the market. Governments must also consider the impact of angel financing as a gateway to other types of financing and the learning effects of angel involvement (Christensen 2011).

In developing policy, governments must consider the impact that angel financing has as a gateway to other types of financing, as well as the learning effects of angel involvement (Christensen 2011). Policy must be specifically targeted to angel finance in order to build capacity (Gregson, Mann, and Harrison 2013) and governments must recognise that targeted angel policy via programmes such as subsidies is additive – that is, they increase the supply of funds available to entrepreneurs, rather than crowding out the private sector (Collewaert, Manigart, and Aernoudt 2010). Further, these types of programmes act as a signal to angel investors, encouraging further investment.

CIFs play an important role in increasing the amount of early stage funding that would normally be available from business angels (Owen and Mason 2016). Owen and Mason (2016) note the role that angel groups and angel networks play in deals involving CIFs. Governments need to develop relationships between CIFs and angel groups and networks. These relationships will enable the private sector lead investment rather than governments managing the fund separately. This may have the added benefit of addressing the problem of using public money to finance what Shane (2009) calls "typical start-ups" – firms that are not innovative, create few jobs and generate little wealth. Policy platforms which include the development of business angel groups (through tax incentives and/or investor lead co-investment schemes) will ultimately improve the amount available for investment (Bonini et al. 2016).

Government CIFs operate interdependently with other policies aimed at increasing supply of and demand for angel capital (Wilson and Silva 2013; cited in Baldock and Mason 2015). It is therefore important that governments develop strong coherent policy platforms that: improve access to different types of capital, facilitate private investment (such as via tax incentives), develop entrepreneurs' skills via education programme (including readiness to invest) (Baldock and Mason 2015) and foster the development of angel groups and business angel networks.

6.2. Facilitating connections

The second implication for policy is facilitating connections between angels, entrepreneur and business angel networks and angel groups. It is well established that the business angel market suffers from inefficiency when it comes to access. This problem was identified by early angel market researchers (Wetzel 1983; Haar, Starr, and MacMillan 1988) and the problem persists (Mason and Harrison 1997; Morrissette 2007). Early stage financing plays a crucial role in the success of new ventures (Becker-Blease and Sohl 2007). Business angels can also have a leveraging effect for other sources of funding. They are a first stage in ultimately receiving formal venture capital finance or are a viable substitute (Becker-Blease and Sohl 2007). Policy platforms that address the invisible nature of the angel market will not only increase access to funding, but they will increase deal flow, increase supply of angel funds, improve investor experience and knowledge and reduce costs associated with accessing the market.

The emergence of angel groups as a means of connecting entrepreneurs with angel capital is an important development for the entrepreneurial finance market. In facilitating connections, policy-makers should foster the development of angel groups and business angel networks. While business angel networks have existed for many years, the emergence of angel groups is an indicator that the market is changing the way it organises itself. Angel groups (and "professional" business angel networks') offer three distinct advantages. First, and related to the previous policy implication, by investing as a part of a group, rather than individually, deal flow and quality are increased (Mason, Botelho, and Harrison 2016). Second, angel groups reduce the inefficiency of an invisible market, making it easier for an entrepreneur to approach and decrease the transaction costs associated with searching for angel financing (Mason, Botelho, and Harrison 2016). Third, while addressing access to angel funding is a primary goal, angel groups have the additional benefit of providing "virgin" angels with knowledge and experience (Mason, Botelho, and Harrison 2016) as other investors are a key source of learning (Smith, Harrison, and Mason 2010). This improves the new investor's human capital and their ability to make more effective investment decisions (Bonini et al. 2016). Given the advantages of angel groups (and similar organisations), policy-makers must develop this segment of the market.

Finally, while angels'investment criteria are well-documented (Haar, Starr, and MacMillan 1988; Hall and Hofer 1993; Mason and Harrison 1994; Feeney, Haines, and Riding 1999; Paul, Whittam, and Johnston 2003), entrepreneurs must learn to identify appropriate business angels. Business angels often look for businesses that match their own experiences (Mitteness, Baucus, and Sudek 2012) and want to find the"right"entrepreneur (Hsu et al. 2014). However, entrepreneurs need to look for not just relevant experience of an angel financier, but also entrepreneurial and investment experience. This experience will help the business angel offer more refined insight, add more value to the firm and better adapt to changes and unexpected events (Collewaert and Manigart 2016). Any policy that deals with making angel financing more accessible must also provide opportunities to match entrepreneurs and investors based on experiences. This will further address the inefficiencies in the market and potentially lower search costs.

6.3. Educating entrepreneurs

The third implication for policy is the need for education of entrepreneurs. There are two key areas that must be addressed by education. First, policy must educate entrepreneurs in developing an understanding of when their business is ready for investment and what factors they must address when looking for financing. Second, policy must also address an entrepreneur's"impression management"(Parhankangas and Ehrlich 2014) ability. While government clearly plays a role in educating entrepreneurs, other stakeholders also have a role. For example, entrepreneurs generally prefer to learn from experienced practitioners rather than via formal (and longer) academic courses (O.E.C.D. 2011). As such, business angel networks, incubators and angel groups can play a role in educating entrepreneurs.

Business angels are constrained by a lack of available opportunities and research identifies that their inability to invest as frequently as they wish is a result of the low quality of opportunities they see (Mason and Harrison 2002a; Paul, Whittam, and Johnston 2003; cited in Mason and Harrison 2004b). An entrepreneur's perception of their business readiness for investment may be quite different to how a business angel perceives the business (Brush, Edelman, and Manolova 2012). While a business may be an attractive investment, business angels may believe the opportunity requires more time or more capital before they are willing to commit their capital. Reasons for this may include a lack of management skills (Feeney, Haines, and Riding 1999), poor financial projections or poorly thought through business ideas (Macht and Weatherston 2014).

Mason, Botelho, and Zygmunt (2016) further identify a number of"deal killers"which have implications for education programs aimed at entrepreneurs. Business angels are looking for entrepreneurs who are"knowledgeable and competent"(Mason, Botelho, and Harrison 2016, 7) While these factors are developed over time with formal education and experience (Collewaert and Manigart 2016), the issue of realistic valuation and equity stake is a key problem for investors and entrepreneurs. Entrepreneurs may be unrealistic with their valuations (Mason, Botelho, and Harrison 2016, 7) or they may accept valuations which they believe are too low and thus end up resenting the investor (Collewaert and Manigart 2016). Therefore, policy aimed at educating entrepreneurs must go beyond formal tertiary education (which may not be accessible to entrepreneurs) and address management skills, financial acumen, market understanding, realistic valuations and exit opportunities.

Impression management refers to "a wider variety of entrepreneurs' behaviours, which attempt to create a desired image in the eyes of external stakeholders" (Parhankangas and Ehrlich 2014). Business angels look beyond financial and management skills to personal factors such as a rapport and trustworthiness (Harrison, Mason, and Dibben 1997; Maxwell and Lévesque 2010; Mason, Botelho, and Harrison 2016). Further, an entrepreneur's presentation skills play a role in successfully pitching to investors (Clark 2008). Entrepreneurs face three main challenges when searching for external capital – convincing investors of their competitiveness, eliciting investors' liking and demonstrating integrity and social responsibility (Jones and Pittman 1982; Highhouse, Brooks, and Gregarus 2009; Maxwell, Jeffrey, and Lévesque 2011; Parhankangas and Ehrlich 2014). Proposals are often rejected for reasons relating to the entrepreneur's and management team's personal characteristics (Croce, Tenca, and Ughetto 2016). While government policy can impact an entrepreneur's pitch skills, it may be more appropriate for organisations such as angel networks and angel groups to provide some form of training for entrepreneurs looking for angel capital.

7. Conclusion

This paper has provided a review of the business angel literature published between the years 2000 and 2013. In doing so, it has answered three research questions, categorising each article into one, or more, of the three generations of articles. These generations were outlined by Mason and Harrison, who called for a third generation of research to advance our understanding of the business angel phenomenon. We find that this agenda has largely been met with a diverse range of literature. While there is diversity in the research, there are also opportunities for researchers. Thus, we set the next agenda for future research covering the efficacy of government policy and programmes; crowd investing; the changing nature of the angel market; gender issues; entrepreneurs; and emerging markets, localism and internationalisation.

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Appendix B: Paper II – The Angel Investment Decision: Insights from Australian Business Angels

The Angel Investment Decision: Insights from Australian Business Angels explores the factors influencing the investment criteria of Australian business angels. The Australian context has a diverse range of actors along with complex jurisdictional arrangements, making for an interesting background for investigation of the initial investment process. The paper presents a review of both the decision-making process literature and the investment criteria and highlights that the separation of these subjects has limited our understanding of business angel decision making.

Paper II's research question is *'what underlying drivers influence business angels during the investment decision-making process?'*. By combining the investment process and the investment criteria, I address the limitations created by treating these two issues as distinct and separate. I propose that business angels apply investment criteria at each stage of the process and these criteria are differ at each stage of the iterative process. To answer the research question, the paper presents a unique methodology to deal with problems of small samples, an issue that plagues researchers in this field. 12 business angels are interviewed, which achieved a high degree of answer saturation. A further nine participants involved in angel related sectors were interviewed in order to provide corroboration and add additional context to the research.

The Angel Investment Decision: Insights from Australian Business Angels has been submitted to the journal Accounting and Finance. It is presented in this thesis in the journal's required publication format.

The Angel Investment Decision: Insights from Australian Business Angels

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JEL Classification: G24

Abstract

While much has been written about the investment criteria of business angels, few studies explore why these particular criteria are important to business angels. The Australian context has a diverse range of actors along with complex jurisdictional arrangements, making for an interesting background for investigation of the angel finance phenomenon. We examine 12 business angels in the rapidly changing Australian context and use nine corroborating participants to validate responses and identify four key drivers – personal experience, trust, the need to contribute and realistic expectations – that influence business angels during the initial investment process.

1. Introduction

Tracey Beikoff was on the verge of closing her business; her invention, Rescue Swag, a first aid kit designed to be used as a sling, splint and immobilisation device, had sold only a couple of hundred units. She could not grow without more money, and she had exhausted her supply; she needed investment. Luckily, Tracey was able to connect with an angel investor who liked her product and saw that Tracey was keen to learn and try new things. Tracey got the capital and is has sold nearly 100,000 rescue swags in just two years (Churchill, 2015).

Unfortunately, for thousands of other entrepreneurs, accessing capital is a significant problem. Getting seed funding, often from 'triple F' finances – founders, family and friends – is relatively straightforward. But like Tracey, many entrepreneurs struggle to get growth funding. And funding is just part of what new entrepreneurs need. They also need help finding new customers, in order to grow and be successful (Gouveia, 2017). For this 'smart' finance, entrepreneurs turn to business angels, defined by Mason and Harrison (2008) as:

> a high net worth individual, acting alone or in a formal or informal syndicate, who invests his or her own money directly in an unquoted business in which there is no family connection and who, after making the investment, generally takes an active involvement in the business …

This definition explains the what or who of a business angel, but not the why. What motivates business angels, like Tracey's, to invest in a business? What influences business angels in their decision making?

To address this question, we use a qualitative method to explore the decision-making process of angel investors. We conduct an abductive inquiry into the activities and behaviour of business angels, developing an understanding of the underlying drivers motivating angel financiers. To address the difficulty of finding business angels willing to be interviewed (Harrison and Mason, 1996, Vitale et al., 2006), we adopt the unique approach of interviewing active participants in the entrepreneurial ecosystem, providing corroborating evidence and developing insight into angel financing. This approach addresses concerns of a small population and provides a richer, more comprehensive understanding of the process, expanding the depth of the analysis (Morse et al., 2002). It is unique within the angel finance literature, representing a valuable technique for researchers.

There is substantial new research investigating business angels' 'investment criteria' during the decision-making process (see, for example, Mason et al., 2016, Croce et al., 2016) adding to the established literature (Feeney et al., 1999, Mason and Stark, 2004). A key limitation of the extant literature is its failure to distinguish criteria used at the screening and detailed evaluation stages (Smith et al., 2010). We address this issue by breaking down investment criteria into discrete categories and linking them to the decision-making process, identifying primary influencing factors of business angels during the initial investment decision.

We identify and address three problems with the investment decision-making literature. First, the lack of exploration of the importance of post-investment involvement during the decision-making process. Post-investment involvement is a factor weighed by business angels prior to an investment being made and is considered as early as deal origination. Second, the failure of some models in the literature to adequately address the importance of the exit. We find that the exit is of particular importance to angels who consider it throughout the decision-making process even as early as deal origination. Third, the problem of application of investment criteria. While the literature assumes that criteria are linked to a screening/evaluation/due diligence stage, we find that they apply to each step of the decision-making process, suggesting that angel investment decisions are iterative and complex.

We make two contributions in my methodological approach. We develop an analytical framework addressing the challenges of the iterative nature of angel investments by integrating investment criteria with the decision-making process. These investment criteria, normally associated with an evaluation stage, are organised into three categories: financial factors; business strategy factors; and personal and relationship factors. In applying this framework, we contribute to the literature by using a unique approach of interviewing business angels along with other participants in the market in order to provide corroborating evidence.

We identify four themes driving the decision-making process of angel financiers in Australia. First, the role personal experience plays in the decision-making process, along with its influence on investment criteria. Second, the importance of trust throughout the process. Third, the emphasis placed by angels at the earliest stages of the decision-making process on their post-investment involvement. Finally, the importance of realistic expectations.

We begin this paper with a review of the literature, providing an overview of the Australian context and identifying gaps in the literature in relation to decision-making processes and angel investment criteria. We then outline my methodological approach, justifying a qualitative approach, identifying challenges and the ways we address these challenges. We offer an analytical framework from which we base my interviews. We then present the findings in the context of the four major themes identified during the analysis stage of the research. Finally, we offer some thoughts on the implications of these findings for future research.

2. Literature review

2.1. The Australian context

Despite a strong economy and a good supply of capital (Harrison, 2017), angel activity in Australia is relatively small scale. Estimates suggest that Australian angel investment per capita is less than AUD$15 compared with the US with AUD$103 per capita (Kinner, 2015). Despite this, the Australian business angel market is active and diverse, consisting of non-network affiliated angels, informal and formal angel networks, and angel groups/syndicates (Green, 2016). A peak body – the Australian Association of Angel Investors (AAAI) – aims to create resources to assist members in investment activities, although its level of activity is questionable. The contradiction between the level of angel finance provided compared to the activity within the market provides a context for asking what drives angel investors in Australia.

Research investigating the Australian angel finance market is limited. The first major study by Hindle and Wenban (1999) provides a general profile of Australian business angels with the second study by Vitale et al. (2006), commissioned by the Department of Industry, Tourism and Resources (now the Department of Industry, Innovation and Science), provides a profile and an overview of the activities of Australian business angels. Beyond these studies, there are minor mentions of Australian business angels in industry research (see Cortez et al., 2007, AVCAL, 2013, Kinner, 2015) and a study on investment readiness (Douglas and Shepherd, 2002). In particular, there is little research into the investment criteria of Australian business angels, nor have the decision-making processes of Australian business angels been widely researched. This paper aims to fill this gap.

Australian governments are attempting to foster the entrepreneurial ecosystem[1] through a range of policy programs. While, government policy cannot create an angel market (White and Dumay, 2017), well-designed policy can facilitate its development (O.E.C.D., 2011). Governments, universities, incubators and accelerators have highlighted a need to understand what drives business angels including, and beyond, investment criteria, in order to inform policy. While there is little information to claim that Australian business angels differ from business angels in other parts of the world, the context and environment in which they operate is experiencing a new and dramatic shift. This contextual change provides a backdrop to investigate the underlying drivers of the angel decision-making process.

2.2. Decision-making process of business angels

While business angels and institutional venture capital funds both aim to make a return, some investment criteria used by business angels differ from institutional funds (Harrison and Mason, 2000). Business angels seek to mitigate their risks through two methods; by investing in an industry or sector where they have experience (Wetzel, 1983) and by being actively involved in managing the firms in which they have invested (Mason and Harrison, 2000). Venture capitalists decide on whether to invest by looking at a proposed project, while business angels focus on the entrepreneur's ability to run the business (Aernoudt, 1999). Maxwell et al. (2011) add that business angels use shortcut decision-making heuristics. While formal investors tend to concentrate on risks linked to the product and the market, business angels focus on risks linked to the entrepreneur (Aernoudt, 1999, Fiet, 1995). Further, while analysis by formal investors is driven by financial factors, business angels are driven by the desire to guide and monitor a project (Aernoudt, 1999).

The findings of research into investment motivations of business angels are contradictory. For example, Hill and Power (2002) stress that, contrary to Aernoudt's (1999) findings, for some angels, cash is the primary (and only) motivation. Aernoudt's (1999) findings support early research recognising that nonfinancial rewards play an influential role in decision making (Wetzel, 1983) and have been identified as a main driver for angel investing (Tashiro, 1999). The importance of non-financial rewards is highlighted in the literature. For example, Stedler and Peters (2003) find that motivation for investing is a mix of financial and non-financial

[1] See the Australian Federal Government's National Innovation & Science Agenda, CSIRO SME Connect, Advance Queensland, Jobs for NSW & Sydney Startup Hub, Victoria's LaunchVic initiative, Innovation in SA (South Australia), and Tasmanian Department of State Growth for policy details.

rewards, and that sharing professional experience and contributing to a successful start-up is considered particularly important.

The investment decision-making process of business angels has attracted considerable interest from scholars. White and Dumay (2017) note that research into angel decision-making covers a broad range of topics, including readiness for funding (Brush et al., 2012), trust, agency issues and risk reduction (Lahti, 2011, Maxwell et al., 2011), and whether business angels place emphasis on the opportunity or the entrepreneur (Clark, 2008, Mitteness et al., 2012). Botelho (2017) discusses what business angels require in an investment proposal. The studies also enable incubators and governments to better understand what makes business angels different from other sources of capital, further highlighting the importance of business angels developing entrepreneurial ecosystems (Neck et al., 2004, Prevezer, 2001).

A number of researchers have examined the investment decision-making process, identifying different stages of the process based on a 'chronological' or 'linear' approach (though some researchers highlight that, for business angels, the process is iterative (Paul et al., 2007, Haines et al., 2003)). The multi-stage approach to the investment process provides a useful framework to develop an understanding of investment criteria and actions associated with each step (Botelho, 2017) and, ultimately, assist in identifying the underlying drivers influencing business angels during the initial investment process. Figure 1 summarises these different decision-making models.

Early research into the business angel investment decision process focused on formal venture capital decision making, with its five-stage model: deal origination, screening, evaluation, deal structuring and post-investment activities. The angel process is similar. Dal Cin (1993) and Duxbury (1997) developed a five stage model: deal origination and first impressions, review of business plan, screening and due diligence, negotiation and consummation. A limitation to this model is that it does not acknowledge angels' post-investment involvement. Feeney (1999) provides a literature synthesis documenting the linear progression of venture capital decision making, arguing that the decision-making process of business angels is similar to the process used by institutional investors. This model, shown in Figure 1, addresses the limitation of the Dal Cin model by including post-investment involvement. However, it lacks an exit stage.

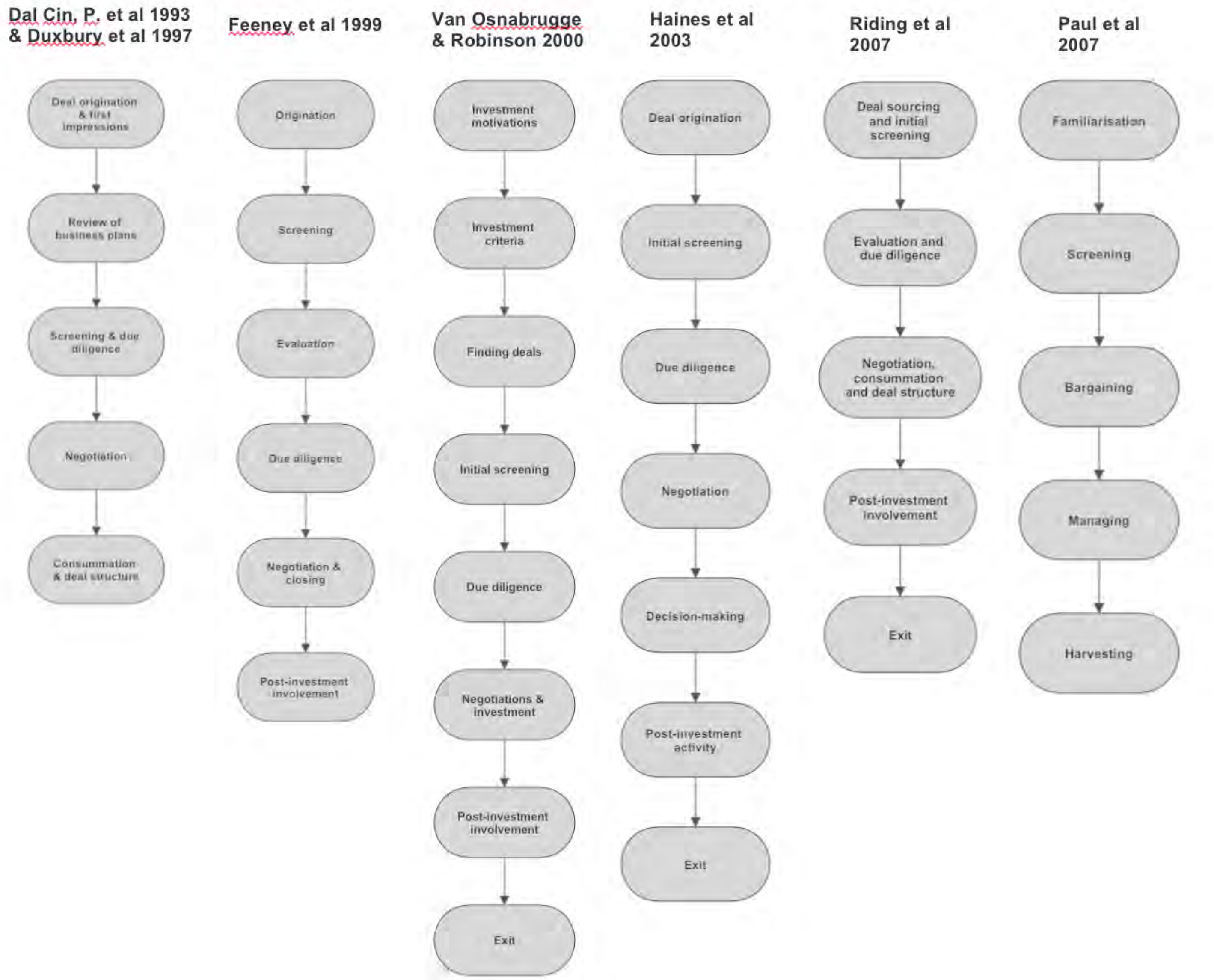

FIGURE 1 – Summary of decision-making models - To be inserted here – Please refer to document 'Figure 1 – Summary of decision-making models'

Van Osnabrugge and Robinson (2000) present an eight-stage model they claim is applicable to both business angels and venture capitalists. Given the differences between these two types of investors this claim is questionable (Mason and Stark, 2004), but the model makes a significant contribution by covering a greater range in the process (from pre-investment to exit) and by acknowledging the importance of factors considered prior to investment – motivations, criteria and the search for deals. Bothello (2017) suggests that these pre-investment criteria could be more efficiently placed in a single stage, deal origination, as in Haines' (2003) model, however, the iterative nature of angel investment decisions, particularly during familiarisation, screening and bargaining (Paul et al., 2007), suggests that criteria may be revisited during the different stages of the process.

The model proposed by Haines expands Tyebjee and Bruno's (1984) five stage model by introducing due diligence, negotiation and decision making as separate stages in place of evaluation and structuring. Haines (2003), like Van Osnabrugge (2000), includes an exit stage, emphasising 'post-investment activity'. (Van Osnabrugge and Robinson, 2000) assert that this stage is a monitoring activity, whereas Haines adopts a broader approach by including 'value added' activities at this stage. A key strength of Haines' model is the clear separation of each stage across the entire investment process (Botelho, 2017), enabling more detail at each stage. These stages, however, are compressed by their later work (Riding et al., 2007) allowing for a simpler description of the process.

Paul et al. (2007) adopt a five stage process noting that, while the angel investment process is generally sequential, it is not orderly and can be characterised as iterative. The first three stages of the research – familiarisation, screening and, bargaining – represent an iterative assessment where the ability to validate both hard and soft data is crucial to progression to subsequent stages. These stages are further separated, with the familiarisation stage similar to deal origination with 'meeting the entrepreneur' added. The screening stage includes an initial and detailed screening where business angels use personal networks to assess the entrepreneur and, in addition to evaluating the business, determine what contribution they can make to the business beyond their financial investment. It is at this stage that a business angel decides to invest. Consequently, the amount of time spent on the proposal at this stage increases, with work on business plans a 'back and forth' process between angel and entrepreneur. The bargaining stage is the last of the 'iterative' stages proposed by Paul et al. (2007), corresponding to the 'due diligence' and negotiation stages presented in the preceding models.

The contribution of Paul et al. (2007) is significant as it highlights the iterative nature of angel investing. They argue that it is erroneous to suggest the process is straightforward and 'neat', but rather that it is an assessment that incorporates both market/business and personal factors (Paul et al., 2007). This is supported by Mason and Harrison (2003), who show that impression management abilities of entrepreneurs are critical when raising finance from external investors. Finally, Paul et al. (2007) highlight that business angels are more likely than venture capitalists to emphasise personal factors, a finding supported by a number of other studies (Mason and Stark, 2004, see Feeney et al., 1999).

2.3. Investment criteria

While research that provides entrepreneurs (Clark, 2008, Maxwell and Lévesque, 2010), policy makers (Freear et al., 1995) and prospective angels with a greater understanding of the factors that underpin and sustain the angel investment process (Paul et al., 2007) is useful, entrepreneurs benefit from further understanding the investment criteria of business angels. As noted in White and Dumay (2017), a number of studies investigate the investment acceptance (or desirability) and rejection (or shortcomings) criteria of business angels.

The criteria identified by the research can be categorised into three groups: financial factors including valuation, capital requirements, forecasting, returns, etc.; business strategy factors including market-based criteria, that is, level of competition, barriers to new entrants and product potential etc.; and, personal factors, such as entrepreneur experience and characteristics, as well as post-investment involvement considerations and exit preferences. Table 1 provides an overview of the investment criteria presented in the research, highlighting the key criteria used by business angels,[2] presented as they appear in the respective research – acceptance or rejection criteria.

[2] Note: for a comprehensive overview of investment criteria, see Botelho (2017)

TABLE 1 – Summary of angel investment criteria

Criteria		
Authors	**Acceptance/Desirability**	**Rejection/Shortcomings**
Feeney, Haines and Riding (1999)	Good management experience Realistic expectations Integrity and openness of owners Potential for high profit Reasonable exit plan Security on the investment Involvement of the investor	Lack of management knowledge Lack of realistic expectations Lacking some personal qualities (integrity, vision, commitment) Poor profit potential Poor fit Undercapitalised Insufficient information
Van Osnabrugge and Robinson (2000)	Entrepreneur characteristics (expertise, likeability, enthusiasm, trustworthiness) Sales and growth potential Financial rewards, margins, capital requirements Investor contribution	
Mason and Stark (2004)	Financial position (structure, margins, valuation, rate of return, exit route) Market issues (potential, need, competition etc.) Entrepreneur (experience, personal qualities, management team) Investor fit (match skills and knowledge, investor preference)	
Sudek (2006)	Trustworthiness and enthusiasm of the entrepreneur Quality of the management team Exit opportunities	
Carpentier and Suret (2015)		Poor strategy and business model Lack of competitive advantage and entrenched competition Unrealistic expectation Market characteristics (size, clarity etc.) Lack of management experience Poor valuation

A review of the criteria provides three useful insights for structuring this work:

1. the common factors related to the entrepreneur and their experience and personal characteristic, the angel's post-investment involvement and their 'fit' with the business, and financial considerations;
2. the inconsistency of the exit as a criterion with some questioning its importance at the early stage of the process (Botelho, 2017);
3. the absence of deal origination as a consideration when assessing an opportunity.

Given Paul et al.'s (2007) finding that business angels examine proposals that do not meet their preference if referred to them by a trusted associate, it is reasonable to investigate the impact referral methods have, and the criteria related to referral methods and referees.

While some research argues investment criteria apply only to the screening (evaluation) stage (an initial screening, followed by a more thorough evaluation) (Mason and Rogers, 1997, Argerich, 2014), we argue that criteria, categorised as financial factors, business strategy factors and personal factors, apply to each stage of the decision-making process. The iterative nature of angel investment decisions supports this position. Reviewing the investment criteria literature, it is evident that different authors attribute investment criteria to different stages of the decision-making process. The stages of evaluation and due diligence and negotiation are self-evidently the central point for researchers to view investment criteria. However, at the deal origination stage investors consider the source of a deal as evidenced by Paul et al. (2007).

The literature states that business angels consider their contributions, beyond the financial, prior to investment (Van Osnabrugge and Robinson, 2000) – involvement being a motivation of business angels (Mason and Stark, 2004). While some research classifies 'exit strategy' as a criteria (Feeney et al., 1999, Sudek, 2006), the research consistently presents exit strategy as a stage in the decision-making process. Its inclusion in the research shows that it is considered as part of deal assessment, adding support to the argument that the investment criteria are applied throughout the decision-making process, rather than at a particular stage.

2.4. Summary and research question

Contemporary research has helped scholars to understand the decision-making process and angel investment criteria but further work is needed to unpack the complexity of angel investment decision making. This review calls attention to gaps in the research in relation to decision-making processes and investment criteria research and, particularly, the interaction of the two. Four key issues are identified in relation to the decision-making process:

1. lack of acknowledgement of post-investment involvement in some models;
2. the exclusion of the exit stage in some models;
3. post-investment involvement seen as merely a monitoring activity rather than a value-added activity;
4. the difficulty in addressing the iterative nature of the process using linear models.

Two main issues are identified in relation to the investment criteria research:

1. the inconsistent use of the exit – a criterion for some, rather than a stage of the process where criteria are applied;
2. the absence of deal origination and the application of criteria.

Separating the decision-making model from the criteria does not address the issues arising from this review. Decision-making research must address the fact that angels apply investment criteria at each stage of the process. By integrating the decision-making process models with the investment criteria, we address the research question: *'what underlying drivers influence business angels during the investment decision-making process?'*

3. Methodology

To answer the research question, it is necessary to develop a deeper understanding of the angel decision-making process. And to determine 'what' the 'underlying drivers' are, it is necessary to ask how and why. This approach is more explanatory and deals with operational links that need to be traced over time, rather than mere frequencies or incidence (Yin, 2014). We explore the perspectives of individual business angels, seeking to determine why decisions were taken and how they were implemented, and attempting to gain an insight into their experiences, thoughts and understanding of the investment process. To do this, the qualitative interview was chosen as the means of collecting data, all of which were conducted by the primary author, Brett White.

Interviews are useful when looking for detailed information about thoughts and behaviour, and provide a suitable platform for in-depth exploration of an issue (Boyce and Neale, 2006). Interviews allow the researcher to learn the perspectives of individuals and experiences, and are effective in discovering nuances (Jacob and Furgerson, 2012). Three broad categories of interview methods exist – structured, semi-structured and unstructured (Qu and Dumay, 2011). The structured interview approach views the interview as a tool producing objective data where interview bias is minimised (Rowley, 2012), but the minimisation of bias is at the expense of the ability to capture in-depth detail and the flexibility to change procedures and topics to adapt to the background of the interviewees (Qu and Dumay, 2011, Doyle, 2004). Given the interviewees for this study have different backgrounds and that we interviewed other players who can corroborate findings, the structured approach would yield little in the way of results.

The unstructured approach encourages respondents to 'talk around' a theme (Rowley, 2012), allowing the interviewer to adapt to what is being said (Bryman, 2001), but as it generates data that is difficult to compare and integrate (Rowley, 2012) it is not suitable for this study. We have chosen the semi-structured interview as the most suitable for this research as it allows me to press and prompt the interviewee ensuring that the question is answered sufficiently (Rowley, 2012), and to probe potentially interesting avenues of inquiry based on my understanding of the literature, the ecosystem and the interviewee. The benefit of this approach is a rich and varied body of data from which to draw results and conclusions.

We argue that the decision-making process and the investment criteria of angel investors cannot be satisfactorily addressed as separate components. Rather, these two research foci are two interconnected subjects that should be treated as such in order to develop our understanding of angel investment decision. We adopt an analytical framework (see Figure 2) that emphasises this interconnectedness. Further, the framework provides a basis for which to structure interviews and to present my findings.

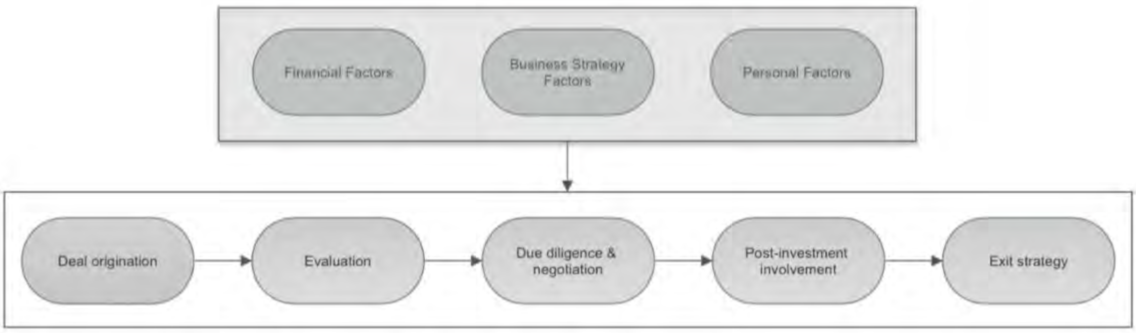

FIGURE 2 – Decision-making model including investment criteria – To be inserted here – Please refer to document 'Figure 2 – Decision-making model including investment criteria'

Table 2 provides a list of the interview participants, including 12 active business angels and one business angel network manager. Following these interviews, another nine participants were interviewed. These interviewees operated in related areas and included early stage venture capital limited partnerships, managers of incubators and both federal and state government staff involved in the development or implementation of policy. Of these participants, two had past experience as angel investors. These interviews were conducted to gain further insight into points raised by the business angels, to provide corroboration and to add context to the research. The value they bring, and their ability to corroborate, must be understood within their own social context (Qu and Dumay, 2011). Importantly, many of these participants do fundamentally the same thing – make eligibility decisions based on criteria. Their interaction with business angels, understanding and experience in the entrepreneurial ecosystem, and engagement with entrepreneurs brings a unique perspective to the data.

In addition, we participated in less formal conversations with entrepreneurs, corporate venture capitalists (where the venture capital fund was financed by a non-financial institution) and other actors within the ecosystem. Where appropriate, the information garnered from these additional interviews and conversations has been included in the findings and discussions.

TABLE 2 – Interview Participants

Participant #	Gender	Description	Current or Previous Angel Experience	Angel Network
1	F	Angel Investor	Yes	No
2	M	Angel Investor	Yes	No
3	M	Angel Investor and Entrepreneur	Yes	Yes
4	M	Angel Investor and Entrepreneur	Yes	No
5	M	Angel Investor and Entrepreneur	Yes	No
6	M	Angel Investor and Entrepreneur	Yes	No
7	F	Angel Investor and Entrepreneur	Yes	Yes
8	M	Angel Investor and Entrepreneur	Yes	No
9	M	Angel Investor and Entrepreneur	Yes	No
10	M	Angel Investor and Investment Banking (Capital raising)	Yes	Yes
11	M	Angel Investor and Private Incubator	Yes	Yes
12	M	Angel Investor, Angel Network Board Member and Entrepreneur	Yes	Yes
13	F	Angel Network Manager	No	Yes
14	M	Corporate Venture Capitalist	No	No
15	F	ESVCLP[3]	No	No
16	M	Government - ESVCLP	Yes	No
17	M	Government - Program Manager	No	No
18	M	Government - Program Manager	No	No
19	M	Government - Program Manager	No	No
20	F	Government - Program Manager	No	No
21	M	Venture Capitalist	Yes	No

At this point it is helpful to provide some general background on the angel investors participating in the research. The investors ranged from 'new' investors who had invested as an angel in only one or two other investments, to investors with considerable experience who acted (though not always) as lead angels in informal syndicates. Investors who were not members of a network tended to invest on their own or with one other known business angel. The experienced network member angels often acted as a lead, with other angels following. Alternatively, they gave advice to newer investors. Five of the angel investors had multiple

[3] Early Stage Venture Capital Limited Partnerships are investment vehicles that provide tax exemptions for those investing in early and growth stage companies. They have a maximum fund size of $200 million (increased from $100 million in 2016)

current investments, most commonly two. Of these five, however, two had a significant number of investments (18 and 30) which were current. While the size of the investments was not discussed during interviews (due to privacy issues), these angels indicated that the total value of these investments was approximately the same as a normal business angel investment. These angels also indicated that they allocated their time to the firms that could most benefit from their work.

It is important to address the issue of sample size at this stage. The subject of investigation is the business angel and we have a sample of 12 business angels. This may seem like a small amount and indeed, when compared with quantitative studies on angel investment making, such as Botelho (2017) who examined the decisions of 238 angel investors, it is. However, the question of 'how many is enough?' is worth consideration. The answer is often 'it depends'. A frequently cited heuristic is 'until you reach saturation' (see Baker and Edwards, 2012, Marshall et al., 2015). Using this particular rule of thumb, the ideal number of participants in our study would be 8 – we extended this to another 12. The additional 4 participants did not provide new information to direct questions about decision-making but did provide some interesting observations beyond these questions. Thus, in our case, the answer to how many is enough, is 12.

The addition of 9 corroborating participants adds further weight to our findings. These participants repeated the relevant responses of the angel investors. In other words, they confirmed what the original 12 subjects told us. A small number (and we counter, what is a large number?) is often the subject of criticism for scholars. However, in the field of angel financing, small population samples are not without precedence. Romaní (2013) interviewed just 4 network managers, and Amatucci and Sohl (2004) conducted 5 interviews.

To focus on a number – regardless of whether it is 12 or 112 – is to focus on the 'wrong thing'. Quantitative research captures a shallow band of information from a wide range of people. It attempts to understand (or predict, or influence) *what* people do (see Yin, 2014). Qualitative researchers study fewer people in order to be able to dig more deeply into those people and develop a '*subjective understanding of how and why people perceive, reflect, role-take, interpret and interact'* (Baker and Edwards, 2012, p. 8). For difficult to access populations, and angel investors have been difficult to access since the early days of research in the field (see Wetzel, 1981), Adler and Adler (editors of the Journal of Contemporary Ethnography) state that between six and a dozen will offer good insight (see Baker and Edwards, 2012). In this regard, they state that sample size is a matter of how many one can access.

We adopted a reflective pragmatist view (Alvesson, 2003) to interviewing, allowing for challenging of interpretations and the exploration of more than one set of meanings during and after the interviews, while balancing scepticism with a sense of direction. This process allows for a more sophisticated and nuanced understanding of the data collected and the contextual position of the participants. This approach also addresses the problem of participants not being 'competent and moral truth tellers' (Alvesson, 2003).

We adopt a localist approach to interviews, seeing the interview as an empirical setting that assists in interrogating complex social phenomena (Qu and Dumay, 2011) and as a social construct rather than merely a tool for collecting data. This position emphasises that statements made must be viewed in their social context (Alvesson, 2003). Localist interview approaches allow for the study of facts without ignoring meaning and context. Localist interviewers are involved in the production of answers through interpersonal interaction (Qu and Dumay, 2011).

During interviews and conversations, we were frequently warned about the egos in the Australian angel market, giving rise to concern about the efficacy of some responses, that is, to be mindful of Alvesson's (2003) warning about interviewees as moral truth tellers. Responses are situated accounts to be understood in the social context of the interview. This, combined with the semi-structured approach, allows the researcher to probe further and challenge responses to elicit reflection and, in some cases, contradiction.

Interview protocols are best analysed via thematic strands extracted from the material through the researcher's interpretive and conceptual efforts (Crouch and McKenzie, 2016). Prior to each interview, we made notes on how we came into contact with the participant (snowball, personal approach, via personal networks) and any expectations we had about the interview. Following the interview, we made notes based on my thoughts about the benefits of the interview and about the participant and his or her manner.

The interviews were transcribed by a professional service and imported into NVivo,[4] allowing for on-screen coding and real-time annotation. The software allows for an accurate and

[4] NVivo is a software package that aids qualitative data analysis.

transparent analysis and a quick way of organising what was said, when and by whom, thus providing a good overview of the data (Welsh, 2002). Prior to reviewing the interviews, we created generic nodes based on the investment decision-making process outlined in the literature review. The handling of the data was an iterative process with coding followed by reflection, creation of annotations and more coding. This resulted in new nodes being generated during the interrogation of the data, which, along with the annotations to the coded text, formed the themes of the research. The coding model used was neither inductive nor deductive, but rather a mixture of the two (see Kelle, 1997), allowing for the development of clear themes articulated by the angel investors and corroborated by the other participants.

In terms of identifying participants, we found that the chosen definition of business angel was problematic if strictly applied. Hindle and Wenban (1999) use the criterion of net worth in their definition of Australian business angels, but the term 'high net worth individual' – a term used in wealth management to describe those people with investable assets greater than US$1 million (Baker, 2016) – was problematic. Many of the participants that identified as business angels are not classified as 'high net worth individuals' but do meet all other criteria in the proposed definition. We did not restrict interviewees to only those classified as 'high net worth', as their history of direct investment of money and time and their identification with the term 'angel investor', qualified them for inclusion in this study.

Further, the phenomenon of 'sweat equity' – a party's work effort and time as opposed to financial equity – was problematic. Sweat equity investments are made with the expectation that a capital gain will be realised from the business at some point in the future. None of the participants could be defined as having sweat equity, however, some identified with the term in the context of previous experiences and many used the term in the context of a legitimate angel finance activity. Given the complexities of sweat equity – no financial transaction and no clear point where someone gains ownership of a firm – we do not consider sweat equity to be the same as angel financing and hence we have not included them in this research.

4. Findings and discussion

Using the framework outlined in Figure 2, we present the responses to my questions and identify four major themes evident in the findings. An interpretation and analysis of each participant, treated in isolation, only provides an understanding of that individual placed in his or her social context. At the same time, comparing individual responses provides a description of the interview and merely facilitates a list approach to what business angels want to see in an opportunity. While this is useful for entrepreneurs and business angels alike, this type of research already exists.

This research makes a novel contribution by examining the research questions: *what underlying drivers influence business angels during the investment decision-making process?* To answer the research question, it is necessary to draw on common threads identified across the range of participants. Corroborating interviews serve to validate these threads, which develop into significant themes (Yin, 2014). These themes exemplify the common social world occupied by the participants (Crouch and McKenzie, 2016). To identify these themes and address my research question, it is necessary to identify common discussion points raised by all participants (angels and corroborating participants).

We identify four themes influencing business angels through the entirety of the investment decision-making process, rather than at a single stage. These four themes are:

1. the role of personal experience;
2. the role of trust;
3. the need to contribute; and
4. realistic expectations.

With these four categories cross-referenced to the decision-making process via the analytical framework, we address the research gap identified in the literature review and provide a contribution to the extant research. We address the problem of the iterative nature of the process by using an integrated approach in which we identify the importance of the deal origination as a stage subject to criteria, we integrate post-investment involvement throughout the decision-making process through 'the need to contribute', and we highlight the prominence of exit strategy as a further stage subject to criteria.

Table 3 presents a matrix summary of the findings. Each theme is cross-referenced to the major categories of the decision-making process (where evaluation, due-diligence and post-investment involvement are subject to the criteria categories – financial, business strategy, and personal and relationship factors). In organising the findings in this manner, we highlight that both deal origination and exit strategy are important and considered facets of angel investing. We also show that post-investment involvement is considered throughout the process via the 'need to contribute' theme. Of interest here is that 'post-investment involvement’ does not relate to number of hours or the need to monitor, but rather the contribution investors can make to the business.

The matrix provides a unique way of categorising and presenting the data and addresses the problem of criteria being analysed in one stage of the decision-making process, while identifying the key drivers influencing business angels during their decision making. At the bottom of each cell are the number of respondents providing triangulated evidence to support my findings. In the results, the cited interview transcript is an indicative example of the data.

TABLE 3 – Themes Matrix (numbers indicate number of participants validating the observation)

	Deal origination	Financial factors	Business strategy factors	Personal and relationship factors	Exit strategies
Role of personal experiences	– Previous experience investing or working with referee – Pre-existing relationship with entrepreneur has positive impact on decision – Formal networks NOT a source of a deal for network angels 15	– Use of financial analysis 'techniques' strongly influenced by personal experience – Structure of deal moderated by experience (type of securities) 9	– Criteria based on experience in market – Angel experience with distribution channels 17	– Founders need to retain equity – Personal experience with entrepreneur and/or other investors is positive – Culture of the company important 13	– Exit considered before a deal is made – Previous experience provides understanding of likely exit opportunities – Angels need knowledge of likely buyers of the business – Trade sales most likely and most preferred exit 15
Role of trust	– Trust required of referee and referral method – Refer deals to associates when outside their area of expertise (without review) – Deals made between trusted colleagues within formal structures 21	– Honest and upfront negotiations required 15	– Trust in management competence to navigate the industry – Use contacts and experience to verify information given be the entrepreneur 16	– Founders must be willing to listen and trust advice of angels – Entrepreneurs must be honest and trustworthy – Other investors must be trustworthy 15	– Need to have trust in how a return is realised ('how am I going to get my money back?') 13
The need to contribute	– Consideration of 'What can I bring' other than financial 15	– Financial contribution is important, but only a part of the contribution – Angels consider non-financial contribution when assessing financial contribution 21	– Must be able to use experience and contacts to add value – Ability to bring more customers or improve distribution 21	– Must have experience which can add value to the proposal – Angels must 'enjoy' the work 16	– Angels contribute to sale of the business through networks and experience in identifying potential buyers 12
Realistic expectations	– Needs to have a 'realistic chance of success' – Realistic view of likely exits considered 21	– Discussions need to be transparent and entrepreneurs need to be realistic about valuations and forecasts 15	– Realistic potential for scaling up – Realistic view of competition and market size – Realistic expectation of timelines 16	– Need to be realistic about whether own (angel) experience is relevant and useful (don't fall in love) 15	– Exit options must be realistic 17

4.1. Discussion of themes

4.1.1. Personal experience

Personal experience is a key driver in the investment process of business angels. The interviewed angels were adamant that their personal experience strongly guides them during both the decision-making process and post-investment involvement. Corroborating participants supported this finding, noting that an advantage that business angels bring is their knowledge and experience. Further, all participants acknowledged the importance of 'smart money', with angels saying they need to use their experiences to grow the business, and entrepreneurs saying that do not want 'only money' (indeed, in informal conversations with entrepreneurs they stated that they turned down offers of capital because it did not add value to the business).

The theme of personal experience runs the entirety of the decision-making process. At deal origination, angels rely on personal experience with referees as a means of 'vetting' a deal. Participant 4 articulates this *'…often deal I come across come through friends or people I have invested with….they know me and know what I like.'* The interviewed angels noted that personal experience with the referee is important, with some angels going so far as to state that the quality of a proposal is related to the person referring it. When talking to participants who had referred deals, they noted that they would not pass on deals they believed were not sound. This highlights the importance that referees place on their reputation.

Personal experience can also be applied to the evaluation of an opportunity. Financial factors are largely born from personal experience and there was some inconsistency in the specific types of financial indicators used (for example, cash-flows or profits). Given the broad cross section of participants, this is unsurprising – personal experience and past success strongly reinforce the strength of belief in a particular technique (highlighted with angels being adamant about their 'best' approach). Clearly this presents difficulties for entrepreneurs seeking angel finance. However, a review of all responses identifies three factors for entrepreneurs to emphasise: cash flow, because businesses cannot grow without it; optimisation of the business model, that is, profit and cost; and, finally, harvesting the investment.

Business strategy factors are also driven by the experience of business angels, with some emphasising the importance of distribution channels, and others emphasising the need for customers (e.g., participant 10 said– '*too few means you are at the mercy of someone else'*). Though the criteria differed with the angel investors, experience was a key factor. Participant 5 states *'I use my experience in the industry (35 years) to determine whether the product was viable.'* Knowledge and experience in a related industry is an important characteristic of angel investors, used to contribute to the business and, according to early research, to mitigate risk (Aram, 1989, Feeney et al., 1999). None of the participants discussed an angel's involvement in a business in the context of risk management. Instead, involvement was to add value to the business through his or her personal connections and experience in building a business. For example, one entrepreneur talked about an angel's ability to distribute products in international markets as a result of experience working in the US and China.

Personal experience impacts personal and relationship factors in a number of ways. First, angels noted the importance of founders retaining equity, often phrased as *'skin in the game'* (as participant 4 puts it). This was born from experience working with entrepreneurs who had little or no equity in a business and therefore had little reason to work hard – their livelihood no longer depended on how much effort they put in to growing the business. Second, personal experience with the entrepreneur and with other investors is a positive for the angel investors. Finally, angels emphasised the importance of influencing company culture. This is based on previous experience and the understanding of the impact culture plays on a company's future success.

Personal experience also plays a role in the exit stage of the decision process. The participants stressed that angels consider likely exits before a deal is finalised (*'You don't go into an investment until you know how you are going to get out'* states participant 6). Prior experience underscores the issue of exit, with participants noting, not just that their experiences give them an understanding of the likely type of exit (trade sale), but also where those sales were likely to come from. When considering exit, angels used their personal experience to evaluate likely eventual buyers of the business. In other words, before a deal is made, angels scan the industry to identify what organisations may be interested in purchasing the business. This may be as simple as a larger organisation seeking to expand into a new market or more complex, as in a company whose underlying technology and systems may have different applications for larger companies. In any case, an angel's experience with identifying opportunities for harvesting is an important part of the decision-making process.

4.1.2. Trust

Trust as a determinant in angel investment decision making is well established (Harrison et al., 1997, Klabunde, 2015) and supported by both angel and corroborating participants in this research. Underscoring its importance is the fact that trust was consistently and repeatedly raised by participants, despite no direct questioning of the issue. Though participants expressed their thoughts on trust differently, there was generally agreement that trust (or trustworthiness) was made up of two components. First, trust in the entrepreneur's integrity, that is, their actions will be honest regardless of monitoring, and, second, trust in the entrepreneur's competence, that is, their ability to complete the relevant tasks. This is broadly in line with the trust research (see Sapienza and Zingales, 2012, Gambetta, 1990).

Two interesting points are identified in the context of trust and deal origination. First, angels will pass on deals to their colleagues if the business is outside their area of expertise. This highlights the complexities in the trust transaction and, more broadly, deal origination. Paul et al. (2007) states that business angels will review an opportunity outside of their expertise if it comes from a trusted source. However, in the case of the participants, they would not review a deal, but rather pass it to a colleague who has a better understanding of that particular type of business. This indicates that deal origination may be broken into a subset category model – those from angels and those from non-angels. While this separation may seem pedantic, it is clear that there are differences between the two and some contradiction between the literature and practice.

Second, is the issue of angels operating within an angel network. Personal experience with the referee is important, with network angels offering a unique perspective on trust and referral. Angel network members, along with some corroborating participants, noted that they were part of the network, not because it was a source of deals, but because of the relationships with other network members. Adding to this is the complication of deals originating from the network itself, or from the relationships between angel network members. Despite formal networks organising formal pitch events, participants stated that network deals originated via personal networks of trusted referees, rather than through the network itself. A number of participants (participants 6, 9 and 12) added that formal 'pitch nights' were simply opportunities to network with others and the 'pitches' were '*merely entertainment*'. This shows that, in spite of formal organisations and events, angel finance is still best accessed via informal networks.

In relation to financial factors, a number of points are highlighted by the interviews. Trust in a particular analytical technique is evidently important; this is built on previous experience noted in the preceding section. A further point, absent from the literature, is the necessity of honest and upfront negotiations with the entrepreneur. Of interest is the term '*skin in the game*', whereby participants insist that the entrepreneur must retain a reasonable level of ownership of the firm. This is articulated by participant 4, who stated '… *if they don't have much ownership, then they act like an employee rather than an owner*.'. This view, repeated and corroborated by other participants, may be an additional way in which angels deal with the agency problem and is worth further investigation.

Trust extended into the two other categories of criteria – business strategy factors and personal and relationship factors. First, angel investors needed to trust the management of the firm (in addition to and beyond the entrepreneur). Second, using contacts and personal experience to verify information given to angels by the entrepreneur. Angels seek corroborating evidence to make a determination on the veracity of information in a business plan because, first, angels are weighing up the trustworthiness of the entrepreneur, and second (and more importantly), third party information was used to determine if the opportunity is likely to succeed. Trust enters here via the trust an angel places in those third-party mechanisms.

In relation to personal factors, participants stated that entrepreneurs must be trustworthy, regardless of any contracts that may be put in place. Founders must be willing to listen and to trust the advice of business angels. Other investors must also be trustworthy, with participants postulating that that there needs to be a pre-existing relationship between the angel and other investors, rather than trust based on reputation and not experience. This highlights not just the importance of trust, but also its complexity.

Trust has a minimal role when determining exit strategies, although it is still present. It was most evident with angel financiers who invested in order to develop an income stream. In other words, these angels trusted that the business would be able to pay out a regular dividend. With a less developed link to trust, is the trust in potential buyers of the business and the method in which it occurs.

4.1.3. The Need to Contribute

The need to contribute, to add value, is a key driver for business angels, articulated in the literature as 'post-investment involvement'. Participants stated that the ability to contribute in a positive way is of the utmost importance – *'… the only contribution can't be money – you may as well be a passive investor investing in the share market'* (participant 4). Entrepreneurs agree that 'smart money' is more important than just financial capital because it opens up new opportunities and provides access to skills, knowledge or contacts that would otherwise be unavailable. All business angels wanted to add value, however, beyond financial rewards, investing provides the opportunity to do something they enjoy, providing them with, as participant 7 noted, 'a sense of achievement and fulfilment.'

The knowledge and experience of business angels is an important characteristic of angel investing and, according to early research, a way of mitigating risk (Aram, 1989, Wetzel, 1983). Participants did not see involvement as a risk mitigation strategy (though participant 2 mentioned being *'close to my money'*). The interviews highlight a portfolio approach to angel investing. Approximately two thirds of the interviewed angels discussed diversification as a way of managing risk. This was supported with a number of corroborating participants noting that they knew of angels adopting a diversification strategy. This finding is particularly interesting as diversification was not the subject of any direction questions. However, it raises questions as to the ability of angels to effectively manage their time and contributions, both financially and otherwise. Participant 7 claimed to have 30 active investments, and another (participant 12) claimed 18. With so many investments, the amount of time and capital that can be committed to any one deal is severely limited. Given that entrepreneurs are seeking 'smart money' and angels claim to want to 'add value', the efficacy of a portfolio approach must be questioned.

At the deal origination stage, angels consider what they can bring to the business in addition to their financial contribution. This provides some evidence that post-investment involvement is a consideration at the very earliest stages of the deal. Angels, and some corroborating entrepreneurs, discussed this in terms of whether an angel can add value to the business through their personal connections and experience. A number of angels stated that they thought about what potential customers they could bring, or what areas of the business they could improve with their experience – for example, new distribution channels or more efficient software system.

The need to contribute runs through each of the three categories of criteria. Angels think about their contributions beyond financial, using their understanding of the market and industry to identify new opportunities. To paraphrase the angel participants - *'I need to understand the competitive nature of the industry – who are the major players and competitors, who do I know that might be able to help, can I get the business face time with potentially new and large customers, what changes can I make to get things moving in the right direction'*. Understanding the fundamentals of the business is seen as crucial to whether or not angels can contribute something of value.

The need to contribute extends to the enjoyment of the work. Many of the participants spoke about the importance of having a good working relationship with the entrepreneur (or angel). Without a good relationship, the ability to add value to the business was hampered. As noted in the previous section on trust, the willingness of an entrepreneur to listen and take advice is crucial. Angels, and some corroborating participants, all noted that they were guided by a rule of not dealing with difficult people. If an entrepreneur is difficult *'you just end up treading water – it's soul destroying'* (participant 2).

Finally, the issue of exit relates to the need to contribute through the experience and knowledge of the angel. As noted, at early stages of investment, business angels are thinking about the exit options available. The contribution here is the understanding of what types of entities might be potential buyers of the firm, for example, a direct trade sale so that a company can enter a new market or sell a new product or selling the intellectual property or the underlying systems. A business angel contributes understanding of saleable assets (tangible or intangible) to identify potential buyers.

4.1.4. Realistic Expectations

The interviewed angels indicated that it is important to be honest, upfront and realistic with the entrepreneur – *'… you need to explain what they are up for when they are taking your money'* (participant 4). This is highlighted by comments from angels and government representatives, who talk about the lack of understanding of what an equity agreement means for the venture. It is important that the entrepreneur knows what is expected in return for the provision of capital. Adding to this, and as a signal, the business angels agreed that the entrepreneur must maintain an equity stake – *'…. it makes it very hard to walk and is a good omen for investors'* (participant 9). Further, entrepreneurs that did not have equity were viewed with suspicion – *'… what makes them think my money is less valuable than theirs?'* (participant 6).

Realistic expectations play an important role in deal origination and exit. The participants thought of these aspects at the same time – in other words, exit strategies were considered at the deal origination stage, highlighting the non-linear characteristics of angel investment decision making. All angels, as well as government representatives, said a new firm needed to have a realistic chance of success, though what this meant was difficult for the participants to articulate.

While a realistic appraisal of the likely exit is important, the participants considered flexibility and the ability to take advantage of opportunities that can arise as equally important. Paul et al. (2007) states that business angels have no clear preference about how an exit will occur, however, the interviewed angels (corroborated by other participants) clearly indicate that, while a trade sale is not just the most likely way, it is also the preferred exit. In a sector that lacks an organised secondary market, an angel uses her/his experience to provide a realistic expectation of an exit and to direct the firm towards it. As participant 8 stated *'… you need to start nibbling around the market of a large player, just enough to get noticed'*.

In terms of criteria, realistic expectations are most applicable to financial factors, however, they have relevance to both business strategy and personal and relationship factors. From the perspective of financial factors, it is important that discussions with entrepreneurs are transparent (further highlighting the importance of trust) and that entrepreneurs are realistic about the value of the firm. A number of angels emphasised this by way of examples of entrepreneurs approaching them with an idea and wanting capital to finance their venture. In such cases, the angels stated an idea is worth nothing and that, in order for an angel to invest, an entrepreneur must have something that is inherently valuable (e.g., existing customers). Entrepreneurs, therefore, need to be realistic before they approach a business angel.

In terms of business strategy factors, realistic expectations were most relevant to an analysis of the market. Angels expect that entrepreneurs, who are often optimistic (Landier and Thesmar, 2009), have a realistic view of the business' potential, particularly for scaling into international markets, level of competition and market size. Participant 3 noted 'you can get entrepreneurs who come to you with a product and try to tell you that everyone will want to buy it'. Further to this is the need to be realistic about time frames for success. Participant 12 eloquently explains *'… you've got to remember, everything takes three times longer, especially the money part'*. There is, however, some evidence to suggest that optimism in an entrepreneur may play a positive role in financing of their business. Contrary to the interviewed angels' view that optimism produces a dangerous bias, there is some research that suggests optimistic entrepreneurs are better at obtaining financing, often at lower cost (Dai et al., 2017).

Further, there is the issue of an angel's own realistic expectations. Interviewees noted that when assessing a business, it is important not to 'fall in love'. The optimism and enthusiasm of an entrepreneur can be infectious and create a bias. Angels and corroborating participants emphasised the importance of being realistic about whether their own experiences are relevant and useful. In other words, angels must be honest about their own ability to add value to a business. While the issue of optimism has been explored within the finance literature with evidence that optimistic entrepreneurs are not rationed by lenders (Dai et al., 2017), there is little research of the effects of entrepreneurial optimism on business angels. This is a potentially interesting, if challenging, avenue for future research.

5. Conclusion

Tracey Beikoff was lucky – she made her way on to a successful television program and presented her business to angels with the financial resources and, most importantly, the experience and connections, to help grow her business. Before appearing on *Shark Tank*, she was on the verge of closing down. How many entrepreneurs try, and fail, to find an interested business angel?

This research presents insights into the initial investment decision-making process of business angels in the Australian market. We use evidence from business angels and corroborate this with interviews from other actors to answer the question 'what underlying drivers influence business angels during the investment decision-making process?' The answer is presented according to four themes – personal experience, trust, the need to contribute and realistic expectations. By evaluating and corroborating responses, we argue that these themes influence the entire decision-making process, rather than being relevant to a single stage. Additionally, we argue that investment criteria are not limited to consideration at a particular stage but are relevant to the entire decision-making process.

We identify four key lessons from this research experience. First, the use of qualitative research as a method in finance has several benefits. Effective interviewing, supported by corroborating evidence, produces valuable and nuanced results that are difficult, if not impossible, to identify using quantitative methods. Second, angels are difficult to identify (a well-established problem) but techniques such as snowballing yield little in the way of results. This is particularly true with markets containing 'ego' investors. Angel investors appear loathe to provide additional contacts, suggesting that their angel network is perhaps weak. The reticence to pass on contacts, or to refer, is concerning, not just for researchers, but for entrepreneurs who may spend time pursuing something that will not produce results. These weaknesses in personal and professional networks complicate the already difficult challenge of raising growth finance.

Third is the failure to address adequately the problem of accessing angel finance. Though formal angel networks exist, and pitch events are frequent, these networks and functions are not necessarily a good way to raise capital. While deal flow exists for angels operating in these environments, it seems that deals do not originate from these environments, and therefore, entrepreneurs may be wasting their time going directly to formal networks to find angel financing – calling into question the value these organisations bring to the ecosystem. The importance angels place on referees during deal origination, means that entrepreneurs must develop trusting relationships to potentially access an angel. However, an angel may not be present in an entrepreneur's network. This 'market organisation', for want of a better term, is worth further investigation.

Finally, the need to contribute is an overwhelming driver for business angels and this is a double-edged sword. It is not simply enough to access a business angel and present a sound business plan. Entrepreneurs need the right angel – one who can bring something other than money. Likewise, angels are looking for businesses who can benefit from their experience and offer them the ability to add value. Identifying angels is difficult; for many entrepreneurs, identifying the right angel is almost impossible. We must look for more structured ways of addressing the disconnect between entrepreneurs and angels.

In terms of future research, five potential avenues of future research present themselves from the findings of this paper. First, the changing nature of business angels. Future research should investigate the prominence of diversification as well as its impact on the nature of angel investors – for example, whether it hinders post-investment involvement or whether this approach effectively manages risks. It should also consider the characteristics of angels ranged from the traditional, high-net worth angels, to 'working' angels, challenging the definition of an angel investor. Adding further support to this call is the introduction of new technology and the emergence of angel groups (see White and Dumay, 2017). An examination of the prevalence and effectiveness of diversification as a risk management strategy and the relevance of angel networks will add to our knowledge of risk management and, most importantly, will address the problems associated with attempting to raise capital via angel networks.

Second, the issue of sweat equity warrants further investigation. While this research did not aim, nor expect, to discuss sweat equity, its prominence as an issue raised during interviews, highlights a need for further investigation. A number of questions arise here – can sweat equity investors be legitimately called angel investors (as they call themselves) and, if so, what are the implications for the definition? What is the prevalence of sweat equity and how do these investors realise a return? How do entrepreneurs view sweat equity?

Third, the combination of the changing nature of business angels and the emergence of sweat equity give rise to the need to update the research on angel typologies (for an overview, see White and Dumay, 2017). The diversity of angel investors, as well as the influence of successful programs such as *Shark Tank*, raises the question of definition. The presence of investors no longer fitting the traditional definition of a business angel provides an opportunity to extend and add to existing angel typologies (for example, see Szerb et al., 2007). The key question for researchers is what are the different types of angel investors in today's market?

Fourth, the issue of the value of pitch events as a means of raising capital represents an opportunity to expand our existing knowledge. The interviewed angels questioned the value of pitch events, noting that they are networking opportunities, rather than a source of deals. Investigation into the efficacy of pitch events is warranted and will have significant benefits and implications for researchers, entrepreneurs, angels, incubators and governments.

Fifth, though not the purpose of this research, using corroborating participants highlighted some inconsistences and challenges for the angel finance market, its structure, governance, and policy making. While the corroborating participants were able to verify and validate aspects of what angel investors said, there was also a disconnect between the participants – particularly angels and government policy makers. An investigation into the organisation of the market place, and development of the understanding of context would be beneficial and provide researchers with an opportunity to influence government policy aimed at building entrepreneurial ecosystems.

Like all studies, this research is subject to limitations. The first limitation concerns the types of questions used when interviewing corroborating participants. This research investigates the angel investing phenomenon with business angels the subject of the research. Interviewing other participants requires careful consideration of questions that effectively corroborate angel responses. For example, a person responsible for the development of government policy may have a different understanding of angel financing and view it from a different context. This is evident where, for example, a government participant was responsible for developing an incubator and thus has limited contact with business angels. In order to address this, the interviewer must either add explanation to questions, potentially biasing the response by leading the interviewee, or change the nature of the question.

The different angel typologies create a second limitation. The presence of different business angels, with different approaches to the market and different contextual understandings creates a potential bias in responses. For example, prospective participants who present themselves as angel investors may, in fact, be sweat equity investors, thus calling into question the validity of their responses. Participants raised sweat equity as a legitimate form of angel investing, and, as such, it is difficult to rule out some of the participants for being sweat equity investors, rather than fitting the traditional definition. Further, the population of angel investors is heterogeneous, but using techniques to identify them, such as snowballing, has the potential to homogenise the population.

The final limitation is the extent to which the findings of this study are generalisable. This is particularly notable where the influence of personal experience is identified as a driving factor. The context of this issue is how much angels rely on that experience to inform them during the decision-making process. Though the personal experience of angels will be as heterogenous as the angels themselves, their reliance on this experience still applies to the population. That is to say that all angels will rely on their own personal experiences to inform their decision-making. This is particularly problematic when novice angels are considered. However, even here we reason that the general business experience of the novice angel would be relied upon during decision-making. In the case of the driving factors, while a positivist would state we cannot generalise, we argue that we have reasoned that these factors are applicable in most cases. This type of 'generalisation' is not without precedence in qualitative studies and social sciences (see Parker and Northcott, 2016) and qualitative researchers should not shy away from articulating the applicability of their findings.

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Appendix C: Paper III – Angel Finance Policy Perspectives – Policy Makers and Investors

Angel Finance Policy Perspectives – Policy Makers and Investors explores the perspectives business angels and policy makers have on government interventions in the angel finance ecosystem. A range of initiatives have been developed for the broader market for new venture finance, however, angels, while often beneficiaries, are not considered sufficiently as a separate group of stakeholders when shaping policy. Using policy theory and a problematisation approach to policy analysis, this paper investigates the perspectives angel investors have on the three main categories of policy interventions (supply-side, demand-side, and match-making). To build a more thorough understanding of the policy environment, this paper also investigates the perspectives policy makers have on policy interventions, with a particular focus on business angels.

Angel Finance Policy Perspectives – Policy Makers and Investors identifies key areas where angel investors and policy makers diverge in their perspective. It also identifies areas of convergence. Providing this overview of diverging and converging perspectives assists in developing the conclusion that there is a real disconnect between the business angel community and policy makers. Addressing this disconnect, evidenced through a lack of policy understanding on behalf of angel investors, communication challenges, faulty assumptions and a lack of willingness to engage, will dramatically improve the efficacy of future policy approaches.

Angel Finance Policy Perspective – Policy Makers and Investors has been submitted to the journal Accounting and Finance. It is presented in this thesis in the journal's required publication format.

Angel Finance Policy Perspectives – Policy-makers and Investors

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Abstract

Policy initiatives relating to angel investors aim to address inefficiencies in the broader market for new venture finance. We make a novel contribution to the angel finance literature by incorporating policy theory to analyse the implementation of new venture finance policy. Policy is implemented in response to a trigger event, but what problems trigger such initiatives, and how do stakeholders view its implementation? This research considers the perspectives of both angel investors and policy-makers, identifying implementation problems and converging and diverging views on the angel market. Our approach of interviewing different stakeholders allows for corroboration. We find a disconnect between Australian business angels and policy-makers, including a lack of policy understanding, communication challenges, faulty assumptions, and an unwillingness to engage.

1. Introduction

One of an entrepreneur's most important considerations when turning an idea into a revenue generating firm is where to find capital. Institutional capital has long been considered by the popular press and academics alike as the primary source of external equity financing for young firms (Wong et al., 2009). However, in reality, angel investors fill the financing gap between founders, family and friends, and later stage investors such as venture capitalists (Harrison & Mason, 1999). Thus, business angels have an important role to play in the entrepreneurial ecosystem.

Despite this important role, angel investors, at least in the Australian context, have not been the direct focus of government entrepreneurial interventions. Most policy initiatives have been developed for the broader market for new venture finance and angels have generally not been sufficiently considered as a separate group of stakeholders in shaping policy. This is problematic because of their important role, and because they are affected by government initiatives aimed at developing an entrepreneurial environment. Academic research on angel and relevant policy has tended to investigate either the performance of a policy according to its own broader objectives (for example, see Collewaert et al., 2010; Owen & Mason, 2016) or how angels rate different policy initiatives (for example, see Bilau et al., 2017), typically via the use of questionnaires.

Public policy is made in response to a perceived problem (Birkland, 2016). In the case of angel finance, scholars identify both information asymmetry (see Collewaert et al., 2010; Murray, 2007; Wilson, 2015) and externalities (see Collewaert et al., 2010; Wilson, 2015) as the problem requiring policy intervention. Using policy theory (see Birkland, 2016; Cairney, 2012; Cairney, 2016) and a 'problematising' approach (Bacchi, 2009), we investigate the perspectives of both angel investors and government policy-makers (and implementers) on the current policy environment in Australia.

Using the problematising approach to policy analysis allows us to identify conflict points between stakeholders and the objectives of policy. Using Hogwood's (1984) explanation of implementation failure allows us to view critically the implementation of angel finance related policy. Additionally, examining both investors and policy-makers and implementers allows for identification of potential problems in the implementation and operation of public policy.

Understanding angel investors' perspectives on current policy can facilitate more effective future policy interventions. However, angel investors represent just one side of the policy story. Policy-makers also hold views on the market and its actors, and we know little about these views. These perspectives shape their approach to policy development and, ultimately, affect the development of the angel finance market. An understanding of the views of both investors and policy-makers can identify areas of strength and weakness in policy by uncovering the interaction of angels with policy and policy-makers. To date, little is known about angels' perspectives on the policy environment, nor the perspectives of policy-makers on the angel finance environment.

This paper adopts a qualitative methodology to explore the perspectives of both business angels and policy-makers in the Australian context, contributing to the broader literature on angel financing as well as new venture finance policy. This novel approach allows us to view the interactions between the actors in the angel finance environment, ultimately providing corroboration of answers and identifying a broader theme. The Australian environment provides an excellent background in which to conduct our research for three reasons. First, the Commonwealth Government has recently introduced a range of policy initiatives as part of the National Innovation and Science Agenda. Second, each state has introduced its own interventions, some of which co-operate with relevant Commonwealth programs, and others which standalone. Third, the activity of Australian governments in developing policies means that these issues are at the forefront of consciousness for those interested and involved in the field. This allows us to probe the understanding and perspective of angels and policy-makers while these issues are current and relevant.

We conduct interviews using the reflective pragmatist view and the localist approach outlined by Alvesson (2003). Our approach is based on a 'critical' analysis of the research into government policy, aimed not at finding fault with current thinking, but to examine the framework of government interventions into the entrepreneurial ecosystem, with a focus on policies impacting angel financiers. In doing so, we offer insights into angel financing and government policy by identifying, challenging, and examining the interactions of angel investors, policy-makers, and intervening mechanisms (see Alvesson & Deetz, 2000)

This paper makes a contribution to the literature by identifying both policy implementation problems and a disconnect between investors and governments. We present four issues as evidence for this disconnect. First, angel investors have low engagement with government policy measures, demonstrated by a general knowledge of types of policies rather than knowledge of current measures. Second, government participants expressed the view that communicating with business angels was too difficult. Third, investors make faulty assumptions about government policy. Finally, governments are unwilling to engage with the business angel community.

The disconnect has significant implications for government policy and for future research. From a policy perspective, governments must address reputational problems to facilitate engagement with angels. Also, government must act to make more systematic connections between entrepreneurs and angel investors. Finally, governments must recognise that provision of capital is often contingent on future cash flows – the ability to provide a return. In order to facilitate this, governments can implement programs that facilitate new ventures, becoming suppliers to government departments. These programs serve to provide a business model, counter 'subsidisation' criticism, and increase attractiveness for follow-up investors.

From a research perspective, we offer five prospective avenues. First, the verification of the disconnect and identification of the when and how of incorrect assumptions. Second, how firms participating in demand-side programs raise capital upon completion warrants further investigation. Third, the efficacy of specific government programs, using a range of methodological approaches can be examined. Longitudinal studies can help to identify contextual factors that may impact policy effectiveness. Fourth, researchers should identify and test new ways of organising the angel market. Finally, the application of policy theory to new venture finance and the underlying "triggers" for policy interventions.

This paper commences with a discussion of the literature on angel finance related policy. Following our literature review, we provide a detailed overview of the data collection process in our methodology section. We then discuss the findings of our interviews. Finally, we identify our major theme and provide some thoughts on future research directions.

2. Literature Review

To identify the research problem, it is necessary to develop an understanding of the angel related policy literature. This literature review is broken into four sections. First, we introduce policy theory to provide a lens with which to view subsequent angel policy research. Second, we discuss governments' motivations for intervening in the early stage capital markets. Third, we discuss the types of policy interventions. Finally, we discuss approaches to evaluation of government policy.

2.1. Policy theory

Prior to reviewing the angel related policy literature, it is necessary to develop an understanding of the theories underpinning policy development and, subsequently, the factors that may impede implementing policy. Public policy is important because the scope of the state extends to most aspects of our lives (Cairney, 2012). However, while the term public policy may be well known, it is difficult to define (see Cairney, 2016). A useful way of understanding 'public policy' is that policy is made by governments in response to a problem and is implemented by both public and private actors (Birkland, 2016).

From a theoretical perspective, there are three major models for viewing public policy. First, the 'Multiple Streams Approach' (Kingdon, 2011), which argues that issues gain agenda status, and alternative solutions are selected, when elements from three 'streams' come together. The 'Advocacy Coalition Framework' (Sabatier, 1991) is based on the idea that interest groups are organised in policy communities within a policy domain and is used for understanding the interactions of groups. Finally, the 'Punctuated Equilibrium' (Baumgartner & Jones, 2009) model argues that the balance of political power between interest groups remains stable over the long run, but is punctuated by relatively sudden shifts in public understanding of problems and the balance of power between groups.

A commonality among these models is that they address interactions with stakeholders and the 'trigger' event that drives the need for policy change. When implementing policy, research demonstrates that developing and executing public policy involves institutional and individual actors (for example, see Goggin, 1987; Hjern & Porter, 1981; Pressman & Wildavsky, 1973). A major problem is that these actors require more substantiative information about addressing a problem than they have access to (Sabatier, 1991). The knowledge required relates to the 'when' and 'where' to intervene as well as the 'ability and willingness to sustain that intervention over many years' (Sabatier, 1991, p. 149).

The policy theories explain the development of public policy and the interactions between parties during policy-making. Our paper reviews policy from the perspectives of investors and policy-makers during its implementation and operation. Seen from this view, the policy frameworks are unhelpful. The angel finance policy literature does not discuss policy theory (for example, see Christensen, 2011; Collewaert et al., 2010; Sørheim & Landström, 2001), however, it does discuss ‘motivations for intervention’ – from a policy theory perspective, this is the ‘problem’ to be addressed.

The ‘trigger event’ or problem that the policy is trying to address is particularly important for reviewing policy implementation. Bacchi (2009) sets out an approach to policy analysis that identifies ‘what the problem is represented to be’ (the WPR approach). This is useful for identifying conflicts between stakeholders and policy objectives. The WPR approach allows us to identify the ‘problem’ by interrogating the policy and its practical operation. This approach creates an opportunity to question taken-for-granted assumptions – namely, that policies ‘solve’ problems – enabling us to question these understandings and, thereby, the efficacy of the policy and its implementation.

In terms of new venture financing policy, we can frame the represented policy as being poor access to capital and lack of intellectual understanding about starting and managing a business. This represented problem is addressed by policy that provides financial capital (government loans, grants etc., support for investors) and human capital via accelerator or incubator programs. The problem here may be the underlying assumption – the view that entrepreneurs do not already have access to these types of resources is likely erroneous (see Shane, 2008).

The challenge with the problem representation approach to policy analysis is that, particularly in the case of new ventures, there are many likely ‘represented’ problems. For example, the Australian federal government states that *“technological change is transforming society, so Australia needs to embrace new ideas in innovation and science and harness new sources of growth to deliver the next age of economic prosperity”* (DPM&C, 2015). In this case, the government is representing the ‘problem’ or ‘trigger event’ as the transformation of the economy driven by technology.

The WPR approach to policy analysis is particularly useful in the context of new venture finance policy as it enables us to critically evaluate policy at an early stage. Rather than evaluating policy based on ‘the goal it was designed to achieve’ (Lerner et al., 2005, p. 140), the WPR approach enables us to critique the underlying assumptions behind the goal and view current policy approaches within the context of academic perspectives on the problems that governments are trying to solve via their interventions.

Adding to this is the issue of competing forms of legitimacy (Cairney, 2012), such as local officials who must implement policy while dealing with their own pressures (managing day-to-day operations, dealing with budgetary cutbacks etc.). In these situations, local officials may make discretionary changes to a policy in order to address local pressures – such as budget constraints – thereby diluting the effectiveness (and increasing the complexity) of a policy.

We are critical of the 'problem-solving' approach to policy-making. This approach makes the assumption that problems are given to us 'ready-made' and that these problems have unambiguous solutions that make them disappear (Deleuze, 1994). As such, we advocate a broader understanding of actors' perspectives in order to develop more effective policy.

2.2. Motivation for intervening

The WPR approach challenges the assumption that we should view policy as solving a problem (Bacchi, 2009). Nevertheless, it is helpful to view the literature on the problems governments are attempting to solve in order to compare the problems represented by policies with the problems offered by scholars. Any disparity can help explain, or perhaps predict, if a policy will be effective. Additionally, it can identify whether problems have been addressed.

The distinctions between policy effectiveness and problem resolution may seem unimportant. However, by comparing a policy against the academic work on new venture intervention justification, we can contrast the scholarly and policy-maker approaches, identifying areas where policy diverges (or converges) from the academic.

2.2.1. Information asymmetries

Government intervention in the early stage capital market is motivated by the belief that entrepreneurial firms are prevented from exploiting growth opportunities due to a lack of access to risk capital (Mason & Harrison, 2003). Two factors are identified in the literature to explain this market inefficiency. First, the presence of information asymmetries caused by a lack of track record and profit generation resulting in high uncertainty for investors (Collewaert et al., 2010), which results in constraint of early stage firms from accessing traditional bank finance and the public capital markets (Da Rin et al., 2006).

The problem of information asymmetry between entrepreneurs and investors in the seed and early stage market is well documented (Denis, 2004; Wilson, 2015). However, the use of the term information asymmetry may be somewhat misleading from a classical economic perspective. In a perfect capital market, with full information to both parties of a contract (in this case, the entrepreneur and the angel), a finance gap would not occur (Lean & Tucker, 2001). Finance markets are, however, imperfect markets with several inefficiencies, not least of which is information asymmetry. Typically, this is viewed within the principal–agent framework (Binks & Ennew, 1996) whereby the agent (the entrepreneur) has more information than the principal (the angel). In this case, the information possessed by the entrepreneur relates to the quality of the firm and its management.

It may be true that this ‘agency problem’ exists between the two parties, however, government interventions, that is stimulating supply of and demand for capital and facilitating a match between investor and entrepreneur, do not address this particular problem. Instead, the underlying information problem, one which creates the finance gap, is uncertainty and risk regarding future conditions (Lean & Tucker, 2001). While Mason (2009, p. 537) suggests that this information problem is particularly evident in technology (and ‘emergent’ technology) sectors, it can be argued that many new ventures, given the lack of track record, tend to be uncertain (Knight, 1921). It is this uncertainty that creates the financial impediments for new ventures, and which motivates governments to subsequently intervene.

2.2.2. Externalities

The second source of market failure is research and development (R&D) externalities (Collewaert et al., 2010) because the value of R&D investments is not fully internalised and benefits are generated for parties outside the firm conducting the research (Lerner, 1999). The existence of R&D externalities prevents investors appropriating all returns generated by high risk firms (Murray, 2007). In addition, firms conducting such research would likely need to demonstrate higher expected returns to attract funding compared to less risky investments (Da Rin et al., 2006). R&D externalities mean that investors are less willing to provide finance or provide less finance than is optimal for the economy as a whole. Murray (2007) notes that small firms are particularly vulnerable to this problem because they have neither the market power nor financial resources to defend intellectual property infringements.

A distinction must be drawn here in relation to types of externalities and new firms. In the context of new ventures, externalities relate specifically to technological externalities (generated through R&D). These externalities mean that the actions of the firm directly affect the utility or profit of another (Greenwald & Stiglitz, 1986). Thus, a spill over effect occurs – other firms, and their investors, benefit from the original research and development. This contrasts with pecuniary externalities, where actions affect another firm via effects on price. It is the former that is used as justification for market inefficiency and subsequent government intervention.

Both information problems and externalities are used as justification for government intervention. Together, they create a market inefficiency. However, while intervention may help alleviate some of the problems faced by early stage firms (namely, the lack of available finance), for governments, the advantages are in the spill-over effects and externalities (Wilson, 2015). Studies suggest that the receipt of early stage investment by new ventures contributes to economic growth and creates jobs (Achleitner & Klöckner, 2005; Kerr et al., 2010). The view that early stage investments contribute to economic growth, via spill-over effects, is justification for intervention in the seed and early stage investment market (Wilson, 2015).

2.3. Types of government intervention

To take advantage of spill-over effects and potential economic growth, government interventions have included a range of measures. These interventions are generally categorised into two main types – supply-side and demand-side. Supply-side interventions aim to increase the amount of funding available to new ventures and represent the bulk of policy measures. This is largely because they are seen as more direct and visible action (Wilson, 2015). Demand-side approaches aim to increase the quality and sourcing of deals – that is, the number of 'investment ready firms' seeking capital. According to Wilson (2015), these approaches are often overlooked in favour of supply-side measures, largely because they are indirect and may be more difficult to measure.

Business angels are, in some ways, beneficiaries of government intervention. From a supply side, they may benefit via taxation incentives, from the demand side, greater deal flow or higher quality deals. Reviews of policy stimulating the angel market (indirectly or directly) provide an overview of the common interventions (for example, see Mason, 2009; O.E.C.D., 2011; Wilson, 2015). The common interventions are shown in Table 1, which reveals four supply-side approaches and one demand-side. Supply-side interventions are extensive and represent the bulk of early stage finance measures (see Wilson, 2015). Demand-side interventions largely focus on the development of human capabilities and include measures such as investment readiness programs (sometimes as part of a broader accelerator program, as in Australia).

We also identify a third category, intermediaries or match-making services. These actors may have originated as a result of public support or legislative changes, though they may not necessarily receive public funding. Of particular note here is the placement of business angel networks as an intermediary. There is some contradiction in the literature over whether business angel networks are a supply- (see Bilau et al., 2017) or demand-side measure (see Wilson, 2015). However, as business angel networks do not increase the supply or demand of angel finance they can be considered a match-making service, matching demand for finance with supply (Christensen, 2011).

TABLE 1 – Overview of government interventions

Intervention	Includes	Category
Direct capital provision	Direct provision of capital to new ventures, including grants, loans, guarantee schemes and government backed early stage venture capital	Supply side
Crowdfunding Regulation	Regulatory frameworks supporting crowd-sourced equity funding	Supply side
Tax incentives	Tax credits and offsets on investments, tax reinvestment relief, reduction in capital gains tax, rollover or carry forward of capital gains or losses	Supply side
Co-investment funds	Government co-investment with entrepreneur or other investors. Includes passive investments (automatic) or actively management investments	Supply side
Human and Social Capital Development	Developing human capabilities (entrepreneur or angel side) and networks to facilitate growth. Incubators and accelerators are common examples	Demand side
Match-making	Business angel networks	Intermediaries

The policy literature is broad, covering supply- and demand-side measures and intermediaries. Table 2 contains an overview of the articles focusing on angel finance related measures, broadly classified according to one of three types. First, articles evaluating government interventions, which cover direct capital provision, tax incentives, co-investment funds, match-making measures (specifically business angel networks), and responsiveness of angels to policy measures. Second, articles examining the role of government and policy, which highlight the importance of government interventions and cover direct capital provision, match-making measures, and the informal venture capital market more broadly. Finally, the third category identifies and discuss policy implications and lessons from policy experience.

TABLE 2 – Articles investigating angel finance related interventions

Author(s)	Title	Publication	Focus	Classification
Baldock and Mason (2015)	Establishing a new UK finance escalator for innovative SMEs: the roles of the Enterprise Capital Funds and Angel Co-Investment Fund	Venture Capital	Supply side	Govt/Policy Role
Bilau et al..(2017)	Angel investing in an austerity economy – The take-up of government policies in Portugal	European Planning Studies	Supply and demand side	Evaluative
Christensen (2011)	Should governments support business angel networks? The tale of Danish business angel networks	Venture Capital	Intermediary	Govt/Policy Role
Collewaert et al. (2010)	Assessment of government funding of business angel networks in Flanders	Regional Studies	Intermediary	Evaluative
Hendon et al. (2012)	State-funded angel investor tax credits: Implementation and perceived effectiveness in a sample of states within the United Stated	Journal of Entrepreneurship and Public Policy	Supply side	Evaluative
Mason (2009)	Public policy support for the informal venture capital market in Europe	International Small Business Journal	Supply and demand side	Govt/Policy Role
Mason and Harrison (2015)	Business angel investment activity in the financial crisis: UK evidence and policy implications	Environment and Planning C: Government and Policy	Supply and demand side	Implications & Lessons
Wilson (2015)	Policy lessons from financing young innovative firms	OECD	Supply and demand side	Implications & Lessons

2.4. Evaluation of government intervention

The evaluative articles in Table 2 emphasise the importance of developing an understanding of how business angels perceive government policy. The design and choice of policy measures are important to the success of any government program. This section provides a review of the evaluative articles to develop an understanding of the efficacy of different policy approaches. In evaluating policies, the respective authors follow the Lerner (2005) model of comparing outcomes with goals.

2.4.1. Supply- and demand-side evaluations

Measuring and comparing the effectiveness of policy measures is a difficult task. Governments assume that a particular policy measure will have a positive impact n that environment and its effectiveness is, therefore, measured according to its outcomes (Hendon et al., 2012). Tax incentives, for example, are not necessarily a prerequisite for an active angel market. Some states in the US have high levels of investment (e.g., California and Massachusetts), yet no investment tax incentive programs (Hendon et al., 2012). It may be, however, that the high levels of investment may still be too low if one considers spill overs and risk aversion.

Government intervention to support angel investment can have a positive impact in terms of take-up (Bilau et al., 2017). The use of the term 'take-up' has an interesting significance in that the policy objective may not be directly related to angel participation (for example, where governments aim to increase jobs). The use of a participation measure (for example, number of angel investors) would provide governments a way of evaluating whether a policy has been broadly effective at encouraging angel investment. The heterogeneous nature of the angel population, however, makes it difficult to determine the proportion of angels motivated by policy initiatives or whether capital would have been invested regardless of policy.

Of particular interest is the use of survey instruments asking participants to rank a range of policy measures. Bilau et al. (2017) directly asks angel investors for their preferences, providing evidence for appropriate fiscal measures. The survey covers a broad range of policy interventions; supply-side measures (such as tax policy and co-investment); demand-side measures (such as training business angels); and match-making (such as support for angel networks – though this is classified as a supply intervention) (Bilau et al., 2017).

Bilau et al. (2017) provides evidence of the responsiveness of angels to a broad range of policy initiatives – confirming that government intervention can have an impact. A key contribution of the Bilau et al. study is to identify the types of interventions that have high and low take-up rates. This provides evidence, albeit in the context of an austerity economy, of the value of a particular policy measure. However, perhaps unsurprisingly, fiscal measures (such as tax relief and passive co-investment, where funds are matched automatically), were highly rated, perhaps because these, unlike indirect measures, such as underwriting the expenses of an angel network, or providing training for business angels, provide individuals with a financial benefit.

In addition to the problem of direct questioning, whether the angels involved in the study would take advantage of these programs is not clear. For example, tax relief is rated highly, however, the take-up rate is less than one-third of investments (Bilau et al., 2017) and thus take-up as a measure indicates that tax relief may not be as effective a driver of investment as the angels themselves claim. This contrasts with Hendon (2012), who provides evidence that tax incentives in particular are an effective means of stimulating the angel market. This highlights a core problem for policy-makers – one of intervention design. The take-up rate in the Bilau et al. (2017) study epitomises this issue. A poorly designed policy, or one which is subject to changes at the political whims of the government of the day, is ineffective.

2.4.2. Intermediary/match-maker evaluations

Using a measure of jobs growth and tax contributions (success factors for intervening governments), public support for business angel networks has been shown to be successful in reducing information and financing problems (Collewaert et al., 2010). This success, viewed in the context of Bilau et al.'s (2017) finding that business angels are not generally in favour of public support for angel networks, is problematic.

While there is no contradictory evidence in the two studies, Bilau et al. (2017) evaluates responsiveness of angels, while Collewaert et al. (2010) evaluate the success of an angel network. It is important to understand why business angels are not more optimistic about business angel networks. This potential discrepancy in the studies' findings is one of goal incongruence. On the one hand business angels state they are not supportive of publicly funding a business angel network; on the other, evidence that public support results in positive outcomes. One explanation is that business angels are not interested in growing an entrepreneurial ecosystem but rather in high quality deals offering opportunities to increase their wealth (see definitions in White & Dumay, 2017). If this is the goal of business angels, then any direct questioning about what policy measures would best suit angel financiers will result in suggestions on policies that provide direct financial benefits to the interviewed business angels.

The issue of goal incongruence raises an interesting problem from a policy theory perspective. Jordan and Richardson (1987, p. 242) identify that consultation is beneficial to the development of policy – it generates support, provides the benefit of practical experience, and transfers a portion of responsibility to participants. However, viewed from the perspective of policy as a way of solving a problem (Kingdon, 2011), it may not be helpful. Rather than directly questioning business angels, which, using the WPR (Bacchi, 2009) approach, would result in the problem as 'lack of incentives for angel investors', understanding their perspectives would be more useful in policy development. This approach requires a broader conversation with the angel community.

From a research perspective, the broader conversation approach adds to our understanding of how business angels view the ecosystem in which they operate. Equally, however, understanding the perspectives of policy-makers helps our understanding of the ecosystem as a whole and the interplay between policy-makers and business angels. Understanding policy-makers' views provides insight into the operation and development of future policy.

The need to understand the perspective of both business angels and policy-makers is driven by a desire to move from a policy as problem identification and policy solution, to a more considered understanding via a broader conversation. Thus, our research question is:

"What problems trigger new venture finance policy and how do business angels and policy-makers view it and its implementation?"

3. Methodology

This study uses an exploratory research method to develop a deeper understanding of angel investors and their perspectives on government policy interventions. This approach is explanatory, dealing with operational links that need to be traced over time, rather than simply frequencies or incidence (Yin, 2014). Using qualitative interviews provides an opportunity to develop a deeper understanding of how individual angels understand government policy given their own individual contextual backgrounds. Semi-structured interviews using a reflective pragmatist view and a localist approach (Alvesson, 2003) allow the interviewee to elaborate on thoughts and reflect on their responses in light of probing and their own personal experiences, thus providing a rich dataset.

The semi-structured interview allows researchers to press and probe each participant, ensuring questions are answered sufficiently (Rowley, 2012). To fully explore a range of responses, the researchers relied on their understanding of policy to help gather new information from participants. This approach provided the participants with 'breathing room' to reflect more on their understanding and often resulted in contradictory statements. Table 3 provides a list of interview participants. Government participants provide us with insight into government approaches on policy and help us to identify the reasons angel investors hold a particular view. Early stage venture capital limited partnerships (ESVC), including government backed funds and private funds, are a supply policy. Given ESVCs represent an intervention, their views are likewise important. We include two venture capitalists as they provide contextual information and help to give a greater understanding of the angel finance ecosystem. These additional interviews helped to identify why business angels held particular views or, more commonly, why they were perhaps unaware of detailed, current, policy issues. The aggregate of these interviews provides evidence that is corroborated and contextual information from which to draw a picture of the angel market.

Contradictions frequently appeared when discussing a participant's experience with a particular intervention or policy mechanism, most likely due to a lack of understanding of policy. We must note, however, that we deliberately avoided providing explanations or definitions of policy mechanism. Our primary goal was to uncover participants' perspectives on the angel market rather than on our definitions. This required careful consideration of probing questions, which most commonly asked the participant why they had given a particular response or had chosen a particular example. This is a reflective pragmatist view, allowing us to challenge interpretations and explore more than one set of meanings, while balancing scepticism with a sense of direction (Alvesson, 2003).

TABLE 3 – Participant list

Participant #	Gender	Description	Current or Previous Angel Investing Experience	Angel Network Involvement
1	M	Angel Investor	Yes	No
2	M	Angel Investor	Yes	No
3	F	Angel Investor	Yes	Yes
4	M	Angel Investor	Yes	No
5	M	Angel Investor & Entrepreneur	Yes	No
6	M	Angel Investor & Entrepreneur	Yes	No
7	M	Angel Investor & Entrepreneur	Yes	Yes
8	M	Angel Investor & Entrepreneur	Yes	Yes
9	M	Angel Investor & Entrepreneur	Yes	Yes
10	F	Angel Investor & Entrepreneur	Yes	Yes
11	M	Angel Investor & Entrepreneur	Yes	Yes
12	M	Angel Investor & Entrepreneur	Yes	No
13	F	Angel Network Manager	No	Yes
14	F	ESVC* (private)	No	Yes
15	M	ESVC (government backed)	Yes	No
16	F	Government Program Manager	No	No
17	M	Government Program Manager	No	No
18	M	Government Program Manager	No	No
19	M	Government Program Manager	No	No
20	M	Venture Capitalist	Yes	No
21	M	Venture Capitalist (corporate)	No	No

*Early Stage Venture Capital

At this point it is helpful to provide some background on both the participants listed in Table 3. The angel investors ranged in experience from 'new' investors who had invested in one or two other investments, to investors with considerable experience. These experienced investors have acted as lead angels in informal syndicates. Those angels who did not belong to a formal angel network most often invested individually or with a business angel they knew.

The experienced network member angels frequently acted as a lead investor, with other angels following. This was sometimes a formal arrangement, but often it was informal. Alternatively, they gave advice to newer investors. Five of the investors had multiple current investments, mst commonly two. Of these five, however, two had a significant number of investments (18 and 30) which were current. The value of these individual investments was significantly lower than a normal angel investment, however, the combined value was approximately that of a normal angel investment. Most interestingly, these angels allocated their time (human and social capital) to the firms that could benefit the most from their work.

The policy interviewees (15 – 19 inclusive) included three (15, 16 & 17) from the Federal government and two from the New South Wales state government. Participant 16 primarily worked at a federal level, however, the program she was involved in was 'co-sponsored' with the New South Wales government. The programs that were designed, implemented and/or delivered by these participants represented all types of interventions noted in section 2.3 with the exception of tax incentives (being the pervue of the Australian Taxation Office) and crowd-sourced equity funding. There was a balanced mix of programs ranging from equity investments; grants, subsidies and loans; incubators and accelerators (which often included an investment readiness component); and, feasibility programs. It is also worth noting that all of these programs were duplicated across different levels of government (federal, state, local) and across jurisdictions (NSW, Qld, Vic etc.).

The other participants (14, 20 & 21) were involved in more formal venture capital. Participant 14 is involved in an Early Stage Venture Capital fund – an investment vehicle that provides tax exemptions for investment at early and growth stages of the startup life-cycle. Participant 20 is a formal venture capitalist with a focus on early stage firms. Finally, participant 21 worked as a venture capitalist for a large corporate and whose role was to invest in early stage firms that could provide the parent with a potential competitive advantage.

Our interviews collected data on a range of issues relating to angel financing. We started each interview by asking the participants to provide an overview of their background and experience. This provided us with information to draw on at later stages of the interview and helped to identify areas where we, as interviewers, could make a personal connection with the participants to build rapport. Interviews provide an excellent platform for in-depth exploration (Boyce & Neale, 2006), consistent with the localist approach, in which the interview is seen as an empirical setting to interrogate complex social phenomena and as a social context (Qu & Dumay, 2011).

The goal of our interviews was to learn angel financiers' perspectives on policy and to understand the underlying drivers of their decision making. In conducting our interviews, we asked questions that provided examples of the participant's behaviour (such as asking about past decisions) and questions that elicited the thoughts and views of the participants (such as views on actors within the market). This type of data collection is most appropriately conducted with interviews as they allow the researcher to learn perspectives of individuals and experiences, and are particularly effective in discovering nuances (Jacob & Furgerson, 2012).

Interviews are best analysed via thematic strands extracted from the material through interpretive and conceptual efforts (Crouch & McKenzie, 2016). Prior to each interview, we made notes on how participants were identified and any expectations for the interview. Following each interview, notes were made based on our thoughts on the interview process, and the participant and their manner. This allowed us to reflect on our own understanding and assumptions (by reviewing the pre-interview notes) and to see commonalities and differences between the participants. For example, we identify that angel financiers are most confident when talking about experiences and when articulating their views on decision-making criteria, but less confident discussing policy, using more non-lexical vocabulary, most notably during discussion on fiscal policy.

The interviews were transcribed and imported into NVivo software, allowing for efficient organisation of what was said, when and by whom, and providing a good overview of the data (Welsh, 2002). To code the data, we created generic nodes based on key actors within the angel ecosystem (angels, entrepreneurs, and government) and on the types of policies discussed (supply-side, demand-side, or intermediaries). We were looking to identify angel financiers' thoughts on each category of policy and actors within that policy intervention (e.g., demand side and incubators). The handling of the data was an iterative process with coding followed by reflection, creation of annotations, and more coding. This resulted in new nodes being generated while interrogating the data (for example, where angels discussed economic issues more broadly).

Once coding was complete, we reviewed each node, along with the annotations. This helped to identify how many participants shared a particular view on a particular policy intervention. For example, we created two nodes under the subset 'Incubator' (itself under the parent node 'demand-side'). The two nodes were 'government views' and 'investor views', indicating the categories of participants, allowing us to focus on only those comments that related directly to incubators and were made by either investors or governments. Given the responses were an aggregate of all participants' thoughts on incubators, we were able to identify commonalities or otherwise amongst the investors and the government participants. From this, we were able to come to conclusions about each category of participants and their views on each policy measure. For example, investors shared concerns about the operating model of incubators, which moderated their view of the value of incubators in the ecosystem. While this is suggestive of grounded theory, the coding is neither inductive or deductive, but a mixture of the two (see Kelle, 1997).

4. Findings and Discussion

4.1. Introduction – A return to policy theory

A theory is a system of ideas that helps to explain things that happen in the world (Birkland, 2016, p. 364). Policy theory is useful for explaining why policies exist (such as 'problem-solving') because the policy process is complex (Birkland, 2016, p. 365) and any model of policy is an abstraction or representation (Dye, 1992, p. 44) – it is an approximation. Understanding policy theory provides a framework for understanding why policies are created and the actors involved in this creation. In the case of new venture finance, the primary actors are governments, entrepreneurs, and investors. Adopting the problem perspective justifies a different approach to investigating actors' views on policy.

Fundamentally, however, this research does not investigate the development of policy. Rather, we investigate the implementation of policy. The study of implementation is based on the simple point that decisions made by policy-makers may not be carried out successfully (Cairney, 2012, p. 34). This implementation gap represents the difference between the expectations of policy-makers and the actual policy outcome (Hill & Hupe, 2009). While it is probably too early to evaluate a policy against its own measures, it is possible to evaluate the implementation against the theoretical frameworks.

In light of the view that policy development requires greater substantive information than the general public have (Sabatier, 1991), we present the perspectives of both angel investors and policy-makers. By understanding perspectives, rather than trying to identify a problem requiring a solution, we provide the substantive information required for efficacious policy-making.

This section is organised according to intervention type. First, we provide the perspective on the supply-side measures, then perspectives on demand-side measures and, finally, perspectives on match-makers, primarily business angel networks. Our perspectives include insights from business angels, other investors, and government representatives to provide us with context and to identify any divergence between the actors.

Table 4 provides an overview of the findings, noting where the two actors diverge or converge in their views.

4.2. Perspectives on supply-side policy

Perspectives on supply-side policy primarily focus on taxation issues and direct capital provision. Crowd-sourced equity funding was raised during the interviews, although less frequently. Four main perspectives were identified relating to tax and direct capital provision as outlined in the following sub-sections.

4.2.1. Taxation

The responses to questioning on taxation varied widely, with some participants expressing concern during their interview that they would not be able to answer questions relating to tax policy. Generally, however, angels, including those who have been involved in lobbying for changes to policy, tend to seek tax incentives and to feel that regulation is disadvantageous to angel investors.

When pressed to identify why they were at a disadvantage, angel investors pointed to more favourable treatment for other investment classes (primarily, real estate). Participant 7 said that business angels need *"better tax incentives because we get tax deductions in property like negative gearing. You don't get something similar if you invest in business."* Other investors raised similar concerns, including the view that there was no tax benefit for angel investors – to quote participant 8, *"angels invest,* [they are] *sophisticated investors and they get no benefit".*

TABLE 4 – Diverging and converging perspectives

Category	Mechanism	Angels	Government	Diverge or Converge
Divergent Perspectives				
Supply side	Taxation	Tax treatment favours other investments – angels disadvantaged	Other investments are favourable because of lower risk, not because of favourable taxation treatment	Diverge
	Direct Capital Provision and Crowd-funding	Does not add human or social capital	Concede – however, pointed to some funding being contingent on participation in accelerator programs as providing human and/or social capital	Diverge
		Unnecessarily bureaucratic and complicated	Acknowledge reputation for being bureaucratic and difficult to work with	Converge
		Very long lead times 12–18 months	Access is quick – 4 to 8 weeks from start of application to fund transfer	Diverge
Demand side	Incubators & Accelerators	Operating model - Subsidised office space and services were beneficial	Operating model – Subsidised office space and services were beneficial	Converge
		Private Incubators Unhelpful	Engage with private incubators	Diverge
		Provide human and social capital development	Provide human and social capital development	Converge
		Once program is complete, no further support	Adopt 'life-cycle' approach where funding and programs follow the development of the venture	Diverge
		Cross-fertilisation is unlikely and/or benefits are too long term to claim as resulting from participation	Density of entrepreneurs leads to more innovation	Diverge
Match-making	Angel Networks	Some angel networks unwilling to engage beyond their own network - mixed views	Angel networks are fragmented	Converge
		Useful for socialisation & networking	No plans to engage with networks	Diverge

There are two issues arising from these perceptions. First, some angel investors called for measures already in place (for example, tax incentives are available to investors via capped offsets and capital gain exemption). Second, other angels were unable to explain the current system (e.g., participant 9 *"I don't know much about it"*; participant 13 *"I don't understand finance"*). This suggests that angels' perceptions of tax incentives may not be accurate.

The government perspective of policy differed. Participants did not view tax arrangements as disadvantageous to angel financiers but noted that alternative investments (such as real estate) were more attractive, not because of tax incentives, but because they were less risky.

The implication here is that the level of risk in a particular asset class may be more important than implementation of taxation incentives.

4.2.2. Direct capital provision and crowd-sourced equity funding

Business angels shared three main perspectives on direct capital provision policy and crowd-sourced equity funding as outlined below.

4.2.2.1. Crowding out 'smart' money

Business angels raised the concern that direct capital provision had the potential to crowd out angel investment (in particular, 'smart' money). While there is little evidence that government funds crowd our private investment (Baldock & Mason, 2015; Collewaert et al., 2010), business angels expressed concern that entrepreneurs need 'smart' money and that government supply-side interventions merely provide financial capital. Participant 12 – *"…. money isn't the hardest thing to get. I think a lot of the issues is knowledge and that's where you need the 'grey hairs' to come in and provide assistance."* Angels expressed the view that money provided through direct capital provision policy or crowd-sourced equity finance did not provide human or social capital.

Government representatives tended to be less critical of policies and, instead, were more descriptive. They focused on the operational aspects of the policy. They highlighted that, while some programs did provide only funds, many provided funds either as part of participation of an education program (e.g., accelerator programs) or through a government funded early stage venture capital partnership – which provided additional, non-monetary support. These policies provided financial capital as well as human and social capital. This perspective is particularly interesting in that policy-makers view other measures as producing smart money. This is not to say that they disagreed that angel financers add value beyond financial capital. Rather, they articulate the belief that human and social capital can be provided in other ways.

4.2.2.2. Bureaucracy

Angel investors considered the eligibility requirements and subsequent processes for direct capital provision policies as overly bureaucratic and complicated. Investors took the view that almost all programs were unnecessarily complicated and, in many cases, not worth the time and expense. As evidence, participants 4, 6, 11, and 12 all identified applying for grants as so complex that specialist grant writers were required, adding considerable cost to the process.

Further to this, the capital provided was often tied to a very specific function, for example, employment (government departments use these programs to subsidise wages). This could include a 'co-investment' program to employ a government researcher to work on a firm's project, which frees up capital for other projects, but raises concerns that the objectives of government (for example, dealing with budget cuts) were not necessarily aligned with the objectives of a business and its investors.

Government representatives generally agreed with the perception that they were bureaucratic and difficult to work with (participant 16 *"We … have the reputation of being quite difficult to work with"*, participant 19 – *"… there's a perception that we are … difficult … that we are difficult with things like intellectual property."* While acknowledging that this reputation exists, the government representatives did not accept that it is accurate.

4.2.2.3. Lead times

Relating to the problem of bureaucracy is the time taken to access funds. Participant 12 said *"Often it takes 12–18 months to even qualify, submit, and see access to the money. The funds need to be available quickly … 18 months is too long."* Government representatives acknowledged their reputation as bureaucratic and difficult to work with, but pointed out that access to funds, once approved, is very quick. Participant 19 highlights the misconception, *"I think the average is between four and eight weeks"*. When we advised that the perception was lead times could be up to 18 months, participant 19 responded with *"… that is definitely not the case".* Other government participants agreed, saying that access to funds was typically quick (most often defined as one month) and the only thing that would impede this would be people.

There may be two different lead time 'perceptions' here. First, the time from starting an application to receiving the money (held by business angels) and second, time from approval to release of the money. Nonetheless, government representatives were firm in their belief that the time between commencing an application to receipt of funds was generally quite short (four to eight weeks being the average, as quoted by participant 19).

4.3. Perspectives on demand-side policy

Both investors and government representatives talked at length about demand-side policy initiatives. Most notably, government representatives were more willing to criticise demand-side mechanisms, than supply-side. Of particular interest, however, is the lack of distinction that participants made between incubators and accelerators. We deliberately chose not to define these terms to the participants so that we could get their perspectives and understanding of these measures, rather than of the definition. For this reason, we have not separated our findings into incubator and accelerators and, unless otherwise noted, we use the term incubator to mean incubators and accelerators.

Five perspectives were identified during discussions of incubators and these were of a much more general nature rather than related to a particular policy. Many participants hold strong views on their efficacy as discussed in the following sub-sections.

4.3.1. Subsidised space

Both angel and government participants viewed subsidised incubators positively, noting that they are important for new firms. This perspective related to incubators that provide access to office space and some services – they allow firms to free up capital. Participant 12 said that subsidised incubators are good when they cover accommodation and internet. Governments also see subsidised incubators as an opportunity (in the words of participant 16) *"... for people to interact and engage … and see that there's benefit to both sides* [government and private organisations] *by sharing knowledge, experience, and facilities."*

4.3.2. Private incubators

While government incubators were generally viewed in quite a positive light, privately run incubators were viewed negatively. Incubators set up as 'for-profit' services (or where there was some type of payment) were viewed as unhelpful. Participant 3 said *"… they just take, take, take, take, take … one incubator provided a company with services that they valued at $25,000 and they've taken a 5% stake …* [it's] *not acceptable. And they make it non-diluting*". The strength of the negative views of these organisations was quite surprising. Participant 8 *"I don't think they're doing the start-up community any good"* and participant 3 *"… their ideas and their activities are not helpful".*

All participants shared the view that start-ups and early stage firms were not in a position to pay higher fees (or the long-term cost of equity) and incubators operating in this way were seen as unhelpful for the start-up community. Further, in the opinion of the participants, the profit motivation of private incubators leads them to be vague about the services they offer. The justification given for this was that incubators are still trying to find the most appropriate way of generating income – though participants agreed that it was probably not possible. Participant 12 *"… there's a reason to start up in a garage … you've got no money."*

Despite this view, government representatives indicated that they engaged with incubators. Participant 17 says *"… we have arrangements with a lot of the leading incubators ..."* And while the general consensus was private incubators are unhelpful, government representatives did find positives in the model *"… there are benefits from bringing people together to go through a shared experience"*.

4.3.3. Incubators and human capital development

The view that incubators provide human and social capital development was expressed unanimously by the government representatives and by eight of the investors (including the venture capitalists). It is worth noting that, at this point, participants discussed publicly supported incubators or incubators/accelerators that ran some type of educational program. For its part, governments wanted to use incubation and, in particular, accelerator programs, as a way of engaging with industry.

4.3.4. Post program support

However, while human and social capital development is an important aspect of demand-side initiatives, investors expressed concern that, once a program is over, the relationship ends and there is no further support. In short, government programs help businesses to become investment ready, thereby increasing a business's demand for finance, and then, as participant 12 said, *"cuts them off"*. Thus, the program is successful in increasing demand, but goes no further. The implication here is that the lack of ongoing support means that participating businesses are left to their own devices when seeking capital (in particular)

Governments, however, diverged from this view, responding that supply-side interventions addressed this problem because they adopted a 'life-cycle' approach. In other words, additional finance was available for post 'program' firms looking for more funding. Further to this, government participants pointed out that the availability of concierge services designed to help business become suppliers to government addressed this problem. They did, however, acknowledge that these services were not marketed well, and many businesses did not know they existed (this is corroborated by some angel participants who thought these programs should exist, but did not).

4.3.5. Cross-fertilisation and incubator programs

Third is the issue of cross-fertilisation being a benefit of incubator programs. This stimulation of the entrepreneurial spirit (Aerts et al., 2007, p. 261) is cited by government participants as a key advantage of their programs, but somewhat contested by both investors and government participants. The participants held different views as to what cross-fertilisation means. The primary views were that it was a form of collaboration between two entrepreneurs that leads to innovation and, through this, a new product or service. Alternatively, it is sharing of ideas and thoughts through discussions that lead to new 'learning'. Angels adopting the former view were highly sceptical that cross-fertilisation would occur, citing the competitive nature of entrepreneurial ventures as a fundamental impediment. They also claimed that they had not seen any evidence that cross-fertilisation actually happens. Participant 11, who participates as a mentor/facilitator in a government organised accelerator, said "*the participants do learn from each other, but … the benefit of this would be very difficult to measure and the result may be too long term to claim it as an advantage".* Government participants generally had a favourable view of cross-fertilisation, often stating that density of entrepreneurs leads to more innovation, though they acknowledged they could not prove this.

4.4. Perspectives on match-making

There are two main perspectives relating to match-making as outlined below.

4.4.1. Operation of angel networks

From the perspective of angels, there are mixed views about the operation of angel networks. Despite many angel investors being involved in an angel network, nine participants held a pessimistic view. The main justification for this was that angel networks have a disorganised approach. When asked about business angel networks in Australia, participant 11 responded *"I think they're all hopeless, they're useless …* [they are] *a bunch of amateurs who made some money and now think they're expert investors"*. Participant 13 shared a story about one angel network, *"… they used to have breakfast meetings and the entrepreneur would get up and do his pitch, and if they didn't like it, they'd through bread rolls at him*". Participant 8 shared that angel networks largely consist of people who *"… like wine and cheese nights, have a bit of cash and like saying they're angel investors."*

In addition to these views, concern was raised about the value that angel networks actually bought to the Australian ecosystem and that many of them were generally unwilling to engage with those outside their small network. This lack of engagement is of particular concern as it makes addressing the finance gap and information asymmetries particularly difficult. As if to highlight the serious nature of these views, and of particular interest, is that many of the investors expressing their disdain for angel networks, were in fact members of an angel network.

Government's responses to angel networks were less pessimistic, however, from a government perspective, angel networks were disjointed. Elaborating on this point, participants 15 and 17 observed that this fragmentation could be best described as poor communication. In essence, despite numerous angel networks existing, they did not interact, with entrepreneurs pitching to networks until they eventually receive funding or turning to a different source of finance lower in the 'pecking order' (Myers & Majluf, 1984), in particular, crowd-sourced equity.

4.4.2. Perceived usefulness

While government representatives viewed angel networks as disjointed and many business angels believe they are *"not worth the effort"* (participant 12), there were some participants (3, 9, 10, 13) who believed that angel networks were valuable and had their place, although, when pressed, the angel investors were unable to say why they thought angel networks were valuable. Participant 10 did attempt to articulate her perspective, arguing that the real value was in the ability to socialise. What is perhaps most interesting is the fact that many investors held negative views, but still remained members of formal angel networks. This particular issue was raised during the interviews (though indirectly) and justified as angel networks are a good opportunity to network, with some investors pointing out that this was the only reason for their involvement.

Governments diverge from this view. While all government participants knew of the existence of angel networks, they had no plans to engage with them. These participants saw communicating and engaging with the angel network community as too difficult. Participant 16 went so far as to say that, while she has been asked by entrepreneurs about angel networks, she had no connections and developing one was not a priority.

5. Conclusion

Our research question asks, “What problems trigger new venture finance policy and how do business angels and policy-makers view it and its implementation?” Our motivation for this question is to move away from the ‘find a problem, provide a solution’ approach to policy development, and provide a broader and detailed understanding of the factors involved in the implementation of government angel-related policy.

To answer our question, we interviewed angel investors using a semi-structured, localist approach (see Qu & Dumay, 2011). To corroborate these responses and to provide context, we also interviewed other investors and government representatives responsible for the creation or implementation of government policy. The responses from our interviews with business angels provide a straightforward answer to our research question. Our interviews with other actors, in particular, government participants, not only provided corroboration on why angel investors held these views, but also aided in developing a picture of the interactions taking place in the angel finance market.

While participants’ perspectives on specific interventions are interesting, the more important observation is gained when reviewing the aggregate of the responses. Overall, it provides us with a key theme, one that is not identified in the literature, but which goes some way to understanding the behaviour of angel investors and other actors. The theme is one of disconnect between investors and governments. Identifying this disconnect and addressing it will considerably improve the efficiency and effectiveness of government interventions. The presence of information asymmetries represents a significant problem for new ventures and is a key factor in government intervention (Da Rin et al., 2006; Wilson, 2015). However, in attempting to address this problem, governments have created a new information asymmetry – one in which angel financiers and governments are disconnected from each other.

It is not possible, at such an early stage, to state that angel finance related policy in Australia has been a failure. However, our findings raise some cause for concern insofar as the implementation is concerned. Implementation failure can be ascribed to three main factors, bad execution, bad policy, or bad luck (Hogwood et al., 1984) and we use this factorial framework to classify the current problems with the implementation of policy.

From the angel finance perspective, the range of policies are probably not bad because they have been implemented in other countries – though there is a 'transference' caveat (see Cairney, 2012, p. 245). The evidence presented in the following discussion suggests that bad execution and, to some extent, bad luck, caused by lack of clear problem understanding (see Bacchi, 2009) and competing forms of legitimacy (Cairney, 2012), has resulted in implementation difficulties, exemplified by the disconnect between the two actors – investors and policy-makers.

5.1. Evidence of a disconnect

There are four main issues pointing to a disconnect in the angel financing ecosystem. These are discussed below.

5.1.1. Lack of specific understanding

Angel investors demonstrated (and acknowledged) a lack of specific understanding of policy and articulated their views based on broad assumptions. That is, they knew that governments intervened in the market, but they were not necessarily aware of the form these interventions took. As a result, their responses tended to be based on a broad understanding of the questions posed (such as views on grants, incubators, or angel networks), rather than being able to point to specific policy or specific experience.

The acknowledged lack of specific understanding is interesting from a theoretical framework perspective. Viewed through the various models of policy development, angel financiers represent an 'interest group' (Sabatier, 1991) or are members of a 'stream' (Kingdon, 2011). They are an 'influential group' (Cairney, 2012, p. 35), yet their lack of specific understanding points to little sense of involvement in the policy process (Jordan & Richardson, 1987). This problem may be classified as 'bad execution' (Hogwood et al., 1984).

5.1.2. Communication challenges

Government participants expressed the view that communicating with the angel market (and entrepreneurs more generally) was an enormous challenge, one which had yet to be solved. This may partially explain why business angels are generally ignorant of policy details. There may be several reasons for the difficulty communicating with the market. Most notably is the fragmentation present in risk capital markets (Harrison et al., 2010), making it difficult to directly target early stage investors. Many of the programs involve the development of entrepreneurs' human and social capital. This necessitates governments working closely with entrepreneurs, rather than developing other relationships. As a result, government program managers focus on participants in start-ups and their founders.

The reality of policy implementation is that discretion held by implementing officials, with specialised jobs, is unavoidable (Cairney, 2012). Factors such as daily job pressures interfere with the implementation process. In this case, the pressures of managing programs aimed at founders means business angels, despite contributing to new firm growth (for example, see Amatucci & Sohl, 2004; Harrison & Mason, 1992; Politis & Landström, 2002), are largely ignored. This can be categorised as bad execution using the Hogwood, Gunn & Archibald (1984) framework.

5.1.3. Incorrect assumptions

Investors made incorrect assumptions about government policy. For example, several investors expressed the view that it is important for small businesses to have the opportunity to become suppliers to governments, highlighting that this type of program does not exist in Australia. However, these programs do exist, and governments have dedicated concierge teams created to help small businesses and start-ups navigate the appropriate departments. In defence of the investors, government participants acknowledged that they are not particularly good at facilitating a connection between start-ups participating in their programs and the concierge teams. Nevertheless, the investors provided numerous examples of policies they believed did not exist, but in fact do.

Communication is a primary factor in implementation success (Cairney, 2012, p. 35), yet the incorrect assumptions held by business angels point to a failure in communication and bad execution. It is interesting to note that governments acknowledge this as a problem and, while competing agendas and workloads impede improvements, there are some signs of change.

5.1.4. Lack of willingness to engage

The lack of willingness to engage is evident when talking to government representatives. While government staff understandably focus on entrepreneurs (the target of the majority of policy in this area), this is to the detriment of the angel community. Institutionally, governments are aware of the presence and characteristics of angel investors (for example, see government commission reports, O.E.C.D., 2011; Vitale et al., 2006), there is a lack of engagement. This is most notable where government staff managing incubators and accelerators acknowledged that, while they are asked about the angel community, they do not have any contacts, nor do they have any plans to develop them.

The lack of willingness to engage with the angel community is cause for concern, however, there is not a simple solution to deal with this problem. Bureaucrats are subject to a range of, at times unclear, requirements laid down by policy and are powerless to implement them all fully (Lipsky, 1980). This is to say that the problems identified in this research are not the result of disobedience or incompetence. Rather, officials do not have all the resources to fulfil their job requirements (Cairney, 2012; Lipsky, 1980). This includes resources such as time. This, combined with competing demands, helps explain the low level of engagement with the angel community.

5.2. Disconnect consequences and implications for policy

The disconnect has real and serious implications for the development of a vibrant and innovative entrepreneurial ecosystem. Governments are motivated to intervene to address the lack of access to capital for entrepreneurial ventures. In intervening, governments attempt to increase supply of capital and, at the same time, increase demand. Attempts to increase the supply of capital are only effective when investors are fully cognisant of the benefits and believe them to be in excess of any transaction costs incurred in their pursuit. Further, the reputational issue may have the effect of dissuading current angel investors from involvement with government programs, thereby reducing the capital available to a firm. This may not, however, reduce the total amount of angel finance available within a market (that is, angel capital is not contingent on government grants), but it may reduce the capital available to a single firm. Further, and perhaps from a more nuanced view, this may serve to reinforce governments' reputational problems.

A key challenge arising from the disconnect, and the complexities of the federal, state and local governance system, is the duplication of programs and subsequent lack of any co-ordinating oversight policy body. In order to properly address the policy challenges discussed in this section, Australian governments must also address the inefficiencies inherent in the three levels of government. A co-ordinating body, one which can direct firms to a relevant and useful policy program, would increase transparency and better facilitate a connection between entrepreneur and government intervention mechanisms.

5.2.1. *Supply- and demand-side consequences*

From a demand-side perspective, government programs may well be beneficial to their entrepreneur participants. However, without access to any follow-up funding, the ultimate outcome for the policy and for some of its participants may be failure. In essence, demand-side interventions do exactly what they say – they increase demand for funding by increasing the investment readiness of participating start-ups (Wilson, 2015). However, once firms are ready for capital, they are left to their own devices. There is no connection with the angel community, who are searching for high quality deals. While demand is increasing, supply-side interventions are not keeping up. Further to this, the supply-side measures that are available, such as direct capital provision, mean that the government is subsidising the growth of new firms (see Hauknes & Nordgren, 1999). At this point, normally at the end of a program, governments are no longer providing additional human and social capital development but are instead financial backers.

The government has created an isolated system whereby it increases the demand for risk capital, which is then met (perhaps insufficiently, given changing government priorities) by government capital provision – either through equity, debt or grants. This closed circuit chooses to ignore angel financing and is effectively governments subsidising entrepreneurial ventures from the cradle. This has clear policy implications. Government must address the complexities present in supply-side interventions, including the organisation of the programs and eligibility criteria. Further, and perhaps more importantly, it must make concerted efforts to address reputational problems (see Krause, 2004). There is clear evidence in the findings that governments are not as inefficient as investors believe.

5.2.2. *Engagement of business angels and governments*

The engagement of business angels and governments must be systematic and organised, not based on ad hoc connections. Facilitating connections between entrepreneurs and angel investors is enormously important in addressing the financial gap faced by start-ups. Government run incubators provide a logical place for this connection to occur. It makes sense that business angels looking for high quality deals would be interested in engaging with investment ready firms. A clear shortcoming of the current ecosystem is that they do not engage. This should be a priority for any government policy manager. However, this problem can only be successfully addressed by also dealing with the reputational issues of governments.

5.2.3. Providing more capital from government

In relation to the provision of capital, it is evident that, if government demand-side programs are effective, firms are not only investment ready, but at a stage where they can take on new customers. Governments should be developing more efficient ways of connecting these firms with government departments for them to become government suppliers. This means that government is no longer subsidising, but rather receiving a product or service. It provides firms with a cash flow at a time when they are most in need of capital. And it makes firms attractive to angel investors looking for firms with good cash flow prospects.

5.2.4. Information asymmetries and externalities

Information asymmetries and externalities are presented as problems that government interventions aim to resolve (Wilson, 2015). However, using Bacchi's approach (Bacchi, 2009), it is evident that these may not be the problems represented by Australian policies. Various justifications for policies are given by governments – most often focusing on jobs growth and broader economic growth. These objectives do not necessarily represent the problems of information asymmetry or externalities. Some policies and their implementation are motivated by budgetary constraints, others by the 'changing nature of the economy' (see DPM&C, 2015). These different objectives, and different 'problem representations' (Bacchi, 2009) mean that the 'problems' of information asymmetry and externality still exist.

5.3. Future research

There are five prospective avenues of inquiry. The first relates to the disconnect between government and angel investors. Future research on this front should begin by verifying the extent of this disconnect, testing specific policy understandings and identifying areas where angel investors and policy-makers have incorrect assumptions. This would help in shaping communication and engagement between the communities. Further, understanding the reasons for unwillingness to engage would be useful in shaping the way policy-makers communicate new initiatives. It would seem that faulty assumptions by both policy-makers and angels are at the heart of the disconnect, and thus identifying these assumptions and the 'why and how' would provide valuable information that can impact policy.

The second research opportunity relates to developing a much better understanding of how firms participating in incubators raise additional capital. Research should go beyond post-program survival and investigate how longer-term external capital is raised by participating firms. This includes identifying the number of firms who receive financing from angel investors, government capital provision, and/or internal sources (such as retained earnings). This information can be used to improve the programs and to further facilitate access to angel finance.

Third, future research should also concentrate on the efficacy of specific government programs using a range of methodological approaches. Building on the information presented here, future research should investigate the behavioural drivers of angel investors viz-a-viz their interactions with government. These studies should be longitudinal, aiming to determine contextual factors that impact policy effectiveness. This allows for the fine tuning of government policy and can be effective in determining not only if policies address the problem they aim to resolve, but also whether they create unintended consequences.

Fourth, a major problem, indeed, one that characterises the market, is the fragmented nature of angel financiers. Various attempts have been made to organise business angels, most notably business angel networks and angel groups, but fragmentation persists. Researchers should look to develop and test new ways of organising the angel market. Successfully developing models that can more effectively provide access to angel financing (rather than merely crowd-funding) has obvious benefits. Future research should focus on developing and testing a single, accessible, regulated, and, importantly, trusted primary market that brings investment ready businesses and angel investors together.

The final opportunity for research relates to developing our understanding of policy theory and its application to new venture finance in particular. From this perspective, the issue of motivations for intervention – market inefficiencies – need to be reconsidered. This is particularly interesting when viewing policy from the WPR approach. Policy theory suggests that there is a trigger point, or the identification of a problem, however, there are two issues here. First, government policy (certainly in the case of Australia) is not directed at solving market inefficiencies (for example, see DPM&C, 2015). Second, the stated motivations are not always a 'trigger' – that is, these 'problems' have not just 'happened'. As a result, scholars have an opportunity to add to the policy theory literature through an examination of the new venture finance market.

5.4. Limitations

The main limitation to this research concerns the size of the population of participants. While they are diverse from a number of perspectives – gender, geography, experience, and angel network membership, it is still a relatively small population. While this is not without precedence Romaní (Romaní et al., 2013) interviewed four network managers and Amatucci and Sohl (2004) conducted five interviews) increasing the number of both business angels and government representatives would aid in identifying the extent of the disconnect.

The diversity of the government participants is an additional limitation. The participants were either federal employees or from New South Wales. While this was a result of time pressures and lack of response from other jurisdictions, broadening the diversity of participants in terms of jurisdiction (and departments) would increase the efficacy of the research. This would also enable a comparison of each state’s interactions.

Addressing these limitations, while challenging, would improve the research’s impact and provide a more in-depth understanding of the challenges in the Australian ecosystem.

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Appendix D: Pre- and Post-Interview Notes

Note:

The following notes reflect my expectations and thoughts prior to each interview and my immediate after thoughts. They are included for reference purposes and to assist the reader with insight into my research process. The participants have been de-identified as per privacy requirements of the Macquarie University Human Research Ethics policy.

Participant 1

Pre-interview notes

This participant works in venture capital and is also an active angel investor. I am expecting a 'professionalised' approach to the angel investments.

Post-interview notes

This interview was face-to-face. The participant tended to drift towards speaking about formal venture capital and had to be brought back to focusing on angel investments. However, he did give me some interesting information about formal venture capital decision-making, particularly when it comes to looking at an entrepreneur. I was surprised that he focused more on personal and strategy factors in his responds than on financial analysis and due diligence. He also had some interesting opinions and views of government policy.

Participant 1 was quite matter of fact in his responses. He did not use much non-lexical vocab. Was confident and responses are helpful but I'm not certain I got a sense of feeling here.

Participant 2

Pre-interview notes

Participant 2 is an employee of a large government organisation and does not have a typical profile of an angel investor. He is a relatively new angel investor and has made 4 investments. I am interested in the fact that he is a 'working' angel and not typical of other investors. I am curious as to whether this has an impact on how he approaches investing.

Post-interview notes

This interview was face-to-face. Participant 2 was quite friendly and open to questioning. He has a background in IT and now works in finance sector. The participant had a good knowledge of the history of angel investing in Australia and told me some interesting stories from early formal angel networks. I wonder if I can corroborate these stories? A number of interesting things with this participant. First is the use of debt rather than equity. Second is that he spoke quite generally about the investment process and was less inclined to discuss specific details about his investments (industry etc.). It did seem that his investments were quite diverse in terms of sector. Third, he actually preferred seed-stage investments.

Participant 3

Pre-interview notes

Participant 3 provided some written responses to my initial questions and will elaborate on them during the interview. Most of this information related to her career background. Participant had a senior position in the Australian Association of Angel Investors, so will be a useful contact. She has experience in commercialisation and government programs. I am hopeful that she can provide further contacts with angels, give her role in the association

Post-interview notes

This interview was via Skype. It was an interesting interview though there is a bit of ego and self-promotion here. . The interview covered quite a broad range of topics and she demonstrated a good understanding of finance and economic issues. She expressed similar views to others when it comes to incubators (can be vague and combative) and had a little more knowledge of government policy than others but thinks that policy focused solely on tax incentives and/or co-investments is not the solution. She also expressed views on some of the nastier side of the business angel environment, reflecting, perhaps, the lower level of maturity in the market. Her experience with the AAAI is interesting – this venture exists but is now more an ad hoc arrangement. She suggested it is effectively defunct but retracted this almost immediately. Maybe policy should be directed at market organisation, structure and education rather than grants to startups? Some very interesting views here.

Participant 4

Pre-interview notes

Participant 4 was an unexpected interview. I only know that he is both venture capitalist and angel investor experience. I have no expectations.

Post-interview notes

This interview was conducted by telephone. Participant 4 was a last-minute find. He has a background in finance and provided some useful information. He was quite reflective. He raised that he sees a lot of angel investors and angel networks who will very often say one thing but do something else. I probed this, and I think this is about self-image. The angel wants to project themselves as having a positive image, but their actions are quite different. I'm not surprised by this – given some of the contradictions, it seems pretty commonplace. But is this a 'dark-side' of angel investors? Does the self-image and contradictory behaviour mean that they are bad for business? Or does it mean that they don't add as much value to the firm as they believe?

Participant 4 also spent quite a bit of time discussing information asymmetries and the problems with the entrepreneurial market. Very interesting and useful discussion. Seems a little pessimistic, but this participant gave some well justified arguments for this view.

Participant 5

Pre-interview notes

I have no expectations nor impressions of this participant other than knowing they are in the biotech industry and have a traditional angel background.

Post-interview notes

This interview was face-to-face. Participant 5 was fantastic in terms of data. He was open and honest with evidence of reflection and would freely elaborate on his responses without prompting. The participant talked about past experiences with other investments and other angels and has also invested with other angel investors. This interview has given me a wealth of information. The participant was very generous with his time and the responses have given me some good ideas to pursue (mostly around the organisation of the market). Had a very good understanding of IPO procedures and experience with IPOs (doesn't see it as an exit).

Participant 6

Pre-interview notes

Participant 6 is a traditional business angel, though has made only two investments. The participant is usually quite 'cagey' about his business interests.

Post-interview notes

This interview was face-to-face. Participant 6's responses were straight to the point and there was no elaboration. Any follow-on questions were likewise met with very short responses. The answers to specific questions were adequate for the research, but they didn't provide anything beyond this. The participant was open with the business details, which surprised me, however, the shortness of the responses made the interview a challenge. Did not respond well to probing questions. Very difficult to build a rapport.

Participant 7

Pre-interview notes

Participant 7 was keen to talk and made a good effort to schedule time. Participant 13 believes that he is a prominent investor and very well respected. She said he was a ‘terrific guy’ and is (or was) heavily involved with an angel network – Part of the AAAI. I will ask about his involvement with the BAN and AAAI. Participant 13 also mentioned that the angel networks have ‘problems’ so I will investigate with the discussion

Post-interview notes

This interview was conducted using Skype. Participant 7 has experience in agri-business and manufacturing via a family business in regional New South Wales (now in Queensland). Has made 18 investments. This seems like quite a lot and the participant spoke about diversification. I wonder how viable this is as a strategy? Or are they just gambling that one is going to pay off? He tended to under estimate his experience. Interestingly, he said that he doesn’t get deals coming from the angel network, but they come from his own personal networks. I’ve heard this before – seems unusual and inefficient – why have the networks in the first place? Answers to questions on angel characteristics etc. are fairly consistent with literature. Pessimistic about incubators and accelerators, particularly private. Very negative impression of the government (reputational issues? ‘They don’t understand us’?)

Participant 8

Pre-interview Notes

Participant 8's company is a 'Global Technology Venture Catalyst' which supports the commercialisation of start-ups post the idea validation stage. They invest in early stage investments. Their website says they look for early stage investments that exhibit:

- Validated and disruptive ideas
- Defensible business model
- Global application
- Post revenue (I assume this means they are generating revenues)
- Committed and passionate entrepreneurs

They have 5 industries:

- Consumer profiling/insights
- Crowd services enablement
- Asset sharing/utilisation
- Digital privacy and security
- Health, fitness, education & safety

The site is a little ambiguous, but it seems like they are a combination of an accelerator and early stage venture capitalists.

Post-interview notes

This interview was done via Google Hangout at the participant's request. He was in New Zealand at the time of the interview. Participant 8 works for a firm that fills the gap between the incubator and growing the business beyond national borders – specialising in 'scaling-up'. He also has personal experience as an angel investor. The information he gave me was vague at times, so I had to keep coming back to points.

The participant has a strong background in finance and uses quite sophisticated language. NOTE – The language used by these players has become much more sophisticated.
Note: There were some technical problems using Google Hangout – Wi-Fi on Richard's end kept dropping in and out, as a result, some information was not received.
This interview was useful in the areas of 'characteristics and criteria' as well as a general view of 'policy' approaches that governments could adopt. Understanding of specific policy is limited.

Participant 9

Pre-interview notes

I have no real impressions of this participant. I have had no contact or information other than an email agreement.

Post-interview notes

This interview was via Skype. Participant 9 is in very early stage (just after conception) investing, which is unusual. In addition, he found his recent investment via an angel network website (similar to equitise). Both of these factors are a little unusual but represent changes in the market place and the diversity in investor profiles. Participant has considerable international finance experience, and it was interesting to get his perspectives on how the Australian market compares (unfavourable, in this participant's mind).

Note: this is the 8th interview that I have completed, and with the exception of 1 participant knowing that tax credits are available, no-one knows much about government policy.

Participant 10

Pre-interview notes

This participant is the third female to be interviewed. She has her own business and is an immigrant. This doesn't necessarily surprise me, but her connection with an 'Australian' network does surprise me a bit. Not sure what to expect.

Post-Interview Notes

This interview was via Skype. This investor has a different approach that is driven more by a concern for community and social issues. This interview is where the pieces are starting to come together. Participant 10 says that current government policy does not consider the views of business angels and is vague and poorly communicated. The consensus so far seems to be that government policy should focus on education of both business angels and entrepreneurs as well as creating a market in which deals are more accessible and angels are likewise accessible for both the entrepreneur and angels who want to invest with other angels. Interestingly, educating business angels only applies to other business angels, rather than the individual business angel wanting education for themselves. Spoke quite a bit about being involved in the network but this seemed to be driven by social considerations.

Participant 11

Pre-interview notes

I have no particular expectations here. Prior communication with the participant was brief, but friendly.

Post-Interview Notes

This interview was via Skype. The software did create a problem for the participant – the system started to automatically update, and I was unable to get through. This was resolved though. Participant 11 is a traditional angel with a background in developing software for banks and accounting firms. Was open and honest and discussed his failures quite honestly and reflected on how that impacted his decision. This participant spoke a lot, almost without interruption. Provided a lot of good information and responded well to prompts. I sometimes made comments on what he had said based on my own knowledge of business operations and angel investment – I did this to moderate my understanding. Participant 7 had very strong opinions about the market in Australia (he thought it was poor) as well as the major networks, which he also thought 'amateur'. Some interesting information. Again, only a rudimentary knowledge of government policy and programs. This was a really good interview.

Participant 12

Pre-interview notes

I have met this participant before and my impression is that he has quite a lot of corporate experience which he has then used to start his own businesses, leading into his angel investment experience. He is quite well informed, so it will be interesting to hear his thoughts on government policy in particular.

Post-Interview Notes

This interview was face-to-face. The face-to-face interview is good, because I can see body language and facial expressions, but it doesn't allow me to take lots of detailed notes for future prompts or for reflection. Nevertheless, participant 12 has lots of experience in Australia and overseas. From a policy perspective, he had very strong views on the broad market problems in Australia faced by new firms. In particular, the belief that large businesses are treated more favourable and will act anti-competitively (or 'borderline' – what they can get away with) and will often buy up a small firm that might be a future threat. This is interesting, need to find a way of confirming whether this is true – supermarkets or telcos in particular? Has strong views on what the government should be doing. This is interesting, some of the things he thought should be done are being done (but they aren't communicated well). This was a good interview. This participant doesn't quite fit the traditional definition though.

Participant 13

Pre-interview notes

Participant 13 is the manager of an angel network. A person I met at a pitch event mentioned her name as someone who may be able to assist with the research.

Initial contact was made via email explaining my research and that I am looking for business angels to interview. The response was abrupt stating 'You have picked a difficult area to research and I doubt that my angel investors would participate, many only invest in one project and often work in the business alongside the founder. The space is riddled with misunderstanding. Speaking to individual investors will probably not give you a broad view.' She then stated 'I am a pioneer in this area, and having a chat to me may be helpful.' As she is a manager of a business angel network, I agreed to a telephone interview.

Upon further investigation, I discovered that the participant is a civil celebrant. She may manage the network part-time or periodically, however, her initial response gives me reason to doubt that she is as experienced as she claims. Nevertheless, I will conduct the interview.

Post-interview notes

The interview was conducted via Skype. Participant 13 is located in regional southern New South Wales. Initially, she was hesitant in her responses, however, she adopted a 'story-telling' approach to questions and this produced better responses. She was very pessimistic about the state of the angel market in Australia. Concerned about the ethics and egos of some prominent investors and had some horrific stories about incubators and angel networks. At times she came across as 'conceited', but her long involvement with angel financing meant she gave me a good overview of the history of its development in Australia. Obviously a darker side to angel finance.

Participant 14

Pre-interview notes

Initially, I thought she was a business angel, but this turned out not to be the case. Participant 14 works for a private early-stage venture capital firm. I decided to interview this participant based on the changes to government legislation re ESVCLPs thinking she would have some valuable contributions and a potentially different perspective on the area of Angel Investing. My reflection after the interview with participant 13 is that interviewing financiers beyond angels would provide additional interesting information that may not be captured by just talking to Angels. Given the nature of ESVC funds, and the current government policy, it would also add weight to my findings.

Post-interview notes

Interview was via telephone. Participant 14 was interesting to talk to and had put some good though into her responses. There was quite a bit of non-lexical vocab at times, but generally she was quite up front about her role and experiences. She did mention that she didn't think she was the right person to speak to when I asked her about policy. Very generic understanding of policy. She gave me some valuable information on the market in general and expressed some concern that it was a little haphazard. She tended to be optimistic where she had no direct personal experience with other actors, and pessimistic when she did have experience. The interview also helped with corroborating data and I am pleased that I am able to have another female in the mix of participants.

I am starting to see that the angel market is quite diverse. The firm participant 14 works for seems to be a firm set up by a wealthy angel investor to take advantage of ESVCLP legislation. I am not sure if this qualifies as angel financing – need to revisit definition.

Participant 15

Pre-interview notes

Participant 15 is the first of the government side of participants to be interviewed. He works for a large government research organisation as a partner of their newly formed venture capital fund (ESVCLP). This should be a really interesting interview. Participant 13 has lots of experience in entrepreneurial ventures from founder and investor side. Also developed an early accelerator.

Post-interview notes

This interview was face-to-face. Participant 15 was very interesting and very knowledge. He gave me a really good overview of what he does and how the fund operates. He is a partner at a VC Innovation Fund. A $200 million fund. He's involved in the VC and policy programme development space. He is involved with corporate accelerators as well as angel investments with a focus on start-ups.

One of the challenges that he mentioned in terms of incubators and accelerators was that the private accelerators tend to have a little bit of difficulty really determining what they actually are, what worth that they actually bring, what benefits they bring to a company and he was generally very, very supportive of incubators and accelerators and he thought they were a good idea. As examples, he said that corporate accelerators are probably the most beneficial for entrepreneurial ventures because they're potentially getting access to a new customer.

This interview was really helpful. The participant had a very good understanding of government policy and programs and was well versed in early stage investments. Had a good insight into angel networks as well (felt that they were fragmented). Some good stuff to think about here.

Interesting that these types of funds are starting to invest in much earlier stages – this participant regularly spends time talking to researchers wanting to commercialise their work.

Participant 16

Pre-interview notes

This participant setup and runs an incubator. The department she works for has several accelerator and grant programs, but there doesn't seem to be a connection. They seem to operate independently. After some negotiation, I am meeting participant 20 at her workplace, which is a very large government campus.

Post-interview notes

This interview was conducted face-to-face. Participant 16 gave me a 20-minute tour of the campus which includes tech shops (with 3d printing etc.), clean rooms, research labs and office space. The facilities are pretty good, but we did not see anyone else on our work around the campus. The place was empty. Participant 16 spoke about the tech workshop being the first thing they set up. Interestingly, the organisation decided to speak to entrepreneurs and others (a little vague on who they spoke to) about the kinds of facilities they needed. Though it seems like she asked if they wanted a 'tech shop'. Apparently private organisations didn't want tech shops, so this organisation set one up anyway. Very odd.

Participant was open and honest, though did sometimes contradict herself. She is making attempts to engage with the community, mainly through local government connections and another private "Hub" (I haven't heard of this hub before, not sure what it is, but not an incubator? Maybe a place for entrepreneurs to gather?). She does seem to be quite isolated and disconnected from the rest of her organisation. She kept mentioning how busy and vibrant the campus often was, though there was no evidence of that when I was there (Thursday morning). Participant did provide some really interesting information though.

Participant 17

Pre-interview notes

Participant 17 is a state government employee contacted through the public relations office of the department. The participant works on strategy and product design and is responsible for developing loan programs, guarantees and incubators. I have no particular expectations, though it has been difficult finding people to interview in government.

Post-interview notes

This interview was via telephone. Participant 17 was open and honest, though often contradicted himself. This was usually happened when he was discussing incubators or the way the market is organised. This could be that he was a little uncomfortable talking about these topics – particularly private sector incubators and the angel market. When I brought him back to policy and government programs, he was much more comfortable.

Most interesting take away here is the discussion of the stages that governments 'partner' with businesses, including provision of grants. They start at feasibility and seed stage and work their way up to larger loans for established firms. Some of these are actually in conjunction with accelerator programs. This is interesting – these programs give money AND human capital development (possible social capital too).

Made some interesting comments on the housing market in Sydney and its impact on financing small businesses (for investors and for banking system). Very good knowledge of policy and good justifications for policies (evidence-based policy development?).

Participant 18

Pre-interview notes

Participant 18 works for a government research organisation and is responsible for the development and implementation of an accelerator program. The program is geared towards testing feasibility. They only work with publicly funded researchers in Australia – so they want to commercialise research.

Post-interview notes

This interview was conducted by telephone. Participant 18 has a background in investment banks and professional services. He currently works on the 'corporate strategy' team. The accelerator that he set up received a $5 million a year grant from the Federal Government. This is interesting, the program was up and running and then the federal government decided to add funding to it. This seems a bit of a haphazard approach. A single government organisation develops a program which subsequently attracts federal funding. This relies on a department deciding to create a program and then having it come to the attention of someone who can give them access to a grant.

Participant 18 was quite helpful and gave a good overview of his role and thoughts about the market. He was quite direct and to the point and used very little non-lexical vocab. He had an interesting perspective of current private incubators – he believes they are vague because they aren't sure what they do (or how they can make money). My dealings with incubators is similar – they are vague and some borderline unethical.

Interestingly, this program is for feasibility testing and they pay the firms to take part. Goal of this program is commercialisation of research. This is in line with another participant who managers a government ESVCLP and spends time at universities looking for deals.

Participant 19

Pre-interview notes

Participant 19 now managers a program of three funding schemes which are ‘dollar-matched’ financial assistance research projects. I’m not certain if this means they are grants or if they are co-investment schemes. This participant was formally a Postdoctoral Research Fellow. The organisation is focussing on STEM businesses.

Post-interview notes

This interview was conducted by telephone. Participant 19’s background is as a research scientist working on commercialisation. The program he now manages has three levels of funding. It focuses only on research – this is potentially useful for R&D firms and ‘bleeding edge’ (a couple of angel participants have said this is a problem – they don’t want to spend the money – so these sorts of programs are probably useful).

Participant 19 spent some time talking about the reputation of government and his organisation in particular. This has come up before. Reputational problems might help explain why there seems to be a disconnect or why angels aren’t really engaged with government.

The point that really strikes me with this program is the complexity of it. This isn’t providing a grant or co-investment. They provide grants, but the money doesn’t get transferred to the business. In fact, the business pays money to this organisation (matches the grant) so that the organisation can pay their employees to work on the business’ research. This shouldn’t surprise me, it seems more like a nifty idea to deal with a budgetary issue than anything else.

Participant 20

Pre-interview notes

This participant is a formal VC with angel experience. Initially contacted him in early December but with some back and forth the interview was conducted mid-January. The participant works for a firm that is in investor and public relations – mainly crisis management. Interesting that a number of angels are different to the traditional definition.

Post-interview notes

This was a telephone interview. Participant 20 did not really add anything new and tended to be vague and a little general when talking about angel investing. He stated that he was an angel investor and a member of an angel networks. At times he displayed ego, which correlates with what I have heard about members of this particular angel network. He did have helpful points – he noted that the majority of angel investors were now 'working' angels, investing relatively small amounts and, as a result, probably didn't have time or inclination to be across policy issues. This is interesting. Investing small amounts? Why not crowd funding then? What value do small amounts really bring?

At times he was a little vague, particularly when talking about deal flow of Sydney Angels and a little unsure about equity-based crowd funding. His thinking was a little disorganised.

Participant 21

Pre-interview notes

This person is a friend of a colleague and works as a corporate venture capitalist. I'm concerned that this may stray a little too far from angel financing, but he may be able to give me a new perspective on the market, government policy in particular. May be useful for corroboration too.

Post-interview notes

This interview was conducted via telephone – participant's connection was not good and we ended up using 'Face-time'.

Participant 21 has experience as a formal VC manager, an entrepreneur and an angel investor. Tended to speak more from a corporate VC perspective. This gave me a different perspective of incubators and accelerators in particular. He noted that the incubators are 'ill-defined' in Australia – they do a lot of different things and operate quite differently. I wonder if this is because they are mostly private or university spin-offs. Incubators seem to generate some strong opinions – many are very negative and see them as useless while others see them as being positive.

Interestingly, participant 21 discussed incubators being run by corporates so that they could secure supply or remove some competition. This seems to ring true with my personal experiences and other comments that have been made.

Had a general idea of policy (supply and demand mostly), but not really any specific details. Most of the commentary was quite general in nature. This might be because he is in VC in a specific industry and doesn't deal with start-up community. Not sure what to make of that.

Appendix E removed from Open Access version as they may contain sensitive/confidential content.

Appendix F removed from Open Access version as they may contain sensitive/confidential content.