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Venture Capital 2.0: From Venturing to Partnering

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May 2016

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Abstract

Against the backdrop of an ever-changing financial landscape sometimes characterized by an abundance of funding and start-up opportunities, but usually characterized by down rounds and decreasing valuations (leading to funding, investment and liquidity gaps), “venture capital” has taken on a new uncertainty and complexity. In this review, we suggest that venture capital should not exclusively - or even primarily - be defined in terms of providing risk capital (and advise) to founder-entrepreneurs. Such an approach to venture capital, which is often described in terms of a “venture capital cycle”, seems to represent the conventional wisdom in most recent discussion. According to this perspective, the solution to the funding, investment and liquidity gaps is for new sources of capital - be they government, corporate or crowd - to step in and provide founder-entrepreneurs with money, capacities and connections that allows them to start, scale and grow their businesses.

These ingredients are necessary but not sufficient to maximize the economic potential of start-ups. Clearly we need something more. Recently, alternative forms of finance and a new breed of venture capital providers have emerged which focus more on collaborations and the process of building long-term relationships constructed around sharing, mutual trust and respect (partnering) than making money (venturing). Online platforms, such as AngelList, play an important role in encouraging these collaborative models. Some investors have labeled this process as “venture capital 2.0”. We explore the view that reforms that relax rules and regulations governing initial public offerings should attract new “venture capital 2.0” investors and high volumes of business. However, the growth rates for new segment listings in Europe and the United States have stalled recently, casting doubts on the usefulness of the of the IPO route for both young firms and investors. We suggest that a renewed focus on private IPOs, followed by a trade-sale or public IPO, is necessary to accommodate the preferences of entrepreneurs and investors.

Keywords: crowdfunding, corporate governance, corporate venture capital, equity finance, exits, IPOs, liquidity, platforms, private-IPOs, venture capital

JEL Classifications: G2, G24, G31, K22, L26, O3

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1 Introduction

The recent financial crisis and subsequent economic downturn have taken their toll on banks. This is particularly worrisome for small- and medium-sized enterprises (SMEs), since in most countries, loans are the main source of external finance for these smaller companies. In the United States, for instance, recent studies show that banks' lending capacity shrank between 2008–2013, due to higher risk aversion in a time when economic growth had slowed [Federal Reserve Bank, 2013]. As a consequence of the rationing of bank loans and credit, recent empirical work has shown that there is a financing gap for SMEs. A 'financing gap' is an information asymmetry problem between lenders and borrowers [Hall and Lerner, 2012]. The European Central Bank [2014] observes that smaller firms face greater perceived and actual constraints than larger firms and that this would play a critical role in the narrowing of available finance options for SMEs. Thus scholars and policymakers are paying greater attention to understanding the financing gaps for segments of the SME sector, especially high technology and fast growing enterprises.

Relative to larger firms, SMEs are well known for being extremely sensitive to external market shocks: severe economic conditions or changes in business regulation. Some of the main causes of higher sensitivity are risks associated with small-scale business, lack of experience, low productivity, local market focus, and a high rate of bankruptcies. The direct consequence of higher sensitivity to external market shocks is limited access to short-term and long-term financing. However, the evidence indicates that, in the presence of increasing unemployment in the period between 2008 and 2013, the share of employment in the SME sector increased relative to that in other sectors in the EU [Lopez de Silanes et al., 2015]. Researchers have examined which types of firms are the most important players in net job creation. In the US, the importance of SMEs for the economy is even greater with young firms or start-ups accounting for about 70 per cent of gross US job growth annually [Haltiwanger, 2014]. Furthermore, recent evidence supports the importance of firm dynamics and the reallocation of resources to the fastest growing firms to achieve better economic performance [Acs et al., 2008; Bravo-Biosca, 2010].

Past studies have tried to show that banks' local networks ties and relationships have reduced the uncertainties and mitigated some of the risks of opportunism associated with bank lending to SMEs. This literature has emphasized how enabling environmental initiatives may have actually reduced information asymmetries and transaction costs, which could contribute to an expansion of SME financing [Beck et al., 2014]. Despite its insights, it is difficult to measure the impact of these enabling environmental initiatives, which may depend on parties' confidence in the enforcement of contracts or collateral enforcement actions.

The most obvious and widely recognized solution to alleviate credit rationing is the use of collateral, which gives the SME—with a serious credit problem—an incentive to repay the loan. Yet if collateral is not available, a credit guarantee system for SMEs that offsets the reduced reliability of non-audited

financial statements may improve access to credit as well as improve loan terms [Beck, Klapper and Mendoza, 2008].

Increasingly, policymakers are attempting to increase the flow of funds for SMEs through guarantee schemes or asset-backed securitization. Most governments have invested in a loan guarantee program because they: (1) address the market imperfections that cause credit restrictions to SMEs; and (2) spur innovation in the SME sector. The presence of the guarantee can result in a lower rate paid for the loan. However, the empirical evidence is mixed. We find that a significant portion of the effectiveness of credit guarantee systems results in an increase in firms' outputs and employment [Hancock, Peek, and Wilcox 2007]. Prior research, such as Zecchini and Venture [2009], shows that they lead to greater amounts of bank loans to firms and to lowering the costs paid by the firm. Moreover, Hancock, Peak and Wilcox [2007] find empirical evidence that credit guarantees provided by US Small Business Administration (SBA) have a substantial effect on firm's output and employment, finding also that the guarantees reduced the cyclicality of local bank's SME lending. However, Lelarge, Sraer and Thesmar [2008] find that guarantee programs might actually induce banks and entrepreneurs to undertake riskier behaviour. That said, we also find that founders of high growth companies complain about the 'complex terms', 'misaligned incentives and an 'overemphasis' on protecting the downside, instead of focusing on the upside' when attracting funds under a guarantee scheme.

A second non-bank focused lending channel is securitization, which involves selling securities linked to pools of loans from different borrowers with correlated underlying assets [Gorton and Metrick, 2012]. The collapse of the European securitization market during the financial crisis has played a key role in the decline in lending volume to SMEs over the last seven years. While efforts to jump-start Europe's securitization markets are continuing along a number of dimensions, ensuring a deep and efficient market is needed before it will be possible to attract banks and new non-bank lenders to securitize. This suggests that some of the barriers that hold back securitization of SME loans at a national level will persists.

In response to the decline of bank funding, alternative sources of finance are needed to provide funding to start-ups and SMEs. To gain a better understanding of the alternatives to bank financing for SMEs and entrepreneurs, we examine a range of 'new' external financing providers, including crowdfunding platforms, the new breed of venture capital firms, and corporate venture capitalists. In this review, we assess the likely impact of each of the different financing options available to SMEs and high growth companies. We ask whether they can, with greater network resources, improve the selection of investments and access to follow-on funding in later stages of a start-up's development. It is interesting to see that these new breed of capital providers have introduced 'collaborative models' which appear to play an invaluable role in the selection of the right mix of portfolio companies, and can also offer the access to new technologies as well as possible exit opportunities. At the same time, we explore the role of government equity co-investment programs that provide funding and advice through public-private partnerships. Again, our research suggests that as long as these government

programs add value to the collaborative venture capital models, they can play an important role in funding innovative projects.

The review proceeds as follows. Section 2 discusses how governments can encourage entrepreneurship and the launch of start-up companies and influence the development of SMEs. Section 3 provides an overview of the traditional venture capital cycle and focuses on the funding, investment and liquidity gaps in this cycle. An understanding of the gaps is necessary for governments and policymakers to develop well-considered and targeted measures. This section extends this research by investigating the recent trends and developments in the venture capital industry, which arguably create a 'new' venture capital cycle. As we will show in Section 4, some of the developments (recently introduced in practice) have proven to be an effective step in bridging the gaps in this cycle. The goal of our analysis is to show that the new breed of 'venture capital providers' no longer think of their function as simply providing a source of capital in the expectation of financial return. This section illustrates that the task is to build an open and collaborative relationship with 'their' portfolio firms. Some investors have labelled this trend as 'venture capital 2.0'. Section 5 concludes.

2. Entrepreneurship and Innovation: The Role of Governments

What should governments and policymakers do to create an ecosystem in which small and medium-sized enterprises (SMEs) can thrive? There is long-standing evidence on how governments can encourage entrepreneurship and the launch of start-up companies. Governments may influence the development of these companies by providing financial support and promoting their external funding. More recently, however, researchers have argued that governments can only play a very limited role in the emergence and development of high growth and innovative companies [Lerner, 2009]. This research shows that government initiatives are usually characterized by poor design and a lack of understanding of 'entrepreneurial ecosystems' [Hwang and Horowitt, 2012], resulting in bureaucratic, cumbersome and inefficient practices.

There is also a related, but largely unexplored, idea in the literature that addresses why disruptive innovations and technologies require government support [Mazzucato, 2013]. As we have noted, it could be argued that with the financial crisis and the subsequent economic downturn having taken their toll, governments can play a crucial role in funding and facilitating innovation and entrepreneurship. We observe that governments, aware of new opportunities that the financial crisis offers, have sought to reduce entry barriers for start-up firms. Two distinct approaches aimed at stimulating entrepreneurship are relevant to this discussion. First, governments have modernized and simplified corporate law statutes in order to offer business forms in which small and medium-sized enterprises can be started simply and then nurtured into bigger ones [Reyes and Vermeulen, 2013]. Second, some more governments have launched programs that provide smaller businesses with certain registration exemptions and tax benefits. Consider the Auto-Entrepreneur program in France, which reduces red tape for smaller firms in the areas of business registration and social security and tax payments. Evidently (and despite being prone to misuse), the French initiative has a positive impact on the total number of French start-up companies [Perman, 2009]. In 2013, approximately half of all the new businesses in France were set up under the Auto-Entrepreneur regime. At the end of 2012 the count was about 870,000 businesses [Carnegy, 2013]. While most of these companies may disappear or remain micro-businesses, some of them may actually become market leaders.

Besides deregulatory initiatives and fiscal incentives, governments have provided direct funding to entrepreneurial and innovative companies. In this context, some scholars have described government funding as the main driver behind both 'sustaining and disruptive innovations' [Mazzucato, 2013], particularly in the areas of biotechnology and clean technology. The reason for this is simple: governments have generally been more inclined than private actors to make highly risky and long-term investments in early stage proof of concept and early stage projects. At the same time, governments have also introduced incubator and accelerator programs [*Economist*, 2012], such as the incubator program Start-Up Chile. This government initiative is successful in luring foreign entrepreneurs to Chile by offering them a relatively small amount of cash—$40,000, a temporary working visa and local

support [Van Edwards, 2013]. During the application round in 2013, the program selected 100 start-up companies (from 28 different countries) out of more than 1,570 applications.[1]

While most empirical work has focused on the creation of new high-growth start-ups and the funding of early-stage projects, the real challenge is to tap the growth potential of the most promising start-ups [Pierrakis and Westlake, 2009]. Indeed, starting up a new company has never been easier: the costs and procedures have never been lower and there are few barriers to entry, at least when considered historically. Against this background, it seems clear that the main challenge for any entrepreneur looking to establish a high-growth firm today is not 'starting up'—*i.e.*, setting up a new business—but rather 'scaling up', *i.e.*, transforming that new business into a sustainable enterprise that has—in a best case—the potential to go on to be globally successful.

In order to reduce the regulatory burdens that 'scaling' private companies encounter when raising equity capital, policymakers have also relaxed rules and regulations governing initial public offerings (IPOs), and the organization of listed high growth companies. One example is the Jumpstart Our Business Start-ups Act (JOBS Act), signed into law in the United States on 5 April 2012. The Act introduced, among other things, the 'Emerging Growth Company' (EGC) status.[2] Companies that are able to avail themselves of the EGC status are offered a transition period—or 'on-ramp' period—during which they are exempted from a number of regulatory requirements associated with going public. We see similar initiatives in other parts of the world. In Europe, for instance, NYSE Euronext has introduced ENTERNEXT, the new pan-European Entrepreneurial Exchange with lighter rules and regulations tailored to the needs of SMEs, particularly high growth companies. According to UK policymakers, relaxation of listing rules can more effectively induce emerging growth companies to overcome their reluctance to enter the bureaucratic and overregulated world of listed companies.

Yet, because Europe and the United States have experienced a decline in listings over the last two decades [Doidge et al., 2015], one wonders whether the introduction of new stock markets or segments may well stimulate new listings that could, if the actual rate was high, help bridge the funding gap for high growth and innovative firms. To be sure, reforms that relax rules and regulations governing initial public offerings (IPOs), and the organization of listed high growth companies can serve to attract investors and enhance liquidity. In this respect, the relaxation of listing rules could very well be essential to induce emerging growth companies to overcome their reluctance to enter the bureaucratic and overregulated world of listed companies. However, the growth rates for new segment listings have stalled recently, casting doubts on the usefulness of the IPO route for both young firms and investors. This suggests that an issue to be addressed in future research is whether

[1] In comparison, the program provided "start-up" capital to 87 companies from more than 30 countries to Chile in 2011 (after having received 330 applications) (*see* http://www.start-upchile.org).

[2] Jumpstart Our Business Start-ups Act, H.R. 3606, Public Law No: 112-106 (04/05/2012), available at https://www.congress.gov/bill/112th-congress/house-bill/3606.

'private IPOs' (which are currently being defined as private investments of $100 million or more) are a more preferred funding strategy for the more mature start-ups.

The conclusion is that private investments, in the form of venture capital, are usually needed to bring innovative ideas to the market and to support the further growth and development of high-growth companies [Gompers and Lerner, 2001]. In other words, venture capital is needed to get the start-up companies through the 'valley of death' (defined as the period between the initial capital contribution and the time the company starts generating a steady stream of revenue). Unfortunately, however, the economic downturn had a severe impact on the venture capital industry. Yet, despite its focus on the creation of new business start-ups, venture capital is another important policy focus that has recently gained momentum, as it has become a less accessible source of capital (creating funding and investment gaps in the ecosystem). For example, governments, in their efforts to establish a sustainable venture capital ecosystem—and largely because institutional investors, such as banks, insurance companies and pension funds, remain sceptical about the industry—have become the main post-financial crisis investors in Europe. Data from the European Venture Capital Association show that 39.1 per cent of the €4.1 billion that was raised by European venture capitalists in 2011 came from government agencies. In 2007, this figure was 9.9 per cent (of €8.2 billion). Investments by the European Investment Bank, the European Investment Fund and other European Commission resources account for approximately 23 per cent of the total capital raised in 2011. Looking at more recent data, this trend has not changed. The European Investment Fund remained the most active investor (limited partner) in European venture capital funds with a vintage year between 2009 and 2015. The EIF was a limited partner in more than 25% of the venture capital funds with a size of minimum $50 million.

What is often not recognized, however, is that governments cannot substitute for the lack of institutional investors' commitments. Several reasons have been proposed to explain why governments are prevented from funding a greater share of the private sector's investments. First, government-backed venture capital funds are still relatively small in number and often have a regional focus. This regional focus does not seem to change if a fund's capital is committed by European government agencies. In this respect, it is interesting to see that in 2011 more than 50 per cent of the 42 funds that attracted investments from EU resources, such as the European Investment Fund, had a domestic focus. Second, government funds tend to underperform if non-financial objectives, such as contributing to structural/regional/sectorial development policies, prevail [Kelly, 2011].

We can extend the previous hypothesis by asking: What can be done to create a robust venture capital ecosystem in which venture capital is more accessible for the scaling of growth companies? Is there a role for governments in the venture capital finance of these companies? As noted above, empirical research suggests that a mix of government and private investors is crucial to the realization of a sustainable venture capital ecosystem in which funds are available and accessible in terms of speed, clarity, transparency and connectivity to other stakeholders in the industry [Brander et al., 2010]. These findings suggest a related question: What can governments and policymakers do to unleash the new breed of private sector investors?

In this context, it should be noted that the last two decades have seen an array of policy and regulatory measures attempting to replicate the success of the world's most successful venture capital ecosystem, Silicon Valley. We are all aware of the success stories of entrepreneurs that started their businesses—and developed their innovative ideas—in garages and basements and built them into global market leaders. The Silicon Valley model, however, is not easily replicated [Hwang and Horowitt, 2012]. Indeed, an account on the measures introduced by governments around the world does not examine how the specific characteristics of Silicon Valley—the interactions among both public and private capital providers—can help turn innovative ideas into vibrant companies [Fenwick and Vermeulen, 2015]. For instance, policy initiatives that only focus on early stage venture capitalists could crowd out the supply of risk capital in the later stages of a start-up company's development. Consider the case studies and empirical research that show that tax incentives encouraging individual investors to pour money into special venture capital vehicles reduce the supply of other, relatively more informed venture capital investments [Cumming and MacIntosh, 2006]. This phenomenon is particularly strong if not all players in the ecosystem are likely to benefit from the regulation (or are exempted from strict regulations).

Recent evidence suggests that the funding or investment gaps in the venture capital cycle are likely to be partially filled by alternative financing channels (or non-market, non-bank sources, internal finance and alternative external finance, [Allen et al., 2012] and new types of investors, such as micro-venture capital funds and 'crowdfunding' platforms. To investigate these claims, we illustrate the use of trading platforms and analyse the likelihood that they can bridge the liquidity gap in the venture capital cycle and reduce the fragmentation of the venture capital industry. As it happens, profound changes in the venture capital ecosystem, particularly the increase in the time that elapses between the inception of the start-up company, its first equity investment and the eventual exit, have arguably led to a liquidity gap in the cycle. With regard to the gaps in the venture capital cycle, we also show the extent to which corporate venture capital increasingly has the potential to contribute significantly to the growth of high growth SMEs and also create more liquidity in the cycle. This implies that the new collaborative venture capital models are likely to provide compared to institutionally backed equity funds an effective basis for financing innovative firms. One of the features of these new models is that corporations have increasingly become anchor investors in early-stage venture capital funds that invest in both related and apparently unrelated industries.

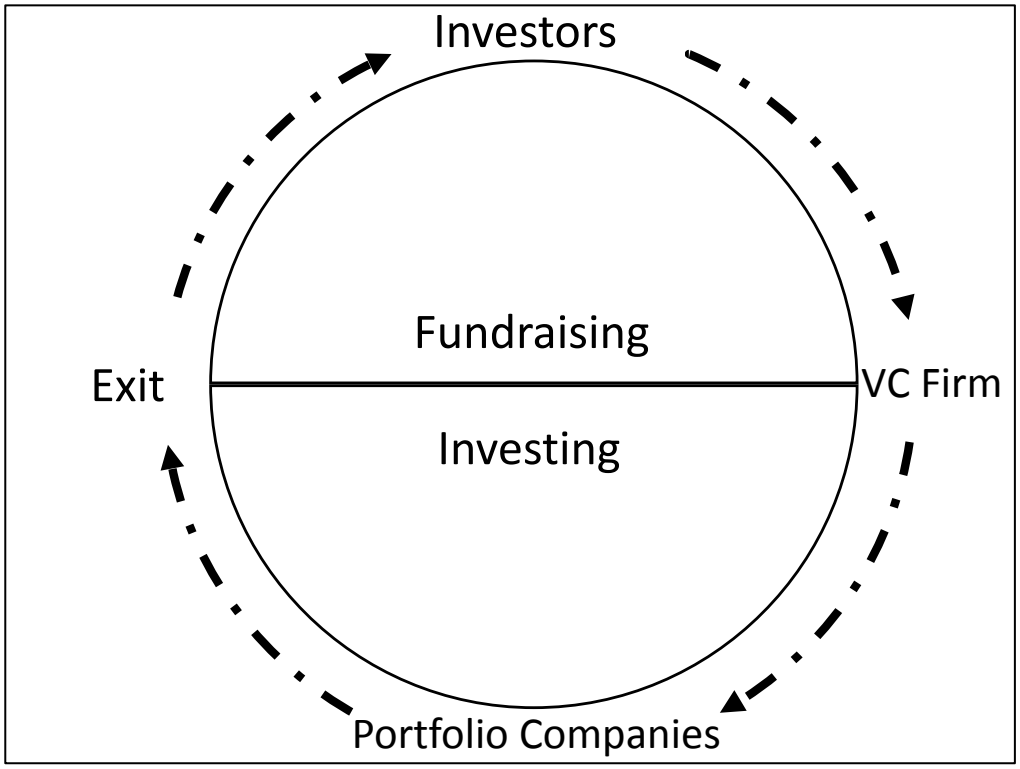
Our final claim advanced is that government involvement in the venture capital cycle, through public-private co-invested funds in certain sectors, can provide important support for early stage to the growth stage start-up companies. We show that the experience with successful government-sponsored funds, such as the German High Tech Gründerfonds, confirms the network creating capabilities of these initiatives results in the anticipated productivity effects for large corporations, venture capitalists as well as the entrepreneurs.

3. The Venture Capital Cycle and its Challenges

A. The Traditional Venture Capital Cycle

What makes an ecosystem for venture capital spur innovation and rapid growth? Economists have asked this question for more than five decades. Policymakers have emphasized that policy and regulatory interventions should be aimed at creating a virtuous 'venture capital cycle' [Gompers and Lerner, 2000] (*see* Figure 1]). For this reason, they focus on (1) boosting venture capital fundraising (particularly from institutional investors); (2) making government venture capital available to invest in promising, mostly early-stage companies; and (3) encouraging access to capital markets/stock exchanges in order to support the continued growth of these companies, while at the same time improving liquidity and exit opportunities that enable venture capital funds to return capital to their investors.

Figure 1: The Traditional Venture Capital Cycle



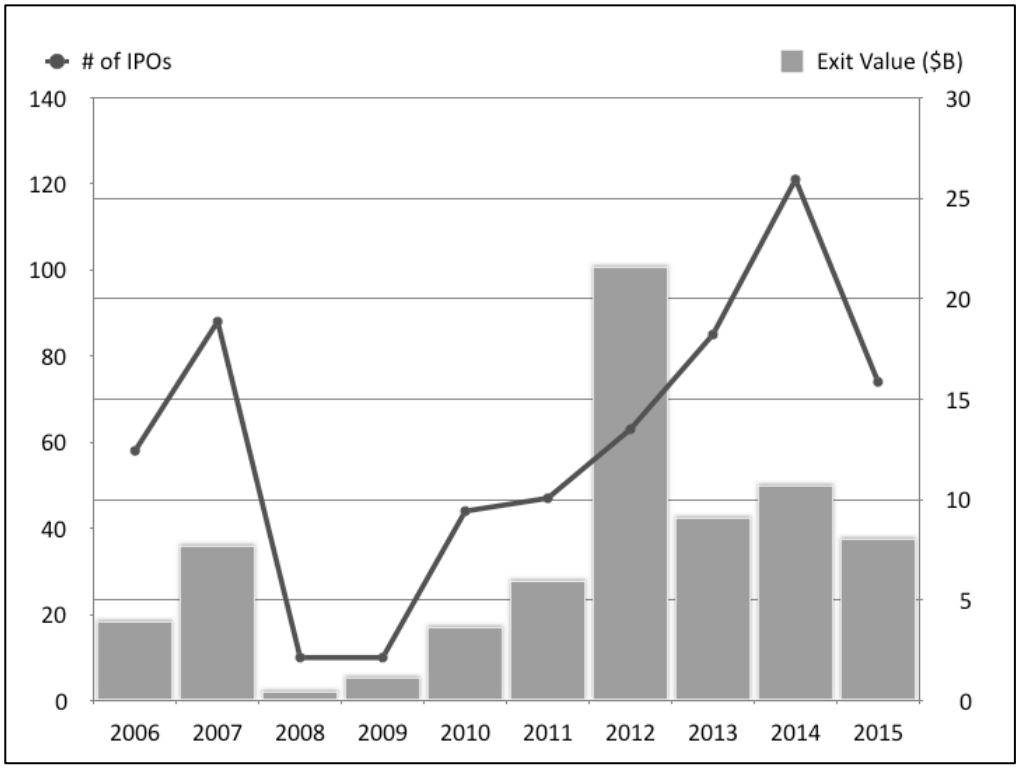
Starting with the European Union, a number of lawmakers have proposed reforms that promote the development of a venture capital market. Consider the Regulation on European Venture Capital Funds which makes it possible for venture capital fund managers to obtain a European passport if their assets under management do not exceed €500 million. More specifically, this passport would be available to

venture capital funds that (1) invest at least 70 per cent of their committed capital as equity or quasi-equity in non-listed SMEs; and (2) are unleveraged in the sense that they do not invest more capital than that committed by their investors. In order to be able to use the 'European Venture Capital Fund' label and obtain the EU passport for marketing venture capital fund investments across the European Union, managers must inform the competent authorities of their home member state. After the registration has been granted, the manager may start marketing its funds' interests to professional investors in other member states. The passport system would in turn help defragment the venture capital market in Europe (particularly in the area of fundraising), thereby resulting in more, bigger and cross-border oriented venture capital funds. This implies that if 'European Venture Capital Funds' were big enough to meet a start-up's capital needs in all (both early and later) stages of its development, more promising start-up companies would be able to receive financing. Moreover, a passport regime would arguably lead to an increase in the number of venture capital funds, making it easier for these funds to engage in risk-sharing through the well-developed practice of syndicating with other risk capital investors.

To sustain the venture capital cycle, the European Commission, in its draft revision to the Markets in Financial Instruments Directive (MiFID II), also allows stock exchanges the possibility to apply for a specialized SME Growth Market label. With this revision, the Commission hopes to strengthen the IPO market in Europe and to encourage later-stage investments in high growth companies by investors who have a low risk-appetite and seek transactions on a listed and regulated market. The recent decline in IPO activity has again pointed to the key role of robust securities markets and deregulatory measures in the development of a venture capital market Figures 2 and 3 depict why the sluggish IPO market is particularly worrisome in Europe. When we compare the ranking of the world's largest companies in the Financial Times Global 2015 500 (excluding companies that operate in the oil and gas and financial industries), we observe that the relatively 'young' companies (that were established after 1950, such as Google, Apple, Amazon and Facebook) were founded and are listed in the United States (and recently also in China).

Overall, the rationale behind the regulatory initiatives is simple: stimulating a rapid and smooth process of fundraising, investing and exiting is crucial to developing a sustainable and robust venture capital industry. So, what can we expect from the 'post-financial crisis' legal and regulatory interventions? Unsurprisingly, we do not foresee a quick turnaround in the venture capital industry or a return to pre-crisis funding levels based solely on the merit of the regulatory interventions. The measures run into three problems. First, they overemphasize the importance of the traditional 'venture capital cycle' [Martin, 2013]. This cycle serves as a good description of the venture capital ecosystem as it existed in Silicon Valley in the late 1980s and 1990s. For example, during this period there was an almost perfect balance between the supply and demand of venture capital. Venture capital fund investments were typically made across a wide range of investment stages, from seed/start-up to early-stage, expansion and finally to later-stage investments.

Figure 2: US VC-Backed IPOs by Year



Source: Data from PitchBook

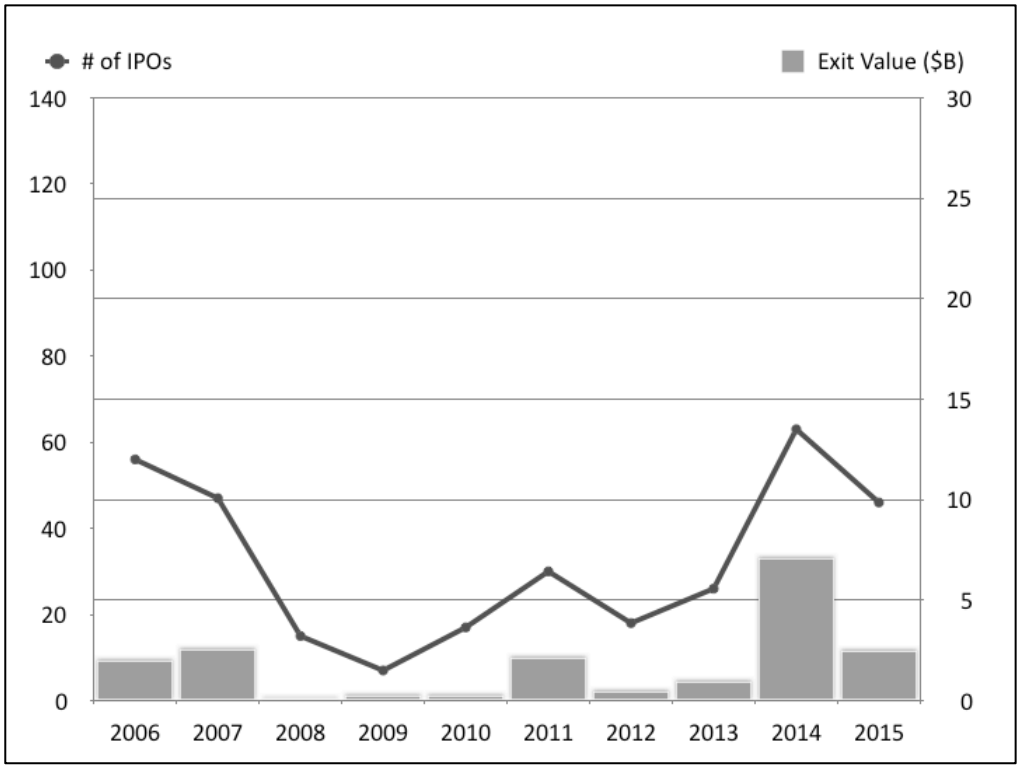
A second, and related, problem is that policymakers and governments put too much emphasis on the ingredients (institutional investors, venture capitalists, entrepreneurs and exit venues) that make the 'venture capital cycle' work effectively. As a result, they largely ignore the collaborative culture, the people and interactive networks that tend to make the cycle self-propelling [Hwang, 2012, 2013].

The third and, perhaps, most important, problem is that policymakers often assume that the venture capital industry can stand the test of time and location [McCahery and Vermeulen, 2014]. Policy measures for venture capital should focus on incentives that are appropriate to the venture capital industry that is currently evolving outside of Silicon Valley. In other words, government measures that are appropriate in one location may not necessarily work in another. An understanding of the specific characteristics and recent trends in the industry is extremely important and can help avoid miscalculations and unrealistic optimism [Vermeulen and Nunes, 2012].

To illustrate, consider some recent developments such as institutional investors taking a more active approach towards fund managers; mutual funds and hedge funds becoming more active in making investments in high tech start-ups; the revival of corporate venture capital; the move of traditional venture capitalists to later stage start-up companies and the emergence and development of micro-venture capital funds/super-angels, the increasing role of family offices and the introduction of

crowdfunding platforms. These developments appear to reduce the importance and the 'recovery' impact of the proposed regulatory initiatives on the workings of the 'venture capital cycle'. Accordingly, the popular judgment that the 'venture capital cycle' is broken has not been satisfactorily explained. The next Section, however, shows that the cycle is not broken, but suggests it is evolving and public policy should evolve along with it. Most important, a clear understanding of the evolution of the industry holds important lessons not only for policymakers and regulators, but also for investors, venture capitalists, entrepreneurs and their advisors.

Figure 3: EU VC-Backed IPOs by Year



Source: Data from PitchBook

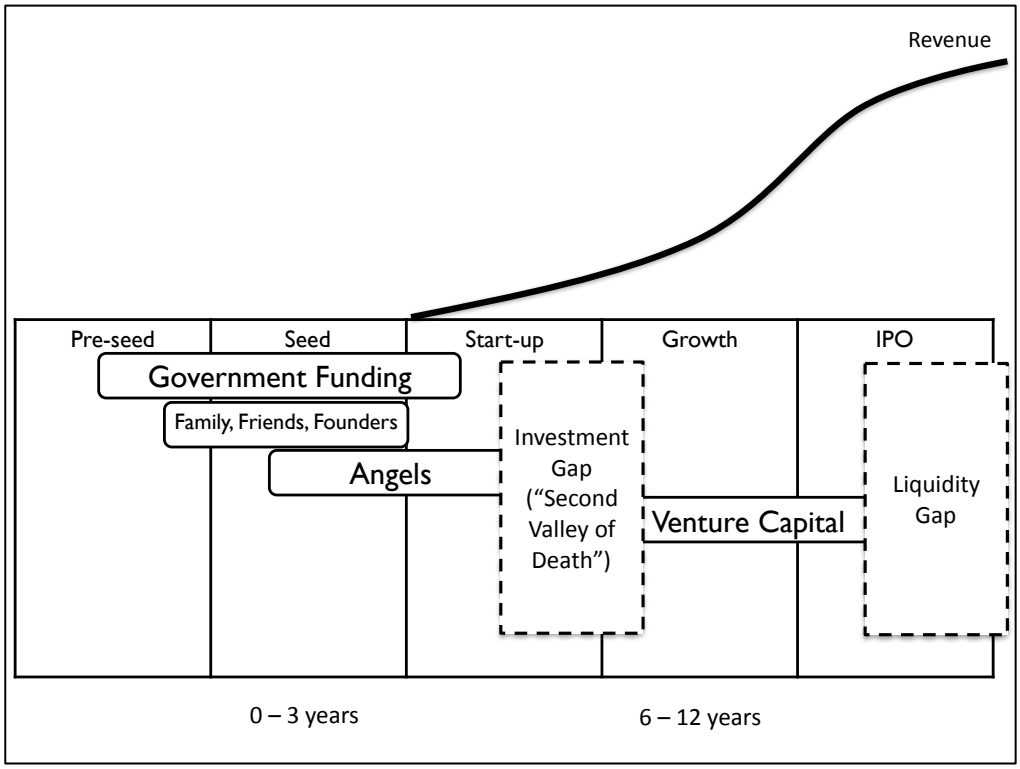
B. The Gaps in the Venture Capital Cycle

1. The funding gap

So far, we have argued that, an analysis of venture capital over the last decade highlights how the industry, given its risk profile, has generally failed to live up to the expectations. For instance, with a few notable exceptions, most traditionally structured venture capital firms have delivered uninspiring returns [Mulcahy, 2013]. This has not only led to a significant decrease in the number of venture capital funds, but also has steered many funds toward the less risky financing of later-stage and growth stage companies. Declining expectations stimulated remaining funds to focus on companies founded by

"serial entrepreneurs" with considerable track records. It is encouraging to see how this trend has not only resulted in a significant increase in the returns to investors in venture capital funds since 2012, but also created a 'funding gap' (or investment gap) in the development of early to mid-stage companies (*see* Figure 4).

Figure 4: The Gaps in the Venture Capital Cycle



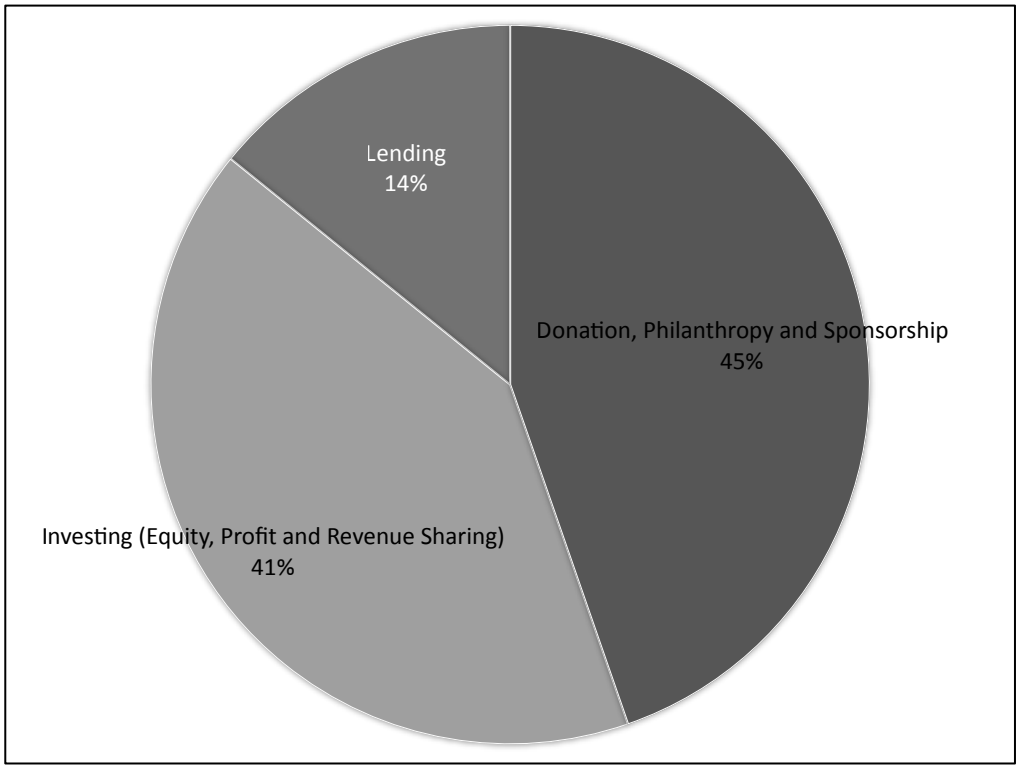
However, while we see more conservative investments in the form of later-stage venture capital rounds, we hypothesize that new categories of investors, such as crowdfunding platforms and multinational corporations have the potential to fill the 'funding'/investment gap in the early stages ("valley of death"), but, more significantly, in the mid-stages ("second valley of death") of the corporate life cycle [EVCA, 2013]. Traditional finance theory suggests that the growth of alternative channels can be seen as a signal of excess demand for financing. Evidence indicates that while SME loans have continued to decline, alternative financing grew from €1,211m in 2013 to €2,957m in 2014 [E&Y, 2015]. Moreover, the size of peer-to-peer lending grew 272% between 2012–2014, and reward-based crowdfunding and equity-based crowdfunding also grew 127% and 113% respectively in Europe (except for the UK). As for the number of platforms, we have identified 270 of them in Europe in 2015 (using publicly available sources, such as crowdsourcing.org, helpthecrowd.com, mipise.com and crowdfundinsider.com) (*see* Figure 5).

2. Crowdfunding

Let us explain crowdfunding in more detail. Crowdfunding is a method for raising finance in which start-ups can sell directly or indirectly shares or equity in a company to a group of investors through the Internet. Accessibility and speed are the key drivers behind the emergence and development of crowdfunding platforms. Another factor likely to influence the rise of crowdfunding platforms is that they can generate information about risks that can be interpreted as effective signals of project quality and thus effect the probability of funding success [Ahlers et al., 2015].

Indeed, crowdfunding has evolved from a way to finance creative projects, such as books, films and games, into a new type of entrepreneurial finance which has the potential to dramatically change the venture capital ecosystem. Crowdfunding makes it possible for early-stage start-up companies to raise 'venture capital' from a large group of individuals, sidestepping the traditional fundraising process that includes lengthy due diligence periods and tough negotiations over the pre-money valuation and contractual terms. The 'crowd' investors, who invest relatively small amounts through internet-based platforms (crowdfunding websites) and/or through social networks—such as Facebook, Twitter and LinkedIn, need less contractual protection (the small investment amounts do not justify close involvement in the growth process of the start-up companies).

Figure 5: Crowdfunding Platforms in Europe in 2015



We can roughly distinguish among four categories of crowdfunding platforms: (1) donation-based crowdfunding; (2) reward-based crowdfunding; (3) lending-based crowdfunding; and (4) equity-based crowdfunding. If investors follow the donation-based crowdfunding model, they generally contribute to a charitable, creative or social project without the expectation of being compensated. The donation model stands in contrast to the reward-based model where the 'crowd' that decides to donate receives a reward, such as a finished product, perks or recognition in the credits of a movie, in return. The popularity of the latter approach is confirmed by the results that it is the second largest sector within European online alternative market [E&Y, 2015]. Given the apparent benefits, start-up companies and entrepreneurs typically use lending-based crowdfunding and equity-based crowdfunding to attract investments from the general public. Lending-based and equity-based crowdfunding are jointly called 'investment crowdfunding'. If the companies grow and prosper, the investors usually receive a financial return. For example, in the lending-based model, they will receive their investment back plus interest (the rate of which is dependent on the risk level). Investors that contribute cash through equity-based crowdfunding platforms indirectly or directly become beneficial owners or shareholders of the start-up company. Equity-based crowdfunding increasingly attracts attention from start-up companies, investors and the media. This is not surprising since recent research on equity crowdfunding platforms suggests that they, in the presence of information asymmetries, are likely to mitigate distance related costs, such as monitoring investments, in early stage financing [Agrawal, Catalini and Goldfarb, 2015]. Evidence shows that it is only to be expected that the number of equity-based crowdfunding platforms will increase further in the near future as we increasingly observe several regulatory initiatives that are intended to give a boost to equity crowdfunding (by increasingly allowing non-professional investors to participate in deals).

Despite its popularity and growth, equity crowdfunding poses several challenges. First, it requires some experience in making a pitch to smaller investors [Lewis, 2013]. Moreover, there are usually no one-to-one conversations with interested investors. All the relevant information should be made available upfront, which in turn could easily lead to confidentiality and transparency issues. Second, unlike business angels and venture capitalists, crowdfunding investors typically do not intensively monitor and support the business in the post-investment period. Current research suggests that, in order for the start-up to succeed, risk investors must be willing to provide the entrepreneur with 'value-added' services. These services include identifying and evaluating business opportunities, including management, entry or growth strategies; negotiating further investments; tracking the portfolio firm and coaching the firm participants; providing technical and management assistance; and attracting additional capital. When assessing the potential of crowdfunding, the absence of real value-added services could become significant and may have the potential to retard growth.

The third challenge is that crowdfunding may lack connectivity to follow on investors, key stakeholders and other advisors. High potential growth companies, particularly in highly capital-intensive sectors (such as biotechnology and medical), must be able to attract follow on funding from later stage investors. The connectedness between early stage investors and the venture capital community provides companies with improved access to external financing. Clearly, crowdfunding investors that

typically follow a 'spray and pray' strategy (spreading small investments among as many firms as possible) when it comes to making investment decisions have fewer resources and/or incentives to assist portfolio companies in securing the next stage of finance. A related problem is that this strategy may be exacerbated by the fact the companies that pitch for crowdfunding investors are more likely to end up with a multitude of investors. As such, these circumstances not only enhance the free-rider problem among investors, but also add an additional 'negotiation challenge' to potential follow-on investor, as it is easier to negotiate the funding with only a few investors [Kolodny, 2013].

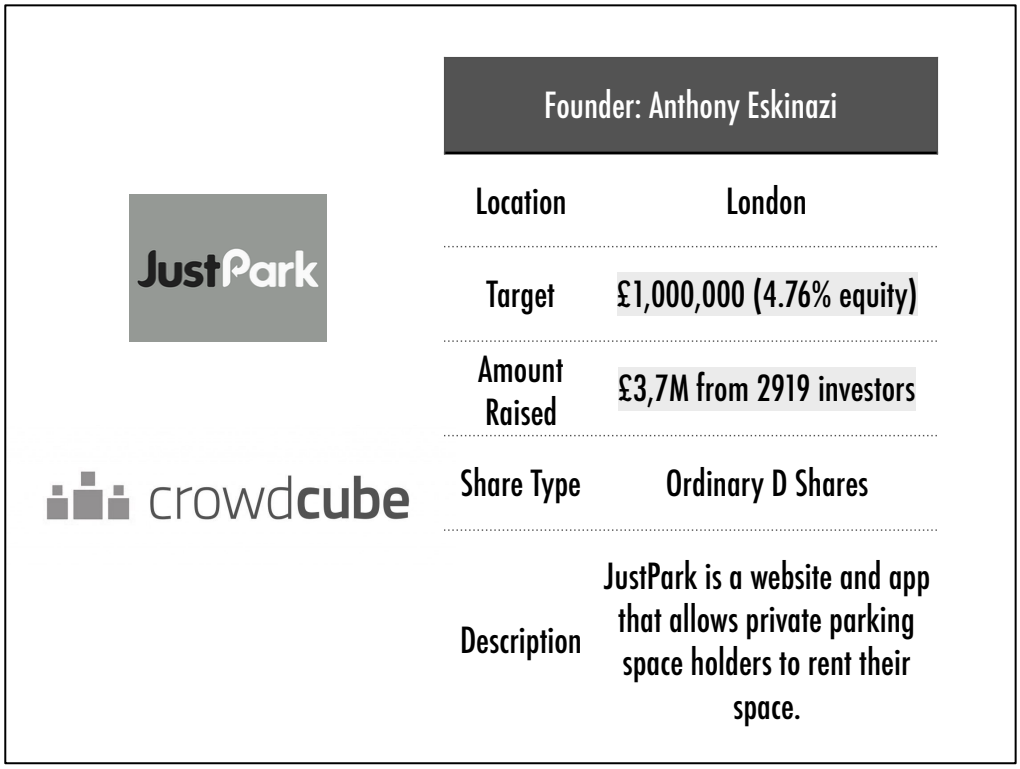
If one adds to these challenges to the legislative and regulatory issues that surround crowdfunding, the jury is still out on whether this source of capital will have a significant impact on the new venture capital industry in the near future.[3] The crowdfunding provisions of Title III of the JOBS Act that take effect on May 16, 2016 are not promising. The fact that these provisions require start-up companies to have public accounting firms audit their financials will arguably have a deterrent effect on the use of equity crowdfunding in the United States. High profile venture capitalists have already announced that they will most likely pass on "crowd-funded" start-up companies [Mittal, 2016]. Current research suggests that firms are more likely to consider crowdfunding to showcase their products/projects. From investors' point of view, crowdfunding is clearly not primarily about return on investment - although that may be important in some cases—as the amounts involved are often rather small. It is also about participation; people want to be associated with a project (identity and image) and part of the social movement around the project (participation). Investing provides an experience around which people can get excited and this is what attracts people to fund such projects. Crowdfunding provides the opportunity to be part of something bigger than themselves and which has meaning.

This dynamic also provides benefits for the company, as well. As venture capitalist, Manu Kumar has noted: 'crowdfunding right now is more about testing product-market fit, the money it brings in is just icing on the cake'. That is to say, for a company there are benefits in being able to 'test' a product's market potential by seeking crowdfunding. If such money is difficult to collect, then it casts doubt on the product. Equally a successful crowdfunding round suggests that the product-market fit is strong and the product is likely to succeed. The willingness of investors to participate becomes an important

[3] We can already observe several regulatory initiatives that should give a boost to equity crowdfunding. An example of a self-regulatory initiative can be found in the United Kingdom where a self-regulatory body has been established under the UK Crowdfunding Association (UKCFA). These initiatives have also appeared at the European level. Consider the European Crowdfunding Network (ECN). The goal of the self-regulatory bodies is clear: To provide transparency and ensure that members operate to minimum standards without sacrificing the accessibility and speed that made crowdfunding a success. The question, however, remains whether the venture capital ecosystem can fully rely on self-regulation? Presumptively, the payoff for ensuring the compliance with and wide diffusion of self-regulatory standards is significant. It should therefore come as no surprise that other regulators, such as the Italian market regulator, have recently taken the first regulatory steps regarding on-line fundraising platforms. The main purpose of the regulatory approach is to provide a measure of legal certainty for market participants. In Italy, this is accomplished through a simple registration procedure for crowdfunding venues, designed to distinguish them from other market participants such as Regulated Markets or Multilateral Trading Facilities, both of which are subject to more stringent rules under MiFID. In addition, the new Italian rules set out a code of conduct. In view of the examples discussed above, the challenge is to find the right mix of self-regulatory and government measures that encourage transparency and investor protection.

index of a product's viability. This signally aspect may be as important as any money raised. JustPark's record breaking quite crowdfunding campaign on UK's CrowdCube in 2015 is an example of how powerful crowdfunding can be at a later stage (*see* Figure 6).

Figure 6: JustPark's Equity Crowdfunding Campaign

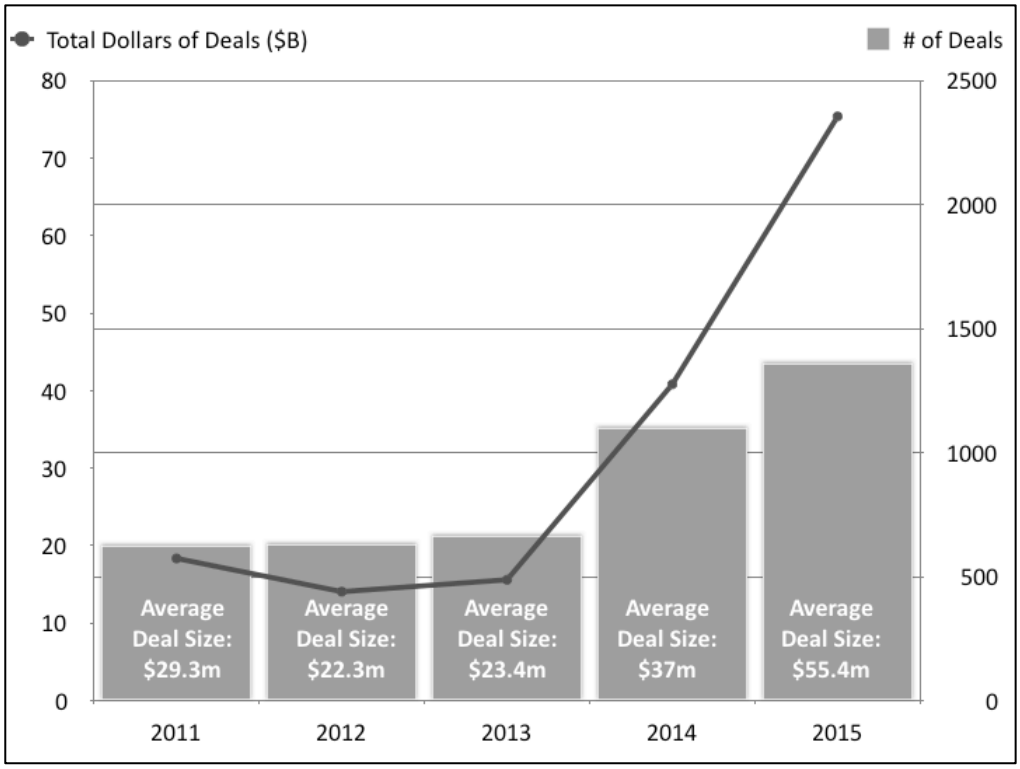


3. Corporate Venture Capital

Corporate venture capital programs/units/arms are often viewed as the saviour of the "broken" venture capital cycle. The reason for this is both simple and straightforward. The key challenge facing many established firms is to identify new technologies that arise from start-ups and other innovative firms. Established firms engage in corporate venture capital activities to gain information about new technology and products of start-ups. Corporate venture capital (CVC) therefore is about an equity investment by a nonfinancial firm in young and entrepreneurial companies that are in the seed, early, or later stages of their development. Corporates can make their investments either directly in a start-up or through a venture capital limited partnerships.

The growth in CVC investment has been accompanied by a debate about the range of CVC initiatives, the incentive problems faced by investors, and whether CVCs nurture innovation better than traditional venture capital. Researchers have suggested that firms are driven to improve their R&D productivity through engaging in CVC activities [Maula et al. 2003; Benson and Zidonis, 2009]. Many mature corporations have established dedicated CVC units, seeking competitively advantageous innovations, while capitalizing on their own ability to provide a broad range of strategic benefits from industry partnerships, distribution opportunities and product development insights.

Figure 7: Trends in Global Corporate Venture Capital (2011 – 2015)

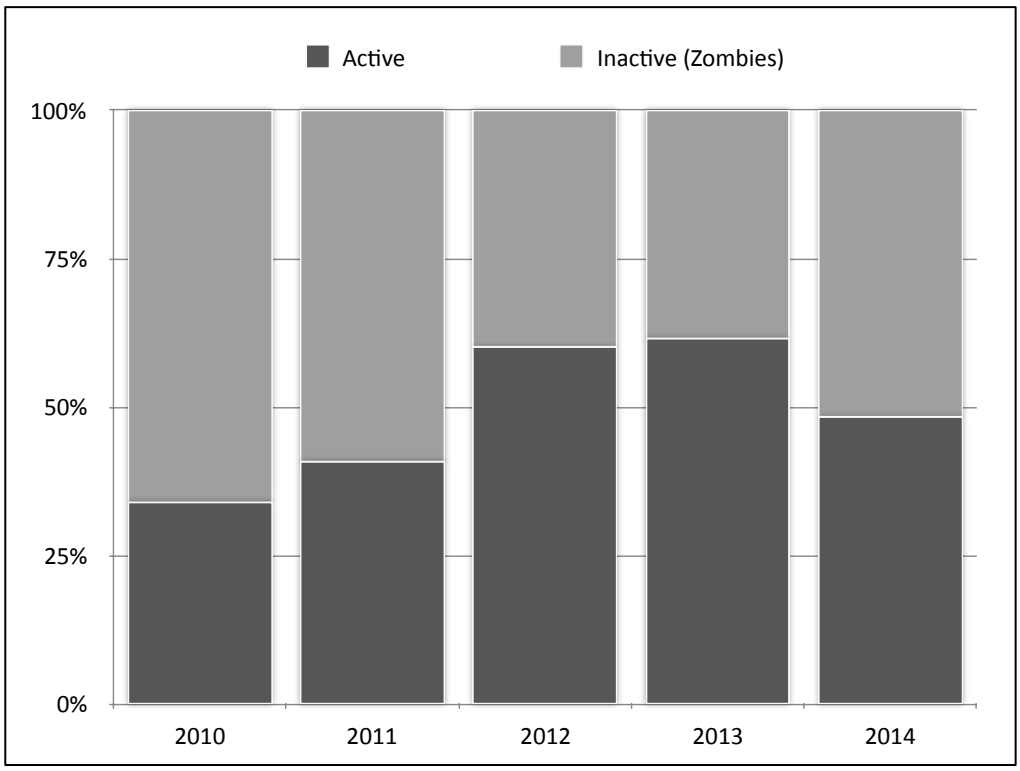


Source: Data from Global Corporate Venturing Analytics

To varying degrees, listed companies with strong balance sheets and cash positions are particularly active venture capital investors. Moreover, firms with strong technology and marketing departments also are more likely to create CVC programs since these are the corporation's ticket into investing in entrepreneurial firms (Basu et al., 2011). Thus it should come as no surprise that Figure 7 shows that both the number of deals and money invested by CVCs is increasing rapidly. Also, the average corporate venture capital deal size in 2015 is significantly larger than the deal size in 2012 [*Economist*, 2010]. This suggests a second volatility problem with CVC. Cash-rich and tech-savvy corporations appear to care less about value for money than they do about the possibility of acquiring the 'next big thing,' thus possibly creating a new bubble in the venture capital industry.

Despite its growth and financial benefits, prior studies have identified a number of problems with CVC. First, CVC firms make a large number of investments in some cases for financial benefits and in other cases for strategic benefits. These mixed strategies, together with the difficult-to-determine objectives and success factors, are often a source of confusion in the parent corporation. For a large number of firms, this may force them to liquidate their CVC investments. Second, the lack of experience of CVC fund managers and information asymmetries about their investments could give rise to established firms making bad investments in low-quality ventures. In response, larger corporations mostly formed syndicates with venture capital funds to improve investment decisions and learn from the experience of the traditional funds. To be sure, start-ups were more reluctant to award board power to CVC investors. Moreover, the fear of opportunistic behaviour of the investors when a direct competitor is involved often leads to higher valuations. As a result, CVC investment is likely to be more successful in the event of investments made in complementary investments. Third, Birkinshaw et al. (2002) show that CVCs have less efficient compensation structures than traditional venture capitalists. The problem, which we will return to shortly, is that without high-powered incentives, CVC managers will pursue a course of risk-averse behaviour. Fourth, the venture capital industry is highly networked based on deep interpersonal relationships and it is often difficult for CVC staff to penetrate these networks to identify the right investment opportunities. Fifth, managing minority interests in portfolio companies is often daunting from an accounting point of view and sometimes even from an antitrust perspective.

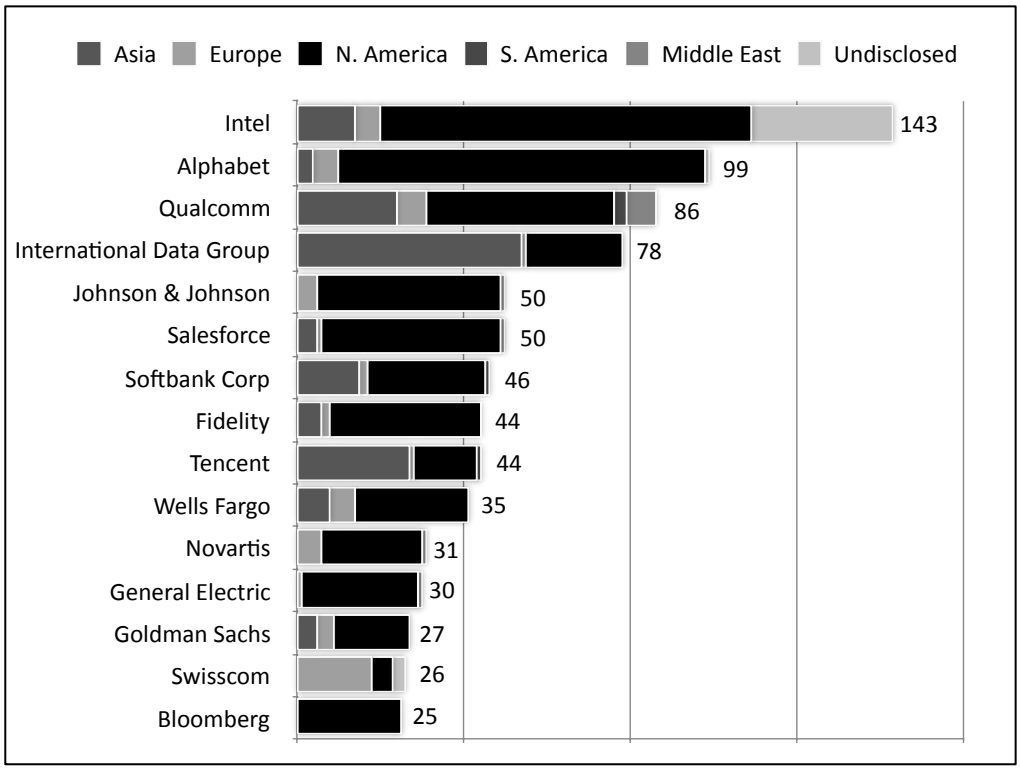
Figure 8: Status of CVC Programs (started in 2010-2014) on December 31, 2014



Sixth, many start-ups fear that accepting investments from a corporate venture fund will restrict their exit opportunities and bring about the risk of "negative signaling" should the corporate venture fund decide not to support the investment in the future. Finally, intra-corporate reporting lines often make it difficult to defend the continuation of a CVC program when most investments do not prove to be sustainable and successful.

Clearly, these problems that surround CVC investments have an impact on the management, operation and activities of the CVC funds themselves. Consider, the performance of CVC programs that were established after the financial crisis (2010 to 2014). Nearly half of these units were idle and had not made a successful investment – by way of a strategic or financial return – before December 31, 2014 [Park and Vermeulen, 2015] (see Figure 8).

Figure 9: CVC League Table 2015 by # of Deals

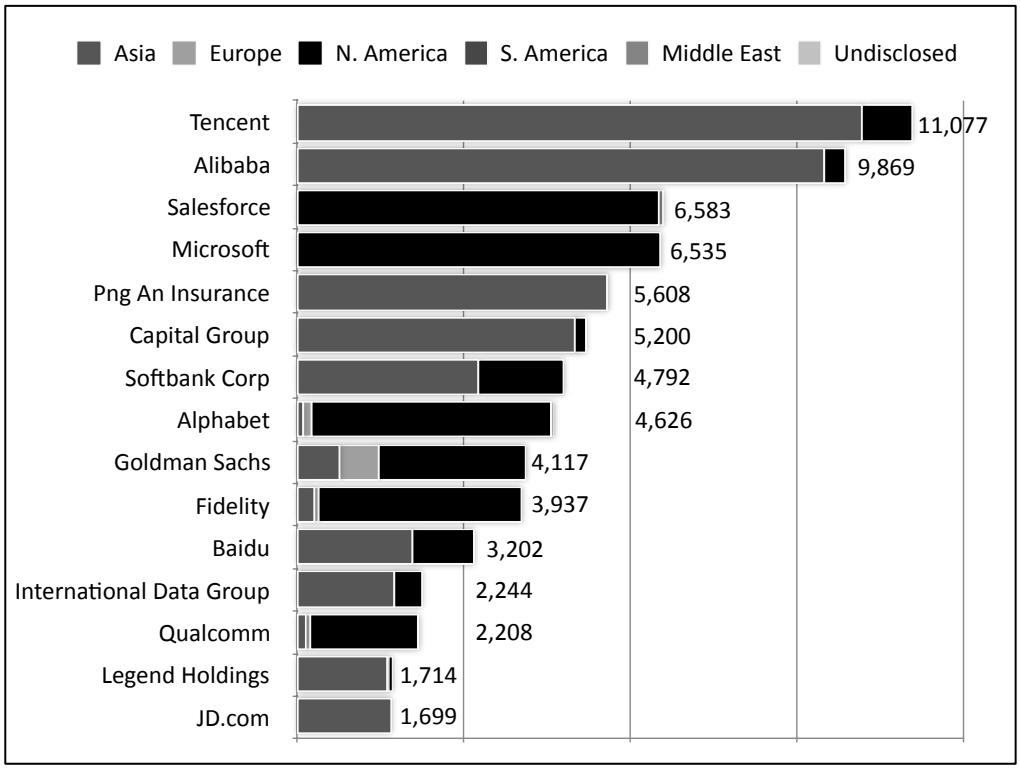


Source: Data from Global Corporate Venturing Analytics

There are thus several reasons why CVC programs are usually not terribly active and sustainable First, a large number of the CVC units, due to absence of experienced fund managers, suffer from a lack of detailed knowledge about their own industry and technology. It is likely, moreover, that CVCs will deliberately refrain from seizing new investment opportunities unless they are willing to increase the resources needed to build trust and nurture relationships that increase learning associated with their investments [Park and Steensam, 2013]. The second reason concerns the possible mismatch between

CVCs and start-ups in terms of how they operate, set expectations, and define the aims of a partnership. If our interpretation is correct, a CVC manager's lack of motivation and experience among investors may affect a start-up firm's willingness to share goals and objectives with the mother company. Conversely, if CVC managers have operational and business experience, they are more likely to enter into a mentoring role with management of the start-up, which suggests they may be eventually able to cultivate trust with the venture. Overall, cooperative relationships may influence CVCs to initiate the explorative learning necessary to determine what activities between the portfolio companies and parent company can create value, and whether the start-up has a strategic fit with the operations of the parent [Baldi et al., 2015].

Figure 10: CVC League Table 2015 by Total Dollars ($M)



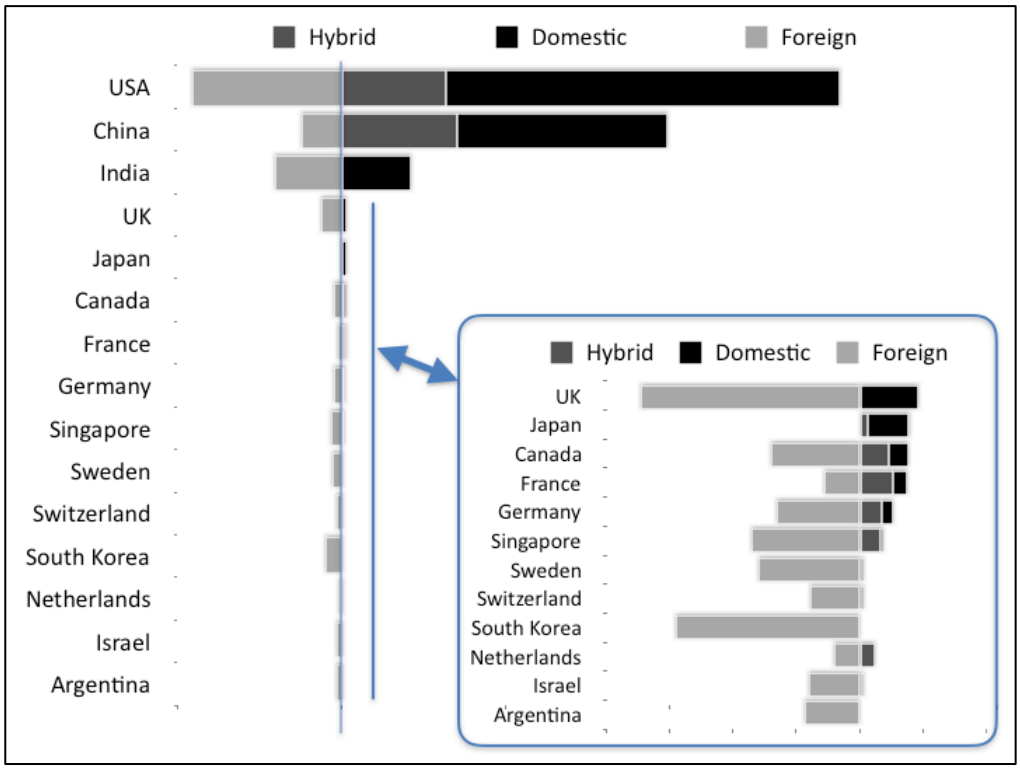
Source: Data from Global Corporate Venturing Analytics

A third reason becomes clear when we look at the differences between CVCs and traditional venture capital funds. First, venture capital funds are usually organized and structured as a limited partnership (or an equivalent flexible business form). The limited partnerships are independent and the limited partners cannot interfere with the day-to-day management responsibilities of management. In order to mitigate agency problems, the limited partnership agreement contains rights and responsibilities for a period of about ten years. CVCs, on the other hand, are often reliant on the on-going sponsorship of their corporate owners and can be abandoned without cause, for reasons entirely disconnected with the operation of the CVC fund itself. Second, as noted above, while venture capitalists usually offer 1%

to 2% fixed management fees plus 20% of fund profits (carried interest) to managers, most CVC managers are compensated with salary and bonuses. This could have implications for the incentives and motives within the two entities. In addition, this often leads to the departure of top – fund managers and makes it difficult to hire new talent or experienced VC managers. Third, CVCs tend to operate in a much narrower field, largely dictated by their parent company's operations. As a result, managers of CVCs have much less freedom and the fund is much less diversified.

That said, there are notable exceptions of CVC units that have successfully managed their relationships, such as Google and Intel, which lead the 2015 Global Corporate Venturing league table by number of deals (see Figure 9), and Tencent and Alibaba, which are the leaders if we look at the total dollars invested (see Figure 10). What is interesting is that the most active corporate venture capital units are often affiliated with relatively young listed companies. Moreover, since these "younger" listed companies are mostly located in the United States and China, it should come as no surprise that these countries also attract most CVC investments.

Figure 11: Location CVC Investments 2015



Source: Data from Global Corporate Venturing Analytics

Figure 11 shows that CVC programs that are affiliated with corporations from the US and China tend to have a domestic focus, whereas other CVCs invest particularly in foreign countries, such as in the United States and China. This observation could lead to the conclusion that timely action is important

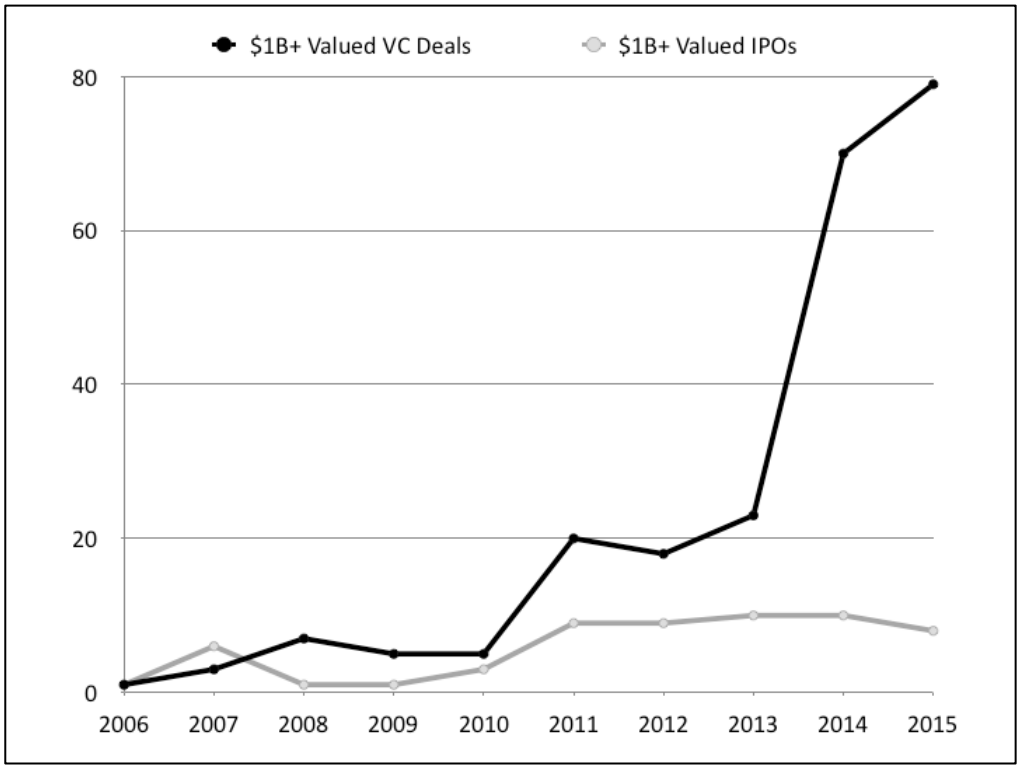
to boost the revival of the venture capital-backed IPO market. Strengthening the IPO market would not only be an effective way to address a second gap in the venture capital cycle (the liquidity gap), but will also lead to more listed growth companies with the potential to bridge the valleys of death in the corporate life-cycle. The argument is that more 'young' venture capital-backed companies will increase the level and quality of corporate venture capital initiatives (because these companies are more accepted by the venture capital industry) [Lacy, 2013]. Start-up life is in the DNA of these companies, their leaders and respective CVC units, which according to the available data have no problems blending in the venture capital ecosystem. On the contrary, Chemmanur et al [2014] find that, even though CVCs perform less well compared to traditional VCs, CVC-backed firms are more innovative despite their age and high level of risk. They also find that these CVCs have a greater tolerance for failure.

4. The liquidity gap

The results of empirical research indicate that the dream of a successful IPO is still one of the most important drivers for high-tech entrepreneurs to start their own companies. What is remarkable, however, is that even if venture capitalists and high tech entrepreneurs decide to float the company's shares on a stock exchange, the IPO is completed with a relatively low median free float (which was 24 per cent in the United States and 45 per cent in Europe for IPOs that were conducted from 2011 to 2012) [PWC, 2013], indicating that they only gradually give up their 'private company' status. This result is due to the typically high insider participation at an IPO, combined with onerous lock-up provisions that prevent venture capitalists from selling their stock immediately. Indeed, most stock exchanges do not offer the liquidity for venture capitalists to actually exit their shareholding thus leaving them "stuck" with the disadvantage of a publicly quoted company. As a consequence, the effective free float is often even smaller. More generally, the pace with which newly listed companies give up their 'private company' status appears to depend on the hype surrounding the IPO. If an IPO attracts a lot of media attention, companies tend to implement control-enhancing structures that ensure that founders maintain a tight grip on control over a newly listed companies' future direction. For instance, these companies increasingly issue multiple voting shares to the founders to separate beneficial ownership (or cash flow rights) from control rights (or voting rights) thus giving them voting control in excess of their minority stake in the company.

But there is a bigger concern regarding the IPO market. Recent data shows that innovative (or disruptive) and fast growing companies are now resisting the "going public" option and choosing to stay private longer. The fear of many of these companies is that if they float their shares on a stock exchange, they will quickly loose the innovative and entrepreneurial culture that made them successful in the first place [Babina et al., 2015]. One often-heard reason is that remaining private allows these high growth companies to avoid or postpone the cumbersome and costly rules and regulations that apply to publicly listed companies [Vermeulen, 2015]. Figure 12 supports this trend by showing that the number of $1B+ IPOs is significantly lower than the number of $1B+ private "venture capital" deals. Companies increasingly opt for a so-called "private" IPO.

Figure 12: $1B+ "Public" IPOs versus $1B+ "Private" IPOs



Source: Data from PitchBook

The inevitable consequence of this stretching of the private life cycle is the rise of so-called unicorns, i.e., private companies worth $1 billion or more. Something previously only found in fairy tales have now become a reality. Nevertheless, there are some concerns with unicorns [Fenwick and Vermeulen, 2015b]. First, entrepreneurial employees, whose remuneration package may be connected to equity in the company may feel frustrated by managerial unwillingness to countenance an IPO, and will opt to exit, thereby stifling the long term growth prospects of unicorns. Second, later stage investors in unicorns may find themselves getting burnt by a combination of the scale of investment necessary and the unique circumstances of unicorns. The scale of such investments is potentially very large, but the degree of scrutiny still pales in comparison with what would happen in the case of an IPO. This creates new and potentially significant risks for investors.

This issue is nicely illustrated by Bill Gurley, a partner at the Silicon Valley venture capital firm Benchmark, who refers to the example of Fab.com, a private online retail company that sells designer-influenced products, including clothing, accessories, furniture, food and pet products. He suggests that the later stage investors that poured $150 million into the company at a $1 billion valuation should have been more wary about investing in a company that would unlikely to have passed the scrutiny that is required as part of the IPO process.

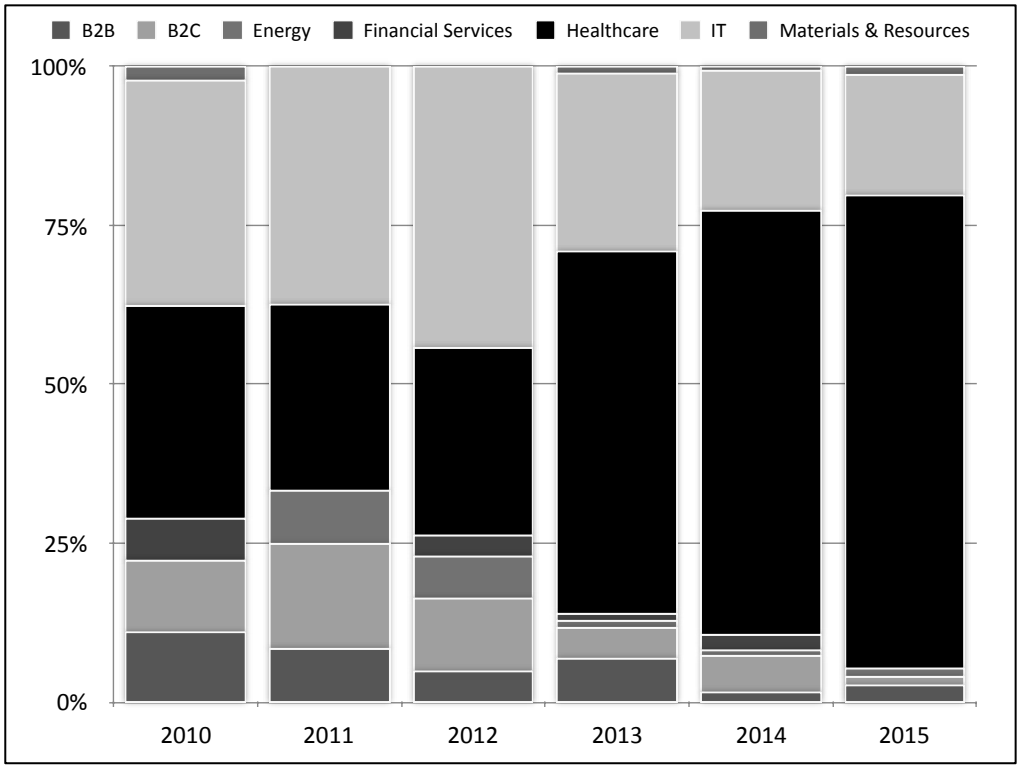
Such concerns suggest that unicorns do not represent the best option for the medium and long-term survival of firms. This does not mean that we need to engage in a so-called "unicorn hunt", but rather it suggests that a re-calibration of the regulatory environment is necessary in order to ensure that firms are not deterred from going public by concerns that their governance style will be unduly hampered by the IPO process and post-IPO requirements.

That said, the question is whether there will be a revival in listing activity particularly after the passage of the JOBS Act in the United States in April 2012. The evidence is mixed. Recent studies have shown the increase in venture capital backed IPOs in 2013. Can certain provisions of the JOBS Act lead to higher growth in listings. The new legislation allows the possibility of a firm to qualifying as an 'emerging growth company' (EGC) if its total gross revenues are less than $1 billion for the most recently ended fiscal year. The EGC label offers several benefits to high-growth companies in the pre-IPO and post-IPO period. In the pre-IPO period, an EGC will only be required to include only two years—instead of the usually required three years—of audited statements in its IPO registration. An EGC can also elect to provide the market with reduced executive compensation disclosures (applies only to CEO and two other highest-paid executives. The special status introduces 'testing-the-waters' provisions, which allow EGCs to communicate with professional investors (qualified institutional buyers or institutional accredited investors) to determine their interest in the company prior to or following the date of the IPO registration statement. Moreover, the JOBS Act allows these companies with the possibility to confidentially submit a draft of its IPO registration statement to the SEC for review.

Also, the 'on-ramp' provisions grant important reliefs in the post-IPO period. For example, under SOX Section 404(b), EGCs are exempted from the obligations to provide an auditor attestation of internal control. Furthermore, the Act excludes EGCs from complying with (1) the full range of executive compensation disclosures; and (2) say-on-pay votes on executive compensation arrangements. Finally, EGCs need not comply with any new or revised accounting standards until the date on which private companies are required to apply these standards to their organization.

As a result of the JOBS Act, the US has initially experienced an increase in listings. To quantify the level of success, approximately two thirds of the 131 IPO companies (including non-venture capital backed companies) in 2013 have availed themselves of the JOBS Act's confidential filing provision. Moreover, a recent study estimates that approximately 85 per cent of the ECGs that have filed IPO statements from April 2012 to June 2014 submitted the statements confidentially [Ernst & Young, 2014]. In 2014, 121 venture-backed companies floated their shares, compared to 85 companies in 2013.

Figure 13: VC-Backed IPOs in the US by Sector



Source: Data from PitchBook

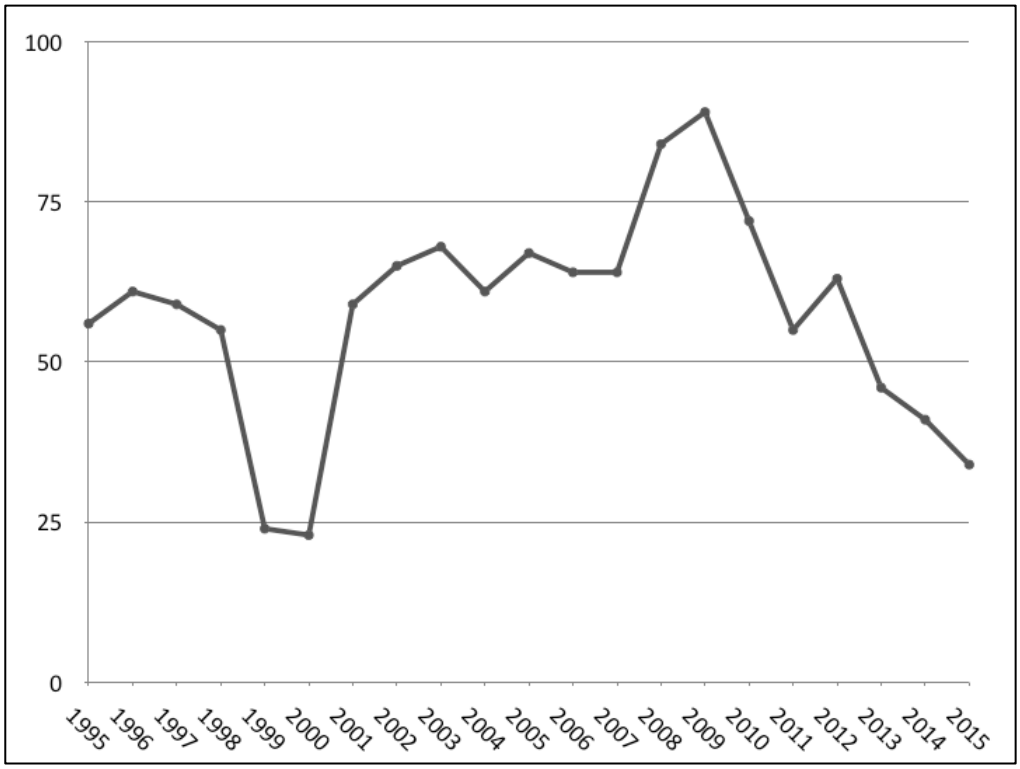
As shown in Figure 13, a significant number of companies active in the healthcare (biotech, pharmaceuticals, etc.) sector completed their IPOs, most of them as EGCs from 2013 to 2015. Over this period, these companies raised US $14.02 billion. While the number of healthcare IPOs decreased from 81 IPOs in 2014 to 55 IPOs in 2015, the capital raised decreased only slightly. Why then have we experienced (for the first time in more than three years since the enactment of the JOBS Act) a significant drop in the number of listings in 2015?

One possible answer is that only the benefits of the JOBS Act for lower valued companies (those that have been given relatively little media attention prior to their IPO) are now widely accepted. Naturally, there were early warning signs that the reduced disclosure requirement for EGCs could affect the value and marketability of securities. However, having ignored these warnings, there are now some concerns about billion-dollar companies that are allowed to take advantage of the reduced disclosure requirements for when they decide to go public.

Indeed, some researchers have warned that Twitter's high profile IPO is a clear example of the shortcomings of the JOBS Act. Apparently, companies such as Twitter place a value on having more control over the timing of the IPO – which confidential filing arguably provides – than on the likely discount in the stock price due to the reduced disclosure and reporting requirements for EGCs. Note

that Twitter's exceptional first day pop of 73 per cent (trading at $44.90 per share from its $26 IPO price) was among the twenty highest of any listing in the US in 2013 [Rosenberg, 2013]. During the first three months of trading the share price gradually increased 92%, but then tumbled to $50.05 per share (dropping 24 per cent) after their first earnings report was disclosed.

Figure 14: Percentage of Profitable IPOs in the United States



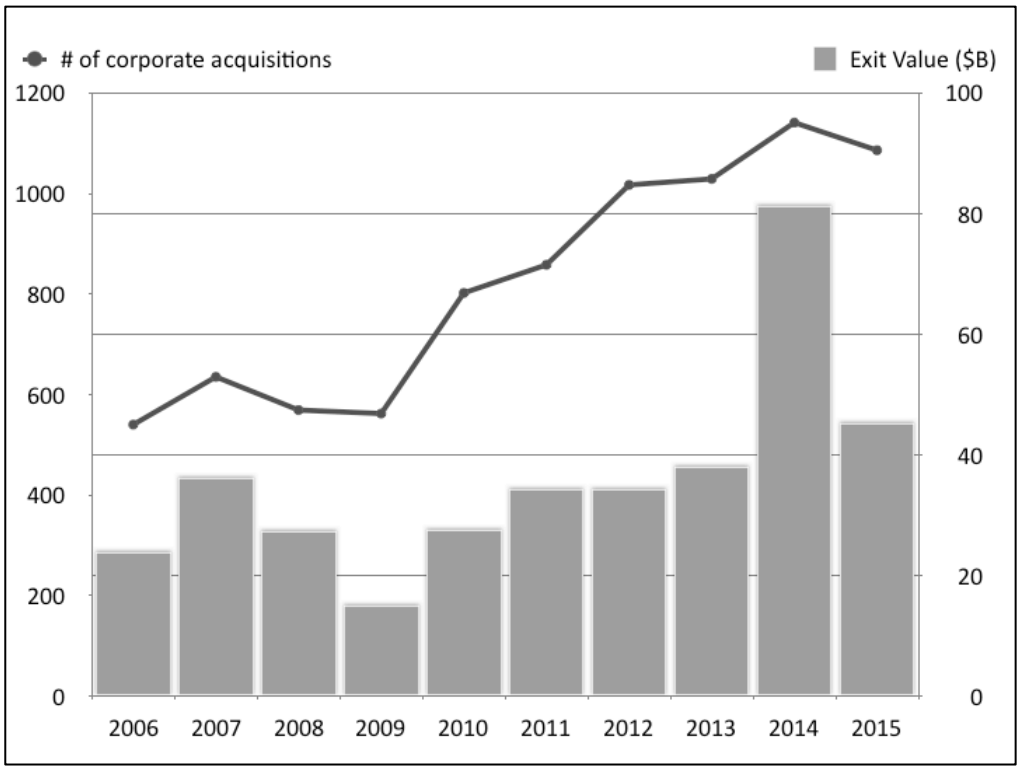
Source: TechCrunch

The case of Twitter is supposed to represent the limitations of lower disclosure and transparency standards that arguably could lead to increasing speculation about Twitter's performance. However, most of the blame for the drop in share price was due to the disclosure of the company's earnings report. In fact, high valuations of late-stage private companies involving public market investors and the subsequent hype building up to the eventual IPO have arguably contributed to the stock price decline of a company. Some fear that the increase in IPOs, the massive valuations (compared to the revenues) of pre-IPO stage high tech companies and the confidential filing process under the JOBS Act (which allegedly explains some of the Twitter-like first day IPO pops) could eventually lead to a bubble and a subsequent burst, similar to the dot-com bubble in the late nineties.

An equally strong argument is that it is questionable whether full compliance with non-EGC disclosure standards would have completely avoided Twitter's shaky stock price. However, the considerable amount of capital that private companies are able to raise is a concern that both proponents and

opponents of the JOBS Act appear to share. The problem with increasing venture capital investments is that there is usually some sort of correlation between the amounts raised and the burn rate. For practitioners specializing in the field, the news of high tech companies raising large sums of capital recently and increasing their monthly burn rates has an inauspicious ring. This would suggest that the level of risk is excessive for some high technology companies, particularly healthcare, biotech and pharmaceutical companies. In fact, such worries appear to be supported by recent empirical research. Currently, the high-tech's average burn rate is at an all-time high since the burst of the Internet bubble. For example, Figure 14 shows that profitable IPOs make up a smaller percentage of IPOs in 2015 than in prior years. On the issue of whether there is likely to be a bubble, it is nearly impossible to predict, based on the available data, the timing of a bubble. Moreover, since the number of unprofitable IPOs is nowhere near the level that we saw prior to bursting of the Internet bubble, the probability of a bubble occurring in the near future is probably low.

Figure 15: Corporate Acquisitions of VC-Backed Companies (Europe and US)



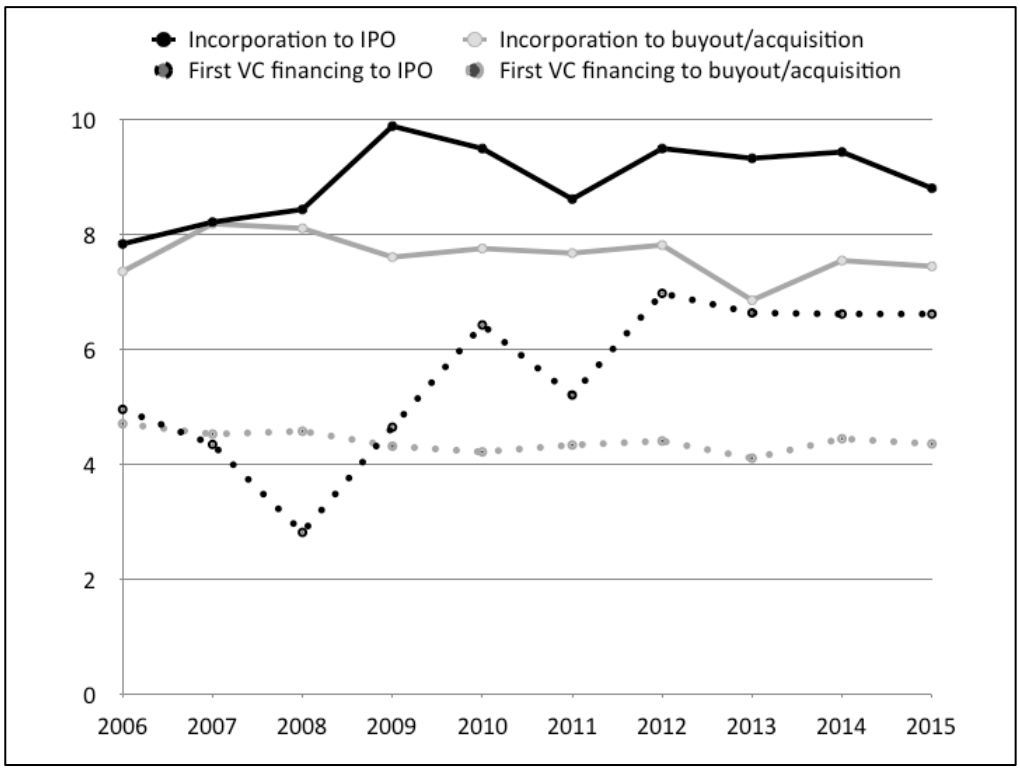
Source: Data from PitchBook

A more likely explanation for the decline in IPOs in 2015 is the disappointing VC-Backed IPO returns. Data provider CB Insights found that the average return of all US VC-Backed tech IPOs since Facebook's IPO in May 2012 was only 7.05% (compared to a S&P 500 return of 60.5% over the same time period) in 2015. Since only 38% of the 90 VC-backed companies were able to show a positive return, it should come as no surprise that venture capitalists usually do not perceive an IPO exit as

being in the best interest of their investors and portfolio companies. Indeed, venture capitalists increasingly induce entrepreneurs to sell their companies to strategic investors [Broughman and Fried, 2013]. The dominant role of mature corporations in the venture capital industry has undoubtedly contributed to trade sales having become the most important and often even preferable exit route for entrepreneurs and investors in Europe and the United States (*see* Figure 15). What is interesting is that the new 'liquidity model' also seems to work for entrepreneurs and key employees, who are usually able to co-sell their shares in lucrative and strategically valued trade sales to wealthy corporate acquirers.

So, is there still a liquidity gap in the venture capital cycle of the 21st century in which trade sales are the most important and even preferable exit vehicles for venture capitalists? The answer is: "yes". The current liquidity gap is linked mainly to the time that elapses between the incorporation of the start-up, the first involvement of risk capital providers and the ultimate exit event. A growing body of literature suggests that this gap may discourage early-stage investors from making the necessary investments in start-ups. More importantly, the "liquidity gap" negatively affects the supply of entrepreneurs' and start-up companies' ability to attract and retain talented employees (who often have accepted a lower salary and additional payments in restricted shares and options) [*Economist*, 2013].

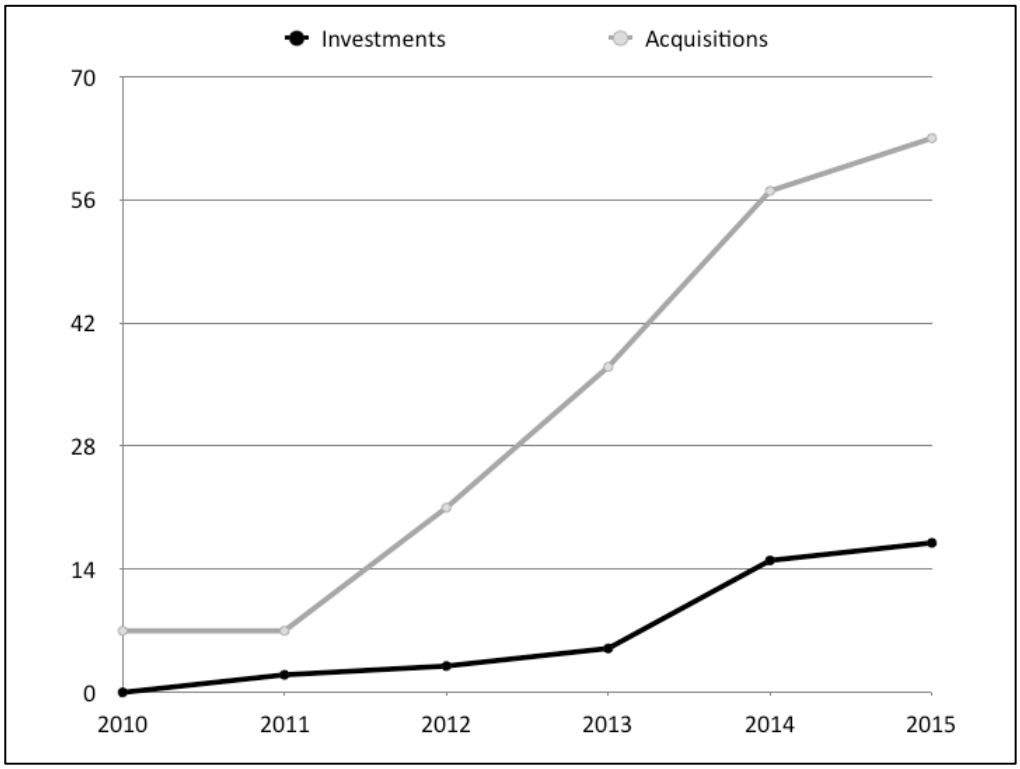
Figure 16: Median Time (Years) from Incorporation/VC Investment to Exit



Source: Data from PitchBook

Clearly, one could argue that by focusing on a trade sale exit, portfolio companies will be ready for an exit scenario earlier than in the event of an IPO, which currently takes approximately eight to nine years from the moment of incorporation [McCahery and Vermeulen, 2013] (*see* Figure 16). It is also clear however that in order to ensure a steady and continuous flow of top talent and capital support, new liquidity options would seem to be required. This is particularly true for companies that are considered to be unicorns. In December 2015, there were 88 unicorn companies in the United States. 64 of these companies had invested in and/or acquired other start-up companies. As the "going public" decision is unlikely to recover its traditional allure, it could be argued that these unicorn companies will be playing an increasingly important role as CVC, but particularly as provider of liquidity. This trend is reflected in Figure 17. Since the unicorn companies are on average more than 9 years old, it goes without saying that more attention should be given to "liquidity" strategies in private companies. In the next Section, we discuss in more detail possible solutions in developing and growing a robust and vibrant venture capital ecosystem.

Figure 17: Investments and Acquisitions by US Unicorns

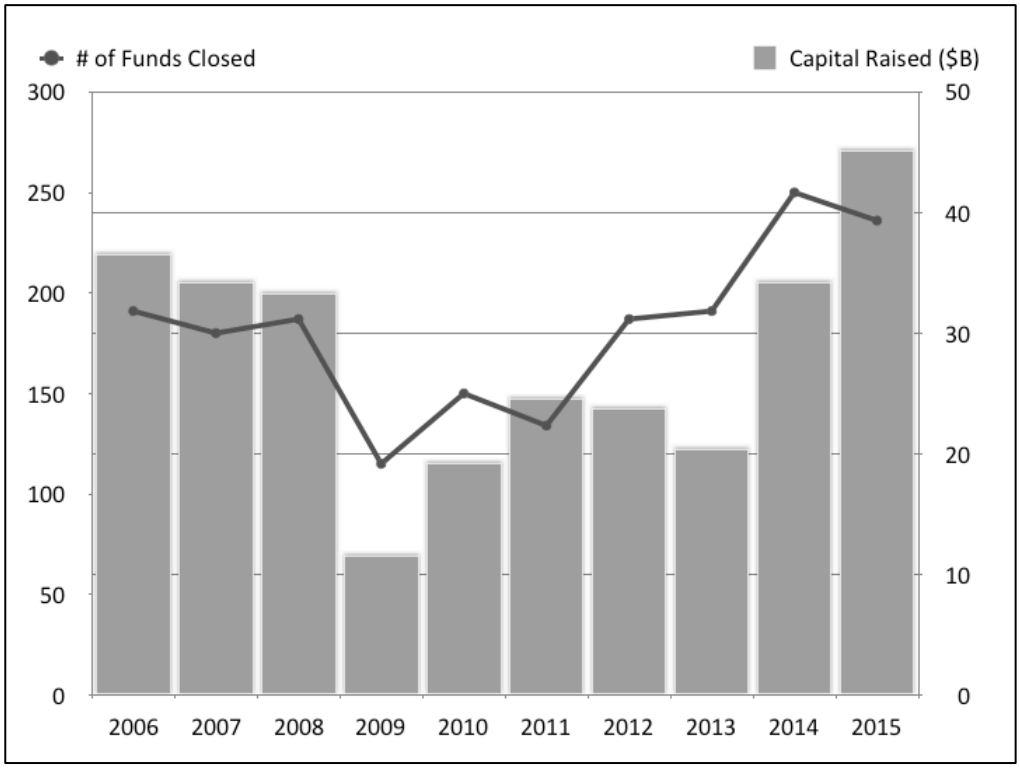


Source: Data from PitchBook

4. The New Venture Capital Cycle

We have seen that there are multiple gaps in the venture capital ecosystem that are unlikely to be easily bridged by new sources of venture capital, such as crowdfunding platforms and CVC programs. Also, the introduction of more flexible exit opportunities has not made venture capital a more attractive asset class. Of course, the gaps in the VC-cycle were mainly linked to institutional investors reorientation away from VC funds, leading to profound changes in the fundraising landscape. For instance, the most dramatic reductions were seen in the venture capital allocations of banks and pension funds. According to data provided by PitchBook, we first observed a significant drop in fundraising in 2009 (see Figures 18 and 19). The post-financial crisis fundraising was particularly challenging for venture capital funds in Europe. At the same time, raising the desired fund size has taken considerably longer for venture capital funds that closed post-financial crisis. For instance, in 2007, the average time to the final closing of a fund was approximately 12 months, while it was approximately 18.5 months in 2011.

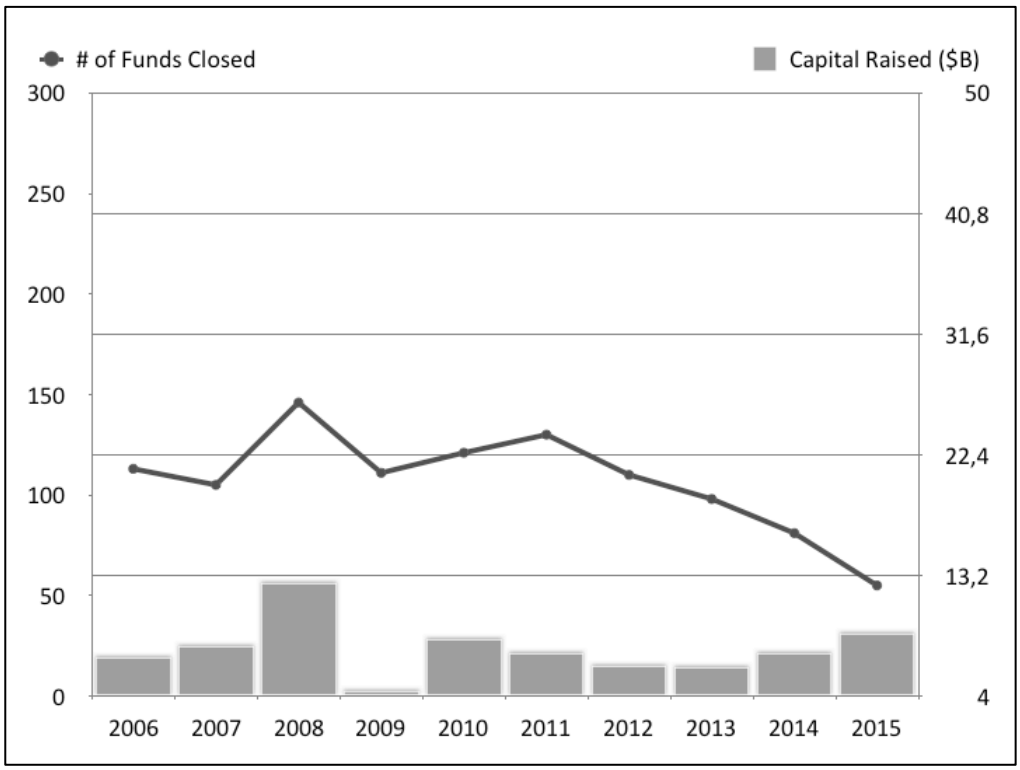
Figure 18: US VC Fundraising by Year



Source: Data from PitchBook

Besides the impact of the financial crisis, there were several other reasons for the change of direction in venture capital fundraising. First, since the burst of the dot-com bubble in 2000–01 to 2012, more venture capital has been invested in start-up companies than returned to the investors in venture capital funds, making it a relatively unattractive asset class for institutional investors [Mulcahy et al., 2012]. Naturally, there are venture capitalists that significantly outperform the public market, creating high-profile growth and exit opportunities in very successful start-up companies. These venture capitalists usually had no issues with hitting their target fund size. However, selecting other quality funds (that lack the proven expertise and successful track records) is usually a challenging task for investors. This brings us to the second reason that institutional investors have become reluctant to invest in venture capital funds. Institutional investors are sometimes prohibited from making risky investments due to the increased regulation coming into effect in the wake of the financial crisis. One could argue that the over-regulated and fragmented environment explains why venture capital fundraising was more challenging in Europe compared to the United States. In this respect, the prospects were not very encouraging. Investors' anticipation of several "forthcoming" regulations, already has a hampering effect on the number of VC funds: for example, Basel III and Solvency II restrict the ability of banks and insurance companies to make investments in the risky venture capital business.

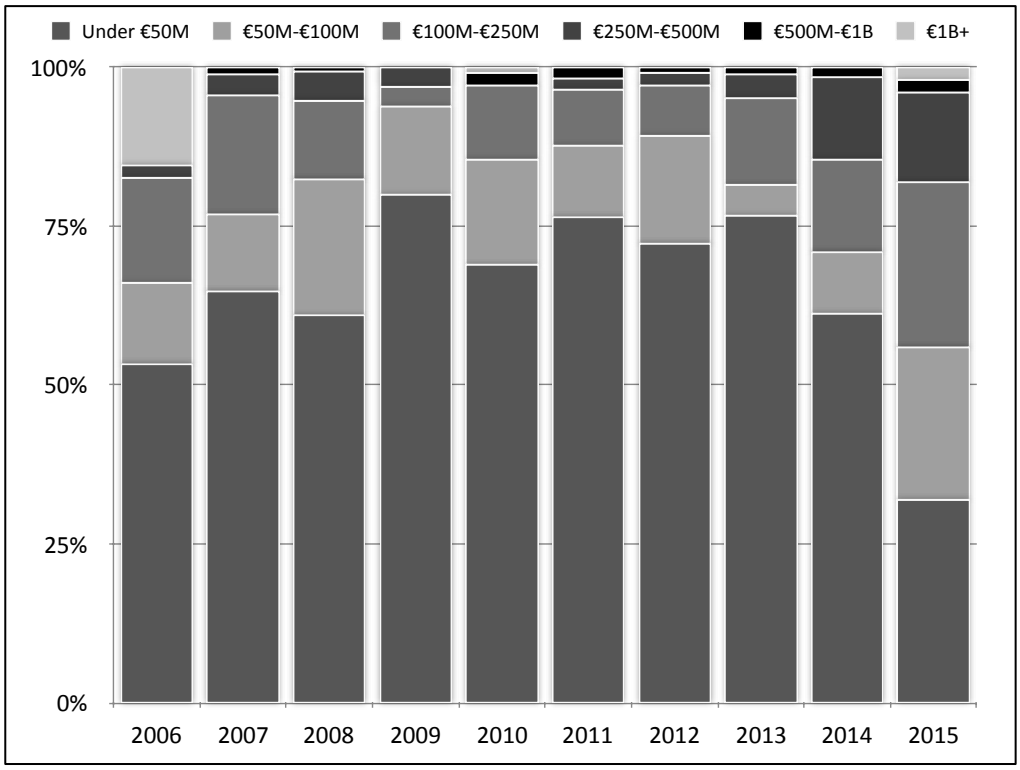
Figure 19: EU VC Fundraising by Year



Source: Data from PitchBook

Despite the decreasing post-financial crisis fundraising levels, Figures 18 and 19 show that there are clear signs of recovery in both the United States and Europe. To be sure, there is still a persistent gap between the venture capital industries in Europe and the United States (which is due mainly to the lack of private investors in Europe). However, some scholars have argued that the state of the "post-financial crisis" venture capital industry in Europe is actually more optimistic and attractive than the environment in the United States [Cumming and Johan, 2012]. According to data provided by PitchBook, there are relatively more European funds closed in the range of €100M-€250M and €250M-€1B+ in 2015 than in the years immediately after the financial crisis in 2008 (see Figure 20). As a consequence, and more importantly, the average and median fund size of European funds is currently larger than the average and median fund size of US venture capital funds (see Figure 21). This can partly be explained by the emergence of so-called micro-VCs with a fund size of less than US$50M in the United States, leading to a decreasing average fund size in the United States in 2011/2012. The strong performance of these micro-funds, however, has made it easier for them to raise higher amounts in the period 2013 to 2015.

Figure 20: European VC Funds (#) by Size

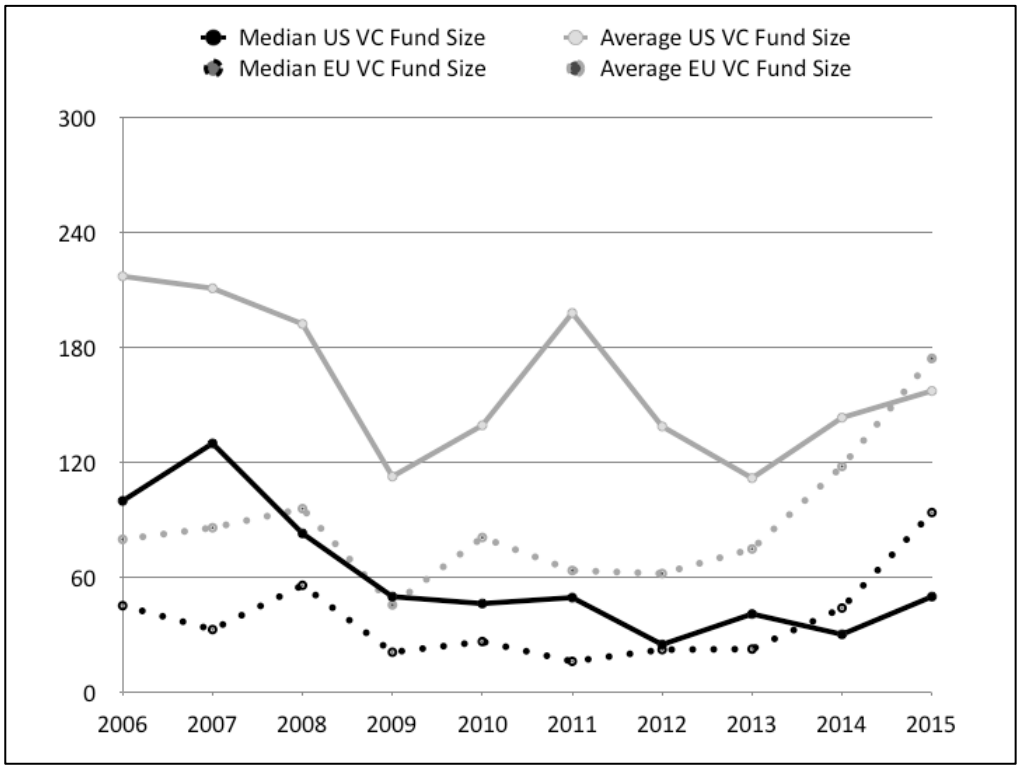


Source: Data from PitchBook

But what explains the sudden increase in fund size in Europe? Earlier research shows that there is a strong "survival-of-the-fittest" bias of institutional and other investors in VC funds in Europe (Vermeulen and Nunes, 2012). These investors are often only willing to invest in top-quartile funds. The

result is twofold: (1) a yearly decrease of funds closed and (2) a continuous and rapid increase of the fund size. What is interesting is that due to their increasing size, Europe's top venture capital firms, which are also fewer in number than their counterparts in the United States, are in a better position to find high-quality investment opportunities at relatively low pre-money valuations in a still fragmented market, which will only make investors event more selective in their investment decisions in the future.

Figure 21: Median & Average US and EU Fund Size



Source: Data from PitchBook

We could stop here and conclude that, in Europe as well as the United States, trust and confidence in the venture capital ecosystems appears to be restored (or is in the process of being restored. Indeed, anyone with a vested interest in the start-up ecosystem could argue that traditional venture capital funds with their track records and growing fundraising levels will eventually bridge the gaps in the venture capital industry. However, this would be a short-sighted view at best. The better venture capitalists are convinced that too much committed capital makes it more difficult for them to identify sufficient and appropriate seed and early-stage investment opportunities. They believe that US$150 to US$250 million is the optimal fund-size, allowing them to stay focused and work closely with their portfolio companies while at the same time having sufficient dry powder to tap into their later stage needs.

Table 1: Most Active VC Investors by Deal Count in 2015

Seed		Early-Stage		Later-Stage	
United States	**Europe**	**United States**	**Europe**	**United States**	**Europe**
Social Starts (2012)	Kima Ventures (2010)	Sequoia Capital (1972)	Index Ventures (1996)	Sequoia Capital (1972)	Index Ventures (1996)
Slow Ventures (2009)	High-Tech Gründerfonds (2005)	New Enterprise Associates (1977)	Kima Ventures (2010)	Accel Partners (1983)	Finnvera Venture Capital (2005)
Great Oaks Venture Capital (2003)	Partech Ventures (1982)	Accel Partners (1983)	High-Tech Gründerfonds (2005)	New Enterprise Associates (1977)	IDInvest Partners (1997)
Wavemaker Partners (2011)	Finnvera Venture Capital (2005)	Google Ventures/Alphabet (2009)	Funding London (2004)	Kleiner Perkins Caufield & Beyers (1972)	DST Global (2005)
SV Angel (2007)	Index Ventures (1996)	Andreessen Horowitz (2009)	Global Founders Capital (2006)	Intel Capital (1991)	Novo (1999)
FundersClub (2012)	Point Nine Capital (2011)	Formation 8 (2011)	Partech Ventures (1982)	Bessemer Venture Partners (1911)	Novartis Venture Funds (1996)
Lerer Hippeau Ventures (2010)	TA Ventures (2010)	First Round Capital (2004)	Holtzbrinck Ventures (2000)	Andreessen Horowitz (2009)	Balderton Capital (2000)
Accel Partners (1983)	Portugal Capital Ventures (2012)	Khosla Ventures (2004)	Alven Capital Partners (2000)	Norwest Venture Partners (1961)	Scottish Enterprise (1991)
New Enterprise Associates (1977)	Playfair Capital (2011)	Greycroft Partners (2006)	SEED Capital Denmark (2004)	Qualcomm Ventures (2000)	Octopus Investments (2000)
General Catalyst Partners (2000)	Neulogy Ventures (2013)	Bessemer Venture Partners (1911)	Scottisch Enterprise (1991)	Salesforce Ventures (2009)	Draper Esprit (2005)

Source: Data from PitchBook

It is worth pointing out that in addition to large top-quartile venture capital funds, we also see the closing of smaller funds with an appetite for seed, early and mid-stage funding. In this respect, it is interesting to note that among the most active venture capital funds, we find not only traditional funds, but also "new" names, which serial entrepreneur and Silicon Valley venture capitalist, Duncan Davidson referred to as the "new breed of venture capital firms". These firms are often founded between the post-Internet bubble up to the 2007 financial crisis or post-financial crisis, are visible on social media, have a lean governance structure and, most importantly, embrace a collaborative funding model. It is these firms that not only help bridge the funding and investment gaps, but also redefine and reinvent the venture capital cycle. They focus on the process of building long-term relationships constructed around sharing, mutual trust and respect (partnering) rather than making money (venturing). Table 1 shows these younger firms are indeed amongst the most active VC investors during the earlier stages of a start-ups' development in Europe, but particularly in the United States. Table 1 depicts that the more established VC firms, the funds of which significantly grew in size, focus particularly on the later investment stages. What is interesting is that Table 1 also confirms the importance of CVC programs that are established by the "younger" listed US companies, such as Alphabet, Qualcomm and Salesforce. Since these CVCs particularly focus on the later stages, it also shows their relatively limited role in solving the early-stage and mid-stage funding and investment gaps in the venture capital cycle.

A. Collaborative funding models.

1. The emergence of a new breed of venture capitalists.

Over the past decade, a wide consensus has emerged among researchers regarding the changing structure of the venture capital industry. Arguing that the traditional venture capital cycle is largely broken, a number of researchers have suggested that the response by leading funds, at the outset of the recent financial crisis, was crucial to restoring the valuation environment for investments. For example, Cumming and Johan [2010] argue that despite the fundraising difficulties and performance weaknesses over the last decade, there was strong persistence of performance among the top VC funds. Moreover, it is well-documented that the strength of some funds was due to the early timing of their investments (pre-crisis), and later ability to raise more follow-on financing in the crisis.

In the meantime, a select group of innovative venture capitalists (minimalist VCs) have taken it upon themselves to restore the art of venture capital financing [Park and Vermeulen, 2016]. Researchers and academics largely ignored this new breed of venture capitalists, but there can be little doubt that the minimalist VCs, who are leading the renaissance, are returning to the venture capital model in its most traditional form. Going back to basics as a *real* partner to start-ups, as a risk-taker, and most importantly as an innovator and disruptor at the fund level reassures founders that they can provide strategic value when required. What makes the best investors – most obviously VC funds that are

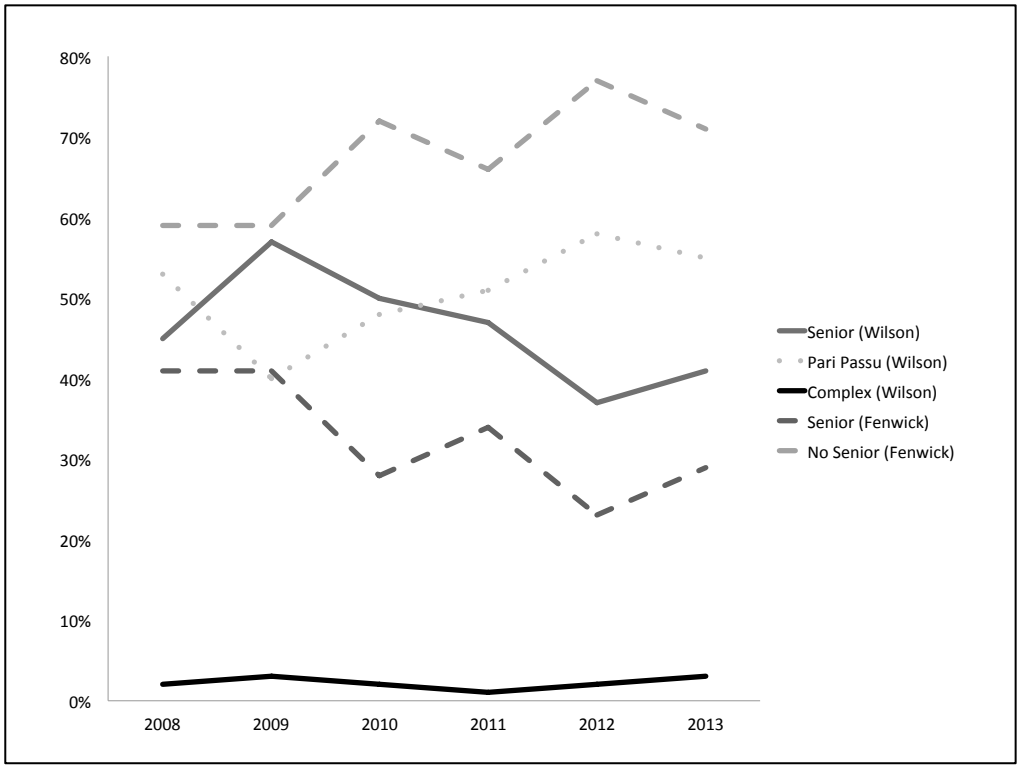
controlled by former founders and entrepreneurs – special is that they understand the importance of "paying forward" the idea that it is better "to give before you can get". The argument goes that investors are actually in the business of providing a service – rather than simply being a source of capital – and the primary objective of this kind of service is to make sure that the entrepreneur is given the best opportunity of making his or her business successful. From the perspective of the investor, making money – and possible strategic returns – are a secondary effect or "by-product" of achieving the primary objective of making the young company a success.

Some examples of the new minimalist VC funds include: (1) the Upside Partnership that is re-defining how they set-up their fund by sharing a portion of their carry with their portfolio companies; (2) the Andreessen Horowitz' full service agency with dedicated functional experts that assists its start-ups with everything from business development, hiring, to marketing; (3) the Union Square Ventures' Opportunity Fund that works together with their core funds by only deploying capital in existing portfolio companies, and thus allowing the fund to capture more of the upside upon an exit event without taking on additional management fees from its limited partners; and (4) Rubicon Ventures that has optimized its set-up to cater to the interests of the many corporations that they have relationships with. The list includes the top Silicon Valley and newer venture capital funds.

Another example comes from the venture capital system's tendency to foster the learning amongst venture capital firms and funds. How do they learn from each other? Like a technology company with a new product, the new breed of VCs promotes innovation at the fund level. Consider Union Square's launch of the first Opportunity Fund in 2011. The formation of a separate fund gave them the "sweet spot" of the venture capital industry. By restricting the main fund's size, Union Square Ventures has the capacity to take ownership positions in startup companies that are still in the seed stage while the additional Opportunity Fund creates the "opportunity" to continue financing winners into later rounds (without running the risk of being significantly diluted when hedge funds and mutual funds bring out the big guns in the private market). It is no coincidence that given the stability and returns of the Opportunity Fund, other early VC firms (Foundry Group and Greycroft) decided to raise similar style funds.

Part of the success of the new and innovative VCs is not only their marketing about the nature of their experience in a specific market domain, but also the extent to which they blog about the venture capitalist-entrepreneur relationship. These blog posts create a level playing field and allow entrepreneurs to learn better how to demystify previously confusing concepts before they sign on the dotted line. Much more generally, it is about fund managers helping founders to better analyse term sheets. The willingness of VC funds to cooperate with founders confirms that what is expected of a VC has significantly changed in the new venture capital cycle.

Figure 22: Term Sheets: Liquidation Preferences in Term Sheets (2012-2013)



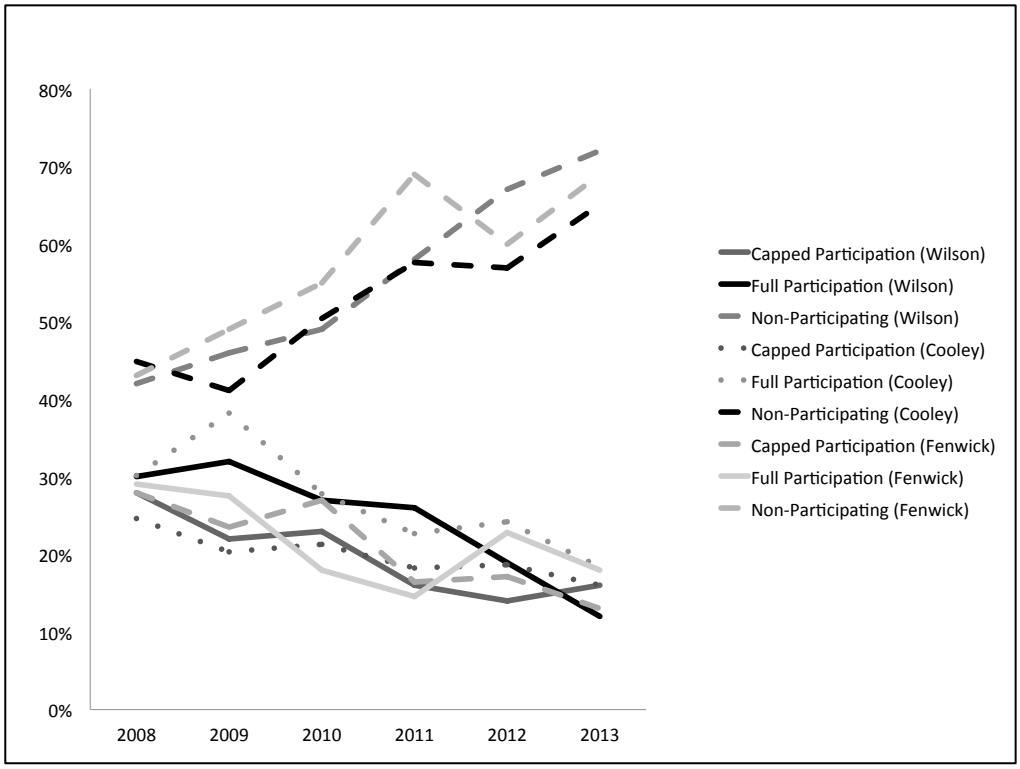
Source: Data from Wilson Sonsini Goodrich & Rosati, Cooley and Fenwick and West

For instance, the new breed of venture capitalists prefers to include founder-favourable terms in deals with portfolio companies. Indeed, the industry statistics indicate that deal terms in the categories of senior liquidation preferences, participating preferred shares, and high liquidation preference multipliers continue to decline at a steady rate post-financial crisis. Figures 22 and 23 provide an overview of the recent trends in term sheets as reflected in the quarterly reports published by Silicon Valley law firms, Wilson Sonsini Goodrich & Rosati, Cooley and Fenwick and West. Figure 22 focuses on liquidation preferences. A liquidation preference of one security is usually ranked with respect to the liquidation preferences of other securities before the founders eventually receive distributions. However, empirical research seems to indicate that in the new venture capital cycle follow-on investors usually do not want to stack their liquidation preferences on top of the other investors (seniority). Instead, they believe that a pro-rata or pari passu arrangement can protect their investment (as start-ups are staying private longer) as well.

The available evidence also indicates that "multiple" liquidation preferences are now less common. In practice, the main aim of venture funds is to obtain the return of their investment. They are thus less influenced to maximize the return on investment, which means that venture capitalists are increasingly willing to accept non-participating liquidation preferences by ex-ante waiving the right to share in the proceeds with common shareholders after payment of the liquidation preference (see Figure 23).

Applying this logic, a common liquidation preference with minimum yield expectations is considered to be sufficient to ensure that the VC fund receives what it is entitled to when the company is sold or there is a change in management control.

Figure 23: Term Sheets: Participation in Term Sheets (2012-2013)



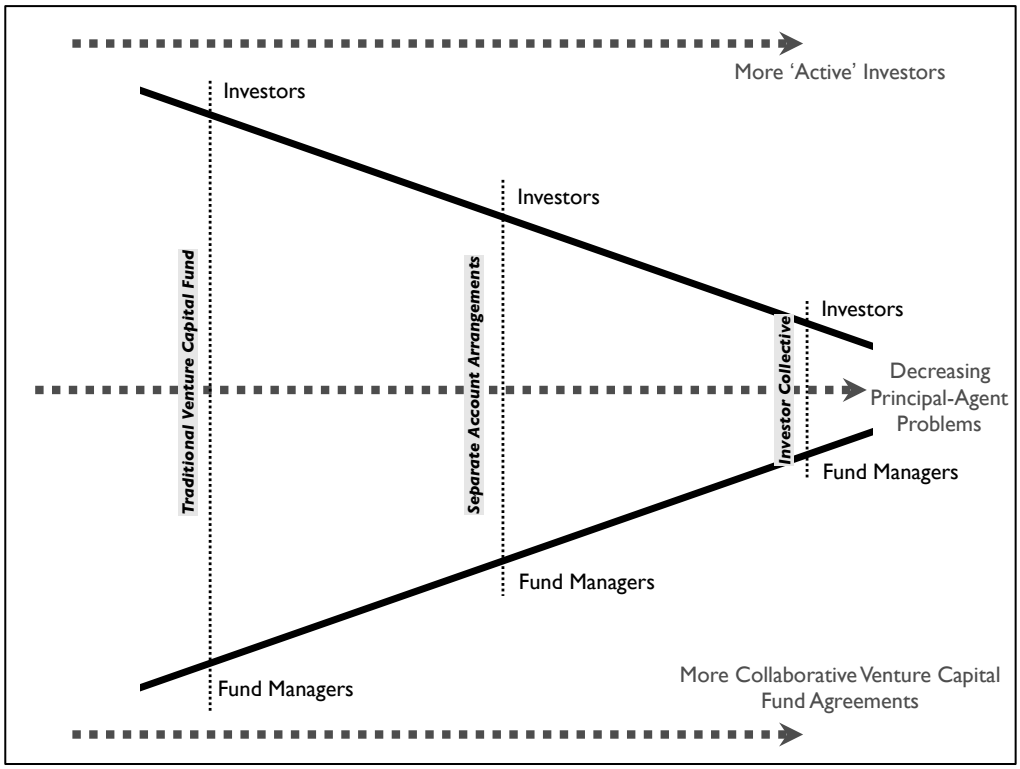
Source: Data from Wilson Sonsini Goodrich & Rosati, Cooley and Fenwick and West

But there is more. During negotiations with traditional venture capitalists it often seems that the terms in VC term sheets are viewed as independent silos without much integration. This approach has several serious limitations, however. When each term is negotiated separately, founder-entrepreneurs usually end-up with a very investor favourable deal. The alternative is to see the terms as closely interwoven components of the major aspects of the deal. Consider, for example, Fred Wilson, partner at Union Square Ventures. Within the context of VC financing, he sees the three "must-have" provisions (board representation, liquidation preferences, and pro-rata pre-emptive rights) as the basis for a simplified term sheet standard. These rights are sufficient to protect venture capitalists in the event of a down round (liquidation preference) or to ensure that they are able to maintain the fund's ownership position and ability to share in the upside when things go well (pre-emptive rights). A board seat reduces the information asymmetries that are usually present between the founders and investors.

Given the discussions on social media, it should come as no surprise that similar dynamics play out in the European context. Consider Passion Capital in London which has distinguished itself amongst VC

funds in Europe. In particular, Passion Capital has published a term sheet that forgoes legal jargon in favour of "plain English." Accordingly, this makes them more like a partner, allowing founders to focus on things that matter and does not overprotect. Moreover, the plain English campaign has been picked up by business schools (where at least five MBA programs assign and discuss their "innovative" term sheet). Many business students will be familiar with this template, which, in turn, may create a debate about innovative contract terms in the venture capital industry.

Figure 24: The Evolution of Venture Capital Fund (Limited Partnership) Agreements



Finally, another important example is the dramatic changes in contracting provisions that are negotiated in limited partnership arrangements in venture capital transaction [McCahery and Vermeulen, 2014]. This can be illustrated by a discussion of Social+Capital Partnerships. Our primary focus is the founding partner, Chamath Palihapitiya (a former Facebook employee). Unlike traditional VC funds, he views the investors in his fund as "active" partners who, if requested, assist in due diligence activities, provide advice to start-up companies and assist them in the development of the new technology. The advantage of such a strategy is that, with the limited partners' independent and supportive attitude, founding partners can build relationships that can lead to the "joint" development of new products for new markets, thereby creating value where it did not exist before. If this is indeed a new trend, venture capital fund managers are likely to seek investors who cannot only reliably commit capital for the entire duration of a fund, but add additional value to a fund's operation and investment policy. In practice, many investors, such as angel investors, other venture capital funds,

established multinational corporations and family offices (that represent the interest of the families and their businesses) will be attracted to the limited-partner friendliness of these funds.

In order to be able to build internal teams that are best positioned to add value to the early and mid-stage start-up companies, Social+Capital Partnerships is organized in an egalitarian rather than a typical "general partner – limited partner" fashion (See Figure 24). The rationale behind the choice to use an egalitarian structure was that they could alter the distribution and compensation arrangements of a traditional limited partnership arrangement. For instance, instead of the usual one per cent, Mr. Palihapitiya contributed more than 20% of the committed capital. The egalitarian choice may also have been driven by the policy that general and limited partners share equally in profits and losses. There is no carried interest. What is even more remarkable is that Mr. Palihapitiya is on a fixed salary arrangement, which is not linked to a percentage of the committed or invested capital. Since the limited partners in Social+Capital Partnerships act as a kind of venture capitalists-on-demand, being more closely involved in investment decisions, the fixed management compensation structure is likely to be more effective compared to the incentive pay regime that tend to be seen in limited partnership agreements. Indeed, the active and knowledgeable investors in Social+Capital Partnerships are in a better position to effectively and timely monitor Mr. Palihapitiya's management and investment decisions. Unlike the "passive" institutional investors, though, they not only rely on contractual arrangements to help reduce principal-agent problems.

Given the venture capitalists' focus on institutional investors to make up their limited partner base, it would probably go too far to suggest here that we would see an immediate change in the negotiation environment of venture capital agreements. Yet Mr. Palihapitiya's partnership structure could very well be viewed as the result of the new trends in the global venture capital industry. Indeed, if we take a closer look at its organizational structure, it appears that the Social+Capital Partnerships combines a number of trends that have the potential to disruptively transform the venture capital business model from "venturing-driven" to "partnering-driven". Consider the following facts. The "on-demand-status" of the investors of Social+Capital has some similarities with separate account provisions [McCahery and Vermeulen, 2015]. More interestingly and in sharp contrast to traditional venture capital funds, Mr. Palihapitiya has made a significant investment in its own fund. In fact, Social+Capital Partnership operates like a real partnership in which investors carry on a venture capital firm collectively, sharing gains and losses proportionally. Social+Capital Partnership has several specialized investors at its disposal, such as reputed venture capitalists, a private equity investor, a hedge fund manager, and several successful serial entrepreneurs. Moreover, Social+Capital Partnership has also attracted strategic investors, such as Facebook and the corporate venturing unit of the Mayo Clinic. Particularly, the relationship between corporations and venture capitalists appears to have a lot of potential in the new venture capital cycle.

2. Collaborative corporate venture capital models.

In our analysis above, we documented the dramatic increase in CVC programs. In particular, we suggested that such programs seek competitively advantageous innovations, while capitalizing on their own ability to provide a broad range of strategic benefits from industry partnerships, distribution opportunities and product development insights. In order to obtain a better understanding of the CVC programs, we monitored the latest in corporate venture capital via data provider Global Corporate Venturing. This analysis revealed that nearly half of the 411 CVC programs set up between 2010 and 2014 could be considered "zombies" (in terms of investment activity) in 2015.

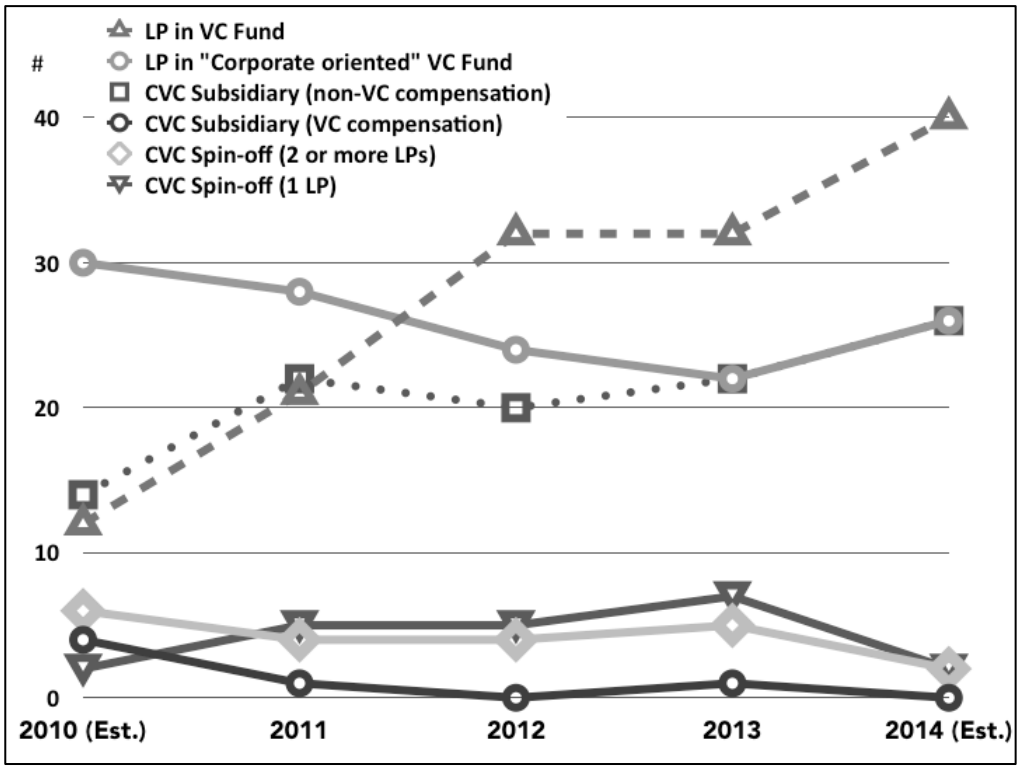
This research also suggests that establishing an external venture capital unit, with one or more separate limited partners, heightens the possibility of success. Note that many former CVC subsidiary units have even been spun-off and are in essence following this approach, evolving effectively into a separate venture capital firm with its own name and investment agenda. For instance, in our sample of 411 announcements of CVC programs/arrangements, 88 programs were organized as a separate subsidiary of the parent company, investing directly off the balance sheet of the parent. 18 observations were announcements of spin-offs of CVC subsidiaries into separately organized limited partnership arrangements with the parent company as sole limited partner. The data also showed that the next natural step in the evolution is for the CVC fund managers to diversify from one LP investor (the parent company) to other limited partners. This appears to make sense, because having one corporate LP could make the commitment disappear for the next fund depending on the performance of the corporate. If the parent company has a downturn, the CVC arrangement will most likely be the first to go. Our sample contains 17 CVC spin-offs with two or more limited partners. Here it should be noted that a corporate, as one of the few investors, can still exert influence on the type of stage, sector, or technology that the VC fund would invest in as a legacy or anchor investor. The final step in the evolution from CVC subsidiary to separately managed CVC fund occurs when the CVC managers realize that the deal flow they get is dependent on and limited to what entrepreneurs think the CVC wants to invest in; so they eventually try to change their name. For instance, SAP Ventures went from balance sheet to one LP investor to an independent venture capital firm with a diversified group of limited partners, and has finally changed its name into Sapphire Ventures, dropping the "SAP".

There are some clear advantages to the spin-off approach. First, the mission and scope of a separately managed "corporate venture capital unit" can be made clearer, making it easier to assess results objectively. Second, it is easier to establish effective governance and compensation systems within a separately managed fund. Third, separately managed funds are more effective in managing minority interests in portfolio companies because they are less impacted by cumbersome accounting and antitrust rules and regulations of a parent. Fourth, establishing a separately managed fund helps ensure continuity because the CVC initiative is less driven by the whim of prevailing executive management. Fifth, and perhaps most importantly, becoming a limited partner in a fund mitigates startups' fear that accepting investments from a direct CVC restricts their exit opportunities and brings

about the risk of "negative signalling" should the CVC unit decide not to support the investment in the future.

If more and more established CVC programs decide to be organized as a separately managed venture capital firm, a corporation that is relatively new in the CVC game can probably better choose to invest directly in a VC fund or a fund of funds (depending on the risk-appetite) thereby allowing the company to indirectly invest in startups. The upside is that the level of commitment relative to the other more active models is rather limited, a definitive advantage while building up valuable internal know-how and developing internal capabilities. The downside is that the firm is only one of many institutional investors embedded in the fund as a limited partner. What emerges is a loose relationship. It is worth pointing out, however, that certain VCs tend to cater to the specific interests of their corporate limited partners, much like a formerly spun-off subsidiary would do. This may lead, in turn, to anything from special sidecars to co-investment arrangements or making investments in a space of strategic interest between the two parties.

Figure 25: The Evolution of CVC Models



Source: Data from Global Corporate Venturing

Figure 25 shows that the collaborative approach of investment, as a limited partner, has become the dominant CVC model. An assumption underlying this observation is that a parent company's commitment to venture capital, in the form of a corporate contribution, has its advantages from a

venture capitalist's vantage point as well. For example, corporations can actively contribute to the reputation of a venture capital fund. In fact, the characteristics of the corporate investors are likely to facilitate the development of fruitful and lasting collaborations. The effect of a fund's reputation of acquiring well-known firms has been shown to send a signal of quality to other investors, who are knowledgeable about the reliability of the fund's investment decisions. Of course, the signal value varies depending on the level of market uncertainty, the potential of the startup firms and quality of the fund partners.

Corporate investors can do much more to contribute to VCs beyond their capital contributions and reputation as well. Corporations often contribute knowledge, investment opportunities and deal flow (via participation in a corporation's spinouts or spinoffs). Moreover, at the request of venture capital fund managers, corporations can and sometimes indeed participate in the due diligence processes of potential investment targets, offering technical and marketing advice to portfolio companies and assisting them in the development of new technologies. There is always the possibility that the large company will be become the acquirer of the startup at the time of exit [Ozmel et al, 2013].

Based on the above discussion, let us explore the constituent element of the CVC process that underlies the success for many large companies. Because of their role in channeling valuable information, parent firms can solicit their network for recommendations before inviting VC firms to participate in a beauty contest where prospective VC general partners are given the opportunity to pitch their fund. From the standpoint of accumulating information on fund performance, the proliferation of global databases, such as Dow Jones VentureSource, CBInsights, PitchBook, and PWC MoneyTree, contribute to improving the selection process for corporate investors. However, due to market imperfections, the ability to compile adequate data continues to be an arduous task. In some cases, attending international venture capital and corporate venture capital events, such as the yearly Global Corporate Venturing event in London, can prove to be invaluable in establishing a shortlist of potential VC funds for partner selection.

Once a target fund has been selected, negotiating the venture capital fund agreement is the next step towards developing a mutually beneficial engagement. In contrast to the "traditional" venture capital fund agreement, which mainly sets out conditions for investing, capital contributions, and compensation and distribution requirements, an agreement with a corporate anchor investor must govern three distinct relationships: (1) the relationship between the venture capitalist and the corporation as a "strategic" investor; (2) the relationship between the venture capitalist and other strategic and/or financial investors; and (3) the relationship between the strategic and financial investors in the venture capital fund.

As it turns out, the traditional financial investors and other limited partners will often bargain for more restrictions and covenants relating to the management of the fund, conflict of interests, and restrictions on the type of investments the fund can make when the venture capitalist raises funds from a strategic anchor investor. The restrictive nature of covenants, which must make sure that all investors are treated

equally, will come as a "natural" reaction to the uncertainty, information asymmetry and agency costs resulting from the strategic investor's participation. Still, the use of restrictive covenants can entail inefficiencies and the erosion of value from the partnership, as they restrict venture capitalists' ability to benefit from the knowledge, resources, and investment capabilities of the strategic corporate investor.

This has not curtailed corporations from working with the venture capitalist to obtain more favourable terms than other investors with respect to management fees, deal flow, portfolio selection and monitoring, investment decisions, and co-investment rights. In fact, it is common practice that corporations together with a venture capitalist strategically bargain for more beneficial terms. Such favourable terms, which deviate from the underlying limited partnership agreement, are set out typically in side letters or side agreements. Overall, the reputation of both the venture capitalist and the corporation, as a strategic investor, will ultimately affect the other investors' willingness to accept the side letters for one of their co-investors in the fund.

Next, to the extent that other institutional investors or family offices have difficulties in accepting the more favourable deal terms for the strategic corporate investor, venture capitalists and corporations are usually left with three options. First, the corporation may take the position as the sole investor/limited partner in the venture capital fund. Second, the corporation locates a reputable and established investor that can restore the balance of interests amongst the investors. Third, the venture capitalist can create a partnership of two or more other corporate investors that are willing to work together in an investment fund that targets high-potential growth companies and/or other innovative projects.

Once the terms of the partnership agreement are concluded and the investors have committed their capital, the process does not end there. In other words, corporate engagement plays a pivotal role in the success of any collaborative fund. In order to ensure commitment and involvement, corporations often consider allowing staff members (either through relocation to the fund or through secondment arrangements) to liaise between the fund and the corporation's strategy and research and development departments. Finally, clear rules on conflicts of interest have proven to be a key element in structuring the liaison's position.

3. The role of governments in collaborative funding models.

This section will discuss government interventions that have the potential to significantly contribute to the emergence of collaborative funding models. Earlier, we described how government interventions do not always have their intended effect. One reason offered is that government venture capital initiatives are often targeted toward the funding gaps in specific industries and development stages in the venture's life cycle. For instance, Australia provides a number of good examples including the Renewable Energy Equity Fund, the Pre-Seed Fund and the Innovation Investment Follow-on Fund that were established in 2000, 2002 and 2009 respectively. What, then, determines the success or

failure of government interventions? While there is no single answer, incentive design and connectivity to other stakeholders in the venture capital ecosystem appear to play an important role.

Let us have a closer look at several features of the Australian government funds that have arguably contributed to the success of these collaborative funds. Indeed, recent research indicates that the Australian initiatives were successful in spurring innovation and entrepreneurship [Cumming and Johan, 2014]. What is probably most suggestive here is that the funds operate as "public-private partnerships" in which public funds are pooled with capital from private investors. The funds are managed by private-sector fund managers who are not only in a better position to pick "winners", but also to ensure that the funds are connected to the existing venture capital industry. Venture capital fund managers and private investors are, thus, essential to the success of the government programs. In essence, the government acts as a strategic investor whose main objective and interest is the development of a robust venture capital ecosystem. To ensure investments in the future, the government initiatives are organized as "revolving programs," which means that the government must participate in the distributions of returns and interests from initial investments in to reinvest the proceeds and ensure the program's long term sustainability. Indeed, profit distribution arrangements require the fund managers to first return the invested capital to the government and private investors before venture capital fund managers participate in the upside. Often, there is even an additional hurdle rate in place to ensure that the investors first receive their paid-in capital and their cost of capital. However, unlike most government support programs, the Australian program is designed to attract and incentivize private investors. The remaining profits (if and when realized) are split disproportionally with the government receiving 10% and 90% going to the private investors.

The idea that a capped upside for the government is attractive to the private sector investors is not really new in the venture capital industry. The Yozma program—viewed by many as a prime example of how government initiatives should be organized—introduced this incentive mechanism to attract experienced international venture capitalists and investors to Israel. By doing so, the Yozma program fostered the relationship between Israeli start-up companies and experienced American venture capitalists, leading to an impressive and low-cost development of Israel's venture capital ecosystem in the late 1990s. Evidence from Israel's IT sector, for instance, suggests that the connection to the US venture capital industry not only increased the possibility of receiving follow-on investments, but also made it possible for Israeli start-up companies to piggyback on US institutions, such as the NASDAQ stock exchange.

European policymakers also show a mounting interest in public-private partnerships. Consider the High-Tech Gründerfonds in Germany. Interestingly, the fund is designed to meet two key needs: access to venture capital and connectivity to other advisors and investors. First, the German public-private partnership currently manages in excess of €600 million of committed capital over two fund generations and invests mainly in emerging SMEs in Germany. The German Federal Ministry of Economics and Technology and KfW Banking Group are the "strategic" anchor investors in the two funds. As for connectivity, the High-Tech Gründerfonds gives access to an impressive network of

coaches, such as university professors, angel investors and venture capital funds. These coaches not only offer value-added services to existing portfolio companies, but are also responsible for providing investment opportunities [Brandkamp, 2011]. And there is more. Both funds have been able to attract a significant number of corporate investors. Corporate investors in Fund I (which started to make investments in 2005) include BASF, Robert Bosch, Daimler, Siemens, Deutsche Telekom, and Carl Zeiss. Fund II, which commenced investing on 27 October 2011 and had a second close of approximately €302 million in December 2012, was able to attract even more corporate interest with commitments from ALTANA, BASF, B.Braun, Robert Bosch, CEWE Color, Daimler, Deutsche Post DHL, Deutsche Telekom, Evonik, LANXESS, m+mv, Metrogroup, Qiagen, RWE Innogy, SAP, Tengelmann and Carl Zeiss. Together, these companies are important to supply key technical and market support to the entrepreneurial businesses. As mentioned, the High-Tech Gründerfonds is one of Europe's most active venture capital funds.

It follows from the above discussion that properly structured public-private partnerships that build on ingredients already available in the market are probably the strongest tool to develop a sustainable venture capital industry. However, one challenge often remains: the local or regional focus of both the government programs and the venture capital funds (or to put it differently: the lack of international/cross-border focus). For instance, it would be beneficial to expand the reach of successful models (such as the High-Tech Gründerfonds) to other European countries and target interested investors, such as family offices and cash-rich investors from the United States that are already showing their willingness to invest more and more in European start-up companies. One could also argue that a vibrant venture capital industry needs access to an online marketplace where, the fragmented and disorganized stakeholders of the venture capital ecosystem – such as entrepreneurs, venture capital funds, angel investors and other investors and stakeholders – could connect and exchange investment and exit opportunities.

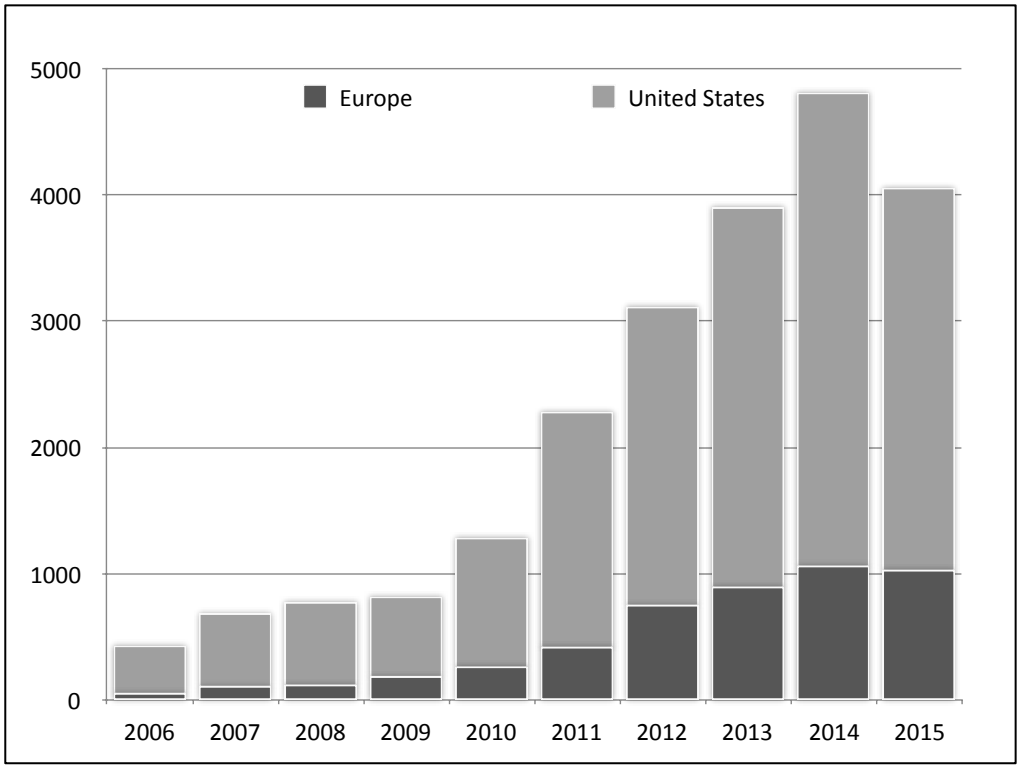
B. Online Platforms

Angel investors refer to affluent individuals (often successful entrepreneurs) who provide their own capital and know-how to a business start-up, often in exchange for ownership equity. Many economists have examined how angels use of their own money for investment, which will almost certainly reduce the likelihood of uncooperative behavior [Metrick and Yashuda, 2010]. Beyond that, angels are an important source of network resources because they undertake extensive due diligence and often serve as mentors [Wong et al, 2009]. These indirect ties, for example, will likely affect the level of trust between the firm and outside investors.

A small but increasing number of angels organizes themselves into groups or networks to pool resources. Recent evidence shows there are an increasing number of active angels and angel groups in both Europe and the United States. Figure 26 shows the ballooning number of angels and angel groups actively investing in the start-up space (and tracked by PitchBook). A significant recent development in this context has seen angel investors combine with crowdfunding. Estimates suggest

that investments by business angels alone in Europe has risen from €153 million in 2010 to € 554 million in 2013 [EBAN, 2014]. In contrast, the estimates show that the angel market grew in the US from $17.6B in 2009 to $24.1B in 2014 [Lerner et al, 2016].

Figure 26: Angel Rounds in Europe and the United States



Source: Data from PitchBook

As angels start working through online crowdfunding platforms they have the potential to become an even more serious option for start-ups. Consider *AngelList*, an online platform in the United States that streamlines the fundraising process by matching start-ups with investors. The platform, which commenced in January 2010, is increasingly used by start-up companies to get easy and quick access to a "social network" of qualified and sophisticated angel investors. Besides the fact that *AngelList* offers a platform for start-up companies to connect and negotiate seed and early stage financing, it also provides transparency to the ecosystem by making it possible for investors to follow companies and track their growth and development. Companies that are "listed" on *AngelList* are increasingly successful in attracting investments. In 2014, 243 start-ups raised $104M from 2,673 investors online. Even though the number of angel investments slightly decreased in 2015, these online deals on AngelList increased to 441 start-up companies raising $163M from 3,379 investors. These companies have also been successful in raising follow-on finance.

AngelList continues to evolve rapidly. Consider the syndicates service, which offers investors the opportunity to invest alongside notable angels in promising portfolio companies. This service has several benefits that stimulate collaborations. First, there are no management fees (backers pay a carry – percentage of the syndicate's profits – of 5% to 10%). Second, *AngelList*'s syndicates provide flexibility to the backers in that they can exit the syndicate at any time or they can opt-out of specific deals. 170 active syndicates were formed in 2015 (compared to 110 in 2014). What is interesting in the context of this paper is that these syndicates were able to co-invest with many of the new breed VCs that were discussed above.

C. Liquidity Options

Platforms appear to play an important role in encouraging or kick-starting collaborative venture capital models. Still, investors and entrepreneurs face another obstacle: the liquidity gap. Obviously, the extended exit horizon – and its delayed cashout event – potentially discourages entrepreneurship and the emergence of sustainable collaborative models. One important effect of the sluggish IPO market and the liquidity gap is the focus on deregulation and the emergence of a new generation of securities markets. Earlier, we mentioned the JOBS Act in the United States.

Deregulated markets are considered important for stimulating entrepreneurial activity and attracting venture capital. As discussed, the confidential filing feature of the JOBS Act appears to have had a positive effect on the number of venture capital backed listings in the United States. In general, however, the introduction of these new markets and accompanying deregulatory measures had exhibited a surprisingly low success rate. One of the reasons is that founders of (and investors in) emerging growth companies increasingly believe that it is in the best interest of the company to remain private as long as possible (mainly in order to avoid the cost of going and being public and to prevent interference by short-term investors) [McCahery and Vermeulen, 2013]. Articles in the *Economist* in 2012 confirmed this trend, indicating that "going public" is not the executives' dream.

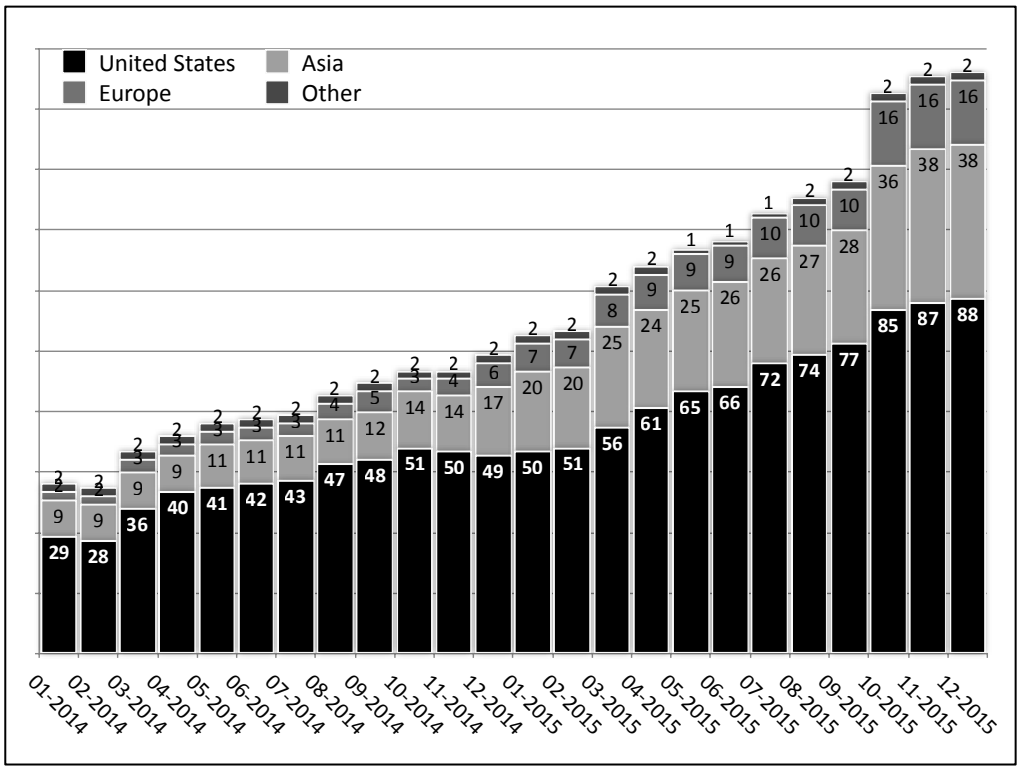
In order to bridge the liquidity gap, there is a growing need to develop online private secondary exchanges that can facilitate pre-IPO trading in the shares of non-listed venture capital-backed firms [Mendoza and Vermeulen, 2010]. These trading platforms have the potential to become a critical component of the venture capital ecosystem, as they can bridge the ecosystem's liquidity gap and reduce the fragmentation of the venture capital industry. The fact that a former Facebook employee who approached SecondMarket to assist him in selling his stock options is indicative of the lack of liquidity options in 2008.

Naturally, the post-IPO fall in Facebook shares appeared to have dampened the excitement for the private start-up stock platforms among private investors in the United States. Here it should be noted that the use of online exchanges as an outlet for trading shares in non-listed firms is not free from controversy. Indeed, some have raised concerns about the lack of sufficient information regarding the companies whose stock is negotiated through these venues. As private firms have no obligation to

make public disclosures under US law, many doubt the accuracy of the valuations used to determine the price of transactions on online exit platforms, such SecondMarket and SharesPost [Pollman, 2012].[4]

However, over the years, trading in stock of private companies has grown rapidly and is currently doubling the volume of trades that took place in the pre-Facebook IPO period of 2011/2012, according to private equity research firm NYPPEX. To be sure, the changing market structure should not be unexpected for those attuned to the dynamics of the venture capital industry. In general, hedge funds, mutual funds and other institutional investors are increasingly prompted to make later stage investments in the venture capital asset class since, as we have seen, the timing of the "IPO pop" has slowly but surely shifted to before the IPO, leaving less capital on the table for the investors in public markets. Acquiring shares held by founders, early investors and other employees on pre-IPO markets may be the preferred channel for institutional investors to buy into the high tech companies.

Figure 27: The Global Unicorn List



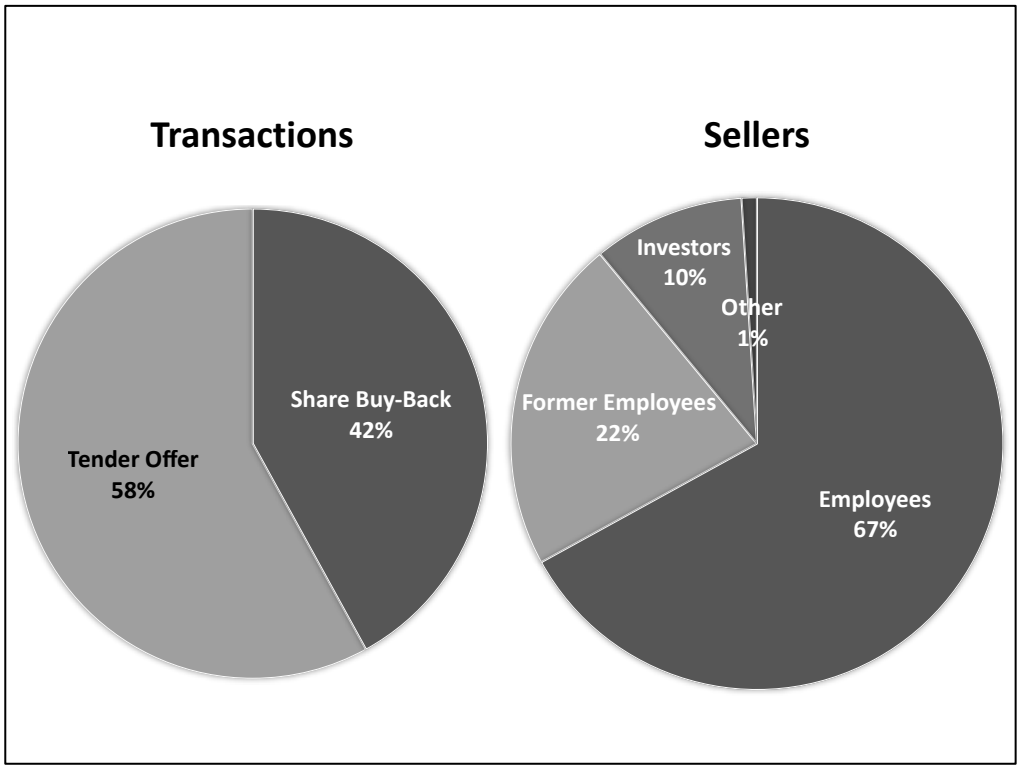
Source: Wall Street Journal/Dow Jones VentureSource

As public market investors are entering the private market and venture capitalists are being pushed to later rounds of financing, high tech companies have even more incentives to remain private longer.

[4] This is the reason why start-up companies in the United States collaborate with private equity firms (*e.g.*, Twitter and Blackrock) to provide pre-IPO liquidity to employees and other shareholders.

The result is larger investments in bigger and more mature companies with higher valuations. Recent evidence shows that venture capital-backed companies, with a valuation of $1 billion or more, decide to remain private. This trend is not only happening in the United States, but also in other parts of the world. As is reflected in Figure 27, at least 144 private "unicorn" companies were valued at $1 billion or more in December 2015. In January 2014, this number was 42. The number of "exceptional" start-up companies that were still private in 2013 was 28. During the dot-com boom in 2000, "only" 10 companies with a valuation of $1 billion or more had the status of being "privately-owned", the record number before the 2007–2008 financial crisis. As we have seen, PitchBook data shows that the trend to remain private longer remained steady in 2015.

Figure 28: The Nasdaq Private Market in 2015



Source: PitchBook, Nasdaq

This will become more imminent as US venture capital investors are taking a more global view as they seek to benefit from global investment opportunities. So, what is the impact of these venture capital mega rounds and valuations on the IPO market? We can draw several lessons from the developments in the aging IPO market as discussed in the previous sections of the paper. A first lesson is that there is a growing need to develop a pre-IPO market for high tech companies. Pre-IPO platforms (such as SecondMarket) have emerged to satisfy the liquidity needs of founders, early stage investors and employees. The list of "new" players in the pre-IPO phase of venture capital backed-companies also includes public market investors, such as hedge funds and mutual funds. Indeed, participating in later

stage (pre-IPO) financing rounds of venture capital-backed companies (that offer unique investment opportunities and quick turnarounds) becomes more and more a must for institutional investors in order to maintain performance standards.

It is thus important for policymakers and regulators to remove the regulatory uncertainty that creates barriers to the emergence of pre-IPO trading platforms and the involvement of institutional investors in the venture capital industry [Fenwick and Vermeulen, 2016b]. For instance, it is only waiting for stock exchanges to integrate platforms for pre-IPO (secondary) trading in shares of non-listed companies into their existing venues in order to gain an edge in the increasingly fierce competition to dominate the market for IPOs of high-growth firms. A segmented venue of this nature would allow stock exchanges to create bonds with these firms early on in their life cycles. This may also make it more likely for firms with high growth potential to undergo their IPOs in the same venue that supplied their investors with pre-IPO liquidity, rather than in competing exchanges. The launch of Nasdaq Private Market, which evolved from the joint venture with SharesPost, is one of the first successful examples of a stock exchange offering a "pre-IPO" segment.

Nasdaq Private market assists fast growing companies to provide liquidity to shareholders (employees and early investors) by offering access to buyback programs or third-party tender offers (*see* Figure 28). It should come as no surprise that Nasdaq's new segment is particularly attractive to the larger "unicorn" type companies. In 2015, the average valuation of Nasdaq Private Market's clients was $1.8B. The average age of the companies was 9 years and they already employed 441 persons. The private market mainly provided liquidity to the current and former employees of the "listed" companies (*see* Figure 28). What is probably most attractive to the private markets is that they make liquidity and valuation processes more transparent to the often less sophisticated employees. In this respect, they play a crucial role in the more collaborative VC ecosystem that has emerged after the financial crisis.

5. Conclusion

This review sheds light on equity financing alternatives to bank financing for SMEs and high growth start-up companies. Our findings provide support for a conclusion that governments often influence the development of SMEs and innovative and emerging growth companies by providing financial support and promoting external funding to venture capitalists. In addition, by focusing on recent trends in the venture capital industry, we find that "new" types of investors and alternative investment opportunities are the main factors in shaping a "new" venture capital cycle. It is important to reiterate that governments, motivated by this evidence, should take these trends and developments into account when deciding on how best to stimulate business growth and innovation.

This review examines the funding gap in the early to mid-stages of the development of companies. The gap is largely due to traditional venture capital providers moving towards less risky financing of later and growth-stage companies. The most important point that emerges from this analysis is that new types of investors are emerging to fill the funding gap, such as crowdfunding platforms and corporate venture capital investors. We also see the emergence of a new breed of venture capitalists. They can be recognized by their lean and straightforward funding model and founder-focused investment approach. Their focus on partnering ("give-before-you-get") instead of venturing ("making money") plays a crucial role in the new venture capital cycle.

Indeed, this review also shows that "something more" than alternative sources of investment is needed to contribute significantly to the growth of start-up companies and thereby also help solve the liquidity gap. Overall, the findings confirm that new collaborative venture capital models may provide an effective basis for funding innovative projects. One of the features of these new models is that corporations have become anchor investors in venture capital funds that invest in both related and unrelated industries. Our results also point to the emergence of an outsourced venture model or minority corporate venture model. In these models, venture capital funds, which are managed by independent venture capitalists with outstanding track records, make investments in start-up firms on behalf of large corporations.

With these results in mind, we suggest an initial solution for government intervention in the venture capital sector. While economic studies on the impact of smart coinvestment schemes on VC investment are very recent, they show that public funding can be used to provide a leverage effect to investments from the private sector. In fact, experience with government-sponsored funds, such as the High Tech Gründerfonds, confirms that the network creating capabilities of these initiatives have the anticipated productivity effects for large corporations, venture capitalists and entrepreneurs. The results also give support to the notion of online platforms, which appear to have a positive effect on the emergence of collaborative funding models.

Finally, we have indicated that in order to stimulate the collaborative funding models, there is a growing need to develop a pre-IPO market for venture capital-backed firms. Indeed, we have seen

that trading platforms can bridge the liquidity gap in the venture capital cycle and reduce the fragmentation of the VC industry. The evidence suggests, however, that such a marketplace is likely to be most effective when it forms part of an existing stock exchange, preferably as a springboard for "higher" segments.

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