Coller Institute of Venture
TEL AVIV UNIVERSITY

Venture Findings

ISSUE 1a — 2014
WELCOME ISSUE
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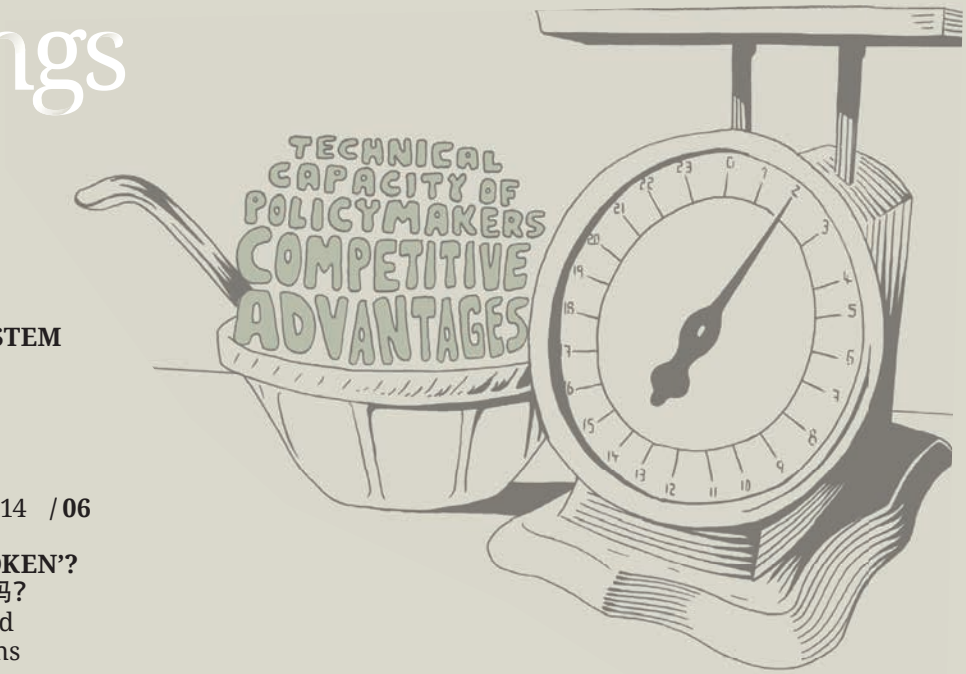

TIME TO IMPACT

A TOOLBOX OF PROVEN GOVERNMENT VENTURE POLICIES /36

What Color is Your Parachute?

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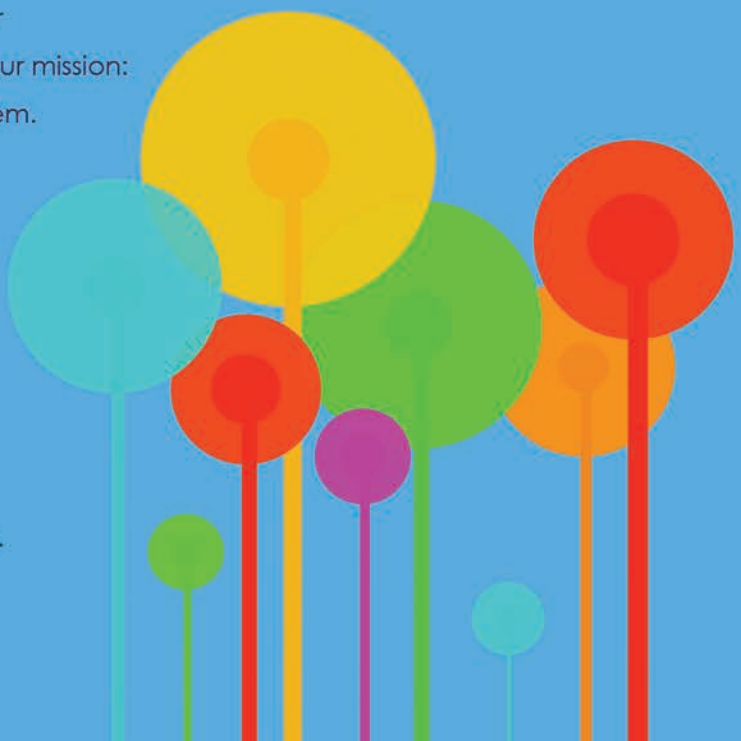
1. Because you are a public authority official, institutional investor, venture capitalist or entrepreneur who wants to engage in our mission: to advance the global venture ecosystem.
2. Stay up to date on our research on venture.
3. Learn about upcoming events.



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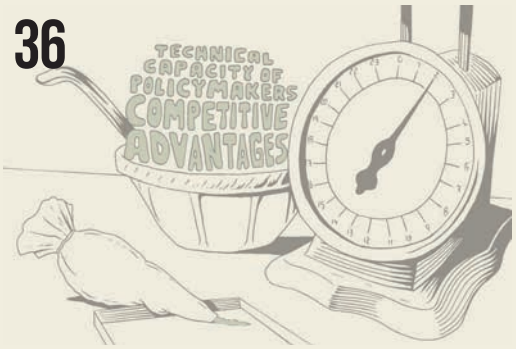


什么是
科勒风险投资研究院?

WHAT IS THE COLLER INSTITUTE OF VENTURE?

JEREMY COLLER
Chief Investment Officer, Coller Capital

ELI TALMOR
Professor, London Business School; Founding Chairman, Coller Institute of Venture, Tel Aviv University

Countries round the world acknowledge the importance of innovative, fast-growing companies for future prosperity and jobs – yet creating the conditions for such new ventures to appear and flourish has proved remarkably difficult. It is to address this challenge that we have founded the Coller Institute of Venture at Tel Aviv University.

The recipe for success is complex, requiring many ingredients. The most important ingredient of all – human ingenuity – can be taken for granted; however, history shows that the 'seeds of ingenuity' often fall on stony ground. Even in an adverse environment, human ingenuity will triumph some of the time. The challenge is to create fertile soil – truly entrepreneurial societies – in which it triumphs more often than not.

We believe there are three essential preconditions for the entrepreneurial society, which are reflected in the objectives we have set for the Coller Institute:

- **Long-term capital** – We will identify the conditions that will lead to compelling returns for long-term capital (e.g. pension plans, foundations, sovereign wealth funds) to invest in venture capital.
- **Sources of IP** – We will investigate and communicate best practice in technology translation from governments, universities and corporates.
- **Governments do the right thing** – We will promote innovation in policy-making and planning, encouraging governments to adopt best practices in legal frameworks, fiscal incentives, behavioral economics and other parts of the public policy agenda.

We will strive both to be a global hub and to make an impact on venture's whole ecosystem.

- **Global** – We believe venture – the creation and encouragement of high-potential new companies – is a global concern. Our perspective is therefore global. We will draw insights and evidence from all over the world, and report our conclusions to interested parties worldwide.
- **Hub** – There is no shortage of information on venture; indeed there is almost too much. We will serve as a focal point for information, people and tools – drawing together research, data, and inputs from third parties, and overlaying them with our own analysis and insights.
- **Impact** – Our ultimate aim is to improve the venture ecosystem, not simply to report its changing nature. We will measure our success by our ability to influence players across the venture world, from institutional investors and universities, to venture capitalists and public policy-makers.

Web-based startups in Silicon Valley and Tech City are already awash with cash. Our focus is wider. We will ask how to 'compress the value-chain' for deep innovation-how science in diverse areas such as nano-materials, neuroscience and robotics can be translated from the lab into sustainable businesses – more quickly, more efficiently, and more often.

Now, it's your turn

Venture Findings is the visible face of the Institute's global hub. It is with great pleasure that we welcome you to this inaugural issue. Our logo deliberately includes a 'yet-to-be–filled' triangle. We invite you to join our global community and help us create a more venturesome world.

学术研究
是科勒风险投资院视野的核心

RESEARCH IS AT THE CORE OF THE CIV'S VISION

PROFESSOR MOSHE ZVIRAN
Academic Director

THIS WELCOME issue of Venture Findings offers precisely what the Coller Institute of Venture at Tel Aviv University (CIV) strives to deliver: a deeper understanding of the global venture ecosystem. Research is at the core of the CIV's vision — research on how venture is stimulated, promoted and nurtured across different geographies and industries. Issue 1a of Venture Findings addresses each of our target audiences and collaborators, namely academics, institutional investors, public authorities, venture capitalists and entrepreneurs. The four articles grapple with the big issues shaping the global venture conversation:

①

The Venture Ecosystem Framework: Messy, Fast, and Global
Six Trends Shaping the Venture Ecosystem in 2014

By Yesha Sivan

Develops a framework for the actors in the venture ecosystem: entrepreneurs, venture capitalists, institutional investors, and public authorities. In addition to framing the venture ecosystem's participants, this article identifies the six trends that underscore the venture space becoming 'messy, fast and global'.

②

Is the VC Model 'Broken'?
VC Success Definition and Understanding Who Wins and Who Loses

By Allee Zhang

Assesses the performance of the VC industry by comparing the asset class's performance to public equity markets in an attempt to determine whether the risks associated with VC's illiquid and high-risk nature are sufficient for institutional investors.

③

Measuring Science Parks' Performance: TusPark, Imperial West and 15 Other Parks

By Abraham Carmeli

Investigates the means by which science park performance can be measured. In addition, the article zooms in on the history and performance of two science parks in particular and provides a snapshot of 15 key science parks globally.

④

The Public Venture Policy Menu: 44 Policies Public Authorities Can Take

By Robyn Klingler-Vidra

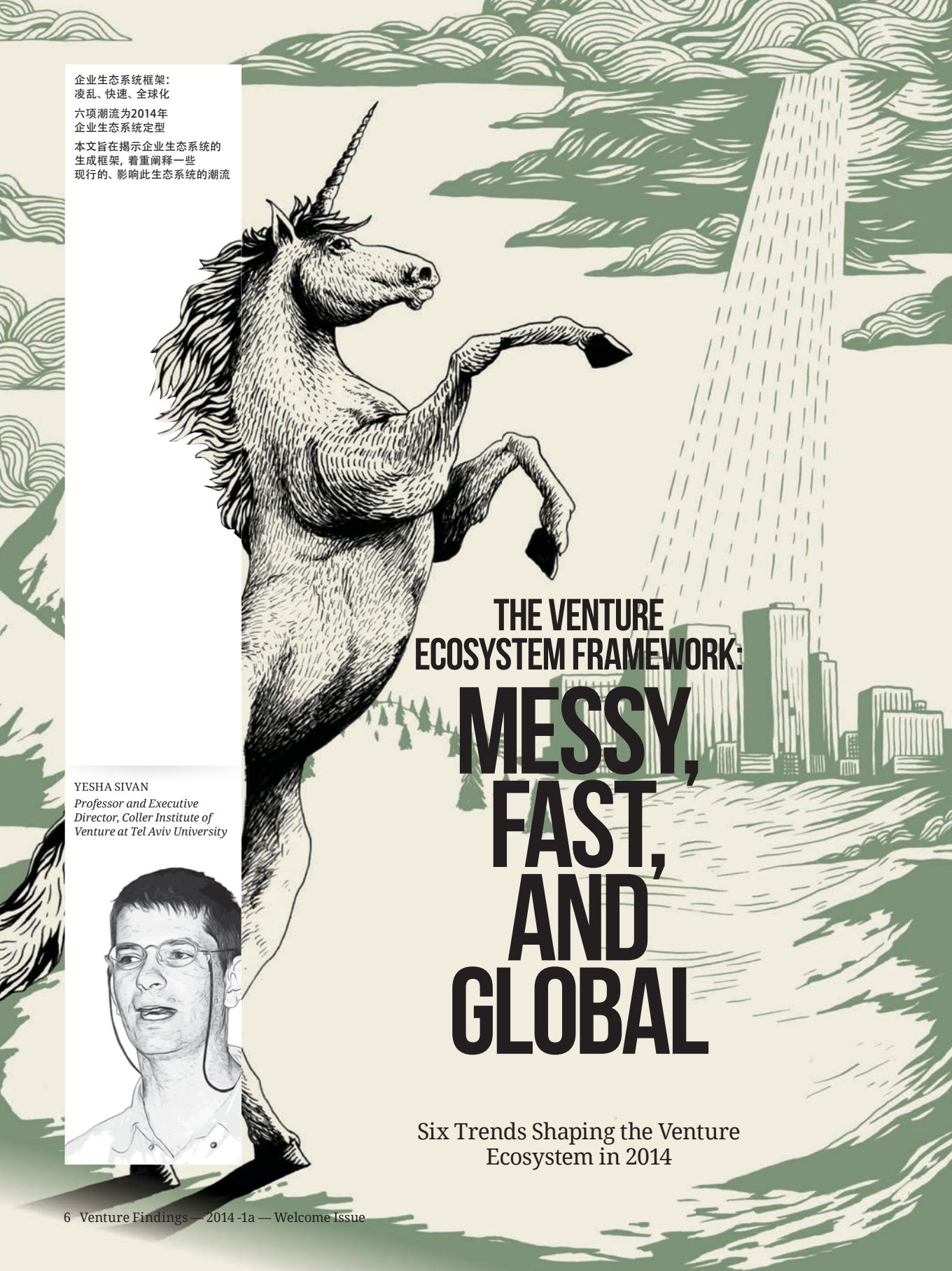
Speaks directly to public authorities. It asks "what can policymakers do to support venture?" To answer the question, the article delineates a menu of venture policy choices available to public authorities, across eight categories.

In addition to the four articles, the issue also highlights recent news compiled by the CIV research team. The Institute's research team's analyses, and the contributions in this first issue of Venture Findings, will be further discussed at CIV's inaugural conference at Tel Aviv University on 19 May. I hope you enjoy this important first issue of Venture Findings, and look forward to engaging with you in the Coller Institute of Venture's community.

企业生态系统框架：
凌乱、快速、全球化

六项潮流为2014年
企业生态系统定型

本文旨在揭示企业生态系统的
生成框架，着重阐释一些
现行的、影响此生态系统的潮流



THE VENTURE ECOSYSTEM FRAMEWORK:

MESSY, FAST, AND GLOBAL

Six Trends Shaping the Venture Ecosystem in 2014

YESHA SIVAN
Professor and Executive Director, Coller Institute of Venture at Tel Aviv University

This article presents a generative framework for the venture ecosystem and highlights the current trends affecting the ecosystem.

SECTION 1

Goal: Towards More Venture

The proposed venture ecosystem framework (see Figure 1A) was designed to map how entrepreneurs generate value for themselves and society, and, in turn, generate more value for their investors: venture capital (VC) firms, and their limited partners — the institutional investors. Even more so, the framework is designed to help public authorities (of regions, nations, and cities) nurture venture ecosystems as fruitful grounds for such innovation-based value generation.

Let us start with two related venture anecdotes that both occurred in February 2014: Rakuten Inc, one of Japan's largest internet services companies, announced its acquisition of Viber, a Cyprus-based (with Israeli roots) messaging company, at a reputed US$900m. Viber, one of the most popular mobile communications services in the world, with a rapidly growing global user base of 300 million registered users, is a good fit for Rakuten's strategy in the digital space.[1] Viber had no VC money and was financed by its founders, using income from a smaller internet firm it owned.

The Viber deal was dwarfed a few days later when, on 20 February 2014, Facebook announced the purchase of WhatsApp, another messaging service, for US$19bn in cash and stock. While Rakuten paid US$3 per user, Facebook paid US$42.[2] Sequoia, a well-respected venture capital firm, which invested US$60m in WhatsApp, made around US$3bn from the WhatsApp acquisition (approximately 50x return).[3]

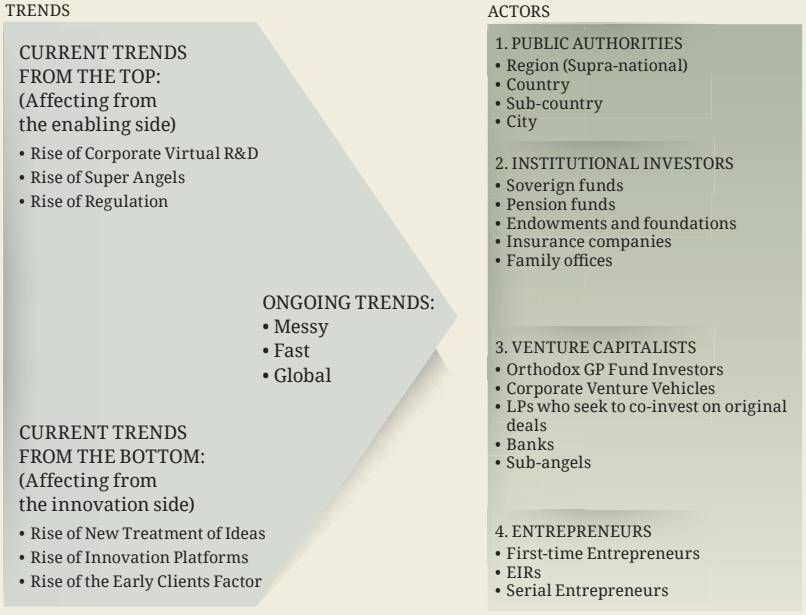
On the one hand, these two deals epitomize the value of venture: startups create value for users, and thus value for early entrepreneurs and later investors.

The Viber and WhatsApp deals, while very unique (often called Unicorns)[4], also demonstrate some of the changes in the venture ecosystem in terms of value, speed, and the role — or not — of VCs.

On the other hand, these successful deals also hint at the darker side of the venture ecosystem. Overall, most VCs in recent years (2002–2014) have failed to deliver returns beyond the public equities market. In the U.S., the number of principals has gone from about 14,000 people managing about US$270bn in 2002, to 6,000 managing about US$200bn in 2012 (Figure 1B), which suggests the classic model of VCs is broken and the industry is shrinking (Figure 1C).

This article will define the term 'venture', and then present the framework for the venture ecosystem. To further explore the current state of the ecosystem, we will first look at three trends affecting innovation itself, and then three trends affecting the enablement of the innovation. Lastly, we will look at the ongoing trends that characterize the venture ecosystem.

FIGURE 1A: The Venture Ecosystem and six trends affecting it
Source: Author analysis



Definition: Venture = New, High-Potential and Capital-Based

The term 'venture' has many meanings. Here we focus on what can be called new high-potential, capital-based ventures. Let's unpack the three major terms of this definition:

New

To a large degree we are focusing on new ventures, rather than restructurings, leveraged buyouts, and other later–stage initiatives.[5] If an innovation is spun-off to start a new firm, be it a corporate, a national lab or a university, this will be considered a venture. We are also using 'new' to distinguish new kinds of ventures. For example, if an investment in an oil field takes a standard — albeit risky — approach, this will not count as a venture for our purposes.

High-potential

We will look at ventures that have the potential to create high societal value, and thus create value to investors (the investor's value also relates to the next term, 'capital based'). High value means a combination of elements that affect many people (millions and often billions), replacing older systems and creating new ones. For many, the value is in the eye of the beholder, but for the investors, high value is more absolute. Value means high returns on their investment, to compensate for the risk and the illiquid nature of their investment.

"THE TERM 'VENTURE' HAS MANY MEANINGS. FOR THE PURPOSE OF THIS ARTICLE WE WILL FOCUS ON WHAT CAN BE CALLED NEW HIGH-POTENTIAL, CAPITAL-BASED VENTURES."

Capital-based

This means the ability of funding to accelerate the development of the innovation, allowing the firm to develop faster, capture mind share and then market share, thus generating returns for the investors. In this sense, a family owned pizzeria will be a lifestyle business. However, if the same pizzeria, with capital and the right leadership, turns into a global chain, it will be considered a venture.

Naturally, this definition involves judgment calls. What is new? At what point do you gauge the level of potential? How much capital is needed? So, we need to bear in mind that these terms should be used as guides, rather than as strict definitions.

FIGURE 1B: Venture Capital in the U.S. key stats (1992, 2002, 2012)
Source: NVCA Yearbook 2013

	1992	2002	2012
No. of VC Firms in Existence	358	1,089	841
No. of VC Funds in Existence	616	2,119	1,269
No. of Principles	4,996	14,541	5,887
No. of first-time VC Funds raised	13	25	43
No. of VC Funds raising money this year	78	176	162
VC Capital raised this year (US$bn)	4.9	15.7	20.1
VC Capital under management (US$bn)	28.7	272.1	199.2
Average VC Capital under management per firm (US$m)	80.2	249.9	236.9
Average VC Fund size to date (US$m)	39.1	94.4	110.6
Average VC Fund size raised this year (US$m)	62.8	89.2	124.1
Largest VC Fund raised to date (US$m)	1,775	6,300	6,300

FIGURE 1C: Venture Capital in the U.S. capital under management (1985–2012)
Source: NVCA Yearbook 2013

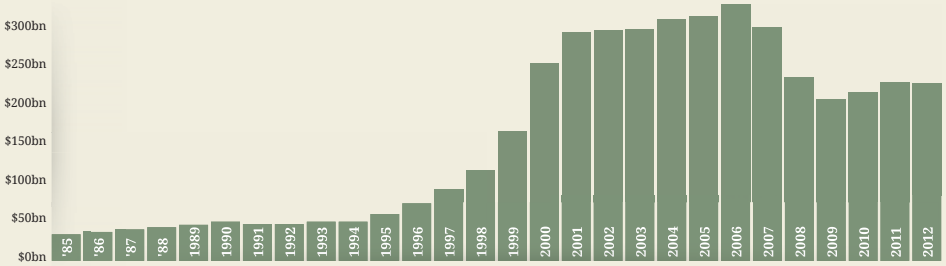


FIGURE 2A: Relative Allocation of Dry Powder to Different Asset Classes
Source: Preqin data pack 2014 Q1

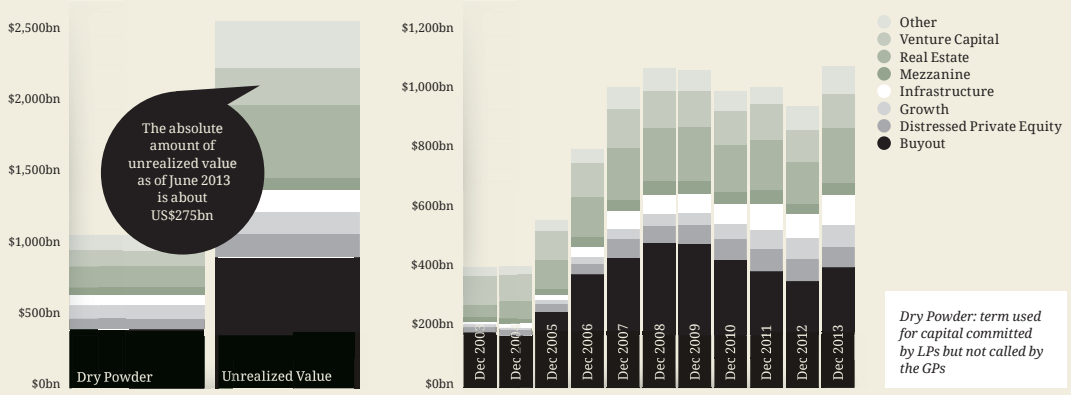
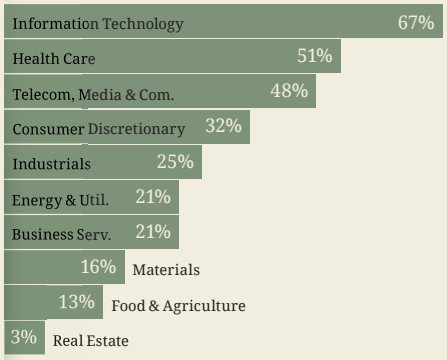
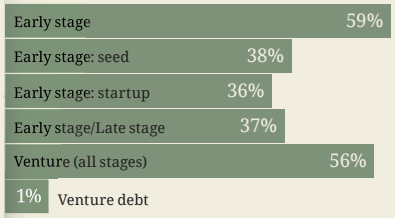


FIGURE 2B: More information about Venture Capital General Partners

VC Firms' industry preferences for underlying investments
Source: Preqin Fund Manager Profiles 2014 Q1



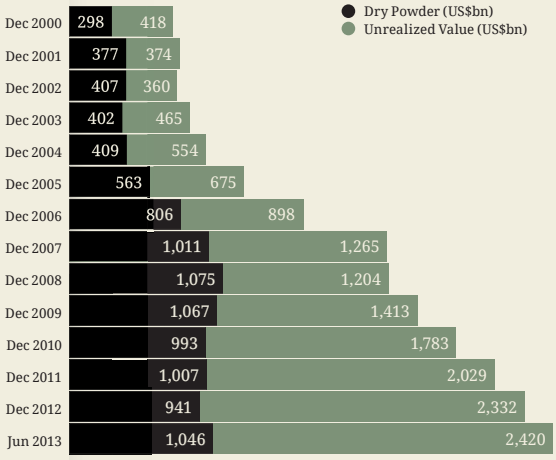
Breakdown of VC Firms by investment stage preferences
Source: Preqin Fund Manager Profiles 2014 Q1



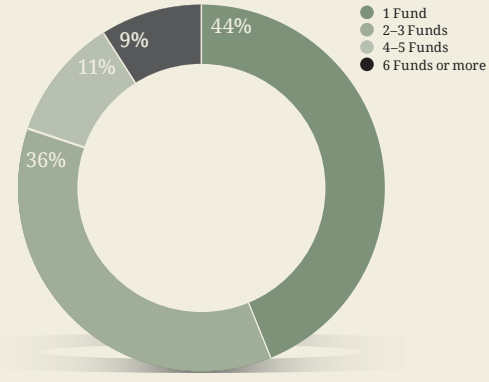
Number of firms actively managing VC funds by country
Source: Preqin Fund Manager Profiles 2014 Q1

GP Location	No. of Firms
U.S.	770
China	87
UK	75
Canada	50
Japan	48
France	41
India	38
Germany	35
South Korea	34
Israel	33

All private equity assets under management
Source: Preqin Fund Manager Profiles & Preqin Performance Analyst 2014 Q1



Breakdown of VC Firms by number of funds raised
Source: Preqin Fund Manager Profiles 2014 Q1



We do need to note that such new, high–potential and capital–based ventures represent a small part of the startup landscape, and a small part of the investment landscape. With regards to the startup landscape, Diane Mulcahy, one of the vocal critics of the venture industry,[6] says only a tiny percentage (fewer than 1%) of U.S. companies have raised capital from VCs (other sources of funding include self–funding, bank loans, angels, and, the latest, crowd funding).

With regards to the investment landscape, Figure 2A demonstrates that venture funding represents a small percentage of the private equity assets (the absolute amounts of unrealized value as of June 2013 is about US$275bn). We need to note that venture capital is a relatively risky asset class that can, and frequently does, lead to "total loss" of value. Such loss may also cause "saving face" challenges to institutional investors.

One important aspect of the societal impact of such venture-backed firms can be measured by the number of jobs such firms create in the long run. The 2013 National Venture Capital Association report demonstrates the job creation value of venture backed firms in Figure 2C. Companies like—The Home Depot, Starbucks, and Staples, that are known for their new business model, as well as companies like Microsoft, Intel and Medronic, that are known for their new use of technologies, employ thousands of employees. Such venture–backed firms, that have created value for their entrepreneurs and pre–exit investors, continue to create societal value to their employees and customers.[7]

SECTION 3

Framework: Four main actors of the Venture Ecosystem

Starting from our definition of venture as creating *new high–potential, capital–based* firms, we identify the four main actors that support this effort: (a) *Public Authorities* that define the local (regional or national) ecosystem, (b) *Institutional Investors* that supply the funding, (c) *Venture Capital* firms that act as intermediaries between the institutional investors and the entrepreneurs as they select and nurture the firms, and (d) *Entrepreneurs* who initiate and then lead the venture firms.

Naturally, this venture framework overlooks some of the other players of the ecosystem (e.g. advisors, placement agents, lawyers and underwriters). This

FIGURE 2C: Number of employees as of IPO and in 2013 of selected venture-backed firms
Source: NVCA Yearbook 2013 (Global Insight; Updated from ThomsonOne 2/2013), with CIV update

Venture Capital-backed companies known for innovative business model employment at IPO and Now

Company	IPO Year	As of IPO	2014Q1	Current	#Change
The Home Depot	Sep 1981	650	(340,000)	331,000	330,350
Starbucks Corporation	Jun 1992	2,521	(160,000)	160,000	157,479
Staples	Apr 1989	1,693	(50,020)	89,019	87,326
Whole Foods Market, Inc.	Jan 1992	2,350	(66,771)	69,500	67,150
eBay	Sep 1998	138	(30,000)	31,500	31,362

Venture Capital-backed companies known for innovative technology and products emolument at IPO and Now

Company	IPO Year	As of IPO	2014Q1	Current	#Change
Microsoft	Mar 1986	1,153	(100,932)	94,000	92,847
Intel Corporation	Jul 1968	460	(107,200)	100,100	99,640
Medtronic, Inc.	Jan 1990	1,287	(46,000+)	45,000	43,713
Apple Inc.	Dec 1980	1,015	(80,000)	76,100	75,085
Google	Aug 2004	3,021	(47,756)	53,861	50,840
JetBlue	Apr 2002	4,011	(15,000+)	12,070	8,059

simplification will allow us to focus on the main actors as we see them. The four types of actors are depicted in Figure 3A, and described in turn in the text below.

"THIS SIMPLIFIED VENTURE ECOSYSTEM FRAMEWORK ACTS AS A REFERENCE FRAMEWORK FOR POLICY DISCUSSION, RESEARCH, AND DEBATE."

Public Authorities

Public authorities set the rules and regulatory environments for the venture ecosystem and, at times, even act as Limited Partners, or LPs for short. These usually mean national governments. In some cases it can mean local regions (e.g. a large province in China) or a grouping of countries (e.g. EU, APEC or NAFTA).

In some specific cases, local regions can be active in building a venture ecosystem, as with Tel Aviv's startup city effort, London with its Tech City,[8] and the NodePole in Sweden, for data centers.[9] Public authorities are highly motivated to stimulate the venture ecosystem as venture generates jobs and taxes.

Institutional Investors

Institutional investors own and manage large scale capital (equivalent to billions of dollars) that is long-term in nature. Such bodies include pension funds (private, public, and corporate), endowments and foundations, sovereign funds and family offices.

They usually allocate a percentage (3%–8%) of their capital to private equity, of which venture capital is a smaller part. In our venture settings they are called LPs. As a matter of scale, according to a 2013 Preqin report, the assets of sovereign wealth funds surpassed the US$5tn mark (1 Trillion = 1,000 Billion).[10]

Venture Capitalists

Venture capitalists are the front line investors in new firms. They are the ones that look for entrepreneurs and ideas, invest in them, and help develop their startups towards an exit. In our settings they are often called General Partners, or GPs for short. In this model, we also include angels and super angels in this category.

Entrepreneurs

Entrepreneurs come with the innovations and drive the new startups. They lead firms in their first phase, including first rounds of financing and setting the scene for the growth. It is noted that at times the initial entrepreneurs are replaced by professional managers. Few, like Bill Gates with Microsoft, Larry Page and Sergey Brin from Google, or Mark Zuckerberg from Facebook, stay with the firm to lead it onwards. In addition, in recent years we have also seen the growth of serial entrepreneurs, entrepreneurs turned angels, and entrepreneurs turned venture capitalists.

As the visual framework depicts, each actor can be seen to act along a specific value chain (we use the term "value chain" in an enhanced sense to Michael Porter's work).[11] The specific steps in the value chain are depicted in Figure 3A. In developing these four value chains we looked to expose the major steps each actor takes. Later, we will connect the trends to specific steps. This simplified framework of the venture ecosystem acts as a reference framework for policy discussion, research, and debate. It acts as a generative framework as it calls for reflection and action as we examine current and new phenomena. The venture framework allows analysis of the different steps, and the relationships between the steps within the same value chain and between the value chains.

These steps may change based on the settings and the maturity of the actor. In fact, the trends which we will soon list, relate to one more step in the value chains.

SECTION 4

Three Trends: Affecting the Innovation Side of the Venture Ecosystem

This section highlights three current trends mostly affecting the innovation side of the venture ecosystem. The next section highlights three current trends mostly affecting the enablement of innovation.

New Treatment of Ideas: The Intellectual Venture Case

Step 4.2 in the entrepreneur's value chain has to do with the birth of ideas. In this step the entrepreneur with the right background or opportunity (step 4.1 "Family"), comes up with an idea that is the seed of the venture. A company like Seattle–based Intellectual Ventures (IV) is now changing this step, and prides itself as a company that deals with ideas. "We believe that ideas are valuable. Everything we do—whether

partnering with our worldwide network of 4,000 inventors, purchasing patents from individuals and businesses, or creating our own inventions, is aligned to building and growing an invention marketplace."[12]

The company, which was co-founded by Nathan Myhrvold, formerly Chief Technology Officer at Microsoft, is changing the way venture is created. In one of its main efforts, IV has created a network with 4,000 inventors, that constantly creates ideas. The process is simple. From time to time, IV sends a request for ideas (RFIs) to the 4,000 inventors. Some of the inventors respond with a brief memo. IV then decides which of these ideas are turned into patents. If the idea is turned into a patent, IV will pay the inventor a fee.

Such a process has the following impact on the venture ecosystem:

- First, entrepreneurs can now just invent ideas and need not bother with firms. This can bring many more people into the innovation and venture ecosystem. When you compare the process of idea creation with company creation, some will prefer to focus — and get compensated — just for the ideas.
- Second, entrepreneurs can quickly take ideas in the form of patents, or even a basket of patents, and start a firm with established Intellectual Property (IP).
- Third, firms at a late stage can protect their original invention with additional patents. Such processes may be needed in the age of patent wars, especially against big firms.

While there is some criticism of IV, and some may even look at IV as a patent troll,[13] it is already changing the landscape of venture. Entrepreneurs and VCs are encouraged to incorporate a review of their plans in light of IV's growing portfolio of 40,000 patents.

The Growth of Innovation Platforms: The Amazon Cloud Case

While step 4.2 is about the birth of new ideas, the creation of a seed for a firm, step 4.3, is about the growth of the idea. In what we called the "baby" step, ideas are turning into initial businesses. Here we see a major trend in the past few years: the reliance of entrepreneurs on technological innovation platforms.

The paragon example is of course Amazon Web Services, which has allowed many IT/Digital firms to blossom. Such firms need not bother with installing servers, physical space, replications, back-up, etc. They can count on a generic infrastructure to deal with growth. Such firms can now focus on the innovation itself: Test it. Modify it. Adapt it.

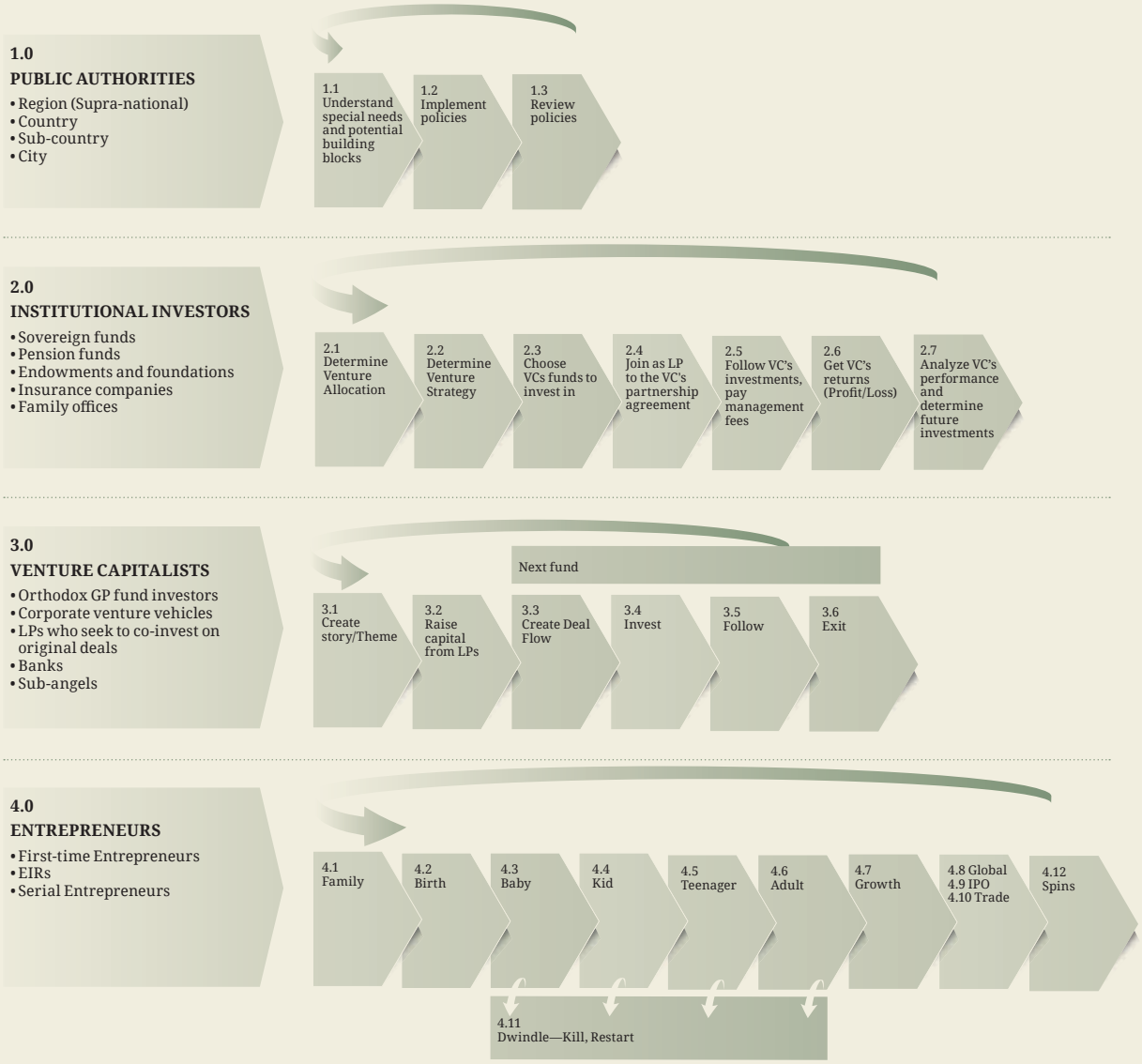
Amazon Web Services is one kind of platform. In fact, if we look at platforms as a prism, we can list Facebook, Google and Twitter as platforms. On a more technological level, we can look at GPS, mobile phones and the internet itself as platforms. But let's not stop there. There are even more platforms: financial platforms, such as credit cards, AliPay and PayPal, and shipping platforms, including FedEx, UPS, and even national mail provider turned global player Deutsche Post DHL.[14]

Getting Early Users: the Kickstarter Case

Step 4.4 has to do with the growth of the idea. As you pitch your idea to a VC, usually one of the questions you will be asked is: is there traction? Are users (people, firms) really interested in your solution? A new tool to gauge users' level of interest has emerged in 2009, with the founding of crowd–funding platform Kickstarter.

With Kickstarter, a startup can

FIGURE 3A: The Venture Ecosystem Framework with Four Actors
Source: Author analysis



present its product, and gain early clients. These clients confirm the need for the product, help co–design it with early feedback, and fund the early development. One of the best examples of the effects of Kickstarter can be seen with Oculus Rift, the firm that makes virtual reality head–mounted display goggles.

Following the demonstration of the Oculus Rift prototype at the E3 game show in June 2012, in August 2012 the company announced a Kickstarter campaign to further develop the product. Within four hours, Oculus secured its intended amount of US$250,000, and in less than 36 hours, the campaign had surpassed US$1m in funding, eventually ending with US$2,437,429.

Twelve months later, in June 2013, Oculus Rift announced a US$16m Series A funding. The round was co–led by Spark Capital and Matrix Partners. After about six more months, in December 2013, the firm announced a US$75m Series B funding led by Marc Andreessen, who joined the company's board on behalf of his VC firm, Andreessen Horowitz. In March 2014, Facebook snapped up Oculus Rift at the US$2bn price tag. The claim here is simple: Kickstarter allows firms to achieve critical traction faster.

SECTION 5

Three trends: Affecting the enabling side of the venture ecosystem

Having presented three trends that directly affect innovation (mostly entrepreneurs), we now turn to present three trends affecting the enablement of innovation (mostly VCs, institutional investors and public authorities).

The Rise of Corporate Virtual R&D: The Case of the IBM Global Tech Unit (GTU)

Step 3.6 (the VC exit step), and the related entrepreneur steps 4.8 and 4.9, mark the value creation to the investors. In recent years we have seen a growth of corporate-related exits as opposed to IPO exits.

Corporate exits are very common in the Israeli venture ecosystem, where there are over 100 multi-national research centers, including long-time players like IBM, Intel, and HP and newcomers such as Samsung, Huawei, and recently (2013) Apple. Israel is very unique in this regard.

IBM Global Technology Unit (GTU) represents one of the most established corporate efforts to identify, work with, and ultimately buy or partner with other startups. The GTU has worked systematically with local firms, VCs, startups and universities, to make IBM the avenue of choice for globalization. IBM GTU has also signed an agreement with the Israeli government to co–sponsor joint research.

Vermeulen & Pereira Dias Nunes, in their review of the evolution and regulation of venture capital funds (Figure 5A),[15] portray the intricate relationship between corporates and other firms. Closer ties between startup and firms offer value for

"THE CLAIM HERE IS SIMPLE: KICKSTARTER ALLOWS FIRMS TO ACHIEVE CRITICAL TRACTION FASTER."

both, including joint development, easier due diligence, faster access to market feedback, and outsourced innovation.

Corporates now see working with startups as a direct enhancement of R&D. The combination of strong business development teams and corporate venture firms (with one LP as the corporate itself) pulls more and more entrepreneurs into the cozy hands of corporations. This usually means fewer IPO exits and fewer upsides for VCs. In fact, most "exits" today are into trade sales and much less into IPOs.

From the entrepreneurs' and VCs' perspectives, trade sales are often faster and cost less to achieve. Recent valuations in some cases have also seen IPO level valuations of billions.

Some sophisticated entrepreneurs plan their strategy to plug holes in corporate strategic maps. They work closely with few competing corporations, often to build their business with the technical match to future corporate products and services. Checkpoint, now the giant in the security area, started its life in the hands of Sun (now part of Oracle), selling a security add-on.

This trend affects traditional VCs in several ways. First and foremost, returns are often faster and lower, meaning the speed of firm development should be accelerated. Second, relationships with corporate business development people must be enhanced. (In the Israel bustle, VCs often consult their corporate business development friends as part of the due diligence of young firms).

Rise of Super Angels: The Case of Ron Conway and the "Hot Potato"

Angels have long been a key factor in the venture industry. The first funding for Google was an August 1998 contribution of US$100,000 by Andy Bechtolsheim, co–founder of Sun Microsystems, and given before Google was incorporated.[16] As the venture ecosystem has developed, past founders, now angels, are emerging as a driving force. Angels use their own money, are quick decision makers, and use their knowledge and experience to work with entrepreneurs (and often other angels) to develop startups.

> **"THE RISE OF SUPER ANGELS DIRECTLY AFFECTS THE ENTREPRENEURS AS THEY OFTEN APPROACH ANGELS FIRST AND GET FUNDED FASTER."**
>
> (LEE, 2013)

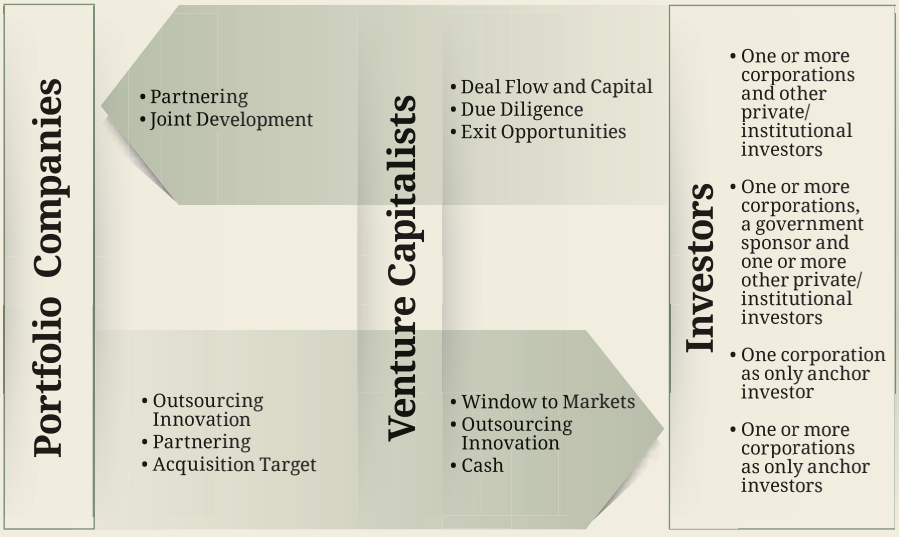
They also appear to do step 3.4 in the VC value chain in a different way. For example, in October 2009, several angels, including the ubiquitous Ron Conway (formerly at PayPal), put a total of US$1m into Hot Potato, a Foursquare–like check–in service. A few months later, Facebook purchased it for a reported US$10m. This figure may pale in comparison to the billions that Google funders earned with the IPO, but it was a remarkable return in such a short time. If super angels can turn several small investments into US$10m to US$20m trade sales every year, they're poised to do a lot better than VCs.[17]

The rise of super angels directly affects the entrepreneurs (step 4.3) as they often approach angels first and get funded faster. The VCs can find themselves left with investments the angels did not invest in, or investments with higher valuations, because angels had already invested in them. Institutional investors are affected indirectly because of the lower potential returns of VCs. Public authorities may want to look at this trend and ponder the taxing issues that relate to it.

Rise of Regulation: The Case of AIFMD

For the purposes of this article, Institutional Investors start their asset allocation in step ⑤

FIGURE 5A: The relations among corporates, corporate VCs, and portfolio companies
Source: Vermeulen & Pereira Dias Nunes (2012)



2.1, when they need to allocate a percentage of their capital to venture. Step 2.1 depends heavily on the public authorities' step 1.2 in which they set the regional policies for the venture ecosystem (please refer to Figure 3A). A recent trend affecting global regulation is the European Directive for Alternative Investment Fund Managers (AIFMD).

The origin of the latest AIFMD push can be tracked to a G20 summit in November 2008, where G20 leaders concluded that: a secure and stable financial system requires all significant financial market actors to be subject to appropriate regulation and supervision for investor protection, as well as financial stability reasons (see KPMG report).[18]

This conclusion led the European Commission to publish a proposal for AIFMD in April 2009, one of the major EU regulatory initiatives to extend appropriate regulation and supervision to the alternative investment fund management industry. Member states needed to transpose the framework into national law by 22 July 2013.

The impact of the AIFMD regulation in the EU, and especially the somewhat different implementation of AIFMD in different EU countries, will directly affect public authorities globally, as well as institutional investors and venture firms, see Figure 5B for the regulatory impacts of AIFMD level II. Non–EU public authorities may want to harmonize their own rules with AIFMD.

A key promise of AIFMD (and a famous EU tradition) is the act of labelling, giving certain VCs a EuVECA Label.[19] Such marketing efforts may raise the trust of some funds and even "provide an international stamp of quality".[20] Institutional investors may also enjoy a more regulated environment. At the same time, smaller VCs will be squeezed out due to regulation or cost of regulation.

The impact of AIFMD augments the impact of the Dodd–Frank Wall Street Reform and Consumer Protection Act passed by the Obama administration in 2010. In fact, regulation as a major trend appears to be a top concern (26%) for institutional investors, according to a survey of 100 limited partners, conducted by Preqin in December 2013 (Figure 5C).

SECTION 6

The Bigger Picture: Three Ongoing Trends Affecting the Venture Ecosystem. Even More Messy, Fast, and Global

In section 4 we have identified the three trends affecting innovation, particularly for entrepreneurs:

- Rise of New Treatment of Ideas
- Rise of Innovation Platforms
- Rise of the Early Clients Factor.

In section 5 we have identified three trends affecting the enablement of innovation, particularly the roles of VCs, public authorities and institutional investors:

- Rise of corporate virtual R&D
- Rise of super angels
- Rise of regulation.

These current six trends are already changing the venture ecosystem, which in turn affects the position and role of each of the actors. The six current trends are part of the ongoing venture ecosystem as it becomes more messy, fast, and global.

Messy

The standard structure of a VC that secures its funding from few LPs, carefully invests and nurtures startups and waits for an IPO or trade sale is no longer working for most VCs. As the article "Is the VC Model 'Broken'?" (page 20) investigates, this method works well for very few VCs.

So, as with any industry that is not efficient, parts of the venture ecosystems are under pressure to change. Entrepreneurs today have other competing avenues to obtain funding, such as with the rise of both angels and crowd funding. Furthermore, for the A and B rounds, they can approach corporate VCs that are less sensitive to valuations. This in turn leaves "regular" VCs with second tier investments, which lower their return even more.

Some LPs are co–investing directly with the GPs. GPs create special provisions for active investors by offering customized separate accounts and deal–by–deal investment opportunities.[21] The lines between LPs and GPs are blurring, as are those between VCs and entrepreneurs, as VCs try to set up firms with Entrepreneurs–in–Residence (EIRs). Conversely, some VCs are now paying the entrepreneurs directly upon investment (e.g. Founders Fund).[22]

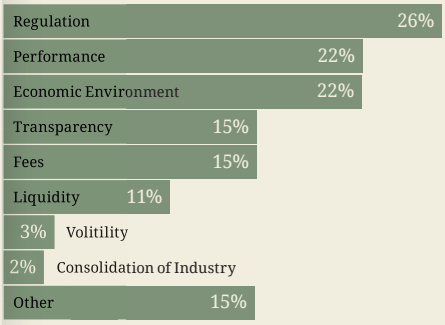
Fast

While it still often takes years for firms to grow, the modern economy allows the right innovation, especially a digital one, to blossom quickly. It took Facebook 18 months to get to the value of almost US$150bn and Google took three years, as opposed to Intel which took 27 years, and Oracle 14 years. It took Oculus Rift about 18 months to get from a Kickstarter idea that raised US$2.5m to a round B of US$75m (and US$2bn value at March 2014).

Speed is everywhere, as platforms of innovation allow certain firms to get bigger–faster. Due to speed combined with the force of super angels, it seems this is a push for what can be called "Early–Late" investment, where startups are funded early with large amounts, such as tens of millions of US dollars after just 6–12 months. This in turn reinforces the power of larger VCs that can muster such decisions.[23]

FIGURE 5B: The regulatory impact of AIFMD level II
Source: KPMG

FIGURE 5C: Biggest challenges facing Limited Partners in 2014 according to 100 LPs
Source: Preqin



In December 2013, Preqin spoke with 100 LPs globally about their current attitude towards private equity and their future investment plans, to get an idea of the strength of investor appetite for the asset class in 2014. As the private equity industry has come under increasing scrutiny since the global financial crisis, regulatory changes have been perceived as the biggest challenge facing LPs in 2014, as shown in Figure 5C. Over a quarter (26%) of investors in the asset class cited regulation as the main challenge for the year ahead, compared with only 15% in December 2012.

Global

Perhaps the biggest trend that affects the venture ecosystem is globalization. (For a sample review of top global hotbeds for venture see the Ernst & Young 2013 report).[24]

Entrepreneurs can quickly move from one place to another based on their startup needs. Innovation platforms and remote work allow them much more flexibility. Regions are offering generic benefits which makes the competition global.

Venture firms are looking for new innovation globally and are less bound by location. Institutional investors, in their search for returns, are moving capital to VCs globally.

These trends of messy, fast, and global, are affecting all four actors in the ecosystem.[25] Entrepreneurs are moving faster from one place to another to find the best location for their startups and VCs are sending tentacles to other locations to look at ideas. They are starting their own accelerators to speed the development of firms, and they are building closer connections with corporates peers. Institutional investors are also reacting and looking for new value that may stem from regulation, as they look for VCs globally.

> **"THE QUALITY OF OUR FUTURE DEPENDS ON A VIBRANT VENTURE ECOSYSTEM."**

Such mutations are created within and across the various chains of value of the four actors. It is part of the Darwinian evolution that is occurring in the venture capital ecosystem. Yet it seems that the actors that are mostly affected by these pressures are public authorities. As location–based barriers collapse with digitization, English becomes a common language, and capital and ideas are moving faster, public authorities must find new ways to enable, facilitate, tempt, and encourage value creation in their location.

Public authorities will have to be much more aggressive and focused in establishing the grounds for their venture ecosystem. Trying to copy Silicon Valley (from California) or Silicon Wadi (from Israel) or Silicon Roundabout (from London) to their region was difficult in the past.[26] With the ongoing trends of messy, fast, and global, creating carbon copies, or a one-model-fits-everywhere, is no longer practical, nor possible. For a review of the potential actions public authorities can pursue, see the article "The Public Venture Policy Menu" on page 36.[27]

We hope the framework presented here, and the mapping of current and ongoing trends, will serve as a good start in allowing public authorities to nurture their venture ecosystem, creating value for themselves, institutional investors, venture capital firms and entrepreneurs. Our future, and the quality of our future, depends on a vibrant venture ecosystem.

FURTHER READING
REFERENCES

ERNST & YOUNG
(2013)
Turning the corner – Global venture capital insights and trends 2013.

JENG, L. A., & WELLS, P. C.
(1998)
The Determinants of Venture Capital Funding: Evidence Across Countries. Retrieved from http://papers.ssrn.com/abstract=103948

MULCAHY, D.
(2013)
Six Myths About Venture Capitalists. Harvard Business Review, 80–83.

NVCA
(2013)
NVCA Yearbook 2013. National Venture Capital Association.

VERMEULEN, E. P. M., & PEREIRA DIAS NUNES, D.
(2012)
The Evolution and Regulation of Venture Capital Funds. Ex Research Topics in Corporate Law & Economics, 1.

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风险投资模式“破损”了吗?

风险投资的成功定义:
理解其中的得与失

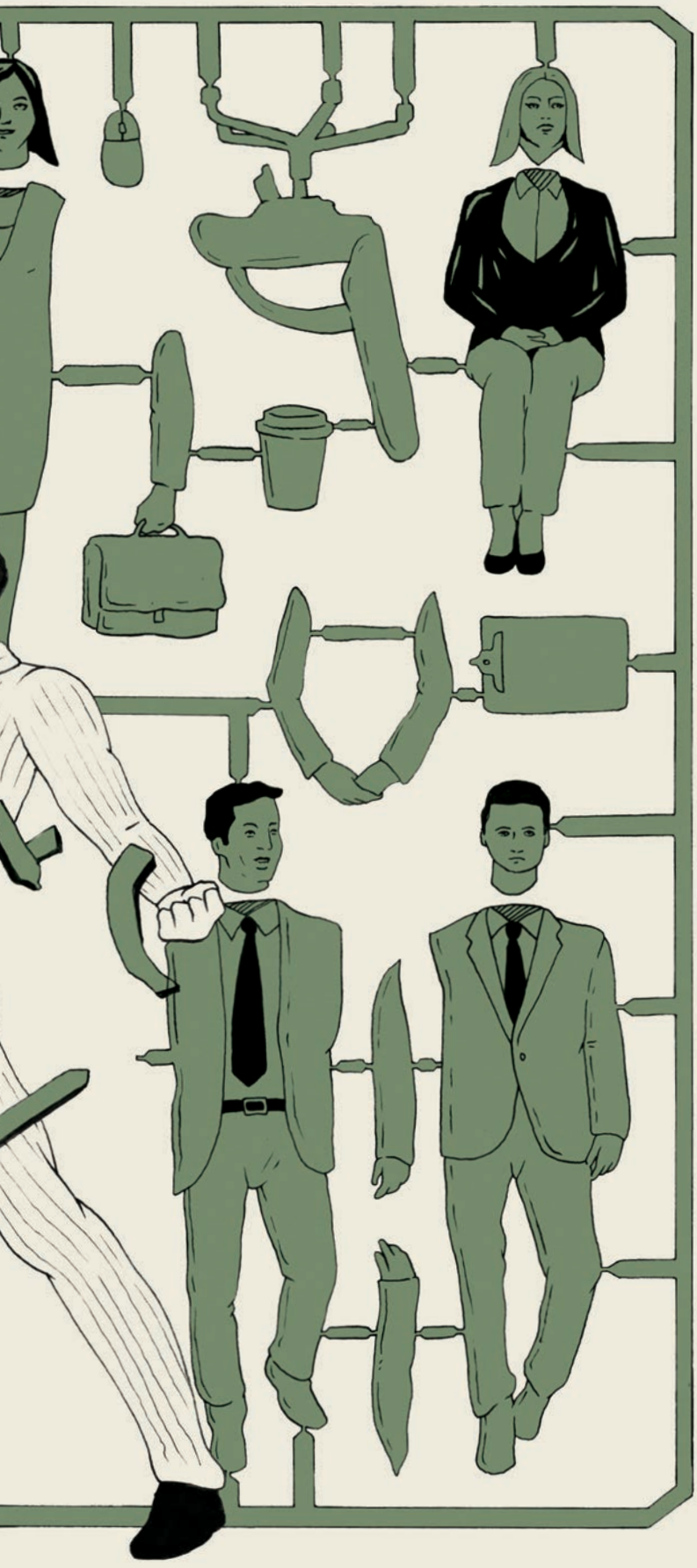
风险投资基金模式成功后
回报是否值得投资者的高
风险、非流动性投资?

IS THE VC MODEL ‘BROKEN’?

Observations on VC Success: Who Wins and Who Loses within the Asset Class?

ALLEE ZHANG
Affiliate Researcher, Coller Institute of Venture

“A 2012 KAUFFMAN FOUNDATION REPORT HIGHLIGHTED THE POOR PERFORMANCE OF THE VC INDUSTRY, PARTICULARLY VC FUNDS' FAILURE TO BEAT PUBLIC MARKET INDICES.”



Has the Venture Capital (VC) fund model been successful in rewarding investors with returns worth their high-risk illiquid investments?

SINCE THE LATE 1970s, the Venture Capital asset class has played an important part in a balanced and diversified investment portfolio for many investors. The industry has had many success stories in building and exiting powerhouse companies that are now household names, such as Apple, Google, Amazon, Facebook, and most recently, WhatsApp, the second largest technology acquisition of all time. As the VC sector continues to raise funds, investors are placing further focus on examining VCs' risk-return profile and its performance relative to the public markets.

A 2012 report from the Kauffman Foundation raised questions about the industry. The report highlighted the poor performance of the VC industry, as most of the funds in which Kauffman invested over a 20-year horizon (1989–2010), failed to beat public market indices, despite the higher-risk nature of the investment portfolio. In contrast, the National Venture Capital Association (NVCA) has performance data based on 1,439 U.S. VC funds that show VC significantly outperformed the public markets over a long-time horizon (greater than 15 years).

Kaplan and Lerner (2009) also questioned the U.S. VC industry's consistent performance, as they observed that VC investments and returns were subject to a boom and bust cycle between 1999–2009. Despite the cyclicality, Kaplan and Lerner found that VC returns were not unusually low or high relative to the public market.

However, performance data of 739 VC funds up to the end of 2012, reported by the European Venture Capital Association (EVCA), reflected fund returns below the public index on both long and short term investment horizons. Further, in a performance study of 1,400 U.S. buyout and VC funds, Harris, Jenkinson and Kaplan (2013) found that although VC outperformed public markets in the 1990s, the asset class underperformed public markets in the 2000s.

For a while, investor appetite for VC funds has remained strong, with new markets of VC fundraising and investment activity expanding globally. What's more, public support and investment in the VC asset class (as discussed in the "The Public Venture Policy Menu" article on page 36) is ever growing. As VC plays an important part in Limited Partners' (LPs') diversified portfolios, its "success" in achieving the outperformance required commensurate to its illiquid and higher

risk nature, is examined in this article.

Comparing the VC rate of return to the public market benchmarks helps LPs to assess the "success" of a strategic asset allocation to VC instead of alternative public asset classes. However, performance methodologies for public indices differ from those of private equity to VC. While public market returns are measured in real time, private equity returns are typically assessed quarterly and annually, which may result in tracking errors over the short term. Using Public Market Comparator, or Public Market Equivalent (PME), is a more accurate approach to evaluate what returns would have been achieved if the same amount of capital had been made in public markets instead of VC. It reflects the return to VC investments relative to public equities by mimicking the Public Market as a VC fund and calculating an IRR based on investing the equivalent cash flows that were invested in VC into the public market index.

For the purpose of this study, we focus on VC fund IRR and comparison against PME, as these two performance indicators are the most appropriate metrics in assessing performance and widely used by the industry. In particular, these metrics are examined in light of performance ranking, vintage year, size and investment horizon of the funds.

Data Source and Scope

In 2012, U.S. and European VC investment accounted for almost 85% of total global VC investment activity, with the U.S. maintaining an almost 70% share throughout the past 10 years. This article focuses on U.S. and Europe performance, as there is ample information and performance data made available. It is worth noting that there is the potential to overlook some trends represented by the remaining 15%, which includes Israel and the BRIC nations.

Performance data for U.S. VC have been sourced from NVCA and Cambridge Associates and performance data for Europe VC have been sourced from EVCA and Thomson Reuters.

For public benchmark comparison, the S&P 500 Index, Russell 1000 and Russell 2000 Cambridge Associated modified public market equivalent (mPME) indices have been selected for coverage across the U.S. The mPME IRR calculation is based on the public index's shares that are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund.

The FTSE Europe Total Return and HSBC Small Company Equity indices have been selected for coverage across European VC. IRRs for these public market indices were calculated by investing the equivalent cash flows that were invested in VC into the public market index.

Observations

Over the past two decades, the VC industry has experienced significant cyclic changes. Despite the effects of economic downturns and financial crises, the level of commitment to and the investment pace of U.S. VC funds has been consistent with the historic averages since 2002. However, the amount invested in European VC funds has experienced a more severe impact from the economic cyclic changes, with committed investment in the region steadily declining since after the dotcom crash in 2000 and the beginning of the financial crisis.

A common theme identified for both U.S. and European VC funds is the significant disparity in performance between top and bottom quartiles funds. Returns from U.S. top quartile funds, on average, outperform bottom quartile funds by 22.3% over the past 31 years. The top quartile Venture Capital funds in Europe have provided higher returns to LPs in the range of 1.3% to 53% during the same period. Looking across both regions, the top quartile VC funds, on average, have historically outperformed the lower quartile funds by 18.83% IRR since 1981 (refer to Figure 2).

"A COMMON THEME IDENTIFIED FOR BOTH U.S. AND EUROPEAN VC FUNDS IS THE SIGNIFICANT DISPARITY IN PERFORMANCE BETWEEN TOP AND BOTTOM QUARTILES FUNDS."

The vintage year and the investment horizon of the fund overlays further impact to the returns discrepancy between top quartile and bottom quartile funds. Preqin reported that the median net IRRs for vintage 2007, 2008 and 2009 global venture capital funds, at 5.3%, 4.0% and 6.4% respectively, are higher than for the mid-2000 vintages; 2009 was the only vintage year where the bottom quartile boundary for venture capital funds is in the positive territory, with an IRR of 1.2%.

Over the past 31 years, the highest returns for U.S. VC were registered by the

FIGURE 1: VC Investment Commitment — U.S. and Europe
Source: Thomson Reuters and NVCA, January 2014; EVCA, May 2013

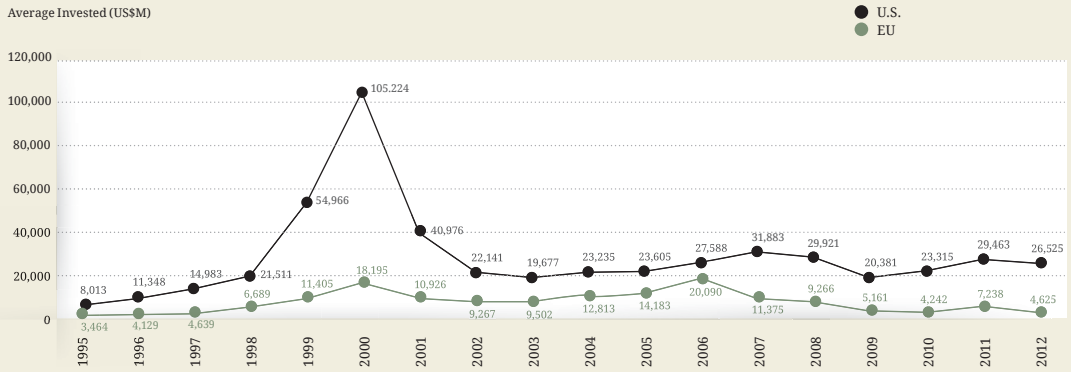


FIGURE 2: Top Quartile vs Bottom Quartile Cumulative Vintage Year Fund Performance – U.S. and Europe
Source: Thomson Reuters, February 2014

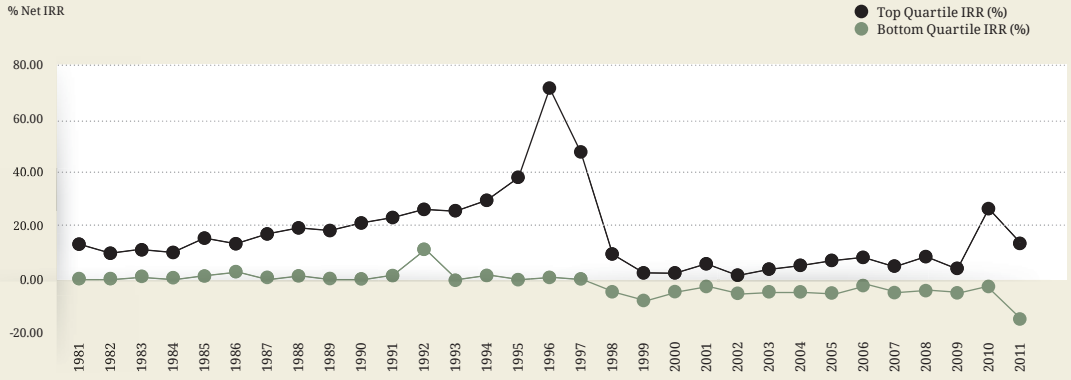
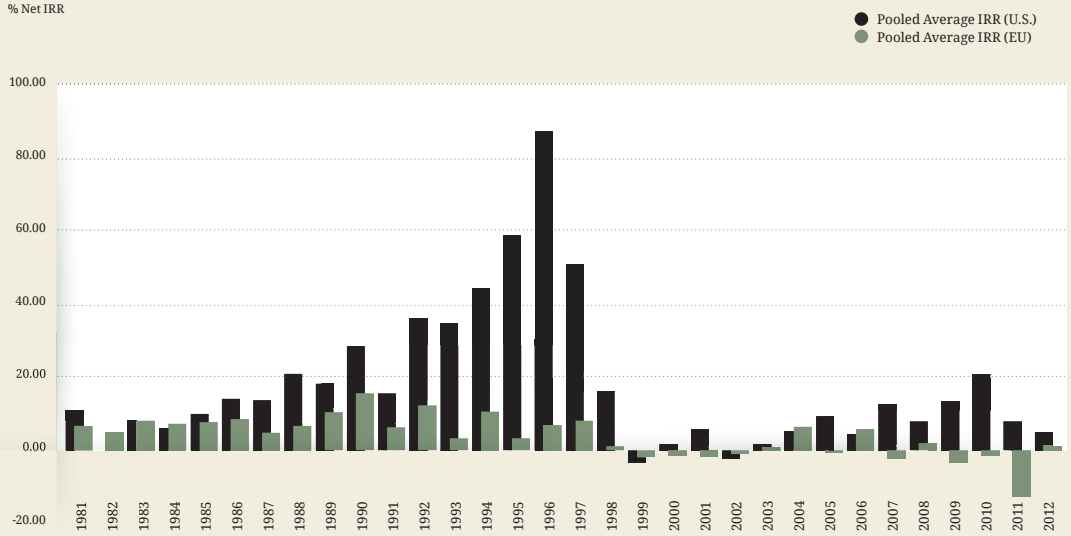


FIGURE 3: Cumulative Vintage Year Fund Performance – U.S. and Europe
Source: Thomson Reuters, February 2014



vintage 1990, and 1992–1997 funds, prior to the dotcom bubble. Similarly, for European VC, the best performance was from funds prior to vintage 1998 and 2004. Europe VC funds have, since 2005, been in the J-Curve, with the exception of 2006 and 2008, which showed signs of a slight positive return.

When looking at VC performance relative to investment horizons, and in contrast to public market performance, over the long-term time horizons greater than 15 years, U.S. venture capital returns significantly surpassed that of the public indices.

However, over the past decade it has been tougher for funds to outperform the public market alternatives. The recent run-up in the public equity markets has eclipsed VC returns, contributing to underperformance relative to public market equivalent benchmarks in the 1, 3 and 5 year periods (refer to Figure 5).

Over the 10-year horizon, the net IRR of Europe VC underperformed the public market in all but the 5-year horizon (refer to Figure 6). The majority of the returns and value-add of Europe VC remained in the negative territory, reflecting the effects of economic downturns and the financial crisis in Europe.

A paper by the European Investment Fund written in 2011 put forward various hypotheses for each stage of the VC cycle to explain the performance disparity between the two regions, which include:

- Insufficient VC investment in Europe and available funding is spread too thinly across investments
- Insufficient diversification in European VC managers' portfolios
- European exit markets are too fragmented

European VC has not reached "critical mass" to become self-sustaining and provide higher returns, which may be due to the lack of a venture capital ecosystem.

The plausibility of these hypotheses needs to be examined further.

In Conclusion, is the VC Model 'Broken'?

So, does the risk-reward balance of the VC model pay off and does VC outperform public markets for LPs? Although the VC sector has been affected by economic cycles, the level of investment commitment and investments in the U.S. VC industry has been similar to historic averages since 2002, with European VC commitments slightly lower than historic averages since the dotcom bubble. Returns from European VC have also been significantly weaker and also more volatile than that of U.S. VC over the 31-year time period examined in this study.

The VC model portrays some characteristics of an inefficient market where the top quartile, more experienced managers have an advantage with their greater insights into industries, and access to stronger relationships and the best entrepreneurs, allowing the top VCs to generate above benchmark returns.

"OVER THE PAST DECADE IT HAS BEEN TOUGHER FOR FUNDS TO OUTPERFORM THE PUBLIC MARKET ALTERNATIVES."

It is apparent that U.S. VC has underperformed relative to public market equivalent benchmarks in the short term, in the 1, 3 and 5 year periods, but performance surpasses public markets from 10-year investment horizons onwards. It is uncertain if European VC will exhibit

FIGURE 4: Fund Performance by Vintage Year – U.S. and Europe Aggregated Data
Source: Thomson Reuters, February 2014

Fund Size (US$)	No. of Funds	1 Year IRR	No. of Funds	3 Years IRR	No. of Funds	20 Years IRR
0-100m	443	5.74	1425	0.60	1425	-0.92
100-200m	99	7.67	327	3.01	327	0.51
200-350m	55	2.46	187	4.87	187	2.52
350-500m	32	5.26	96	6.18	96	2.63
500m+	44	11.73	129	7.30	129	3.80

Fund Size (US$)	No. of Funds	10 Years IRR	No. of Funds	15 Years IRR	No. of Funds	20 Years IRR
0-100m	1425	1.28	1425	13.08	1425	18.91
100-200m	327	2.07	327	81.48	327	41.12
200-350m	187	5.26	187	27.43	187	34.31
350-500m	96	3.59	96	0.19	96	0.23
500m+	129	7.67	129	4.49	129	5.70

FIGURE 5: Venture Capital and Public Market Benchmark Comparison – U.S.
Source: NVCA and Cambridge Associates, September 2013

U.S.	1 Year IRR	3 Years IRR	5 Years IRR	10 Years IRR
Cambridge Associates U.S. Venture Capital Index	15.09	14.38	7.51	8.58
S&P 500 Index	19.26	16.2	10.7	7.94
Value-Add	*-417*	*-182*	*-319*	*64*
Russell 2000 Index	29.87	18.08	11.68	10.03
Value-Add	*-1478*	*-370*	*-417*	*-145*
Russell 3000 Index	21.5	16.67	11.22	8.47
Value-Add	*-641*	*-229*	*-371*	*11*

U.S.	15 Years IRR	20 Years IRR	25 Years IRR	30 Years IRR
Cambridge Associates U.S. Venture Capital Index	26.14	30.05	30.3	17.15
S&P 500 Index	6.1	8.13	9.48	10.02
Value-Add	*2004*	*2192*	*2082*	*713*
Russell 2000 Index	9.04	9.2	9.89	9.75
Value-Add	*1710*	*2085*	*2041*	*740*
Russell 3000 Index	6.59	8.34	9.64	10.02
Value-Add	*-1955*	*2171*	*2066*	*713*

FIGURE 6. Venture Capital and Public Market Benchmark Comparison – Europe
Source: EVCA and Thomson Reuters, June 2013

U.S.	1 Year IRR	3 Years IRR	5 Years IRR	10 Years IRR
European Venture Capital	11.12	2.04	-1.13	0.52
HSBC Small Company Equity Index	20.5	5.45	-1.74	6.79
Value-Add	*-938*	*-341*	*61*	*-627*
FTSE Europe Index	18.83	6.67	-0.63	5.86
Value-Add	*-771*	*-463*	*-50*	*-534*

*Value-Add shows (in basis points) the difference between the actual private investment return and the public market comparator/mPME.

similar trends in performance and generate alpha in the longer investment horizon, as the funds' investments are realized.

To conclude, one must draw a distinction between the success of the few "unicorn" ventures and the model of LP commitment to a venture investment. A disturbing fact is that in the U.S. less than 1% of all companies have raised capital from VCs. Instead, a growing array of competing and more efficient sources of funding have been developed; these sources include super angels, serial entrepreneurs, corporate VCs and crowd funding. VC as an asset class has also suffered from the significant dispersion in the performance of such funds. The high-risk nature of the asset class, combined with comparatively small ticket sizes, long-term investment horizon and potentially difficult exits, draws the question: why should LPs bother? At the other side of the asset class spectrum, there is an overall compelling track record—an "alpha"—of other types of non-liquid investments. It is no wonder that institutional investors are fairly content in placing funds into those more "traditional" alternatives such as buyouts, distressed investing, energy and infrastructure, and real estate. VC is therefore under attack from all directions and needs to be inherently reconfigured in order to display a risk-return profile that LPs find attractive.

VC MODEL DEFINED

VENTURE CAPITAL has played a key role in supporting innovation in various industries, and stimulating economic growth. The core of the VC business model is to identify high-potential entrepreneurs at early stages, with the overall goal being to grow these companies and generate high returns.

The typical VC firm is organized as a limited partnership, with the venture capital managers serving as GPs, and the investors as limited partners (LPs). The LPs, usually endowments, pension funds, or wealthy individuals, provide capital, which is then used to invest in high-potential, high-growth companies, following the investment strategy proposed to the LPs. The LPs expect to be rewarded with significant returns to compensate for the illiquid and high-risk nature of the asset class.

Once the target amount of capital for the fund has been raised by the GPs, the subscription is closed. The typical duration of investment is 10 years, and the LPs cannot leave those funds before their term. In exchange for the contributed capital, LPs receive a pre-negotiated stake in the equity of the investment fund and they become fully-fledged shareholders, sharing in the risks associated with the VC fund.

During the invested period, the GPs draw down the funds in blocks of cash as and when they need the capital for their investments ("Call"). GPs also run the investment operations, creating value, and prepare the exit strategies of the invested companies. They are actively involved in their portfolio companies, hold board seats, and sometimes manage the transition from management by founders, to management by professional managers. GPs are also actively involved in the transition out of the venture phase, to public trading through an IPO, to acquisition by a larger company, or to liquidation.

GPs typically receive 2% per year of the amount invested in companies in management fees, and are also entitled to 20% of the cash returned to the LPs above the original investment when a company undergoes IPO or acquisition.

Upon exit of investment companies, the capital is also redistributed to the LPs on a pro-rata basis depending on the size of their initial investments. Once the VC fund has provided sufficient returns for its investors, the GPs would usually attempt to raise follow-on funds.

FURTHER READING
KEY SOURCES

KAPLAN, N. & LERNER, J. (2009) It Ain't Broke: The Past, Present, and Future of Venture Capital.

MULCAHY, D. (2012) We have Met the Enemy... and he is Us, Ewing Marion Kauffman Foundation.

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EVCA Venture Capital Forum

6 November 2014
Berlin , Germany

European venture capital has an inspiring story to share.

Despite the significant challenges of recent years European VC has continued investing in innovation, transforming ideas into world-renowned companies.

The EVCA is proud to be a part of European VC's story, representing the industry for more than 30 years. We've worked tirelessly to ensure policymakers in Brussels understand how VC promotes jobs and growth, an approach that has garnered tangible results.

We played a central role in the creation of the European Venture Capital Funds Regulation, a cross-border marketing passport and quality label, and promoted European VC to global investors through international speaking events, communications campaigns and academic research.

We continue to press for new and innovative ways to help European VC bring brilliant new ideas to global markets with the continued support and insight of our members. By joining the EVCA, our members give us a powerful mandate to speak for the industry and ensure we are listened to by influential lawmakers and regulators.

Now European VC stands ready for a period of renewed success, based on resurgent confidence in the qualities of the industry and Europe's entrepreneurs.

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I look forward to welcoming you to Berlin!

Best regards,

Dörte Höppner | Chief Executive
European Private Equity & Venture Capital Association

EUROPEAN PRIVATE EQUITY AND VENTURE CAPITAL ASSOCIATION

度量科技园区的业绩

清华工业园、帝国工业园
及15个其他工业园区

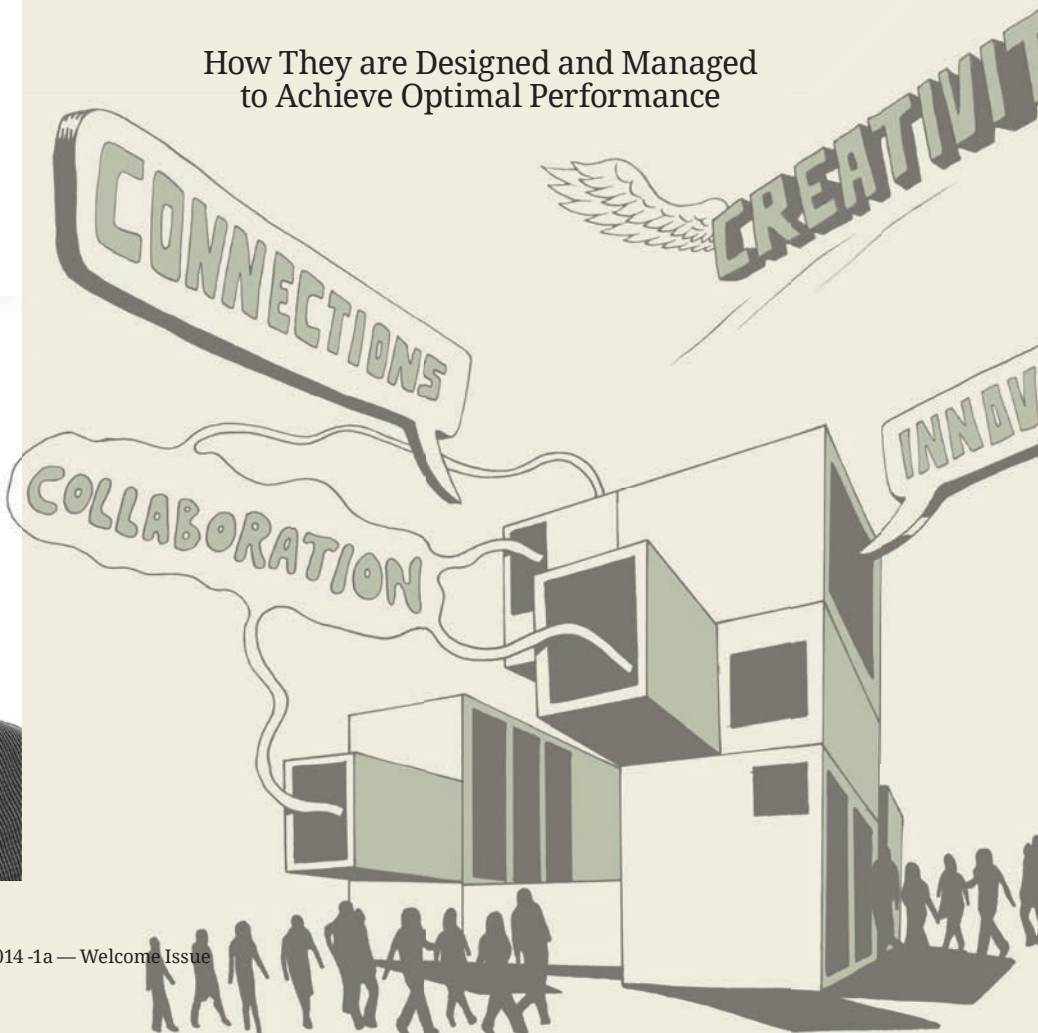
为达到其最佳业绩表现，这些
工业园区是如何设计与管理的

MEASURING SCIENCE PARKS' PERFORMANCE

TUSPARK, IMPERIAL WEST, AND 15 OTHER PARKS

How They are Designed and Managed to Achieve Optimal Performance

Abraham Carmeli
Professor of Strategy and Management,
Tel Aviv University



SCIENCE PARKS are unique organizational forms that offer a platform for applied research to flourish. They are composed of research institutions, such as universities, and knowledge-intensive firms, including large, SMEs and incubator enterprises, which locate their research and development (R&D) activities in a particular geographical area, and their aim is to produce, leverage and translate knowledge into viable business products. In many science parks there is a development of properties and facilities nearby, for firms to engage in R&D.

Through the confluence of their components, science parks serve as a mechanism for facilitating the flow of knowledge and technology among universities, R&D institutions, companies and markets, and thereby bolster economic growth (IASP, 2002). In essence, science parks are incubators and contributors of wealth as they become a source of comparative advantage for both the tenant organizations and the regional community. The question, however, is how science parks are designed and managed to achieve optimal performance.

"SCIENCE PARKS BALANCE BETWEEN STRUCTURING AND SYSTEMIZING THE PROVISION OF SHARED, SUPPORTING SERVICES TO THOSE TENANT COMPANIES THAT NEED THEM."

Prior to delving into the factors that determine the success of science parks, we need a model or methodology for assessing their performance, and we suggest a three-dimensional configuration. We suggest science parks should be assessed with regard to:

1. Horizon (short, mid, and long-term),
2. Type of performance (e.g. innovation, productivity, financial and social), and
3. Relevant and key stakeholders.

For example, one key performance indicator is innovation. This can be measured by the number of patents and other forms of intellectual property over a short, mid, and long-term period, but it would mainly be relevant for the tenant firms and academic institutions. On the other hand, social performance is important for the government that often wishes to encourage the development of a particular area by attracting stronger residents, but this is a long-term performance goal and is not necessarily the primary motivation of tenant firms.

Key Factors Influencing Success

The literature suggests a variety of key factors that contribute to the success of science parks (often without directly considering the suggested three dimensions identified above). Two major practices that contribute to the success of science parks are: a heterogeneous set of stakeholders, such as partners, competitors, suppliers, and customers (e.g. Silicon Valley and Daejeon in South Korea), and strong ties and links with focal academic institutions (e.g. Thailand Science Park – TSP, and The Research Triangle Park – RTP). Other important elements include the infrastructure and physical space, human capital, and a sense of community.

To better understand the determinants of science park performance, we further examined the design and management of science parks around the world. Our comparative analysis indicates that science parks in Asia have been established as part of a government effort to promote areas for investors and/or develop a particular cluster.

For example, Zhanjiang Hi-Tech Park in Pudong, Shanghai, was planned by the Chinese government as a way of promoting Shanghai to foreign investors, and Daedeok Innopolis was planned by the South Korean government in an attempt to encourage growth outside Seoul. There are a few western country examples where government acts as the catalyst. A notable example is the emergence of the Tech City science and technology hub in East London. However, in contrast to the government-led character of London's Tech City, in most western cases it was a university or corporate effort that propelled the establishment of science parks.

Examples include the design and building of the UCSD Science Research led by the University of California, San Diego; Cambridge Science Park that was established by Cambridge University, and the Barcelona Science Park (PCB), which was a project led by the University of Barcelona. Other science park initiatives in developed countries were made by for-profit enterprises such as the Docklands Science Park (DSP) in Melbourne.

Variance and Impact of Organizational Systems

Interestingly, we found that some science parks are more loosely coupled organizational systems than others that evolve as more tightly coupled organizational systems.

Loose coupling is a situation in which elements are responsive, but retain evidence of separateness and identity, whereas tight coupling is a situation in which elements are highly connected, such that a close to unified responsiveness is developed and conveyed (Weick, 1976: 3). In the context of science parks, we observed that in certain parks, the services are more comprehensive and organizers enact structuring processes, particularly those established in Asia. Yet, other science parks have been organized in a more loose fashion, such as the MATAM Scientific Industries Park in Haifa and the Har Hotzvim Industrial Park in Jerusalem.

The different ways of organizing science parks—loose or tight coupling—may be suitable for some tenant firms, but not for others. Tenant firms that need more costly services need fundamental facilities that must be organized by the management of the science parks. For example, the Berlin Adlershof science park provides shared labs and testing equipment for modern food analysis, as well as for Thin-Film with the incorporation of nanotechnology.

This provision of infrastructure and equipment is particularly helpful for young firms with limited resources. Loosely-coupled science parks are more attractive to tenant firms that do not need specialized facilities and they are often larger and more established. However, even in these science parks there are young and small-sized firms that find other ways to obtain such services by cooperating and partnering with larger tenants.

Another finding is that science parks have gone through a dynamic evolutionary restructuring, where the initial concept was not working or was misplaced. For example, the Daedeok Innopolis science park suffered from a myriad of problems, including technologies not being sufficiently transferred to the local industries, unsuccessful efforts in creating synergistic effects due to lack of coordination, weak connections among the institutes in the park, and problems with commercialization.

Similarly, DSP in Melbourne aimed to assist local manufacturing by promoting the development of new products. However, today the government does not play a substantial role and the DSP company provides relatively limited services (though they do offer fund sourcing services for new technological ideas and research collaborations). To illustrate DSP's limited presence, when we asked a chief architect of a multinational high-tech company located within Docklands about DSP he told us, "I didn't realize they really exist."

Variations in Domain Distribution

We also found that while some science parks comprise a set of diverse firms, others are more concentrated around a specific domain or two. In Cambridge Science Park, the concentration is on life sciences and pharmaceuticals, with tenant firms such as Abcam, Amgen, Bayer CropScience Ltd, Napp Pharmaceutical Holdings Limited, Royal Society of Chemistry, and Sigma-Aldrich Company Ltd. Hsinchu Science Park (HSP), a suburb of Taipei, initially aimed to imitate the Silicon Valley model and concentrated on semiconductors. However, over the years HSP has built satellite parks that are more focused, such as the Biomedical Park. Other science parks are less focused and tend to attract firms from a variety of industries, but over time there is a tendency to converge around core domains.

Alongside the factors underlining the success of science parks, we also observed failure-prone practices that government officials and managers need to consider while developing and cultivating these entities.

"ALONGSIDE THE FACTORS UNDERLINING THE SUCCESS OF SCIENCE PARKS, WE ALSO OBSERVED FAILURE-PRONE PRACTICES."

A key issue concerns governmental policy and support. Although one of the key goals of many science parks is to attract renowned international companies, not all science parks are successful in this respect, because they rely too heavily on government support.

Government support is crucial for attracting multinational firms, but in times of economic downturn, governments have ceased their support or used preferential policies to help local firms. In addition, government support can create complacency and inhibit the competitive edge needed for science parks and their tenants to flourish. Other failure-prone practices include incoherent strategy (e.g. where to focus and missing opportunities for synergy), poor infrastructure, underinvestment in renewing facilities, and the absence of a clear business model.

In conclusion, our research finds that science parks serve to foster new knowledge creation and innovation as well as economic development in defined geographical regions, but they face key challenges and their evolutionary process

is rather unique and complex. The major challenge is how to create a hybrid model where science parks balance the opposing forces of structuring and systemizing the provision of shared, supporting services to those tenant companies that need them, while maintaining a more loosely coupled system for companies that need more independence and autonomy. Finally, our research uncovered that in too many science park cases, a clear and coherent business model was not defined, which inhibited the science park's success.

CASE STUDY

London: New Campus at White City (Imperial College)

For over a century, science-based Imperial College has taught students from the heart of central London. The urban London environment is unforgiving when it comes to real estate, making it hard for Imperial College to accommodate growth within its existing urban facilities. Back in 2008, the global financial crisis opened opportunities to develop land for new use. The post-crisis price levels allowed development of spaces for academic environments and innovative technology industries. Imperial College's leaders sought out ways to take advantage of this opportunity, by acting on their vision of translating research into benefits for society: new companies, business benefits and economic growth.

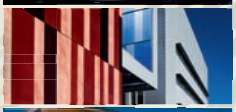
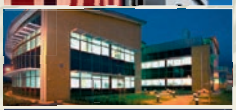
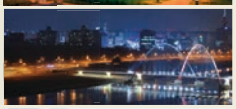
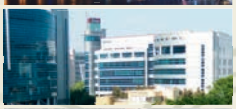
The White City Opportunity Area (WCOA), led by London planning legislation, represents the option for Imperial College to execute that vision. WCOA is a regeneration project of 1 million sqm in West London, and it includes the two-phase project of Imperial College. This project has been planned to create synergies across its different components, to include a new research and translation hub, college executive management office, hotel and conference center, leisure, retail and restaurants, and apartments for academic staff.

The first phase—Imperial West campus—is already underway with 120,000 sqm and 600 postgraduate students.

(Below) An architect's drawing of the new campus at White City, London.

TABLE 1
SCIENCE PARKS/CLUSTER TABLES

NAME	TYPE	LOCATION	SIZE (m^2)	YEAR
ADLERSHOF SCIENCE AND TECHNOLOGY PARK	Park	Berlin Adlershof, Germany	467,000	2002
BARCELONA SCIENCE PARK	Park	Barcelona, Spain	86,638	1997
CAMBRIDGE SCIENCE PARK	Park	Cambridge, England	150,000	1970
DAEDEOK INNOPOLIS	Cluster	Daejeon, South Korea	67,800,000	1973
HSINCHU SCIENCE PARK	Cluster	Hsinchu City, Taiwan	14,000,000	1980
INFOPARK	Park	Kochi, India	397,600	2004
MATAM SCIENTIFIC INDUSTRIES PARK	Park	Haifa, Israel	270,000	1974
PARC SCIENTIFIQUE	Park	Lausanne, Switzerland	55,000	1991
SOPHIA ANTIPOLIS	Cluster	Valbonne, France	1,300,000	1969
TECH CITY / "SILICON ROUNDABOUT"	Cluster	London, England	10,700	2008
THAILAND SCIENCE PARK	Park	Klong Luang, Thailand	124,000	2002
THE RESEARCH TRIANGLE PARK	Cluster	North Carolina, U.S.	28,328,000	1959
TUSPARK	Park	Tsinghua University, China	800,000	1994
ZHANJIANG HI-TECH PARK	Cluster	Pudong, Shanghai, China	25,000,000	1992

MAIN FOCUS	COMPANIES	WORKFORCE	URL	
Microsystems, Photonics, IT, Media, Biotechnology etc.	950	15,000	*www.adlershof.de*	
Life Sciences mostly (Biotech, Pharmacy, Environment and Chemistry)	70	2,200	*www.pcb.ub.edu/homepcb/live/en/p126.asp*	
Biomedical, Telecom, and Software	100	5,000	*www.cambridgesciencepark.com*	
IT, Biotechnology, Nanotechnology, Software, Environment	1,306	63,000	*dd.innopolis.or.kr*	
Integrated Circuits, Comp. and Peripherals, Telecom, Precision Machinery and Biotechnology	500	150,000	*www.sipa.gov.tw*	
IT	150	20,000	*www.infopark.in*	
Software, Semiconductors, and IT	50	10,000	*www.matam.co.il*	
Energy, Photonics, Material Science, Space, Communication and Mobile Systems	131	2,000	*www.parc-scientifique.ch*	
Telecom, IT, Health Sciences, Fine Chemicals & Biotechnology, and Earth Sciences	1,400	35,000	*www.sophia-antipolis.org*	
Software and Digital Media	3,000	48,000	*www.siliconroundabout.org.uk*	
National Research Centers, Organic, Printed, Electronic, Food and Feed, and Nano-cosmeceutical	61	2,300	*www.sciencepark.or.th*	
IT and Biotechnology	170	39,000	*www.rtp.org*	
Bio and Life Science, Software, IC Design, Digital TV, and 3G Mobile Communication	500	40,000	*en.tusholdings.com*	
Life Sciences, Software, Semiconductors and IT	3,600	100,000	*www.zjpark.com*	

CASE STUDY

Beijing: TusPark (Tsinghua University Science Park)

Since the day it was set up in 1994, TusPark (Beijing) has strived to become the total solution provider for science and technology innovation and entrepreneurial environment, and the value-added service provider for innovative, high-tech companies. Today, TusPark has grown to be the largest university science park in the world, home to high-tech giants and spawning more than 30 branch operations (sub-parks) around China. Within nearly 800,000 sqm of building area, TusPark operates a successful business model, which creates a professional R&D environment, with more than 40,000 workers, 500 high-tech companies and already 1,000 incubated startups under its roof.

Science Parks as Nursery Gardens in China

To understand the success of TusPark, we need to review the motivations behind science park creation in China. Science parks' directors point to two national issues that influence the creation of new companies and technologies in China. The first one is the government allocation of incentives, which focuses on large and medium-sized, state-owned enterprises. This allocation created a financing gap for the development and operation of small businesses and startups.

The social environment is said to make it difficult for entrepreneurs to access services like law, market, human resources, etc. Science parks aim to solve these issues by creating a small environment—like nursery gardens—that helps pioneering companies to grow better and faster. Obviously, university science parks bring more than that: access to talent, tech-labs, equipment, real estate and some ability to support young groups in executing products from academic research. TusPark represents exactly that, innovation and progress in spaces neglected by national policies.

Strategy

TusPark consists of mixed ownership, between the state-owned Tsinghua University (Tus-Holdings Co. Ltd) and two other private companies. It is situated in a "glamorous" location next to Tsinghua and Peking Universities, where high-tech talent and tech research are abundantly available. Its creation was a result of the Chinese government policy from the 1980s, that focused on diversifying the funding sources of universities and research institutions. These new policies enhanced the collaboration between universities and enterprises, as well as the commercialization of academic research through university affiliated companies.

At that time, Tsinghua applied a "Technology + Products" strategy that matured into profit-oriented strategies a few years later. By the early 1990s, Tsinghua already owned more than 190 affiliated enterprises. The university applied the "Technology + Capital" approach when it established TusPark in 1994, a main contributor to China's innovation system. The approach later changed to a higher level strategy, "Capital + Equity", when Tus-Holding Co. Ltd was founded.

While the main park area provides shareholders with income from rent and services fees, TusPark's uniqueness comes from the essential capital and financing support that creates the incubator within the innovation park (aimed at early stage companies mostly founded by the university academic staff). This is a "nursery garden" that endows new plants with water and conditions to grow and blossom. TusPark is acting as a VC by not only providing the capital, but also by playing a key role in managing its portfolio companies and making connections to the national industry and government leaders.

TusPark's business model achieved success in terms of providing benefits to the ecosystem surrounding it, namely the Chinese government, Tsinghua University, the hosted tenants and its shareholders, by integrating innovation resources such as "policy, industry, university, research, finance, motivation, trade and media".

FURTHER READING
REFERENCES

CARTER, N. (1989) *Science Parks*, Taylor & Francis.

FERGUSON, R. & OLOFSSON, C. (2004) Science Parks and the Development of NTBFs - Location, Survival and Growth. *The Journal of Technology Transfer*, 29(1), 5–17.

LÖFSTEN, H. & LINDELÖF, P. (2002) Science Parks and the growth of new technology-based firms – academic-industry links, innovation and markets. *Research Policy*, 31(6), pp.859–876.

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44 POLICIES PUBLIC AUTHORITIES CAN TAKE

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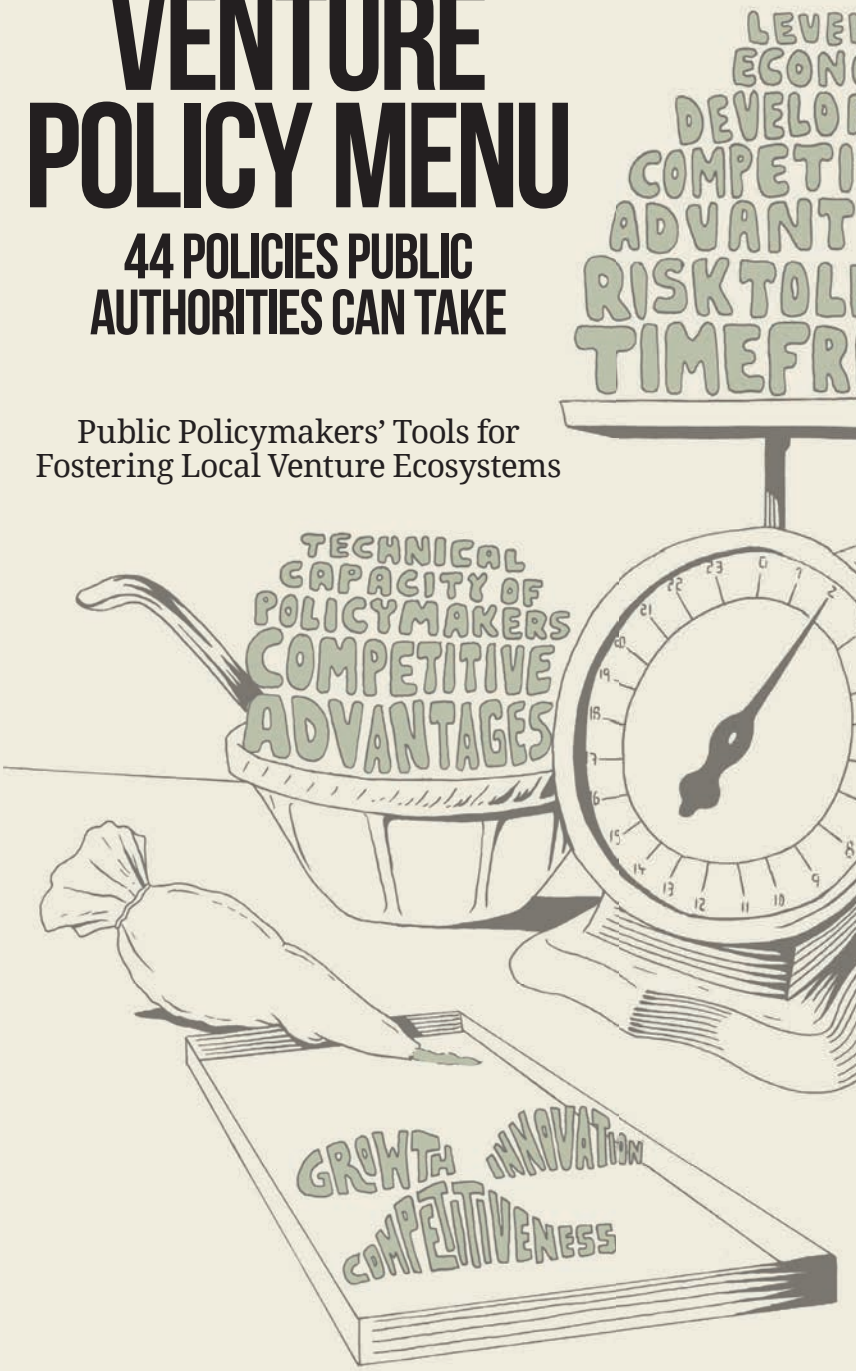

ROBYN KLINGLER-VIDRA
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THIS ARTICLE is motivated by policymakers' desire to know what they can do to foster local venture ecosystems. It strives to be a resource for policymakers by mapping a comprehensive menu of venture policies. Before diving into the menu, I start with a word on the global pervasiveness of venture policies' applications. There have been a multitude of uses of "Silicon" monikers associated with venture policy initiatives; a few examples include the "Silicon Roundabout" in London, Taiwan's "Silicon Island", Israel's "Silicon Wadi", Hong Kong's "Silicon Harbor", and the "Silicon Alley" in New York City. Policymakers have adopted their own silicon brands as part of their aspiration to propel Silicon Valley-like innovation and venture activity. In doing so, they hope to enhance local economic growth, employment, and competitiveness.

Policymakers' efforts to develop 'local Silicon Valleys' began in the 1980s. Such efforts translated into an estimated US$3bn spent annually by Organization for Economic Cooperation and Development (OECD) governments by the mid 1990s (OECD, 1997). Since then, public venture policies have grown exponentially in scale and scope. The European Union's European Investment Fund manages over 12 billion euros, which it invests via fund of fund, direct equity and lending instruments. Individual governments, Singapore and Russia for example, have launched a public fund of VC funds (Singapore's Technopreneurship Investment Fund in 1999 and the Russian Venture Corporation in 2006), with US$1bn in assets under management. As an illustration of the ubiquitous reach of venture policy efforts, the Russian government has invested in turning Skolkovo, a suburb of Moscow, into the 'Russian Silicon Valley'.

"POLICYMAKERS BENEFIT FROM CONSIDERING THEIR LOCAL CONTEXT AND UNIQUE COMPETITIVE POSITIONING WHEN CHOOSING FROM THE VENTURE POLICY MENU."

In these and other public policy efforts, according to Vivek Wadhwa, a Silicon Valley-based venture capitalist, the Silicon Valley venture formula has been said to consist of the following: select a hot industry, build a science park next to a research university, provide subsidies and incentives for chosen industries to locate there, and create a pool of venture capital.

The Singaporean venture policies, for example, include: public funds for venture investors, subsidies for firms in targeted technologies, encouragement of potential entrepreneurs, mentoring for startups, subsidies for researchers moving laboratories to Singapore and awards for failed entrepreneurs (Lerner, 2009: 18–19).

Policymakers' desire to support innovation springs from the uncertainty and risk surrounding new technology development and adoption, as well as the relationship between innovation and long-term economic growth, according to Shumpeter. But game-changing innovations are not easy to predict. In an editorial piece in The New York Times in 1939, the author lamented that "television will never be a serious competitor for radio, because people must sit and keep their eyes glued on a screen; the average American family hasn't time for it."

Just as this influential American newspaper struggled to predict the future for television, entrepreneurs can make only educated guesses about which innovations will take off. In fact, for many companies, the financial burden of investing in research and development is too high. As a result, governments have increased their R&D expenditure in an effort to support innovative technological developments. As an illustration, the European Council has agreed that all member states increase total R&D expenditure (across public and private sources) to 3% by 2020.

Now that the motivations for, and pervasiveness of, venture policies have been introduced, I turn to identifying the venture policies that have been implemented to date. The following table presents a menu of venture policies, based upon what has been deployed by city, state and regional governments.

The menu outlines eight categories of venture policies instruments, including: (1) funding, (2) taxation, (3) regulation, (4) clusters/networks/institutes, (5) attracting talent and investment, (6) stock market access, (7) technology infrastructure and government procurement and (8) education and training.

The table details the names of the policies, and explains the purpose of the policy and provides an example of its employment. In addition, within the table there is an estimated time to impact, in years, for each policy, to give readers a

TABLE 1
MENU OF VENTURE POLICY CHOICES

FUNDING

POLICY	PURPOSE	EXAMPLES	TIME TO IMPACT (YEARS)	COMMENTS
EQUITY INVESTMENTS IN VENTURE FIRMS	Fill equity gap by investing where private investors do not	Germany's High-Tech Gründerfonds, United Kingdom's Enterprise Capital Funds, Taiwan's Development Fund	5–7	Direct government investments in SMEs are typically made as co-investments along with private investors
LOANS FOR VENTURE FIRMS	Offer loans to early-stage companies; banks tend not to invest in venture firms since there is little or no collateral	United States Small Business Administration loan program, France's SOFARIS, Austria's Finanzierungsguarantee Gesellschaft Technology Financing Program, United Kingdom's Startup Loan Scheme	5–7	Moral hazard is a concern, so risk-sharing arrangements are important to get right
GUARANTEES	Increase private lending to startups by reducing the risk of lenders	United Kingdom's Enterprise Finance Guarantee, Singapore's Loan Insurance Scheme	3–5	Can help companies obtain short-term trade financing and working capital
FUNDS OF VC FUNDS	Build a local VC industry capable of sustainable investment in startups	Israel's Yozma Fund, New Zealand's Venture Investment Fund, European Investment Fund, Singapore's Technopreneurship Investment Fund, Russian Venture Corporation	5–7	The Funds of VC Funds that have had the most positive impact have been one-time injections of capital, not evergreen funds. Cautionary note that too much public involvement in investment decisions may inhibit the Funds of VC Funds' ability to operate successfully
GRANT FUNDING COMPETITIONS	Incentivize activity in specific sectors by awarding funding without taking any equity in the business	European Union, UK Technology Strategy Board	1–3	Not in exchange for equity in venture firm
INCREASE PUBLIC R&D EXPENDITURE	Governments increase their share of the cost of R&D; offer subsidies/tax credits to private companies for their R&D spending	European Council mandating that Member States increase R&D spending to 3% by 2020	6–10	The OECD average R&D expenditure was 2.3% as of 2011
PUBLIC – PRIVATE SECTOR CO-FUNDING	Co-investment with private sector investors can help to quickly increase the pool of early-stage investment capital available to startups	Singapore's Business Angel Scheme and the United Kingdom's Business Angel Co-Investment Fund	2–5	In successful cases, for every dollar of public money invested in companies, as much as three dollars has been invested by business angel syndicates

TAXATION

LOW OR ZERO TAX RATES FOR VENTURE FIRMS	Lower tax rates for corporations to help startups achieve greater profitability	United Kingdom lowered its corporate tax rate in April 2013 to 23%, and will further reduce it to 20% in 2015	1–3	Tax breaks for SMEs can be on generate corporate tax rates, but also for business investment capital, employee costs, and capital allowances for property
LOW OR ZERO TAX RATES FOR VENTURE CAPITAL FIRMS AND ANGEL INVESTORS	Lower tax obligations for investors in startups (e.g. tax exemption or capital gains tax rate)	Singapore's tax exempt status for offshore domiciled venture capital investors	1–3	Means of promoting local, and attracting international, investors
TAX CREDITS FOR INVESTMENTS INTO VENTURE FIRMS	Tax credit for investment in startups/VC funds	United Kingdom's Enterprise Investment Scheme, Seed Enterprise Investment Scheme and Venture Capital Trust; Taiwan's 20% tax credit	1–3	Tax credits have been made available for business angels and VC Managers
TAX CREDITS FOR PRIVATE R&D EXPENDITURE	Encourage private firms to invest in research	Canada and Taiwan offered R&D tax credits early on	3–5	Credit for expenses incurred when developing technology or science, as well as advances in environmental impact and process efficiency and cost

REGULATION

POLICY	PURPOSE	EXAMPLES	TIME TO IMPACT (YEARS)	COMMENTS
ADOPT LEGAL STRUCTURES FOR VC INVESTORS	Investment vehicles that give investors limited liability for their investments in SMEs	LP structure	2–5	The Anglo-American version of the LP structure has had the most success in attracting international capital. Local versions of LP structures, such as that in Australia and Finland, have contained variations that undermine the consistency of the structure that international investors are familiar with (see Lerner, 2009: 158)
INTELLECTUAL PROPERTY RIGHTS	Protect the new ideas, products and processes developed locally so entrepreneurs feel secure that they will not have their IP stolen	United States IP laws	3–5	The IP landscape is changing both locally (USA, EU) and globally (between countries).
BANKRUPTCY LAWS	Ease of starting and shutting down businesses; ability for "failed" founders to start another business	Japan and Singapore changed bankruptcy laws so that there are fewer restrictions on the future activities of managers of failed businesses	3–5	Fostering an environment in which startups can form and wind down has been related to improving the entrepreneurial culture / risk-taking nature of would-be startup founders
REDUCE FUNDRAISING RESTRICTIONS	Enable international investment and exit in local startups	American 1979 ERISA reinterpretation allowing pension funds to invest in VC funds	1–2	By allowing major institutional asset classes to invest in early-stage investment vehicles, there are more funds available for VCs and, therefore, more early-stage investment capital available to startups
IMPROVE LABOUR MARKET FLEXIBILITY	Facilitate movement of labor across firms and decrease the risk to would-be entrepreneurs considering leaving their job	France's "Entrepreneurship laws" that allow employees to take leave to start their own business	1–3	Greater labor market flexibility allows talent to flow across sectors and geographies, which has been named as a driver of economic growth
ALLOW FOREIGN OWNERSHIP AND INVESTMENT	Reduce or remove restrictions on the share of foreign ownership allowed in domestic firms to increase opportunities for inward investment	Vietnam's WTO accession in 2007 reduced foreign ownership barriers in strategic sectors, including the technology sector	1–2	Opens up opportunities for local SMEs to be subsidiaries or acquisition targets for leading multi-national firms in the sector

CLUSTERS, NETWORKS AND INSTITUTES

EXPORT PROCESSING ZONES	Offer tax and other incentives for investment and startup activity in a specific region	China's Shenzen region and Vietnam's export zones outside Ho Chi Minh City and Hanoi	2–5	Helps attract foreign firms and create regional clusters of activity. This was effective for Vietnam in attracting Intel
SCIENCE PARKS	Develop density of scientists	Microsoft Business Park, Taiwan's Hsinchu Science Park, Hong Kong's CyberPort and Science Park	2–5	In Taiwan, the Hsinchu Science Park was especially effective in attracting talent back to the country, turning a "brain drain" into a "brain bank"
ACCELERATORS AND INCUBATORS	Develop venture ecosystems in certain regions or focused on specific industries	South Korea's Smart Content Center; Sunshine Suites in New York City	2–3	Significant variations across schemes called accelerators and incubators in terms of taking equity, providing office space, etc.
CO-WORKING SPACES	Provide SMEs with access to affordable and flexible office space close to other entrepreneurs	Singapore's Blk71 (in partnership with SingTel)	2–3	Co-working spaces can be most effective in urban areas where real estate costs are prohibitive to startup activity
GOVERNMENT RESEARCH INSTITUTES	Have public institutes develop new technologies and products for private sector to license/use	Taiwan's ITRI and III; Korea's ETRI	6–10	Taiwan's ITRI, as an example, undertook the costs and efforts of developing hardware that they then made available to local SMEs
ENTREPRENEUR TRAINING CENTERS AND PROGRAMS	Increase the quantity and quality of entrepreneurs	UK's Entrepreneur First and Israel's MAGNET	2–3	Training programs can be effectively delivered via partnerships with industry and academia
ESTABLISH BUSINESS ANGEL NETWORK AND/ OR VC ASSOCIATION	Help develop local community of investors capable of co-investing in startups	Singapore Private Equity & VC Association was established by policymakers	1–3	Organizing investor networks can help facilitate co-investment in local venture firms
LEVERAGING GOV. PROCUREMENT TO SUPPORT STARTUP CLUSTERS	Use government buying power to help give small firms a jump start	Defense spending or otherwise in which the government makes a concerted effort to buy from venture firms	3–7	In its "Submission to the Review of the National Innovation System", the Australian Venture Capital Industry advocates in favor of government procurement programs which would support local technology companies

TABLE 1 — CONTINUED
MENU OF VENTURE POLICY CHOICES

ATTRACTING TALENT AND INVESTMENT

POLICY	PURPOSE	EXAMPLES	TIME TO IMPACT (YEARS)	COMMENTS
ATTRACT TALENT VIA IMMIGRATION	Encourage local entrepreneurial activity by attracting experienced foreign entrepreneurs; help educate and inspire local entrepreneurship	Singapore's Global Investor Program that gives Permanent Residency in exchange for VC investment, Entrepreneur Visa and Exceptional Talent Visa in the UK and the Startup Visa Act in the U.S., Startup Chile which gives money to foreign entrepreneurs that launch a business in Chile	3–5	Caution from the Startup Chile experience that foreign entrepreneurs can take advantage of the incentive and then return to their home country shortly thereafter
INVESTMENT PROMOTION AGENCY	Attract FDI for local startups	Startup Chile	2–5	Create buzz internationally about your country as a destination for venture
BILATERAL INVESTMENT FUNDS	Encourage cross-border investments in startups that leverage the unique assets of each country	KORIL (Korea-Israel) and BIRD (Bilateral Investment in R&D – Israel / U.S.)	3–5	The BIRD fund, for example, was responsible for the growth and international expansion of Israel's early IPOs on NASDAQ
DELEGATIONS OF STARTUPS	Host and take delegations of startups across countries and regions to help link entrepreneurs and investors and showcase local talent	London's Tech City initiative took 25 creative tech startups to the South by South West Festival in Austin, Texas	2–3	Means of marketing local talent and ideas as well as fostering networks across companies, sectors and geographies
OPEN BORDERS TO LABOR MARKET	Allow an open flow of talent across regions	European Union	1–3	Note that political rhetoric regarding closing borders tends to coincide with challenging economic environments
OPEN TRADE AND CAPITAL ACCOUNT LIBERALIZATION	Enable cross-border trade and investment, especially access to key markets	European Union / European Economic Area, NAFTA, MERCOSUR	1–2	Enables domestic firms to fluidly sell abroad, which is essential for startups with small consumer markets at home

STOCK MARKET ACCESS

LAUNCH A SECOND-TIER STOCK MARKET	Help startup companies with inconsistent revenue/short-term profitability access capital markets sooner	Singapore's CATALYST, Korea's KOSDAQ	2–3	Need to get the balance right of strictness and accessibility so that the stock market is attractive to SMEs but also robust in terms of requirements and transparency into its listed companies
DECREASE REQUIREMENTS FOR PUBLIC LISTING	Encourage startups to access local capital markets for exits	AIM reduced amount of equity companies have to offer in order to IPO; Taiwan reduced number of years that companies had to have consecutive profitability	2–3	Less stringent listing requirements must be balanced with competent due diligence to ensure that the stock market is a high-quality venue
ALLOW DUAL LISTING ON LOCAL AND FOREIGN EXCHANGES	Encourage local capital market liquidity and also allow local companies to draw upon international liquidity	Tel Aviv Stock Exchange allows dual listing	1–3	Can help link domestic and foreign stock markets, in addition to giving local startups more capital market liquidity options

TECHNOLOGY INFRASTRUCTURE

POLICY	PURPOSE	EXAMPLES	TIME TO IMPACT (YEARS)	COMMENTS
PROVIDE HIGH-SPEED INTERNET	Improve connectivity via access to high-speed internet to encourage more / new uses of internet	Korea's 1 GB internet; UK's EE network offers 4G service	2–5	High-speed internet allows local developers to innovate online products and services
BUY SPECIFIC HARDWARE/SOFTWARE SO LOCAL DEVELOPERS HAVE ACCESS	Obtain frontier technologies so local entrepreneurs and engineers can innovate on these platforms	Taiwan licensed software from the U.S. beginning in the 1970s	2–3	Buying 3D printing equipment may be a means to facilitate leapfrogging in developing markets
LIVING CITY/LIVING LAB	Give technology to would-be startups so they can brainstorm and test product ideas	Korean ETRI (government research institute) has all smart phone devices so entrepreneurs have access to test their apps	3–5	Integration of research and innovation processes through public-private-people partnerships
PUBLIC OPEN DATA	By increasing availability of public data online, entrepreneurs are able to build businesses that leverage datasets	UK Open Data Institute (launched December 2012)	2–5	Startups, access to public data can lead to businesses that help policymakers optimize efforts, or consumer applications
TELECOM NETWORKS (FOR DEVELOPING COUNTRIES)	Physical infrastructure necessary for ICT industry	Kenya's investment in telecom infrastructure	5–10	Nairobi as a case study of mobile app cluster success, due to this investment in telecom infrastructure

EDUCATION AND TRAINING

GRANTS & PROGRAMS TO ENCOURAGE SCIENCE AND ENGINEERING STUDIES IN UNIVERSITY	Increase the pool of engineering talent	Australia acting on a recommendation to do this from PWC	5–10	Means of encouraging students to pursue the 'hard sciences'
TECHNOLOGY TRANSFER AND ENTREPRENEURSHIP CENTERS AT UNIVERSITY	Help commercialize inventions and innovations	Israel's Technion and Singapore's National University of Singapore	5–7	Stanford University does not take any of its students' IP, and this is said to encourage a highly entrepreneurial student environment
UNIVERSITY-ORGANIZED INTERNSHIPS AT STARTUPS	Increase undergraduates' awareness of, and skills relevant to, the venture ecosystem	Barclays and Ravensbourne Partnership; Tata International Social Entrepreneurship Scheme	3–5	Startup internship schemes present entrepreneurship as career choice on equal footing with careers with large firms or the public sector
INTRODUCE TECHNOLOGY CURRICULUM IN PRIMARY SCHOOL	Increase pool of computer scientists and engineers	Vietnamese programming classes in the 5th grade; Coding taught in Estonia, mandatory since the age of 8; UK curriculum being changed to teach 11-year-olds how to code	10–15	Empowers students—at a young age—to understand what algorithms are and to code, use and debug computer programs
INVESTMENT READINESS PROGRAMS	To help entrepreneurs develop their pitch and learn how to interact with would-be investors	Commercialization Australia; France Investissement: "Les Services du Club"	2–5	Create international appetite for local ventures by investing in entrepreneurs' pitch skills

sense of when the policy may be expected to produce results. The time to impact is based upon various states' experiences with the policy tool. For example, Israel's fund of venture capital fund, Yozma, contributed to the growth of the formidable Israeli venture capital industry in just five years after launch. The fund of venture capital fund, therefore, has an estimated time to impact of 5–7 years. Finally, where possible, the table includes comments on its use — either a cautionary note or highlighting what has worked well — in the localities where it has been deployed.

What's Next ?

Now that the full menu of venture policies has been detailed, we ask: how do policymakers decide which policies to employ locally? While it may be tempting to order from the venture policy menu as if eating at a buffet, here we offer a cautionary note about policymakers acting upon the temptation to pursue all strategies.

There are numerous problems with the state over-engineering the venture ecosystem. Over-engineered efforts are problematic because they can de-motivate entrepreneurs and crowd out private sector investment.

In this way, policymakers are cautioned to facilitate venture ecosystems through enabling venture policies, but not over-engineered investments, regulations or initiatives. The venture policies that have achieved the most success to date are those that have incentivized private sector activity by reducing risk for a short time period, providing an initial injection of capital, increasing the pool of talented entrepreneurs and investors (through education or immigration measures), or encouraging international cooperation.

Above all, policymakers benefit from considering their local context and unique competitive positioning when choosing from the venture policy menu. Key considerations for selecting the optimal policies for your locality include: the timeframe, risk tolerance, technical capacity of policymakers, level of economic development, competitive advantages and any existing obstacles to local venture activity. Said plainly, sub-sets of the policies may be best for different locations at various times, so it is important to deploy venture policies that fit your local context rather than copy the Silicon Valley, or another region's, formula.

FURTHER READING
REFERENCES

LERNER, JOSH (2009)
Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed — and What to Do About It. Princeton: Princeton University Press.

TECH CITY (2013)
Tech Powers the London Economy: The Tech City 3rd Anniversary Report.

GULINELLO, CHRISTOPHER (2005)
"Engineering a Venture Capital Market and the Effects of Government Control on Private Ordering: Lessons from the Taiwan Experience", George Washington International Law Review. 37(4): 845-883.

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23 FEBRUARY 2014

Preqin投资者前景展望：
2014上半年替代资产投资

Preqin Investor Outlook

Alternative Assets H1 2014

Preqin *Investor Outlook: Alternative Assets* H1 2014 provides a unique insight into institutional investors in private equity, hedge funds, real estate and infrastructure. Preqin's report examines the investment plans and views of more than 430 investors in alternative assets, compiled from a series of interviews carried out by Preqin's analysts in December 2013.

PUBLISHED
02 MARCH 2014

热门初创公司
离十亿美金收购究竟远吗？

Hot Startups

Are billion dollar paydays still rare?

Following Varonis System's recent IPO, attention has been drawn to the near billion dollars again. CNBC recently stated that: "Even for hot startups, billion dollar paydays are rare." Tech startups may be attracting more money than ever, but that doesn't mean a billion dollar payday is easy to come by.

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06 FEBRUARY 2014

《经济学人》杂志2014 特别报告
科技创业

The Economist Special Report

Tech Startups

We are not only entering a big data era, an entrepreneurial explosion is also on the tip of people's tongues. *The Economist's 2014 Special Report on Tech Startups* opens its page by saying that "digital startups are bubbling up in an astonishing variety of services and products, penetrating every nook and cranny of the economy. They are reshaping entire industries and even changing the very notion of the firm." People are worried that this entrepreneurial boom will lead to another dotcom bubble and bust. However, even Josh Lerner claims "technologies of startup production have become so evolved, cheap and ubiquitous that they can be easily combined and recombined".

PUBLISHED
02 FEBRUARY 2014

风险投资与私募股权国家吸引力指数
2013年度报告

The Venture Capital and Private Equity Country

Attractiveness Index 2013

IESE Business School at the University of Navarra publishes an annual report, *The Venture Capital and Private Equity Country Attractiveness Index".* The goal of the report is to guide institutional investors to solve the problem of where to allocate their capital.

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13 FEBRUARY 2014

美国风险投资估值与潮流
2014年报

U.S. VC Valuations and Trends

2014 Annual Report

There are currently plenty of annual reports on the past year's VC performance. The Economist claims, in its article *On top of the world again*, that the venture-capital industry may be shrinking, but in 2014 America's innovation engine will prove to be in great shape. However, innovation is one of the most important factors that drive the venture capital industry, because the industry itself started as an innovation.

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20 FEBRUARY 2014

谁被落在了身后?
Facebook收购WhatsApp

Who's Left Behind?

Facebook's WhatsApp acquisition

Facebook's recent acquisition of WhatsApp for US$19bn has been in the news. *TechCrunch* reports, "Facebook is purchasing messaging giant WhatsApp for US$16bn in cash and stock, according to a regulatory filing. The deal is being cut for US$12bn in Facebook shares, US$4bn in cash and an additional US$3bn in RSUs for employee retention."

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18 DECEMBER 2013

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AIFMD

Re-shaping for the future

The Alternative Investment Fund Managers Directive (AIFMD) is one of the major EU regulatory initiatives to extend appropriate regulation and supervision to the alternative investment fund management industry. According to AIFMD, an Alternative Investment Fund (AIF) is defined as a collective investment undertaking which raises capital from a number of investors, with a view to investing it in accordance with a defined investment policy for the benefit of those investors. An AIF may be either an open-ended or closed-ended fund and may take any legal form. The AIFMD, and the definition of what is an AIF, are important for the venture community to be aware of.

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30 JANUARY 2014

2014年主权财富基金
五大投资潮流

Sovereign Wealth Fund (SWF)

Five Investment Trends for 2014

Institutional investors and public authorities are two major focuses for CIV in 2014. As an institute providing venture fund analyses, we pay attention to the *Institutional Investor's Sovereign Wealth Center*, which listed five investment trends for *Sovereign Wealth Funds* at the beginning of the year.

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06 FEBRUARY 2014

初创公司的神秘与困扰

Startups

Myths and obsessions

In *The Economist's* recent special report, *A Cambrian Moment*, the publication invited Mariana Mazzucato, the author of the book *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*, to discuss the boom in startups. According to Mariana Mazzucato, the startup boom is partly a result of the lack of high-quality jobs in the "old economy", but is also a result of policies based on myths around entrepreneurship and startups.

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09 FEBRUARY 2014

移动市场吞噬风险投资

Mobile is Eating VC

"Software is eating the world"

"Software is eating the world", American entrepreneur, Marc Andreessen said. The mobile sector attracted venture capital investments of more than US$1bn again in 2013 Q3, according to CB Insights report *Mobile is Eating VC: Venture Capital Funding to the Mobile Sector Tops 1 billion dollar (again).* The CB Insights' report says that in 2013 Q3, venture capital investors poured US$1.12bn across 150 deals into U.S. mobile and telecoms companies, making it the largest financing quarter to the mobile sector ever.

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从十亿美金的初创公司取经

Welcome to the Unicorn Club

Learning from billion dollar startups

Many entrepreneurs, and the venture investors who back them, seek to build billion dollar companies. Recently, the *Cowboy Ventures* team built a dataset of US-based tech companies started since January 2003, to see which of these companies have achieved valuations at US$1bn, by either private or public markets.

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下一个硅谷:
加州如何做到最好?

Replicate Silicon Valley

Can you do it right?

Silicon Valley, famous as the world's supreme entrepreneurial hotspot, generating a seemingly endless supply of new technologies, new companies, and huge wealth, is the global hub of the innovation and venture capital industry. Inspired by Silicon Valley's success story, there are three armies of cities, regions and countries around the world that want to replicate its model, and this is explored in the *BBC's new series, The Next Silicon Valleys.*

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07 JANUARY 2014

研究报告
养老基金在私募股权资产配置中的延伸与演变

The Extent and Evolution of Pension Funds' Private Equity Allocations

Adveq applied research series at London Business School

Adveq and the Coller Institute of Private Equity at London Business School hosted the first public discussion of the initial applied research report under the Adveq Applied Research Series on Tuesday 14 January 2014. The research by Florin Vasvari, Associate Professor of Accounting, and Eli Talmor, Professor of Accounting at London Business School, is the first research report completed under the Adveq Applied Research Series.

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02 JANUARY 2014

新书章节: 风险投资与创新

Venture Capital and Innovation

Book review

Published in 2010, the book entitled *Venture Capital: Investment Strategies, Structures, and Policies*, edited by Douglas J Cumming, conceptualizes and analyzes significant aspects of venture capital studies. In Part II Venture Capital Value-Added and Conflicts, chapter 14 "Venture Capital and Innovation" by Masako Ueda, discusses the profound relationship between venture capital and innovation.

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2014 Tech IPO Pipeline Report

CB Insights

CB Insights has taken a fresh look into the fastest growing, most highly valued private companies in technology. *The 2014 Tech IPO Pipeline* has 590 investor-backed private technology companies in the United States today, with valuations—real or rumored—of greater than US$100m, and which are demonstrating significant momentum based on *CB Insights' proprietary private company ratings.*

www.privatecapitalresearchinstitute.org

PCRI

PCRI to Improve Understanding of PE/VC Industry & its Impact on the Economy

Josh Lerner & Leslie Jeng

The aim of the Private Capital Research Institute (PCRI), a not-for-profit corporation, led by Harvard Business School Professor Josh Lerner, is to further the understanding of private capital and its impact on society. The level of interest in alternative investments, and private capital in particular, has been particularly intense over the past several years. Returns from United States publicly traded equities and bonds, the mainstays of investment portfolios for individuals and institutions, have been weak. Concurrently, public pension funds are facing severe shortfalls, and other institutional investors—from university endowments to sovereign wealth funds—are suffering from insufficient funds to fulfill long-range commitments. As a result, institutions are increasingly looking to private capital investments such as venture capital, buyout and growth funds. The private equity sector has grown from $900 billion, a decade ago, to an estimated $3.2 trillion in mid-2012. Despite the fact that the global economy and individual investors are increasingly dependent on private capital, much remains poorly understood about these investments. While there are obvious questions around investment performance, there are broader questions about the impact of private equity on the companies in which they invest, as well as on workers and other stake holders. For example, there is little understanding of the impact of private equity investments on R&D investments and employment practices. This presents a critical need for better understanding of the industry, reliable and consistent data, and independent peer-reviewed academic research to combat misinformation that shapes public opinion and public policy. To address this gap, the PCRI has been working since 2010 to build a comprehensive research database on funds and transactions of private capital, to organize a community of scholars, to sponsor unbiased academic research on the nature and effects of private capital, and to disseminate the findings of this research to policy makers and the public at large. One of the primary barriers to high quality academic research on the private capital industry is the quality of information relating to transactions and funds. As such, the first goal of the PCRI is to build comprehensive databases on private capital funds and transactions. The PCRI will gather data from two sources: data providers and industry participants. Since its inception, the PCRI has come to terms with several commercial data providers and over thirty general partners have agreed in principle to contribute their data to the PCRI.

It is important to note that the PCRI databases will be anonymized. The data will be stored on a secure server at the National Opinion Research Center at the University of Chicago. In addition, the databases will not be publicly available. Only approved academic researchers will obtain access to the databases.

Only on such a foundation of comprehensive, consistent, and credible databases that the PCRI aspires to build will the ultimate goal of a better understanding of the private capital industry be achievable.

For more information about the PCRI, please contact Josh Lerner or Leslie Jeng at info@pcrinstitute.org

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