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New Directions in Entrepreneurial Finance

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New Directions in Entrepreneurial Finance

Abstract

Entrepreneurial finance is a distinctive aspect of corporate finance, notably with respect to informational asymmetries and investor involvement in portfolio companies. Entrepreneurial finance research has explored four levels of analysis: the entrepreneur or entrepreneurial firm, the organization providing finance to the entrepreneurs, the organizations providing funds to these organizations, and the region or country in which the entrepreneurial firms or investors are established. We discuss recent developments in forms of entrepreneurial finance. We summarize the contributions of the papers published in this issue on early stage entrepreneurial finance at different points in the life cycle, including work on trade credit, debt finance, micro-cap IPOs, venture capital, and angel finance. Also, we highlight avenues for future research focusing on funding gaps, accelerators, crowdfunding, secondary buyouts, and exits.

JEL Classification: G21, G24, L26

Keywords: Entrepreneurial finance, IPOs, venture capital, private equity, business angels, crowdfunding, accelerators

1. Introduction

This article and the special issue it introduces focuses on entrepreneurial finance. Entrepreneurial finance is a distinctive subset of traditional corporate finance (Wright and Robbie, 1998). Traditionally, corporate finance focuses on established listed corporations, while entrepreneurial finance largely focuses on younger, privately-owned firms. Entrepreneurial finance encompasses a variety of finance types and providers, including venture capital, private equity, private debt, trade credit, IPOs, business angel finance, and crowdfunding, among other forms of finance, such as grants, funding from incubators or accelerators, and support from family and friends (Cosh et al., 2009). Many entrepreneurial finance investors seek to obtain their return through a capital gain realised on the strategic sale or stock market flotation of the venture (Cumming, 2008).

Two major issues contrast entrepreneurial finance with traditional corporate finance. First, entrepreneurial finance is characterised by significant issues associated with information asymmetries between both entrepreneurs and finance providers that vary over the lifecycle of the firm (Walz and Hirsch, 2019). Consequently, finance providers devote considerable effort to addressing problems of adverse selection and moral hazard relating to their investments in entrepreneurial firms (Fu, Yang, and An, 2019). Important mechanisms used by investors to address agency issues are negotiating high-powered contracts and active involvement in their portfolio firms (Cumming and Johan, 2008). Contracts between investors and entrepreneurs specify more detailed information disclosure requirements than for investors in listed corporations. Investments in entrepreneurial firms may also be conducted over several rounds, conditional on pre-specified progress targets being met, thereby further reducing potential agency issues (Yung, 2019).

Second, besides financial resources, entrepreneurial firms often lack necessary tangible and intangible resources, such as human capital and access to networks, reputation, or legitimacy

to achieve their value creation potential (Block, Fisch, Obschonka, and Sandner, 2019; Capizzi, Bonini, and Zocci, 2019). The association with highly respected or strongly networked investors may provide entrepreneurial firms with valuable legitimacy in their market and may serve as a quality signal (Plagmann and Lutz, 2019). Investors are also much more likely to be actively involved in their portfolio firms for purposes of the provision of advice relating to strategy, marketing, finance, and human resources, in addition to their monitoring efforts (Knyazeva, 2019).

To both spread and reduce risk, and to enhance the resource base available for portfolio companies, investors may syndicate with other investors (Wright and Lockett, 2003) either from the same type or from other types. Given issues of information asymmetry and the need for active involvement, the investors in entrepreneurial firms are typically specialist intermediaries, investing funds on behalf of others. As informational asymmetries may be associated with insufficient supply of entrepreneurial finance to meet demand from entrepreneurs, interest from policymakers also focuses on the so-called equity gap and how to fill it (Wilson, Wright and Kacer, 2018).

Themes in entrepreneurial finance are thus explored at four levels of analysis: the entrepreneur or entrepreneurial firm, the organization providing finance to the entrepreneurs (e.g., venture capital firms), the organizations that provide funds to these organizations (e.g., pension funds), and the region or country in which the entrepreneurial firms or investors are established. As information asymmetries, risks, and resource needs change over the life-cycle of entrepreneurial firms, themes are also explored in relation to the stages in the life-cycle both of the entrepreneurial firm (seed, start-up, growth, maturity) and of the investment process (from deal identification through exiting). Research and policy have generally viewed the different sources and types of finance as being applicable to particular stages in the development of entrepreneurial firms (Berger and Udell, 1998). As such, it has been common to refer to a

‘finance escalator’, with firms successively using funds from family and friends, grants, trade credit, business angel funding, venture capital, private equity, and stock market funding on IPO as they develop from the seed stage through growth and stock market flotation. In this way, the different sources of finance have largely been seen as complementary and have tended to be studied separately. This has always been an over-simplification. For example, Cumming, Fleming, and Schwienbacher (2009) observed marked style drift by venture capital firms both upwards and downwards from core start-up funding. Hanssens, Deloof, and Vanacker (2016) found that the use of debt by start-ups is persistent over time.

Recent developments have probably even further undermined the escalator notion. Rather, one might now more usefully refer to an entrepreneurial funding landscape in which different sources and forms of entrepreneurial finance may be in competition. The emergence of different forms of crowdfunding and other peer to peer financing, from rewards through lending to equity crowdfunding, mean that a range of amounts can be raised to fund entrepreneurial firms at different stages of their development (Nesta, 2014). The rapid growth of accelerator organizations provides new sources of funding and support principally focused on very early stage ventures (Wright and Drori, 2018). Business angel syndicates enable individual angels to come together to fund substantially larger investments than previously feasible for this source of finance and to offer competition to and by-passing of traditional sources of formal venture capital (Block et al., 2019; Capizzi et al., 2019). New players, who typically tended to invest in entrepreneurial firms through professionally-managed venture capital or private equity funds, now directly invest in such opportunities. While corporate investors have been directly investing for over a decade, we now also see family funds or sovereign wealth funds, each with different objectives and a different resource base, competing with or complementing traditional financiers (Neckebrouck, Meuleman, and Manigart, 2019).

Entrepreneurial firms also tend to remain private much longer than in the past (Wang and Yung, 2019), thanks to greater amounts [of] available through larger funds and the new players on the market. The emergence of secondary buyouts funded by private equity provides an alternative to IPOs for more established entrepreneurial firms (Jelic and Wright, 2011). In a further development, while there has long been syndication in the funding of deals by venture capital and private equity firms, the different types of fund providers have traditionally been viewed as separate. More recently, there appears to be a trend towards co-investing by different types of fund providers. Venture capital firms and business angels invest together, while business angels may also co-invest with crowdfunding platforms, accelerators, etc. (Wright, Hart, and Fu, 2015).

The wide array of themes in entrepreneurial finance thus cuts across both finance and management, covering fundraising, investing, staging of investments, syndication, financial contracting, monitoring, selling companies in initial public offerings and acquisitions, and dealing with failed investments.

As a topic, therefore, entrepreneurial finance speaks to a variety of different disciplines relating to finance provision and structuring, as well as the behaviour of entrepreneurs, finance providers, and policymakers. Papers on entrepreneurial finance have been published in a range of journals, depending on the focus of their research topics. The earliest papers on entrepreneurial finance were published in management and entrepreneurship journals going back to the mid-1970s. Entrepreneurial finance only began to penetrate finance journals in the 1990s, with the greatest emphasis on the role of venture capital and on IPOs, with the *Journal of Financial Economics* and the *Journal of Finance* being the most referenced in academic papers that refer to these areas (Cumming and Johan, 2017), followed by *Management Science*. Similarly, work on private equity most often references these two journals. Citations for work on venture capital from a more policy-oriented perspective is also notable with respect to publications in *Research*

Policy. Entrepreneurship and strategy journals, especially *Journal of Business Venturing* and *Strategic Management Journal*, have seen significant cited work on venture capital and to only a slightly lesser extent than in finance journals. Citations for articles on business angels is higher in entrepreneurship journals such as the *Journal of Business Venturing* or *Entrepreneurship Theory and Practice* than in the premier finance journals. Work on trade credit is considerably less extensively cited and is predominantly focused on finance journals. Due to the newness of the topic, citations for crowdfunding work is, as yet, at a much lower level across finance and management journals.

There is a general upward trend in Google Scholar cites relating to the different aspects of entrepreneurial finance, but there are marked differences in their importance. Hits relating to IPOs have risen over time, but since 2013 have experienced a decline. Similarly, the very sharp increase in venture capital citations in 2012 was subsequently reversed. Third most important, private equity citations rose sharply in 2006-8, as the topic received a great deal of controversial media and policy attention (Gilligan and Wright, 2014; TSC, 2007), but this attention has since plateaued. Entrepreneurial debt shows a steady upward trend over time and is the fourth most highly cited area. Although widely used in practice, perhaps to a greater extent than formal venture capital, the number of Google Scholar hits relating to business angel financing continues to be flat and at a low level. The appearance of research on crowdfunding since 2011 is most striking. A similar trend is observed with respect to work on trade credit. It is notable, however, that while relative importance is attached in the literature to what might be termed high impact entrepreneurship (Henrekson and Sanandaji, 2014), some have argued that this attention is misplaced (Aldrich and Ruef, 2018), as it is at some variance with the relative importance of entrepreneurial finance provision in practice (Cosh et al., 2009).

A comprehensive overview of the entrepreneurial finance literature is beyond the scope of this introduction. We refer to recent review articles that cover parts of this large field, such as

Drover et al. (2017), Cumming and Johan (2017), and Cumming and Groh (2018) on entrepreneurial equity finance; Fraser et al. (2015) on the relationship between entrepreneurial finance and growth; Manigart and Wright (2016) on venture capital; Zambelli (2014) on venture capital contracts; Devigne et al. (2018) on international venture capital; Moritz and Block (2016) on crowdfunding; and Wright et al. (2018) on management buyouts and private equity. Section 2 briefly discusses the areas of research that are relevant to the papers in this special issue and highlights how the papers in this special issue contribute to existing research. Conclusions and avenues for further research are presented in Section 3.

2. Recent advances in entrepreneurial finance research in this special issue

The seven papers in this special issue take different perspectives and focus on different levels of analysis. Three papers are related to financing over an entrepreneurial firm's lifecycle. Waltz and Hirsch (2019) contribute to the financial life-cycle literature, examining how start-ups are financed, and how initial financing choices dynamically change over time. Yung (2019) develops a theoretical model relating signal manipulation to staged financing and alternative sources of finance over a firm's lifecycle. Knyazeva (2019) examines public offerings at an early stage in a firm's lifecycle and evaluates a regulatory change encouraging such earlier offerings. Two papers in the special issue pertain to angel finance. Bonini, Capizzi, and Zocchi (2019) and Block, Fish, Obschonka, and Sandner (2019) analyse investments by business angels. Bonini et al. (2019) research how business angel behaviour drives the economic performance of their portfolio companies, while Block et al. (2019) focus on the choice of business angels and whether or not to syndicate a specific deal, based upon their personalities. Finally, two papers examine venture capital finance. Fu, Yang, and An (2019) develop a new matching model in the context of venture capital and test their theory with new data from China. Plagmann and Lutz (2019) further the syndication literature by examining the role of venture capital reputation in

international syndicate partner selection. The main methods and findings of these novel papers are summarized in Table 1 and explained in more detail in the following three subsections.

[Insert Table 1 Here]

2.1. The life cycle approach to entrepreneurial finance

According to the financial growth cycle paradigm (Berger and Udell, 1998), the financial sources and needs of start-ups change as they grow and mature. Informational opacity initially constrains access to external financing, especially bank debt (Carpenter and Petersen, 2002), and makes start-ups dependent on insider financing, trade credit, and business angel financing. In this paradigm, bank debt only becomes available once start-ups develop a track record, generate steady cash flow, and possess on their balance sheets tangible assets which can be pledged as collateral. While there is some empirical support for the financial growth cycle paradigm (Gregory, Rutherford, Oswald, and Gardiner, 2005; La Rocca, La Rocca, and Cariola, 2011), a number of studies have found that bank debt plays a crucial role in the start-up phase of many entrepreneurial firms, including high-growth ventures and venture-capital-backed start-ups (Cassar, 2004; Vanacker and Manigart, 2010; Robb and Robinson, 2014; Deloof and Vanacker, 2018). Furthermore, while the financial growth cycle paradigm suggests that entrepreneurial firms substitute bank debt for trade debt as they become less informationally opaque, empirical evidence suggests that initial debt policies of start-ups are persistent (Hanssens et al., 2016), and the importance of trade credit relative to other debt sources increases over time (Cunat, 2007). Waltz and Hirsch (2019) provide new insights into the financing dynamics of start-ups by investigating the financing patterns of French manufacturing firms in the first seven years after founding. They confirm the importance of bank debt and trade credit in the start-up phase. They also show that the use of different financing sources by start-ups tends to converge over time. Indeed, a higher initial level of bank debt and trade credit negatively affects the growth of this

source of financing in later years. This convergence leads to a reduction in the variance of different debt types across firms over time. However, the variance of the overall debt-equity ratio increases. Waltz and Hirsch (2019) interpret their findings as partial confirmation of the financial growth cycle paradigm: the use of different debt instruments by entrepreneurial firms converges as these firms become less heterogeneous with respect to their opaqueness, but limited access to external equity keeps equity levels dependent on the evolution of profitability.

Yung (2019) examines a critical issue in the entrepreneurial life-cycle that can involve different types of investors (including but not limited to venture capital), as well as graduating from one investor to another. In particular, Yung (2019) examines staged finance, or periodic capital flows, over the course of a firm's lifecycle. Yung (2019) shows that entrepreneurs are not always going to be more likely to misreport or manipulate signals of performance in the context of staging, counter to the prevailing wisdom on the topic. In turn, Yung (2019) develops an important theory, as well as predictions, for staged finance and financial contracting in entrepreneurial finance.

One of the most important issues in a firm's lifecycle is the decision to go public (Kesten, 2019). Junior stock markets have emerged in many countries around the world with lower listing standards (Boeh and Dunbar, 2019). These lower standards enable companies to go public earlier, albeit at costs of significant underpricing and long-term underperformance, due to a lack of readiness to be a reporting issuer (Johan, 2010). Knyazeva (2019) examines new developments in the U.S. with Regulation A offerings and some of the benefits brought by this new regulatory development. Knyazeva shows that Regulation A offerings do not detract from traditional IPO offerings and can, instead, facilitate important capital raisings for firms earlier in their lifecycle than traditional IPO firms.

2.2. Business angel research

Research on business angel financing is generally scarce, due to the difficulties of accessing data. Business angels are private individuals, and they therefore do not have an obligation to publicly announce their investments. Most business angel research to date, therefore, typically compares angel-investments with non-angel investments. A recent stream of research has acknowledged the importance of the heterogeneity in the business angel population on their behaviour and outcomes, however (Bammens and Collewaert, 2014; Collewaert and Manigart, 2016). Both papers in this special issue use innovative methods to access data, allowing new research questions to be addressed relating to the heterogeneity of angel investors' personalities or behaviour and investment outcomes. Bonini et al. (2019) combine multiple waves of business angel surveys with longitudinal accounting data on their portfolio companies. They show how differences in angel behaviour impact the economic performance of their portfolio companies. Angel-backed companies perform better and have a higher probability of survival when angels invest in a syndicate (rather than stand-alone), but there is a negative effect on the extent of their presence in the firm and on the provision of equity in tranches (rather than as a lump-sum upon initial investment).

Block et al. (2019) analyse how the personality traits of the angels impact their syndication behaviour based upon combined data from Crunchbase and Twitter. Angels' personality traits are assessed through computerized language assessment of their Twitter accounts. They show that extraversion makes syndication more likely, whereas conscientiousness reduces the likelihood of syndication, irrespective of whether syndication occurs with other angel investors or other types of investors, such as venture capital investors. Nevertheless, the personality of a business angel has no direct impact on the performance and survival of their portfolio companies, although syndication is, again, positively related to survival, consistent with Bonini (2019). Both papers add to the angel literature by highlighting how individuals'

psychological traits impact their investment behaviour, which, in turn, impacts their portfolio company's performance and survival. Further contemporaneous work on this topic has shown that other traits of investors and entrepreneurs, such as their religion, can similarly impact investment decisions and outcomes (Chircop, Johan, and Tarsalewska, 2019) and that, relative to venture capitalists, angel investors are more sensitive to country-level cultural and legal conditions (Cumming and Zhang, 2018).

2.3. Venture capital research

Entrepreneurial firms often seek, but rarely obtain, venture capital finance. Research in venture capital has identified an important role for matching between entrepreneurs and their investee firms (Fu et al., 2019). These matched relationships can change over time, subject to market conditions and entrepreneurial performance. In turn, successful matching and graduating to more effective investors can significantly affect entrepreneurial firm outcomes. Fu et al. (2019) develop a unique new theory about important inputs in matching venture capitalists and their investees. They also test their theory with new data from China.

While there is broad literature on venture capital syndication, Plagman and Lutz (2019) contribute to this field by investigating the international aspect of syndication. This is important, as having international venture capital investors in the investment syndicate not only leads to higher performance of portfolio companies (Devigne et al., 2013; Chemmanur et al., 2016; Cumming et al., 2016) but also quicker liquidation of poorly performing portfolio companies (Devigne et al., 2016). Nevertheless, little is known about how venture capital investors select international syndicate partners. It is widely recognized that investors with a higher reputation have a higher probability of being selected in a venture capital syndicate (Gu and Lu, 2014; Meuleman et al., 2009). Plagman and Lutz (2019) show that, in an international setting, a venture capital investor's reputation in its domestic market has a different impact compared to its

international reputation. More specifically, having a strong international reputation is more important for being included in a venture capital syndicate for international investors than for domestic investors. Lead venture capital investors with high reputations especially put more emphasis on the international reputation of potential co-investors. As such, Plagman and Lutz (2019) provide a more fine-grained insight into the role of an investor's reputation in syndication decisions.

3. Directions for further research and conclusions

In this section we discuss directions for further research. We go beyond the topics covered by the papers in this special issue to cover issues relating to recent developments in the entrepreneurial finance funding landscape relating to funding gaps, the interplay between types of investors, accelerators, creating returns through exits, and boards.

3.1. Funding gaps

There has been much long-standing attention on the notion of funding and equity gaps in entrepreneurial finance. Studies have shown that entrepreneurial firms face funding constraints (Cosh et al., 2009; Lockett et al., 2002), but empirical evidence on the extent and nature of funding and equity gaps that can help governments formulate policy support remains remarkably sparse (Cressy, 2012). Funding gaps may also change over time as entrepreneurial finance sources develop. Recent analysis points toward a need to distinguish at least two funding gaps—one involving very early stage ventures requiring funding for the development of proof of concept and prototypes prior to revenue generation, and a second one involving somewhat older ventures that need significant levels of funds to realize growth potential beyond initial revenue generation (Clarysse et al., 2007). Lopez de Silanes et al. (2015) and Wilson et al. (2018) provide

funding gap estimates for SMEs and knowledge intensive entrepreneurial firms in the growth phase, respectively. However, as new, competing forms of entrepreneurial finance emerge, further research is needed to help understand the growing complexity of funding and equity gaps. For example, regarding estimating equity gaps, there is a need not only to compare firms that have received venture capital with firms with similar characteristics that have not done so but also to encompass firms that have or have not received business angel finance, equity crowdfunding, etc. As new forms of finance emerge, notably crowdfunding, to what extent are these filling a funding gap created by rejections, or perceived likelihood of rejection, by other funding sources such as lenders (Fraser, Bhaumik, and Wright, 2015)? To what extent do these sources overcome the screening challenges of traditional forms of finance, or are they simply making bad investment decisions? Further, understanding why some entrepreneurs refrain from raising more funding is also important, especially since the types of available funding have increased. So, why do some entrepreneurs still prefer not to raise additional funding? Is the market for entrepreneurial finance still incomplete? Are other types of funding needed?

More fine-grained analysis is also needed at the industry, technology, firm age, firm size and firm ownership levels, since funding gaps may vary across these categories. Estimating funding and equity gaps at the national level may mask significant regional and sub-regional differences, which may require more fine-grained policy instruments to address. Studies are needed that shed light on these differences. Finance providers may also cross national and regional borders. Venture capital providers have traditionally been seen to invest across borders (Devigne et al., 2018), but it is becoming clearer that many business angels do so, as well (Wright et al., 2015), while crowdfunding platforms provide increased scope for investors not to be tied to one geographical location. We lack insight into how these international flows of funding address funding gaps and on what investments the new types of investors prefer. Do they further alleviate regional funding gaps? In which investment stages do they mainly invest?

3.2. The interplay between different types of investors

Most entrepreneurial finance research to date studies one type of investor in isolation, with a few exceptions analysing two types; e.g., combinations of crowdfunding and business angels or business angel and venture capital investors. Nevertheless, complex combinations of different types of investors, either parallel or consecutively, are increasingly common, given the emergence of a wide variety of investors. Further, Cassar (2004), Cosh et al. (2009), Robb and Robinson (2014), and Walz and Hirsch (2019) have shown the importance of bank financing and other types of debt for start-ups. Different types of investors have different goals and objectives, resource endowments, and investment methods (Neckebrouck et al., 2019). While this may be enriching for portfolio companies, this also creates room for conflicts and agency costs among principals. More insight is needed into how and in which circumstances different types of investors, including debt providers, interact to create value and to minimize principal-principal problems.

An increasing and intriguing trend is the rise of co-investment rights for limited partners in venture capital and private equity funds (such as pension funds, sovereign wealth funds, wealthy families, or insurance companies). With these rights, they may intervene directly in portfolio companies alongside the funds in which they act as limited partner. Co-investment rights are not only driven by an increased sophistication of limited partners but also by the high fee structures typically negotiated by private equity and venture capital partnerships. This may create additional agency risks between limited partners with and without co-investment rights, may alter the investment strategy of the investment fund, or may impact the nature of the relationship with the portfolio company and the full investment cycle.

Cumming, Johan, and Zhang (2018) provide a review of the extent to which crowdfunding, angel investors, venture capitalists, debt providers, and other sources of

entrepreneurial finance are complements or substitutes. They note that there is scant work on many of these interactions. A major reason for this gap is due to the fact that most studies in entrepreneurial finance are based on data from the source of capital (e.g., venture capital studies are done with data vendors, who collect data from venture capitalists, who do not comprise data on other sources of finance, etc.). The intersections between different sources of finance offer many avenues for future research. These intersections are likewise important for forming appropriate policy responses to apparent capital gaps and government programs and regulations designed to fill these gaps.

3.3. Accelerators

In a financial life-cycle perspective, accelerator programs can provide mentoring and financial support to make the bridge from start-up to accessing further funding sources (Mejia and Gopal, 2015; Hallen, Cohen, and Bingham, 2018). Empirical evidence is emerging on the impact of accelerators at macro (regional) as well as entrepreneur/firm levels. US evidence suggests that regions with accelerators attract greater venture capital amounts and greater numbers of fund providers than those regions without an accelerator (Fehder and Hochberg, 2018; Goswami, Mitchell, and Bhagavatula, 2018). Accelerators may be complementary *to* but they may also be in competition *with* other funding sources, with some evidence suggesting that they provide more successful exits through acquisition than business angels (Winston-Smith and Hannigan, 2014). Further studies are, however, needed that compare the performance and survivability of firms selected into accelerators and those that apply but which are not selected.

However, accelerators are heterogeneous with respect to their goals and the funding and support they provide (Cohen and Hochberg, 2014; Pauwels et al., 2016) and include not only those backed by financial firms but also those established by corporations and governmental agencies. Just as the venture capital literature evolved from initially comparing VC and non-VC

backed firms to exploring the impact of different types and experience of VC firms on their portfolio companies (Manigart and Wright, 2013), so there is a need for accelerator research to explore the different dimensions of accelerator heterogeneity. Further analysis is also required of the variation in cohort selection processes among different types of accelerators and how these differ from the processes adopted by VCs and BAs.

There is evidence of considerable churn in the population of VC and PE firms. However, following the rapid diffusion of accelerators, we lack evidence on the survival and adaptation of the latter. This issue is growing in importance, given the stage in the life-cycle of the sector when many accelerators are coming to the end of their initial funding. Considering this, how do diverse goals, ownership types, programs, and funding regimes affect sustainability?

3.4. Creating returns through exits

There is a need for more research on how investors, such as venture capitalists, private equity firms, business angels, crowdfunders, and accelerators exit their investments. While there is initial evidence on bankruptcy rates, insights into how successful ventures are exited is scarce. Given the growing maturity of the alternative investment markets, creating liquidity for successful portfolio companies is key to developing a well-balanced entrepreneurial finance market, where profits generated by the early generations of successful ventures are used to re-invest in new ventures. Nevertheless, the majority of companies backed by alternative investors remain relatively small, making IPOs, secondary buyouts, or even trade sales problematic. This calls into question how small but successful ventures can be exited and which parties control the exit. Creating liquidity for these types of ventures presents a major, though essential, challenge, in order to ensure that investors get a return that compensates them for the risk they take by investing in entrepreneurial ventures.

More specifically, secondary buyouts have become an increasingly common investment avenue for entrepreneurial finance providers, due to the growth of the private equity industry in general but also driven by limited IPO exit options. Major issues arise concerning whether the financial returns can be generated the second time around by further operating efficiencies or whether the main focus needs to be on exploiting entrepreneurial growth opportunities. Evidence to date on the performance of secondary buyouts on balance suggests that their performance is below that for primary buyouts (Achleitner and Figge, 2014; Alperovych et al., 2013; Bonini, 2015; Jelic and Wright, 2011; Zhou, Jelic, and Wright, 2014; Wang, 2012). Studies have pointed to the importance of acquisitive growth strategies rather than organic growth in generating returns (Wang, 2012). The presence of experienced PE investors is also important (Degeorge, Martin, and Phalippou, 2016), especially if considered at the level of their involvement in the portfolio company board rather than the PE firm level (Jelic et al., 2018).

However, we lack evidence on the international provenance and expertise of PE firms and their executives, as well as international expertise of managers in portfolio firms. Preliminary evidence from primary buyouts suggests that PE-backed buyouts and those with foreign directors on the board increase both their export propensity and intensity and also do so to a greater extent than non-PE-backed firms (Wilson and Wright, 2017). Such evidence is missing in relation to secondary buyouts. This is an important omission, since, for secondary buyouts to achieve entrepreneurial growth, they may need to seek out foreign markets. Evidence is needed on the extent to which there is an increase in foreign PE investors following a secondary buyout, either as sole investor or syndicate lead, and its impact on export performance and overall financial performance.

As the market matures, significant numbers of secondary buyouts exit as third- or fourth-time-around PE deals. At present, we lack data on whether they continue to make significant returns or experience a declining trend over time. Being able to achieve further efficiency

improvements in these deals would seem questionable, while successful growth from exploiting entrepreneurial opportunities in previous buyouts might suggest that exit through IPO or strategic sale would be feasible. Evidence on the performance of such deals will add insights to the debate on the longevity of the buyout form. Recent evidence shows that the quality of public to private buyouts, with respect to innovative efficiency of targets, has worsened since 2006 with data up to 2017 (Cumming, Peter, and Tarsalewska, 2018) raising questions about deal quality at different points of time that would be worthy of further examination. Such work would need to explore the different vendor and industry sources of buyouts.

3.5. Boards and finance

As a final direction for future research in entrepreneurial finance, we consider the role of boards. One way in which entrepreneurial finance providers create value in their portfolio companies is through enhanced corporate governance, especially through their board activities. Entrepreneurial firms and their boards are generally quite distinctive from those in listed corporations (Garg and Furr, 2017). Agency challenges may either be absent or focus more on principal-principal problems between entrepreneurs and investors or between investors, rather than principal-agent problems. A number of studies, primarily in the entrepreneurship and management literatures, have explored the role, composition, and impact of boards in different types of entrepreneurial firms, such as board formation and firm survival in start-ups (e.g., Brunninge, Nordqvist, and Wiklund, 2007; Wilson, et al., 2014), succession, performance, and survival in family firms (e.g., Bammens, Voordeckers, and van Gils, 2011; Wilson, Wright, and Scholes, 2013), and attracting funding and developing strategy in high tech start-ups (e.g., Catherine, Corolleur, Carrère, and Mangematin, 2004; Knockaert, Bjornali, and Erikson, 2014).

Linkage to finance in the role of boards has been more limited, although the distinctiveness of boards in IPOs (Baker and Gompers, 2003; Filatotchev and Bishop, 2002;

Hochberg, 2012; Suchard, 2009) has been explored. Where boards do not provide for accountability of entrepreneurs to shareholders, external stakeholders—notably financiers—may be reluctant to provide resources for growth (Zahra, Filatotchev and Wright, 2009).

Studies of VC- and PE-backed firms have tended to focus on the impact of funding firm level expertise. Studies have examined portfolio firm board composition, but few studies have explored the impact of boards at this level (see Manigart and Wright, 2013 for a review). As noted above with respect to secondary buyouts, the distinction between funder and portfolio firm levels is important, since the composition of a portfolio firm's board may be specific to that particular firm. Evidence from IPOs indicates that more experienced and powerful VCs have a higher probability of both having a seat on the board (Chahine and Goergen, 2011) and of controlling the board, especially for riskier businesses (Kaplan and Stromberg, 2003). Private equity (PE) firms funding buyouts of existing businesses create active boards involving high levels of PE firm interaction with executives during the initial, typically 100-day value creation plan and where there is CEO turnover (Acharya, Hahn, and Kehoe, 2009; Cornelli and Karakas, 2008; Gompers, Kaplan, and Mukharlyamov, 2016). In PE-backed buyouts, board size and director sector experience are positively associated with survival and growth, while director age and the number of directorships held have a negative association (Wilson and Wright, 2014).

More recently, evidence suggests that having more board members and more boards with MBAs can also help start-ups send a positive signal to attract more funding from investors, including crowdfunding investors (Ahlers, Cumming, Günther, and Schweizer, 2015).

In general, we lack systematic evidence of the role and composition of boards within specific types of investors. There is little systematic analysis of boards in business angel-backed firms (Politis, 2008) and in ventures funded by newer forms of finance, such as crowdfunding and accelerators. Further, given the emergence of co-financing by different types of fund providers, analysis is needed on the construction, composition, and impact of boards in these

portfolio firms. Such analyses need to incorporate consideration of the evolution of the boards as well as their impact in terms of developing strategy, accessing resources, and impacting venture performance. Research also needs to go beyond demographic measures such as age and gender to include more fine-grained measures covering the human and social capital of board members associated with finance providers.

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Table 1. Overview of Studies on Entrepreneurial Finance in this Special Issue

This table summarizes papers in this special issue. The authors, data sources, countries, time periods, variables, and main findings are summarized. The main findings are largely paraphrased from the abstracts of the papers to succinctly represent the authors' principal contributions but are not meant to exhaustively represent all of the findings from the papers.

Panel A. Entrepreneurial Finance over the Lifecycle

Author(s)	Data Source(s)	Country Samples	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Walz and Hirsch (2019)	Altares database	France	2004 to 2013	Share capital to total assets, total debt to total assets, long-term debt to total assets, loans from credit institutions to total assets, trade credit to total assets, retained earnings to total assets	Lagged dependent variables, cumulative net income from prior years, other firm-specific controls, industry dummies, regional dummies, legal form dummies, foundation year dummies	Initial financing structure of newly founded firms relies to a large degree on both trade and bank debt. But the importance of bank financing diminishes over time. Initial financing decisions have a negative effect on the accumulation of this source of financing. Differences in debt composition (trade credit, bank loans, and short- and long-term debt) vanish over time, unlike debt-equity mixes.
Yung (2019)	Not applicable (theoretical model)	Not applicable	Not applicable	Not applicable	Not applicable	Conventional wisdom relates increased frequency of staged financing with window dressing (manipulating short-term appearance to attract more entrepreneurial finance). This paper presents theory that shows staging can be associated with either more or less manipulation depending on initial conditions, and that manipulation is path dependent. The model has implications for crowdsourced finance, switching of venture capitalists, and lifecycle issues in entrepreneurial finance.
Knyazeva (2019)	EDGAR Filings	United States	2006-2017	Choice of Offering, Proceeds in Offering	Regulation A regulatory shock, firm-specific controls (assets, income, cash, short term assets, offering type, intermediary)	Regulation A offerings enable firms to raise capital where they would otherwise not qualify for a traditional registered public offering. Regulation A offering companies are smaller, younger, and raise less capital. The number of Regulation A offerings significantly increased after the 2015 regulatory shock and did not take away from the number of traditional offerings.

Panel B. Angel Investors

Author(s)	Data Source(s)	Country Samples	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Block, Fisch, Obschonka, and Sandner (2019)	Crunchbase, Twitter	U.S. and 9 other countries around the world	9 years (2008-2016)	Syndication	Psychological profile (openness, extraversion, conscientiousness, agreeableness, neuroticism), venture characteristics (age, employees, location, stage,	Extraversion makes syndication more likely, while conscientiousness reduces the likelihood of syndication. Personality affects syndicate composition as well as venture success.

Bonini, Capizzi, and Zocchi (2019)	Italian Business Angels Network Association	Italy	2008-2012	Performance Index	<p>year founded, industry), country level (Hofstede culture), investor characteristics (prior deals, location, age, gender, race), Twitter controls (number of tweets, followers, followees), and other deal control variables</p> <p>Co-investors, equity infusion pattern, active involvement, soft monitoring, angel specific controls (age, experience, share), firm specific controls (age, equity, foreign, revenues), time and industry effects</p>	The survival and performance of angel-backed companies positively depends on the presence of angel syndicates and active involvement of angel investors. Also, the pattern of angel equity infusion is correlated with performance measures.
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Panel C. Venture Capital Investors

Author(s)	Data Source(s)	Country Samples	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Fu, Yang, and An (2019)	Zero2IPO Database (www.pedata.cn)	China	2002-2015	Dummy variable 'match' between entrepreneur and venture capitalist	Degree of quality similarity between venture capitalist and entrepreneur, various other entrepreneur and venture capitalist control variables	The authors develop a theoretical model on matching. Tests of the model using data from China are consistent with the theory. Higher quality entrepreneurs match with higher quality venture capitalists, and lower quality entrepreneurs match with lower quality venture capitalists.
Plagmann and Lutz (2019)	Thomson Financial and various other sources	Many countries around the world	2005-2014	Cooperation (binary variable equal to one for a triad that contains the partner selected to a venture capital syndicate and zero otherwise)	Reputation (investment activity, survival and fund management, exit performance, international and domestic reputation), with moderator variable (location of potential partner), and various control variables (firm, fund, year, industry, country)	Reputation is more relevant in selecting cross-border co-investors than local co-investors. High reputation particularly matters for lead investors in international syndicate partner selection. High reputation cross-border partners are selected over domestic ones.