

# Targeting Venture Capital

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**White Paper #5** | OCTOBER 2021

Venture capital is a force for good  
driving innovation and job creation.

Venture capital is an access class.  
Savvy investors harvest outsized returns.

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# Introduction

In our white paper *Targeting Private Assets* we saw compelling evidence that well-diversified portfolios that include private assets offer superior risk-return pay-offs. We now take a deep dive into venture capital and explore the value venture capital adds in the economy and the value savvy investors can add through their venture capital investment portfolios.

Charles D. Ellis, in "*Investment Policy. How to Win at the Loser's Game*", explains how the investment profession, like all learned professions, has many unusually difficult aspects that require great skill and that keep getting more complex. One part is the increasingly challenging task of combining imaginative and insightful research with astute portfolio management to achieve superior investment results. The other part happens to be the least difficult but the most valuable one: investment counseling.

With this series of white papers, Altamar CAM Partners undertakes to roll up its sleeves and actually help clients cope with the challenges and opportunities that today's investment environment presents. Altamar CAM aims at offering tools and frameworks that may be of value to its clients in structuring better investment programs rather than producing normative academic research.

In this paper, we examine the venture capital industry. We first take a close look at the value added of venture capital to the investee companies themselves and to society at large.

We next study the performance of venture capital as an asset class. Regrettably, publicly available performance data has material shortcomings that constrains the value of quantitative analyses. Fortunately, we find precious insights in the annual reports of the Yale endowment.

We find that venture capital is an access class, rather than an asset class. Performance is driven critically by access to top funds and by constructing resilient portfolios that minimize exposure to poorly performing funds.

John Siska, CFA, has led and written the paper on the back of an extensive literature review, industry publications, and Altamar CAM's analytical capabilities and insights. For the sake of transparency, the paper is based on generally available information on the venture capital industry. Altamar CAM's views have been taken into account.

John has been involved in the institutional asset management business for over 30 years, having served as Head of International and Quants, Head of Santander Noble Lowndes, and CIO - Global Equities at Santander Asset Management. He now runs Eccleston Partners, a niche advisory business. John is Founding Member of the Global Council of the CFA Institute and Founding President of CFA Spain.



**John Siska**  
Senior Advisor

# Key Takeaways

Venture capital is a force for good supporting innovation, job creation, and corporate growth in assets and sales. Business outcomes are better for startups matched with experienced investors.

Venture capital is an access class. In venture capital, there is persistence of performance across all four quartiles. Preferential access raises expected returns and reduces their volatility.

- **Venture capital investors** are professional institutional managers of risk capital. These are **high-touch managers that proactively engage** with emerging and high-growth companies with innovative products and services.
- In addition, the venture capital industry has an **advantaged position to attract, retain, and motivate top talent** across the whole value chain **thanks to a strong alignment of interests** and incentives with long-term value creation.
- **Investee companies are disruptive** and threaten established incumbents, require **long investment periods** to reach maturity, and cannot typically access traditional bank financing.
- Median pre-money **valuations reflect the growth and maturity of the businesses** financed by venture capital. **Progressing through funding rounds is challenging.**
- The choice of **valuation and multiples methodologies** is usually **related to the stage of development of** the investee company. Gut feel tends to be the key metric in the very early stages of financing while traditional valuation approaches are usually preferred for companies in their growth stage.
- **Venture capital assets stand at roughly €1 trillion, 15% of AUM in the private markets.** The US and Asia are evenly split with a 40% total market share each. Asia, however, stands taller than the US in growth capital, with a 60% market share. Technology is driving the exponential growth of venture capital and the role of Asia.
- Empirical studies in Europe and the US highlight that **venture capital is a force for good supporting innovation, job creation, and corporate growth in assets and sales.** Business outcomes are better for startups matched with experienced investors that engage and provide advice.
- High-achieving startups can grow further and faster with venture capital support, boosting jobs, innovation, assets, and sales growth. **Empirical evidence** in Europe reveals that **venture capital backing helps more companies to succeed** while limiting the failure of others.
- **In the US, VC** appears to **contribute disproportionately to the making of large and successful firms.** Findings suggest that **VC plays a critical role in taking startups to stardom.** Startups that have more promising growth and innovation prospects tend to be funded by venture capitalists.
- The VC-industry specializes in **investing in innovative companies with** growth potential and very **significant upside for earning outsized returns.** As a result,

VC investors focus on **technology, retail trade, and biotechnology** while avoiding capital intensive industries such as banking, real estate development or mining.

- Venture capital investments can be **an attractive addition to most diversified portfolios**. Top quartile IRR for venture capital have historically exceeded those of other asset classes. In particular, looking at the top quartile of managers across any time horizon, venture capital has strongly outperformed.
- Investors need to be **cautious with performance metrics**. IRR are not compounded annual rates of return and cannot be compared directly to rates of return of traditional asset classes. In addition, the standard venture capital benchmarks provide different performance numbers.
- Venture capital is the asset class where the **dispersion and, thus, the ability to generate value** through active management and manager selection **is the highest**. In addition, **there is persistence** of performance **across all quartiles**.
- **Preferential access** to deal flow **raises expected returns and also reduces their volatility**. Preferred access raises the quality of subsequent investments, perpetuating performance differences in initial investments. VC firms that have enjoyed success raise larger funds and raise them more frequently.
- Clearly, **the name of the game for investors** in venture capital **is to gain access** to top performing GPs whose top performance persists over time. **Venture capital is truly an access class rather than an asset class**.
- We next **take a look** at two real-life successful venture capital investors – **Yale and Galdana**.
- Legendary **David F. Swensen**, head of Yale's Investment Office, revolutionized how institutional investors set investment policy and manage their assets. "Yale's model" **set the standard of best practices**. Yale's model is **driven by the role of investment policy and long-term, independent, and contrarian thinking**. For three of the past ten years, Yale's ten-year track record ranked first among its peers.
- Yale's portfolio is structured using a **combination of academic theory and informed market judgment**. Yale employs mean-variance analysis to test sensitivity of results to changes in input assumptions. Qualitative considerations play an important role in portfolio decisions.
- Yale has a **target allocation to venture capital of 23.5%**. This is the largest allocation to any asset class. **The mean allocation to venture capital of U.S. educational institutions is 7.7%**.
- **Galdana is a joint venture of leading entrepreneurs and tech experts with a leading European private asset management firm, Altamar CAM**. The Galdana team members are part of the tech ecosystem. Altamar provides best-of-class infrastructure, including compliance and risk management.
- **Galdana's managers** have historically **earned an average TVPI of 3.7x**, almost **60% higher than Preqin's TVPI**. The secret? Avoid losers and gain exposure to big winners. Excluding the big winners, Galdana's managers have earned a TVPI 10% higher than Preqin's with one third of its volatility.
- **Yale provides compelling evidence of the value added by a material top-down allocation to venture capital** and **Galdana provides compelling evidence that you do not need to be Yale to earn Yale-like venture capital returns**. Yale's experience, team, and network is not the only path to harvesting exceptional investment returns.

# What's Venture Capital?

Venture capital investors provide capital and engage proactively with high-growth companies. Stakes are high as venture investments are disruptive and threaten incumbents. Venture capital stands at \$1tr and represents 15% of AUM in private markets. The US and China are now the epicenters.

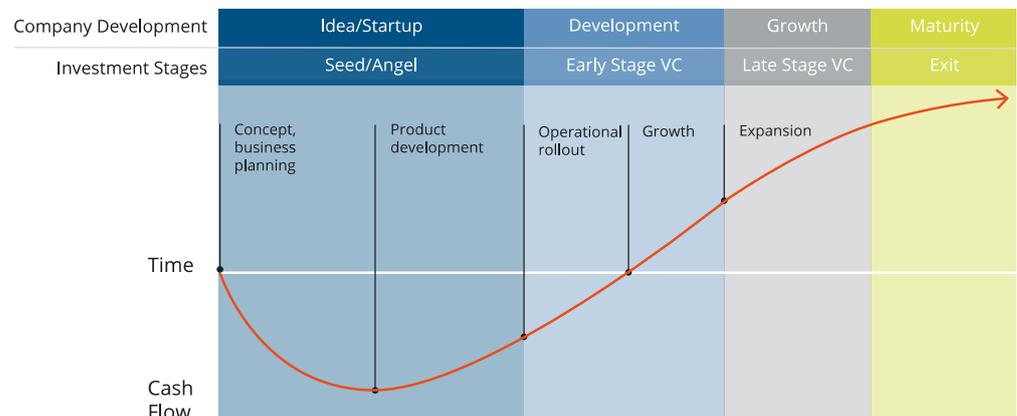
**VC provides equity financing for high-growth companies to develop and mature.**

Venture capital investors are professional institutional managers of risk capital. These are high-touch managers that proactively engage with emerging and high-growth companies with innovative products and services. These companies are disruptive and threaten established incumbents, require long investment periods to reach maturity, and cannot typically access traditional bank financing.

Venture capital provides equity financing for these emerging and high-growth companies to develop and grow into freestanding, mature organizations:

## Venture Capital Plays a Vital Role in a Startup's Growth

Source: NVCA 2020 Yearbook.



Private equity investors differentiate among venture, growth, and buyout stages:

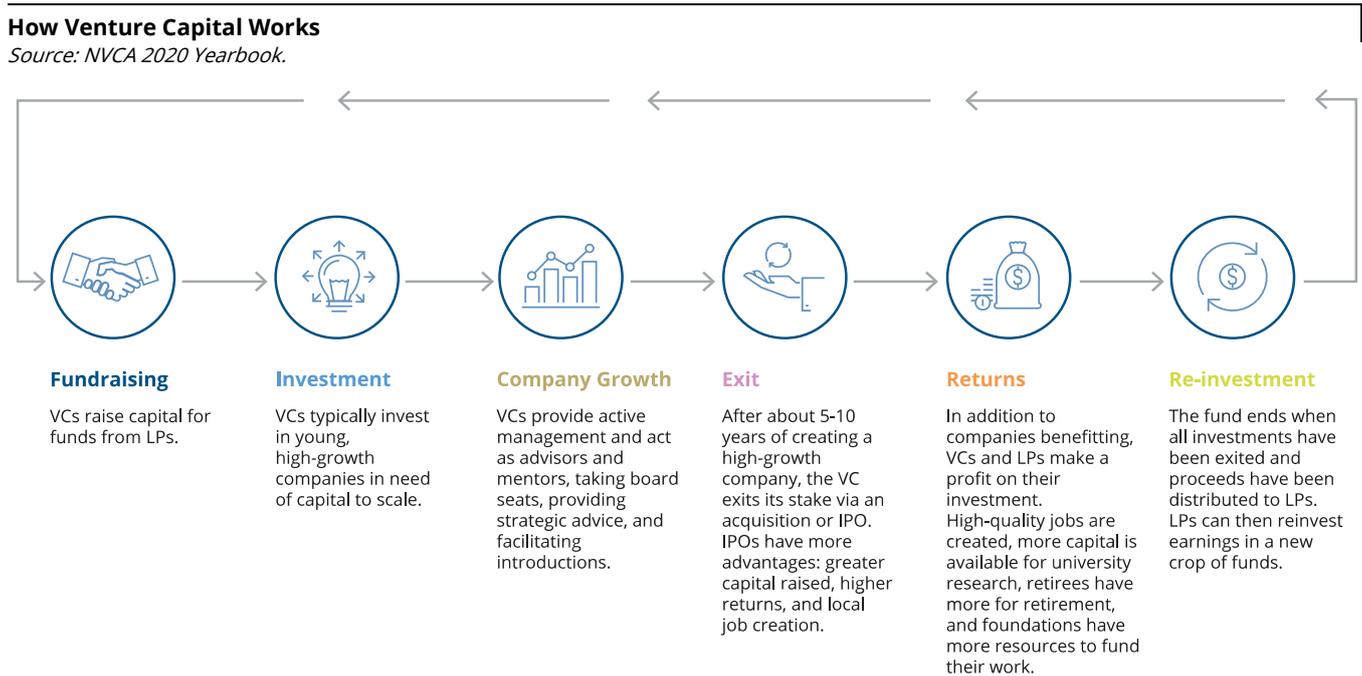
**The VC industry has a strong focus on technology.**

- **Venture capital** funds have been traditionally focused on investing in companies on the seed and early stages of their lives. These are high-stakes investments as companies are unprofitable, burn cash, and their business models are untested. The venture capital industry has a strong focus on technology. As the sector and the companies have evolved and matured, so have the venture capital funds, starting to invest in later stages, early growth, growth and pre-IPOs.
- **Growth** funds provide equity to relatively mature companies planning to expand, improve operations, enter new markets, or accelerate the growth of their businesses.

- **Buyout** funds have traditionally taken controlling stakes in mature cash flow positive enterprises. At this stage, transactions can be financed with an aggressive mix of equity and debt.

Angel investors are usually individuals rather than institutions. The support that they can provide in terms of capital and expertise is more limited than the support than a venture capitalist can provide. On the other hand, angel investors tend to be patient investors with a longer time horizon and no LPs to answer to.

The value creation process, all the way from fundraising to exit and the reinvestment of funds can be clearly represented as follows:



**VC investors actively engage with management and provide expertise and guidance.**

**Partnering with Entrepreneurs**

As the US National Venture Capital Association points out, the competitive advantage that venture capital investors have is the expertise and guidance they provide to the entrepreneurs in their investment portfolio. Once an investment is made, venture capital partners take a seat in the company and actively engage with management providing mentorship and strategic and operational guidance and connecting entrepreneurs with investors and customers. This high-touch active management naturally limits the number of startups into which any single fund can invest.

In addition, the venture capital industry has an advantaged position to attract, retain, and motivate top talent across the whole value chain thanks to a strong alignment of interests and incentives with long-term value creation.

**Funding**

Typically, venture capital (VC) firms create a limited partnership, with the investors as limited partners (LP) and the venture capital firm itself as the general partner (GP).

The funding of startups backed by venture capital progresses across the following stages, as neatly explained by Invesco:

**Funding stages unfold as the company develops and needs more capital.**

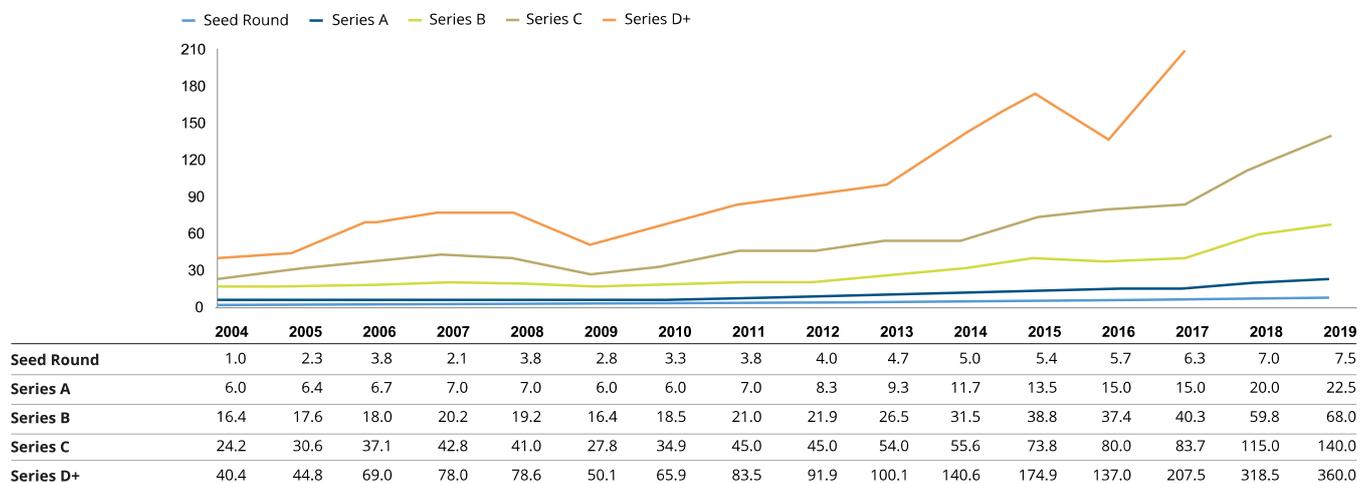
- **Seed:** Usually referring to the initial funding of a startup, “seed” funding has historically been the domain of friends and family. The majority of seed funding is invested in development resources, continuing to build out the company’s initial product through the beta version.
- **Series A:** Once startups have achieved traction (usually in the form of user growth or revenue) they are primed to raise an institutional round from a traditional early stage or lifecycle investor. The product continues to be iterated on and improved as the company incorporates user feedback.
- **Series B:** The final “early stage” round, Series B companies typically have achieved product market fit by this stage and have strong user growth, if not revenue. Companies raise capital primarily for the purpose of investing in sales and marketing.
- **Series C:** Once a startup has reached a Series C funding, it is generally no longer considered an early stage company. Such companies continue to fund expansion through investment in sales and marketing.
- **Series D:** Late stage companies at this point typically remain unprofitable and continue to raise capital to fund growth and ultimately achieve an exit, although some companies may exit before this stage.
- **Series E+:** The last round of funding before an exit is often referred to as a “Pre-IPO round.” In recent years, such rounds have become dominated by non-traditional startup investors, like sovereign wealth funds, mutual funds, and hedge funds.
- **IPO or M&A:** Successful venture-backed portfolio companies traditionally exit one of two ways: either through a sale to a larger company or through an IPO. While IPOs tend to get more attention from the media, M&A transactions have been the more consistent form of exit for startups of all stages.

**Median valuations are driven by the growth outlook and the maturity of the business.**

Median pre-money valuations, before venture investors buy a stake in the company, across these series reflect the growth and maturity of the businesses financed by venture capital. Series C, for example, median valuations stand at \$140MM, 20x the valuation at Seed Round and 7x the valuation at Series A financing:

**Valuation by Stage of Financing**

Source: PitchBook.  
Median Pre-Money Valuations – 2004-19 – USD Millions.

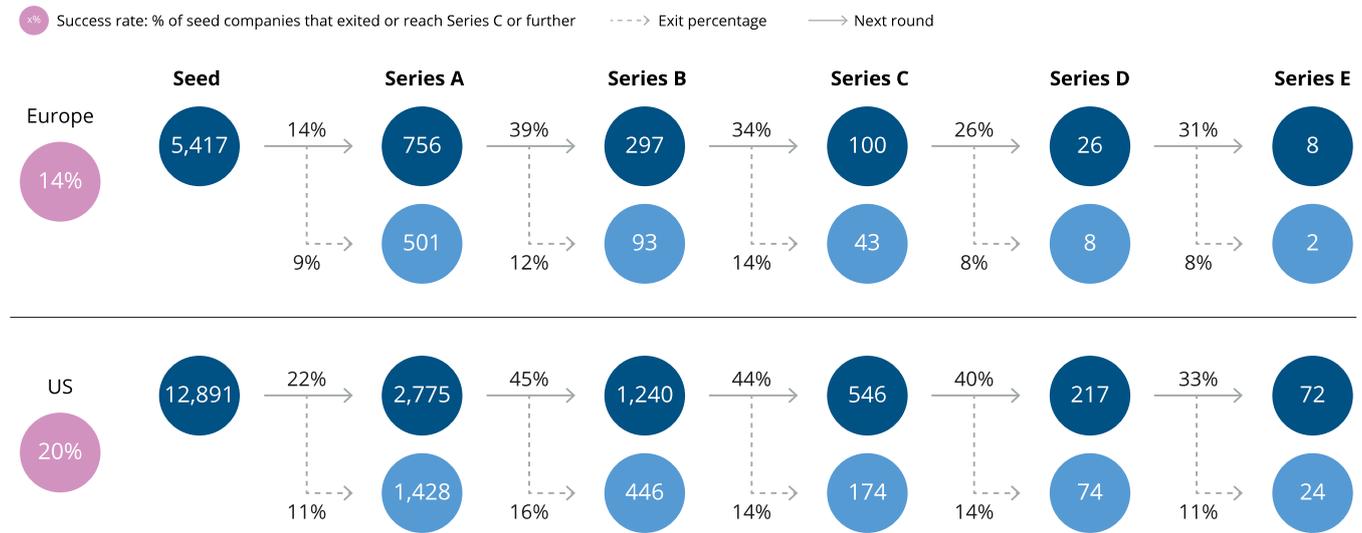


\*Series D+ data capped for graphing purposes. Values are available in the table.  
Note: Data for 2019 are through September 30.

Progressing through these funding rounds is challenging, as McKinsey reports. During the period 2009-2014 in Europe, just 14% of the companies reached Series C or further or successfully exited through a corporate finance transaction before Series C. In the US, the percentage was higher at 20%:

### Startups Reaching a Next Round of Funding or Successful Exit

Source: PitchBook; McKinsey analysis.



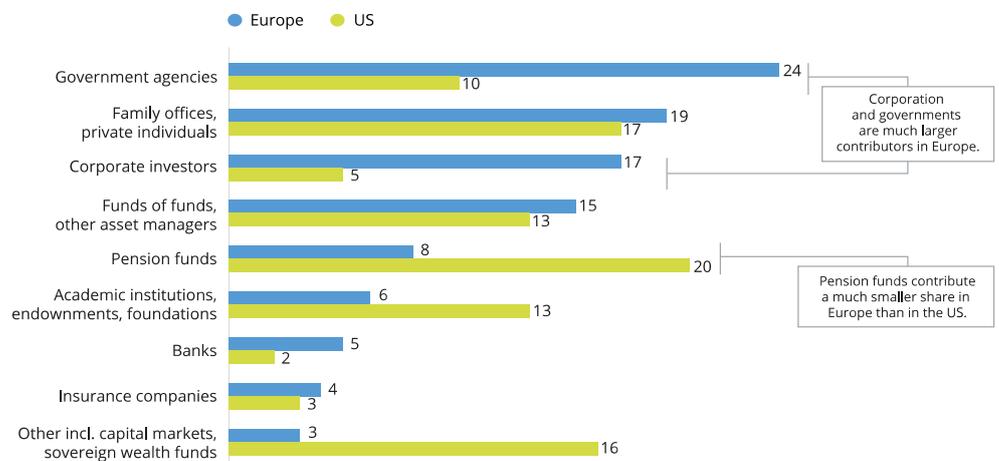
Successful exit is defined as a merger, acquisition, initial public offering, or leveraged buyout. Note: Funnel based on companies that raised seed or angel funding between 2009 and 2014.

Companies can tap a wide pool of capital. There are, however, significant differences between the sources of venture capitalists' funds in Europe and the US. Corporates and governments are much larger contributors in Europe whereas pension funds, family offices, and endowments are the key investors in the US:

### VC Funds Raised by Company Type and Region

Source: Invest Europe/EDC; Preqin; State of European Tech 2017 & 2019, McKinsey analysis. Cumulative, %\*

Venture investors represent a broad set of institutional, corporate, and sovereign investors.



\* Data based on funds raised between 2012 and 1H 2017; all percentages are only calculated on know LP allocation; unclassified allocations extrapolated; US VC LP allocation based on data from Preqin. Figures may not sum to 100% because of rounding.

Investors consider the management team, the business model, and the industry dynamics.

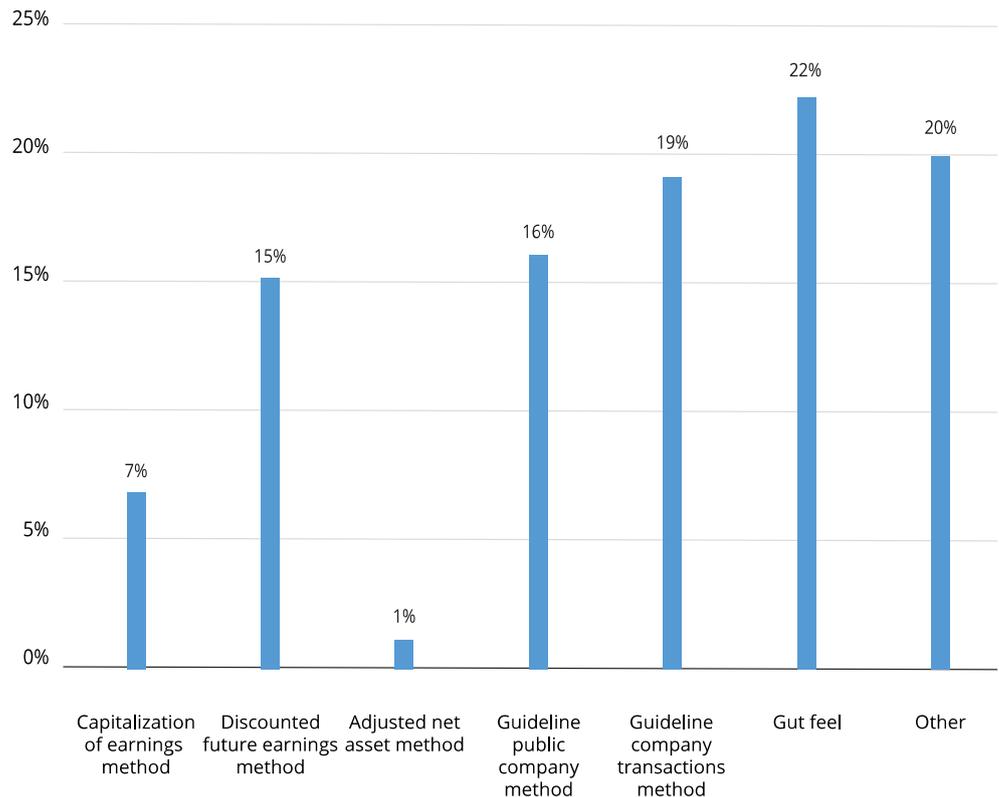
### Valuation

When evaluating investments, venture capital investors carefully consider the ability of the team to add value, the business model, and the industry dynamics.

Pepperdine University conducted recently a survey of 30 venture capital investors as to how they value companies. Interesting results. Gut feel gets the valuation gold medal:

#### Usage of Valuation Methods

Source: Pepperdine Private Capital Markets Project, Private Capital Markets Report – 2019.



Companies are young and fast growing, innovation and disruption offer major opportunities and threats, and business models are untested. In this context, investors struggle to apply traditional valuation metrics and have to rely on their experience and a broad qualitative assessment to come up with a valuation. You need to be a seasoned and experienced venture investor to make sensible decisions without hard data. You need, at the end of the day, gut feel to jump into the opportunity when you see it.

The choice of valuation and multiples methodologies is usually related to the stage of development of the investee company. Gut feel tends to stand out in the very early stages of financing while traditional valuation approaches are usually preferred for companies in their growth stage.

In terms of valuing portfolio companies and reporting to investors, fund managers follow best practices set forth by the International Private Equity and Venture Capital Valuation (IPEV) Guidelines. Most investee companies are only revalued when a corporate event occurs, such as a new financing round led by a third party.

Investee companies are revalued only when a corporate event occurs.

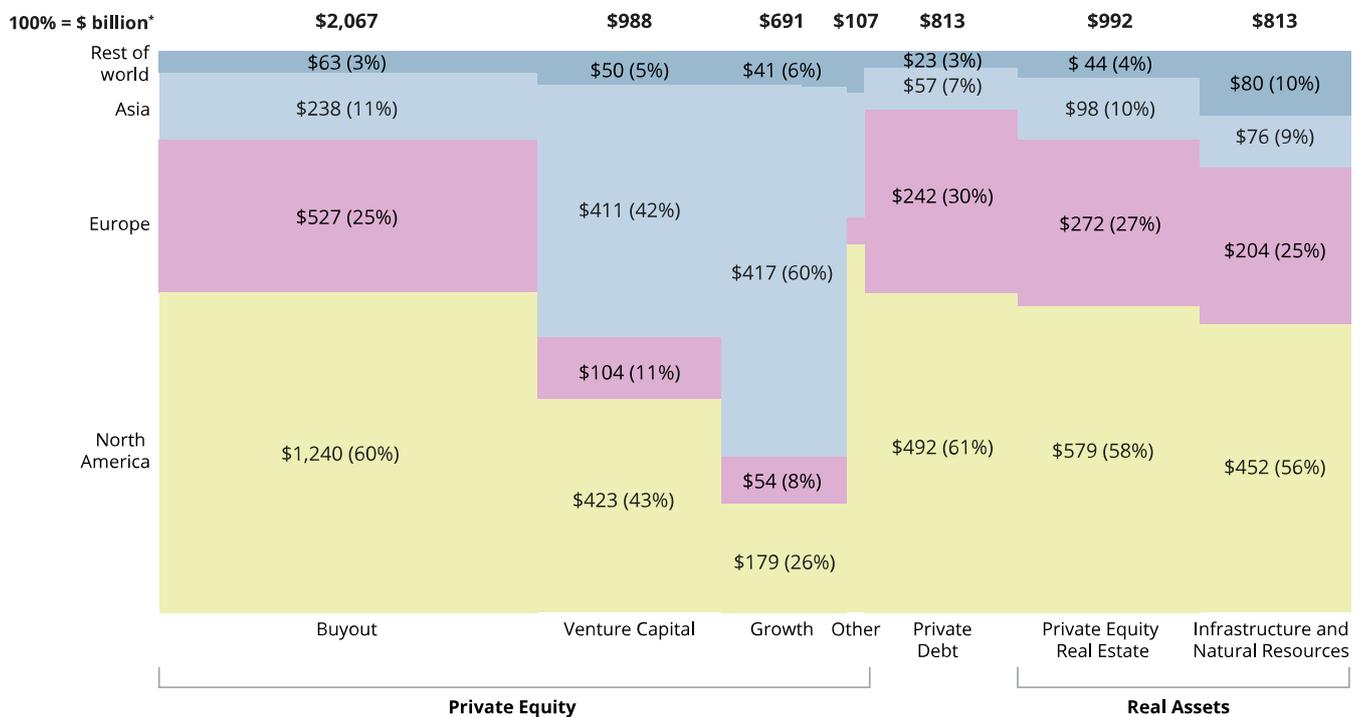
### Size of the Market

McKinsey's 2020 Private Markets Review provides a perspective as to the relevance of venture capital within the private markets:

- Total AUM in private markets stand at \$6.5tr, almost 2.7x the levels achieved in 2010.
- Venture capital stands at roughly €1 trillion, 15% of AUM in the private markets. The US and Asia are evenly split with a 40% total share each. Asia, however, stands taller than the US in growth capital, with a 60% market share. In all other private asset classes, Asia hardly accounts for a market share in excess of 10%. Technology is driving the exponential growth of venture capital and the role of Asia.

### Private Market Assets Under Management

Source: McKinsey Global Private Markets Review 2020. Preqin.



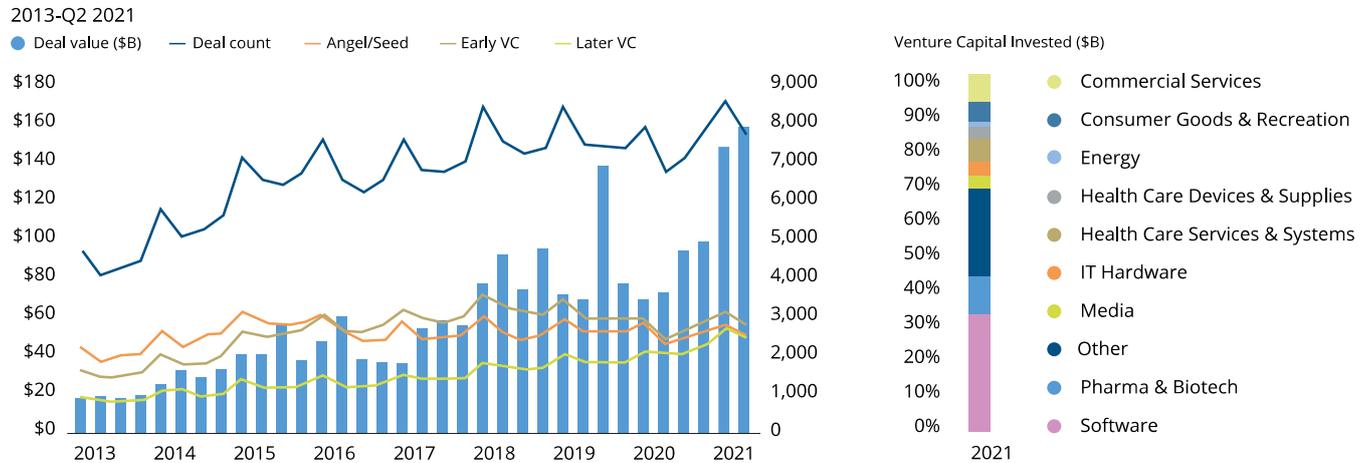
\*Figures might not sum to 100% because of rounding.

### Capital invested has reached all-time highs.

The value of venture capital deals has been rising steadily despite a slowdown in 2019 and 2020. Throughout 2020, the volume of deals contracted under the unique pressures exerted by the COVID-19 pandemic, from general caution due to economic uncertainty to significant business hardships endured by major companies given their business models. Still, capital invested remained near all-time records in the second half of 2020 and reached all time records in the first half of 2021 as more clarity and optimism developed around the economic outlook.

### Global Venture Financing

Source: Venture Pulse, Q2 2021, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook, July 20, 2021



The software sector's dominance continued in 2021. The life sciences sector has also seen significant growth with more than \$22 billion invested across almost 1,500 companies.

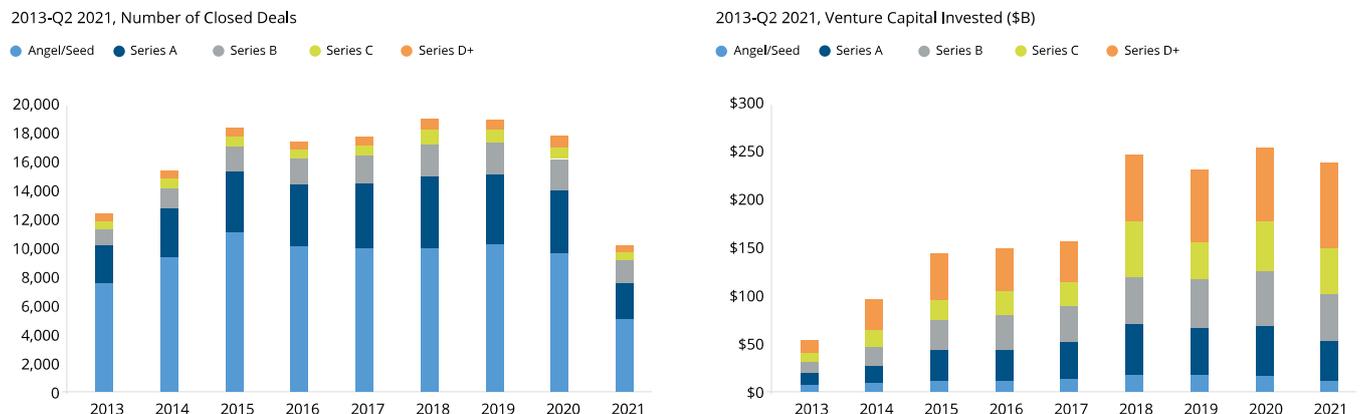
**There is steep competition in fintech, logistics, edtech, and business productivity.**

Given the significant amount of dry powder permeating the venture capital markets globally, KPMG reckons that there continued to be steep competition for the best deals. Demand for late-stage companies with proven business models grew significantly across most regions of the world with investors vying to capture a piece of the value. This competition has led to increasingly high valuations in a number of hot sectors, including fintech, delivery and logistics, edtech, and business productivity. High post-IPO valuations helped validate challenging pricing.

The number of deals as well as the size is clearly related to the financing series of the portfolio companies. The earlier the stage, the larger the number of deals and the smaller the size of the deal and the later the stage, the smaller the number of deals and the larger the size:

### Global Deal Share by Series

Source: Venture Pulse, Q2, 2021, Global Analysis of Venture Funding, KPMG.



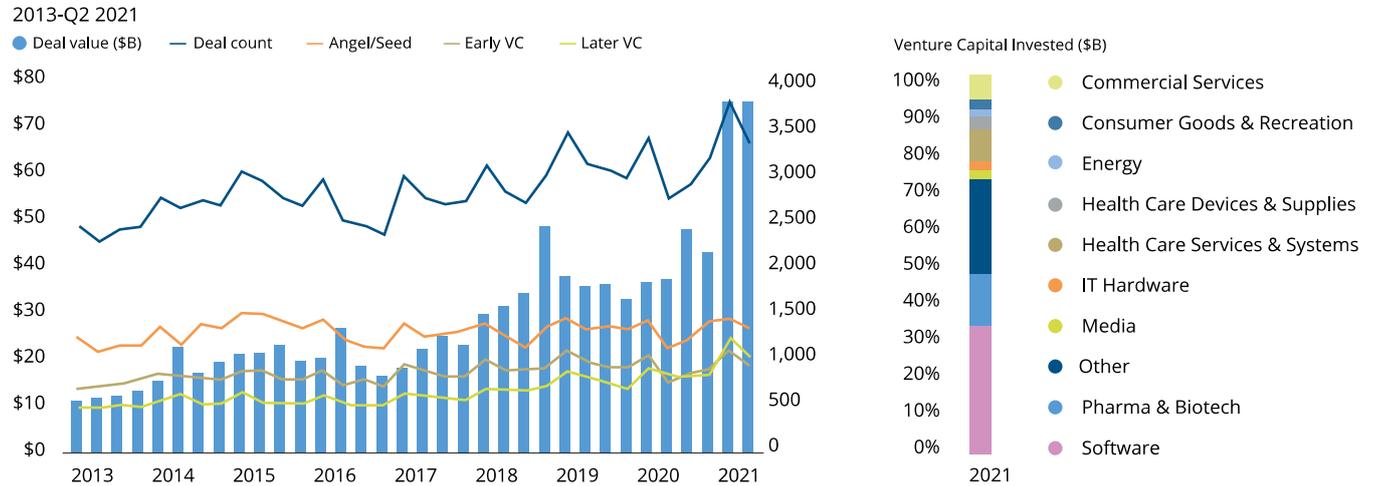
Over the past three years, the capital flowing to later-stage rounds has increased significantly very likely reflecting caution in uncertain times.

### Venture Capital in the US

Venture capital was born in the US and has historically been the epicenter of the industry. Currently, the US shares its lead position with Asia, principally China.

#### Venture Financing in the US

Source: Venture Pulse, Q4'20, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook, 1/20/2021.



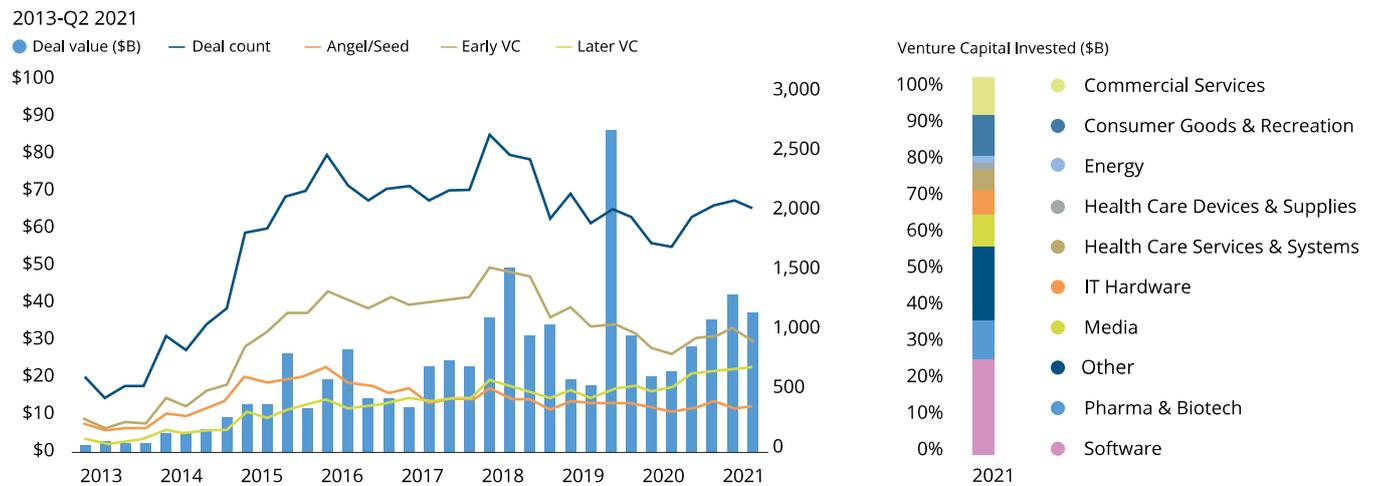
### Venture Capital in Asia

As we have seen in McKinsey's map of the relative size of private markets, Asia is a key driving force in both venture and growth capital.

In terms of deal value, the US represented 90% in 2013 and Asia not even 5%. The US still leads the pack but China is gradually catching up. China represents the lion's share of Asia.

#### Venture Financing in Asia

Source: Venture Pulse, Q4'20, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook, 1/20/2021.



# The Value Added by Venture Capital

Empirical studies in Europe and the US reveal that venture capital is a force for good supporting innovation, job creation, and corporate growth. Business outcomes are better for startups matched with experienced investors. In the US, VC-backed companies have become major employers and include some of the most innovative companies in the world.

As we have just discussed, venture capital provides high-touch equity financing for emerging and high-growth startups to develop and grow into freestanding, mature organizations. Great.

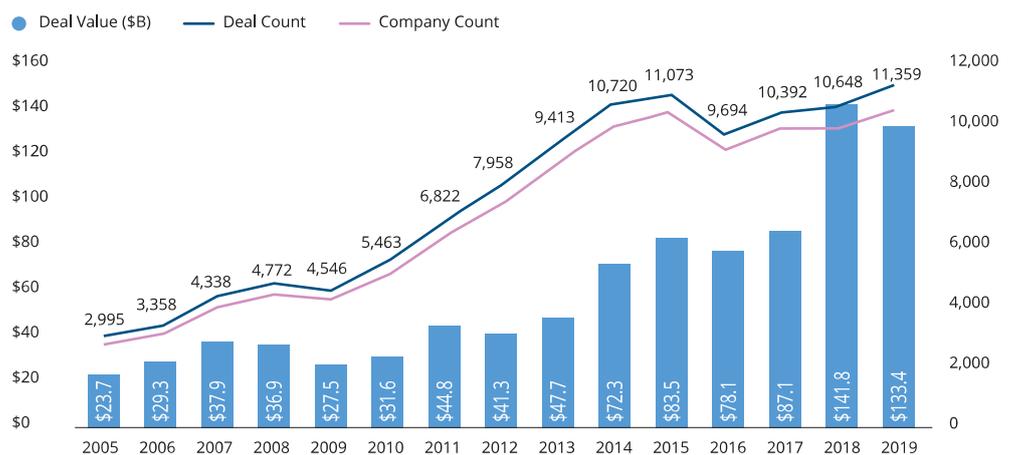
In this section, we take a close look at the value added of venture capital to the investee companies themselves and to society at large.

The National Venture Capital Association in the US reports that from 2010 to 2019, investors deployed \$761 billion across 94,000 financings to start, build, and grow over 87,000 businesses across the country:

## US VC Deal Flow

Source: NVCA 2020 Yearbook. Data Provided by PitchBook.

Investors have deployed increasing amounts of capital over an increasing number of companies.



The British Venture Capital Association reckons that venture capital and private equity across Europe supports over 22,600 businesses -14,500 of which are small and medium-sized enterprises- which in turn employ a total of 10.5 MM people. These same companies reported an average job creation rate of 5.5%, far in excess of the European private sector average of 1.1%.

Let's now dive into three key pieces of empirical research that take a close look at the value added of venture capital in Europe and the US.

### The European VC Factor

Besides celebrating that the venture capital industry in the European Union is thriving, Invest Europe takes a look at to what has happened with the investee companies. Invest Europe is the voice of the private equity and venture capital industry.

Invest Europe released in December 2019 its first large-scale study of VC-backed startups located in the European Union. Thanks to a joint effort with the European Investment Fund, Invest Europe was able to take a look at about 9,000 firms invested in 2007-15 and analyse their characteristics as well as their post-investment performance.

#### Invest Europe

The core mission of the **European Investment Fund (EIF)** is to reduce barriers for small and medium-sized enterprises (SMEs) that wish to access financing. By developing and offering targeted products to a number of different financial intermediaries, the EIF enhances SMEs’ access to finance in all four corners of Europe. The EIF partners with entities such as a banks, guarantee and leasing companies, micro-credit providers, diversified debt funds, crowdfunding platforms, venture capital, and private equity funds.

Through its pan-European venture capital (VC) activity, the EIF supports the formation of a resilient VC ecosystem and the emergence of new European VC hubs. Taking cornerstone investments in VC funds – as the EIF has been doing over the last 25 years – translates into vital support to small businesses with a high innovative and growth potential, which further enhances the attractiveness of European venture capital as an alternative asset class.

The EIF’s prominent role in the European VC ecosystem is not only the result of its significant investment volumes. It is also due to the measurable economic effects of its public policy mission. Through its publications and rigorous research, the EIF strives to support an informed policy debate about the merits of public intervention in the European VC market.

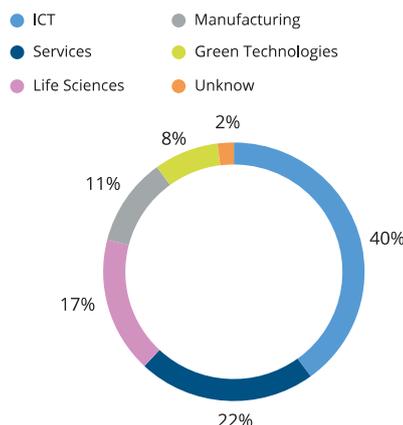
#### Two-thirds of European VC-backed startups operate in the ICT and services sectors.

Invest Europe employed cluster analysis to evaluate and group VC-backed firms according to their four-year growth rates in five financial indicators – revenue, staff numbers, assets, intangibles, and costs. In addition, Invest Europe created control groups, like in clinical trials, to properly compare startups which received a VC investment with ones that could have but didn’t.

Two thirds of the European VC-backed startups operated in the information and communications technology (ICT) and services sectors. The UK exhibited the highest share of the ICT startups (50%) and the Nordics region boasted the highest share of life sciences (28%). Later-stage investments focused more on the manufacturing and services sectors:

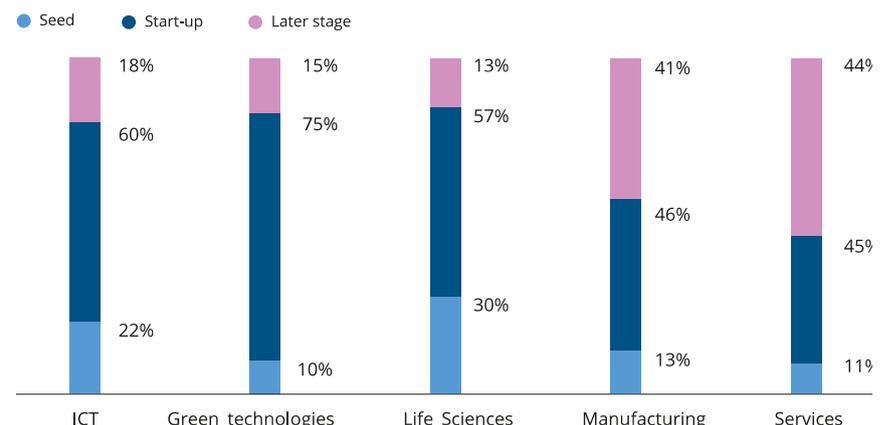
#### Share of VC-backed Startups by Sector

Source: The VC Factor. Invest Europe 2019. 2007-2015



#### Share of VC-backed Startups by Stage and Sector

Source: The VC Factor. Invest Europe 2019. 2007-2015



**Venture capital support boosts jobs, innovation, assets, and sales growth.**

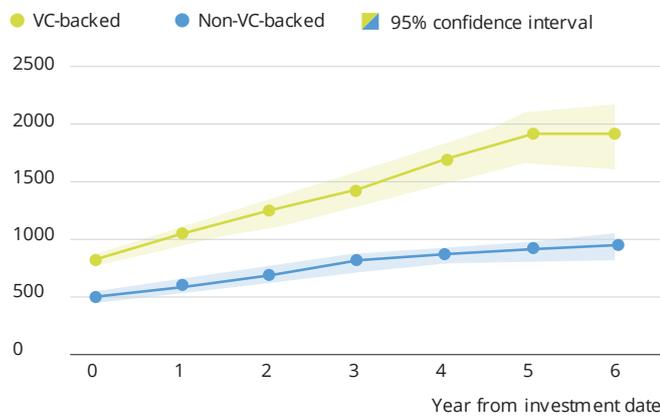
As Invest Europe reports, not all startups survive nor are those that survive as successful as their founders might have hoped. However, the report also shows that high-achieving startups can grow further and faster with venture capital support, boosting jobs, innovation, assets, and sales growth. Furthermore, the VC Factor report provides evidence that venture capital backing helps more companies to succeed while limiting the failure of others. In short, venture capital investment and expertise is an essential part of the recipe for startup success.

Looking at empirical evidence, Invest Europe finds that VC-backed startups:

- Grew faster in terms of assets and
- Regardless of the growth profile, consistently recorded a higher share of intangible assets as a result of their larger investments in innovation.

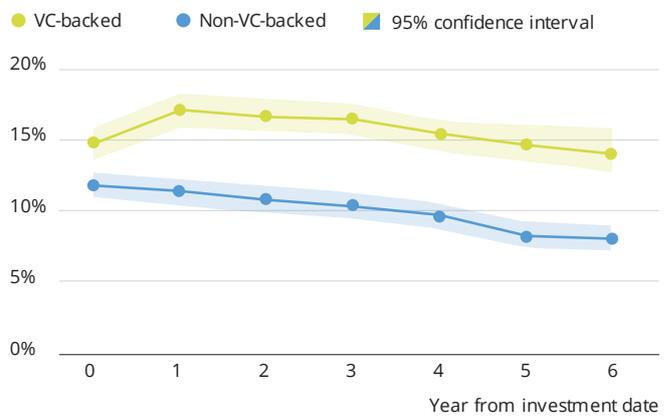
**Growth of Assets**

Source: The VC Factor. Invest Europe 2019.  
Median, EUR thousands



**Growth of Intangibles**

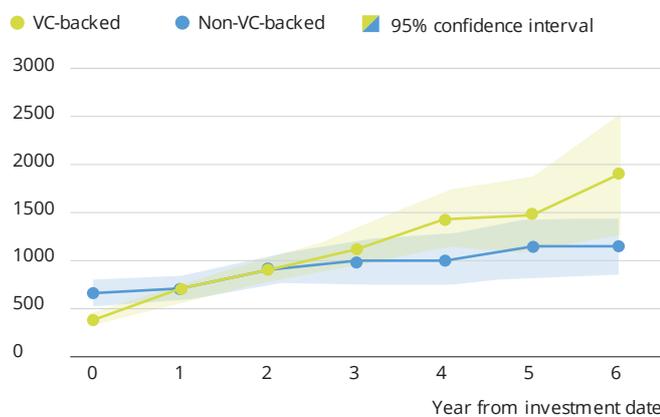
Source: The VC Factor. Invest Europe 2019.  
Average share of total assets



In terms of revenue and staff growth, the differences are more subtle and not statistically significant due to the high variation across firm performance:

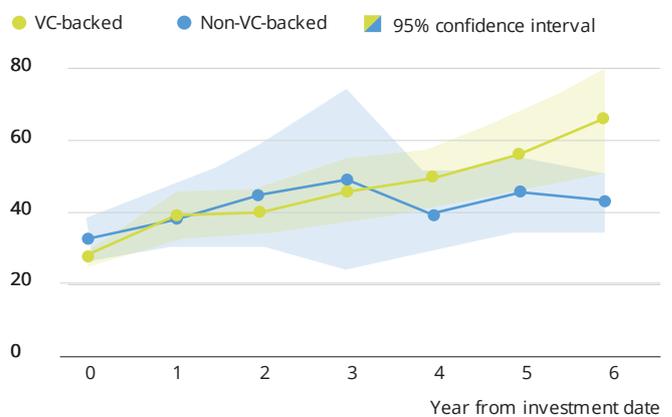
**Growth of Revenue**

Source: The VC Factor. Invest Europe 2019.  
Median, EUR thousands



**Growth of Staff**

Source: The VC Factor. Invest Europe 2019.  
Average



Startups funded by VC have more promising growth and innovation prospects.

### Synergizing Ventures in the US

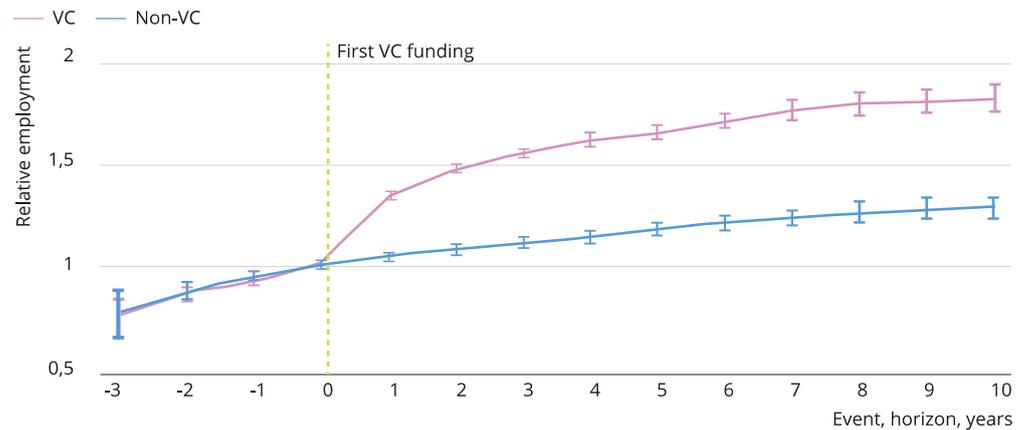
The Federal Reserve Bank of Atlanta published in September 2019 a working paper examining empirically and theoretically the growth rates of VC-backed startups.

Empirically, VC-backed startups have higher growth rates and initial patent quality. Outcomes are better for startups matched with more experienced VC's:

- VC appears to contribute disproportionately to the making of large and successful firms. Although the various levers through which superstar firms succeed are not well understood, the findings of the study suggest that VC plays a critical role in taking startups to stardom.
- Startups that have more promising growth and innovation prospects tend to be funded by venture capitalists. Moreover, firms backed by venture capitalists with more experience and higher funding capabilities also tend to achieve significantly higher growth.

#### Average Employment Before and After First VC Funding Date

Source: Federal Reserve Bank of Atlanta.

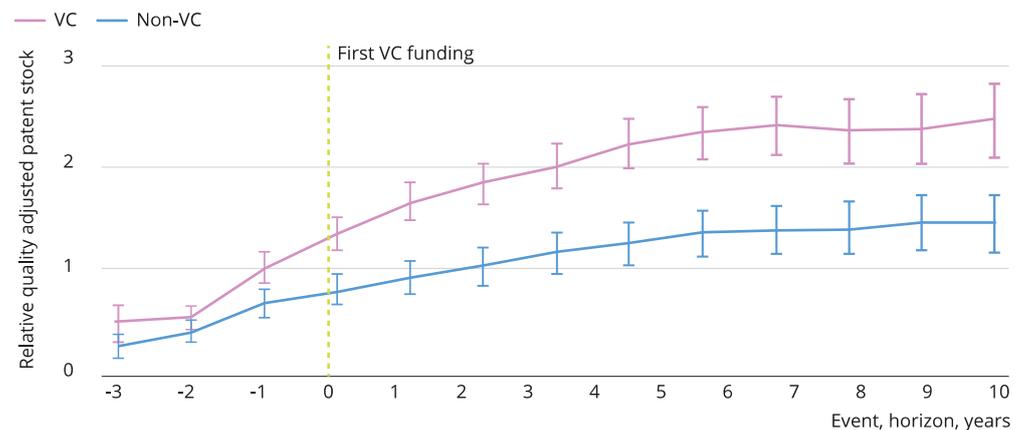


VC targets more innovative startups and spur further innovation.

- Involvement is critical for both firm-level and aggregate innovation. The data on firm-level patenting activity and patent quality reveals that VC disproportionately targets more innovative startups and spurs further innovation. Startups backed by more experienced venture capitalists engage in better innovation.

#### Average Quality-Adjusted Patent Stock Before and After First VC Funding Date

Source: Federal Reserve Bank of Atlanta.



- Innovations by VC-funded firms, especially the highly successful ones, generate large positive productive impacts on the rest of the economy.
- Venture capitalists nurture talented entrepreneurs by providing the necessary ingredients -advice and money- to bring a startup to market.

For a talented entrepreneur, matching with a venture capitalist, as opposed to a bank, will result in a higher probability of success, a greater level of funding for startup research and development, and a higher productivity.

**Evidence from Public Companies**

Another study published in 2015, *The Economic Impact of Venture Capital*, analysed the impact that venture-backed companies have had on the economy. The study looks at U.S. companies listed on a U.S. stock exchange since 1974 that were financed in their early stage by a VC fund. The Prudent Man Rule governing the investment choices of fiduciaries was relaxed in 1979 triggering a tenfold increase in the allocation of pension funds to venture capital funds.

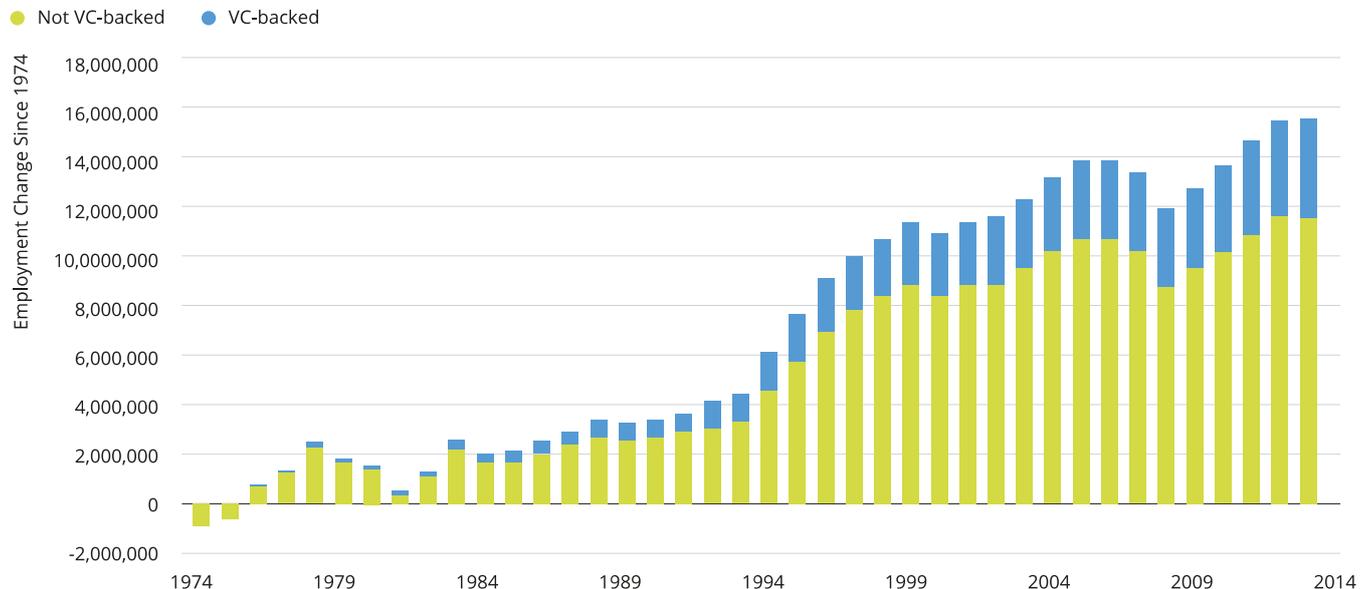
Approximately, 1,339 currently public U.S. companies were founded after 1974. Of those, 556 (42%) are VC backed. VC-backed companies comprise 63% of the market cap of these new public companies.

VC-backed companies have become major employers. Since 1974, a quarter of net job growth for publicly listed corporations has come from VC-backed companies, as shown next. For each year, the size of the blue bar denotes the difference between the number employed by VC-backed public companies in that year and the number employed in 1974. The green bar show the same for non-VC backed companies:

**VC-backed companies account for 25% of net job growth creation by US public companies.**

**Employees at VC-backed Public Companies Relative to 1974**

Source: Gornall and Strebulaev.

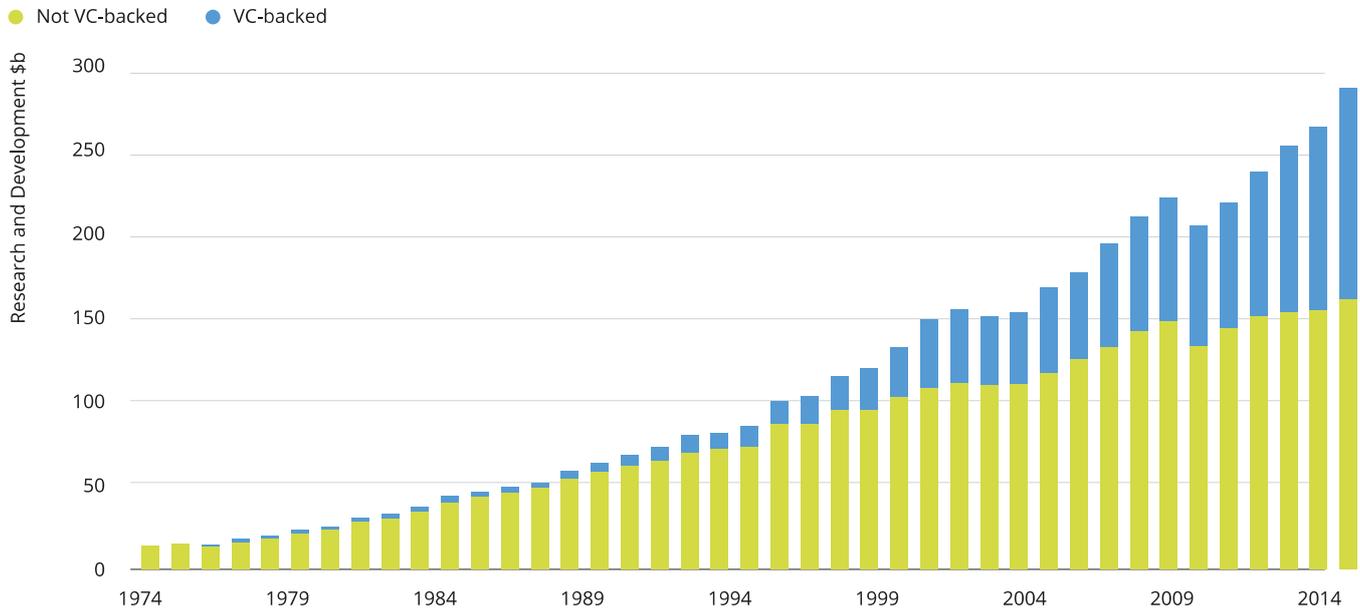


In addition to becoming major employers, VC-backed companies include some of the most innovative companies in the world, like Apple, Intel, and FedEx. Venture-backed companies account today for the five largest publicly traded companies by market capitalization other than Saudi Aramco – Apple, Microsoft, Alphabet (Google), Amazon, and Facebook.

In 2014, VC-backed U.S. public companies spent \$131 billion on R&D, up from essentially zero in 1974. These VC-backed companies now account for 44% of the R&D spending by US public companies:

### R&D Spending by VC-backed Public Companies

Source: Gornall and Strebulaev.



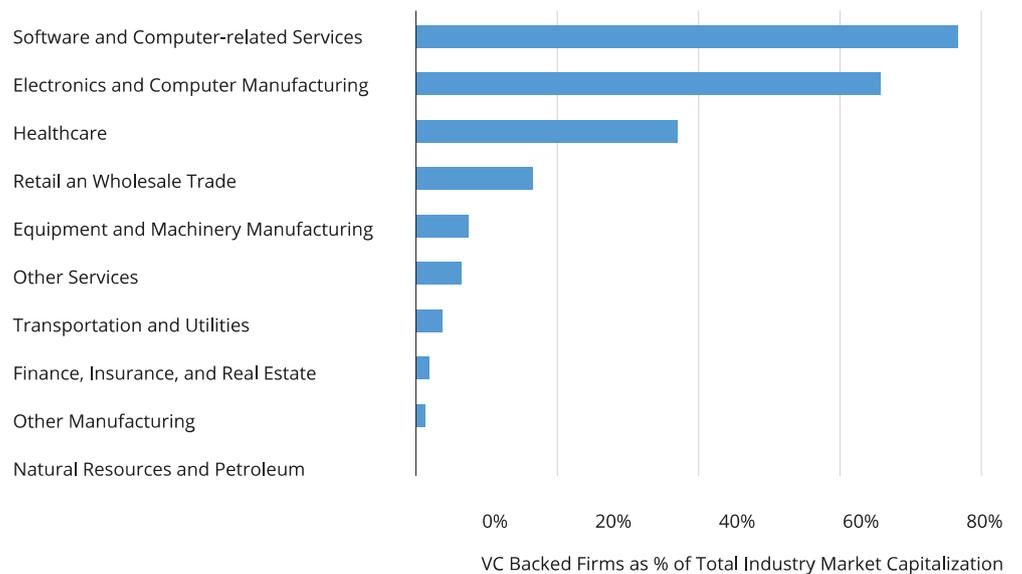
This R&D spending produces value for those companies as well as providing positive spillover benefits that traverse across the globe.

**VC-backed companies account for 44% of the R&D spending by US public companies.**

The VC-industry specializes in investing in innovative companies with growth potential and very significant upside for earning outsized returns. As a result, VC investors focus on technology, retail trade, and biotechnology while avoiding capital intensive industries such as banking, real estate development, petroleum, or mining.

### Sector by Sector Market Capitalization of VC-backed Firms

Source: Gornall and Strebulaev.



# Venture Capital as an Access Class

Investors in venture capital prefer to invest in the historically successful firms. Preferential access to deal flow raises the expected returns of funds and reduces their riskiness. In venture capital, there is persistence of performance across all quartiles.

**VC has the potential to add significant value to a portfolio.**

The conventional investment case for venture capital is rather straightforward as detailed, for example, in Invesco’s white paper *The Case for Venture Capital*:

- As an asset class, venture capital has the potential to provide significant alpha to a portfolio and therefore has been a fixture in sophisticated institutional investor portfolios for years.
- Venture capital investments can be an attractive addition to most diversified portfolios. Because a venture firm’s underlying investments are in nascent companies, often with new business models or algorithms, venture capital is inherently risky and illiquid. Investors therefore need to be compensated by higher potential returns.
- Top quartile absolute returns for venture capital have historically exceeded those of other asset classes. In particular, when one compares the top quartile of managers across any time horizon, as shown below, venture capital has dramatically outperformed:

## Historically Outsized Top Quartile Returns (%)

Source: Cambridge Associates *Global Venture Capital, Global Private Equity, and Global Real Estate Benchmarks Return Report*.

**VC has dramatically outperformed other asset classes.**

Asset	5 year	10 year	15 year	20 year	25 year
Venture capital	48	38	29	92	57
Private equity	25	22	27	31	31
Real estate	27	24	26	24	24
Large-cap equity	12	7	5	8	10
High yield bonds	5	6	7	6	8
Aggregate core bond	4	5	5	5	6

Private equity asset class excludes venture capital. 5-, 10-, 15-, 20-, and 25-year returns representative of average pooled IRR for vintages dating back from 2014. Top quartile returns for all asset classes shown. Large-cap equity proxy is Lipper aggregated US large-cap equity fund performance. High yield bond proxy is Lipper aggregated high yield bond fund performance. Aggregate core bond proxy is Lipper aggregated core bond fund performance. Returns as of Dec. 31, 2015.

Moreover, investors can diversify away much of the idiosyncratic risk by investing in a portfolio of venture funds. Beyond generating additional alpha, venture capital can provide diversification benefits to an overall asset allocation as well.

Case closed. We have historically outsized returns, the ability to diversify away idiosyncratic risks, and portfolio diversification benefits.

Well ... let's take a closer look ...

### **A Closer Look**

Had you invested in, let's say, a large-cap equity ETF over a 15 year-period, as in the table above, you would have accumulated an ending wealth close to 2.1x. Do the same math for venture capital and you end up with an ending wealth of 45.6x. Yes. That is 45 times your money ... not in a most fortunate investee company but on your overall venture capital portfolio of successful and bankrupt investee companies. Repeat the same exercise for Private Equity and Real Estate with the data in the previous table, and you get to similar mind boggling multiples. No wonder all smart institutional investors are rushing into these asset classes.

**IRR can easily distort investment results. IRR are not compounded annual rates of return.**

How do you earn a 45x multiple as with the Cambridge Associates data? For clues, let's take a look at the 2019 annual report of the Yale endowment. Yale reports that, over the past 20 years, its venture capital program has earned an outstanding 241.3% per annum. This is the number both reported to Cambridge Associates and used to derive historical rates of return. There are indeed exceptional managers.

If you take time to read footnotes now and then, you will read in Yale's report that ...

*Yale's venture capital return over the past twenty years is heavily influenced by large distributions during the internet boom. Since such a calculation assumes reinvestment of proceeds from the portfolio during the period at the same rate of return for the rest of the period, it is inappropriate to compound the 241.3% return over the twenty-year time horizon. For reference, the twenty-year time-weighted return of Yale's venture capital portfolio is 20.2%.*

Yale's 2020 annual report avoids this misunderstanding by providing just the 20-year time-weighted rate of return – 11.6% now down from 20.2% during the previous 20 years just the year before.

Compounding annually over a 15-year period at 20.2% and 11.6% delivers an ending wealth multiple of 18x and 5x, a far cry from the 45x implied by the Invesco data. As rates of return provided by Cambridge Associates are internal rates of return (IRR) and not annual compounded rates of return, the 29% rate of return reported above for the 15-year period does not translate into a 45x multiple.

So, how much money would an investor have accumulated had she invested in venture capital over this 15-year period? Not a clue. What was the realized annual compounded rate of return? Not a clue either. Can I compare returns earned in private assets to those earned in traditional liquid assets? Most certainly not.

### **Dispersion in Venture Capital**

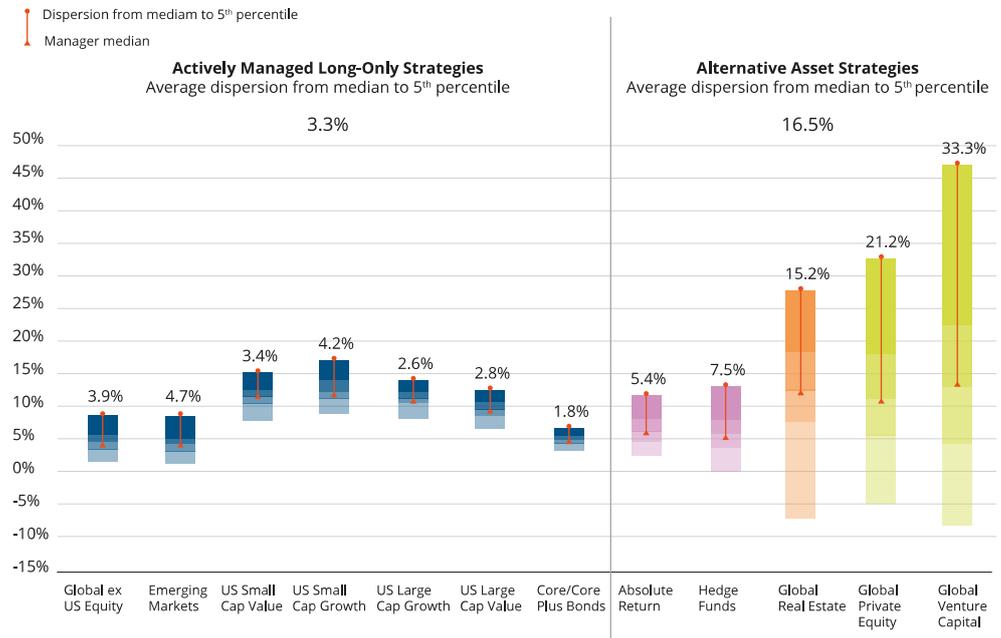
Private assets offer substantially larger opportunities for adding value through active management than traditional long-only strategies. Cambridge Associates measures the potential value added by active investment management through the dispersion from median manager to the 5<sup>th</sup> percentile. This dispersion averages 3.3% for the traditional long-only strategies and 16.5% for the private asset strategies:

Dispersion, and capacity to add value, is highest in venture capital.

### Average Annual Manager Returns by Asset Class

July 1, 2008 – June 30, 2018.

Source: Cambridge Associates LLC.



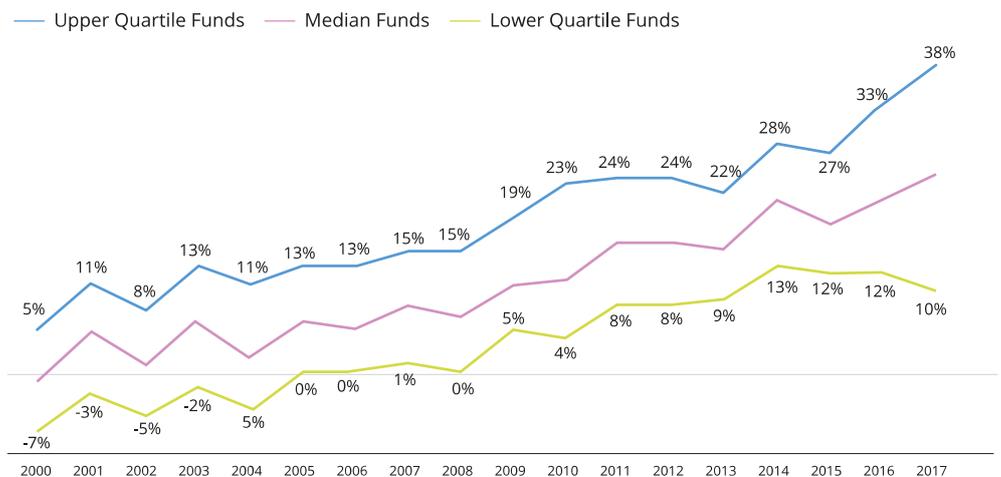
Notes: Returns for bond, equity, and hedge fund managers are average annual compound returns (AACRs) for the ten years ended June 30, 2018. Only managers with performance available for the entire period are included. Returns for private investment managers are horizon internal rates of return (IRRs) calculated since inception to March 31, 2018. Time weighted returns (AACRs) and money weighted returns (IRRs) are not directly comparable.

Venture capital is the asset class where the dispersion and, thus, the ability to generate value through active management and manager selection is the highest. Actually, the dispersion between great and poor managers in venture capital has persisted over time, as we can appreciate next:

Dispersion has persisted over time. Manager selection becomes critical.

### Net IRR per Vintage and Fund Type

Source: Cambridge Associates Benchmarks Index as of Q4 2020.



### Persistence in Venture Capital

Dispersion in returns is not tantamount to persistence of returns. There will always be managers in the top and bottom quartiles. The real issue is whether there is persistence, i.e., do the best remain the best?

Beyond well-known narratives about top performing funds like Sequoia, Accel, Bessemer, and Andressen Horowitz, what published empirical evidence do we have regarding persistence in venture capital?

**Initial success improves access to deal flow.**

In the *Persistent Effect of Initial Success: Evidence from Venture Capital*, R. Nanda et al use investment-level data to study performance persistence in venture capital. “VC firms do not persist in their ability to choose the right places and times to invest. Early success, however, does lead to investing in later rounds and in larger syndicates. This pattern of results seems most consistent with the idea that initial success improves access to deal flow. That preferred access raises the quality of subsequent investments, perpetuating performance differences in initial investments”.

**Preferred access raises the quality of subsequent investments.**

Nanda suggests that “even if persistence emerges from access advantages rather than from differences in ability, investors in the asset class would still prefer to invest in the historically successful firms, especially in terms of performance net of the industries, regions, and stages in which they invested. Preferential access to deal flow could not only raise the expected returns of funds but also reduce their riskiness. Not surprisingly then, VC firms that have enjoyed success in their earlier funds raise larger funds and raise them more frequently”.

R. Harris et al looked too at persistence in venture capital and published in November 2020 their paper *Has Persistence Persisted in Private Equity? Evidence from Buyout and Venture Capital Funds*.

The paper presents new evidence ...

*We present new evidence on the persistence of U.S. private equity (buyout and venture capital) funds using cash-flow data sourced from Burgiss’s large sample of institutional investors. Previous research, studying largely pre-2000 data, finds strong persistence for both buyout and venture capital (VC) firms. We confirm the previous findings on persistence overall as well as for pre-2001 and post-2000 funds.*

*Persistence for VC funds persists even when using information available at the time of fundraising. Therefore, the conventional wisdom of investors holds for VC.*

**In VC, there is performance persistence. GP skill and networks are hard to replicate.**

**Fund Persistence by Quartile Performance at Fundraise using IRR**

Source: Harris et al.

		VC Funds – Post-2000 Funds					Average Current Fund IRR	Average Current Fund TVPI
		Current Fund Quartile						
		1	2	3	4	N		
Previous Fund Quartile at Fundraise	1	<b>27.4%</b>	25.0%	26.2%	21.4%	168	14.5	2.10
	2	25.8%	<b>38.7%</b>	17.7%	17.7%	124	12.9	2.15
	3	15.7%	25.3%	<b>39.8%</b>	19.3%	83	8.7	1.66
	4	18.6%	30.2%	18.6%	<b>32.6%</b>	43	5.9	1.49
NA, but not first fund		24.8%	27.2%	23.8%	24.3%	153	5.0	1.64
First funds		26.5%	22.1%	22.5%	28.9%	134	11.2	2.06

This table shows the relationship between the performance of successive funds, according to their performance quartile. For each vintage year the funds are assigned to a quartile according to performance measured by IRR. Only funds for which the prior fund performance is available are included. For each period and performance measure the current fund quartile is matched to the previous fund quartile.

**Venture capital is an access class.**

If fund performance were random, a manager with an existing fund would have an equal 25% probability of landing the next fund in any of the four quartiles. However, probabilities are skewed by previous performance. A manager, for example, with an existing fund in the second quartile has a 38.7% probability of remaining with the next fund in the second quartile and just a 17.7% probability of ending in the fourth quartile whereas a manager in the third quartile has a 39.8% probability of remaining in that quartile and just a 19.6% probability of ending in the bottom quartile.

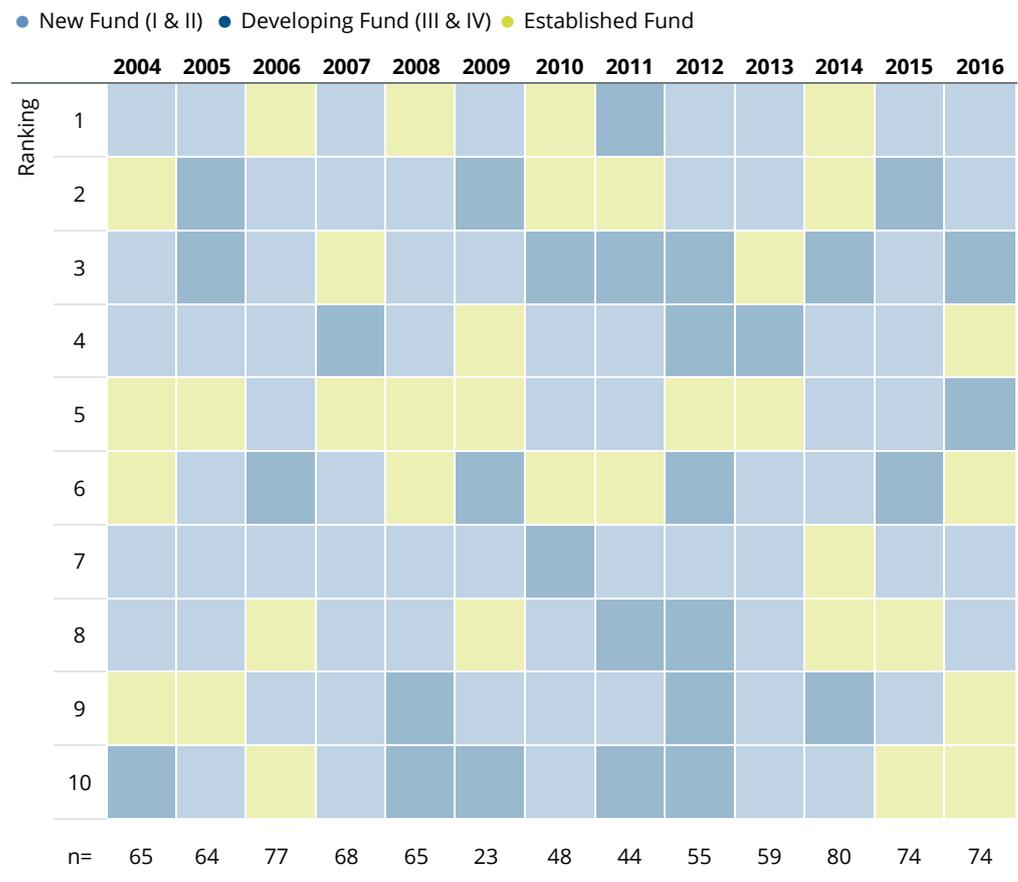
The persistence of performance in VC suggests that the industry’s rule of thumb to invest with GP’s that have previously performed well and to avoid those that have not remains consistent with these empirical results. GP skills and networks for successful VC investing are hard to replicate.

Despite this evidence on persistence, Cambridge Associates reports that broad-based value creation across sectors, geographies, and funds means success is no longer limited to a handful of (often inaccessible) fund managers. Moreover, top returns are not confined to a few dozen companies. New and developing fund managers consistently rank as some of the best performers:

**New and Developing Funds are Consistently Among top 10 Performers**

Source: Cambridge Associates LLC Private Investments Database.

Ranking. As of June 30, 2019 – US VC Funds by Vintage Year – Based on Net TPVI.



## Performance Metrics

The British Private Equity & Venture Capital Association published in 2015 a guide on *Private Equity Performance Measurement* that we may also take as a reference for performance metrics on venture capital investments.

A main challenge investors face in measuring performance of investments in private assets derives from their generally irregular cash flows. As a result, the measurement of returns is different from that of traditional asset classes. The benchmarking of private assets against traditional asset classes is, thus, not straightforward.

### Internal Rate of Return

The internal rate of return (IRR) is that rate which equals account drawdowns with distributions and the residual value of the fund. IRRs are widely used in the industry as they offer a means of comparing investments with irregular timing and size of cash flows. IRRs, however, are not directly comparable to the fully invested buy-and-hold returns that can be found in the public markets.

Implicit in the calculation of the IRR is the assumption that interim cash flows are reinvested at the derived IRR. Realistic reinvestment expectations typically lower materially the initial IRR. Furthermore, there is the potential for performance to be artificially improved by using leverage at the fund level and changing the timing or distributions back to investors. Early wins can disproportionately boost the IRR.

### Multiples of Invested Capital

Money multiples measure investment returns providing a cash-on-cash performance metric. Here we have to be careful in assessing the net cash flows to the fund and to the investors. The differences are material and can lead to misleading interpretations.

A multiple widely used is the Total Value to Paid-in-Capital (TVPI). TVPI measures the overall performance of a private asset fund with a ratio of the fund's cumulative distributions and residual value to the paid-in capital. Unlike the IRR, TVPI ignores the time value of money as it just adds up distributions and residual value versus contributions.

IRR and TVPI could be used as a means to compare venture capital funds and the efficiency with which managers generate value. However, they are unsuitable for comparing venture capital funds to typical public market investments, which tend to earn long-term regular returns. Returns for traditional asset classes are usually calculated as annual compounded rates of return.

Compounded annual returns can be derived from underlying market prices and are independent from the timing of the investments. An 8% annual rate of return means that €100 invested in the underlying assets grow to €147 in 5 years' time. In private markets, however, we cannot unbundle the performance of the underlying fund from the timing of the cash flows. So, an IRR of 8% does not allow the investors to calculate ending accumulated wealth. It could be €147 if we earn 8% in cash that is yet to be invested or has just been received or materially lower if the underlying investments were held for a rather short period of time.

### Availability and Quality of Data

Data presented thus far highlights a key challenge when investing in venture capital. Available performance data for venture capital contains major drawbacks and flaws as illustrated by Yale's reported IRR which Yale itself regards as meaningless. Performance data has to be used with caution.

In addition, confidentiality provisions to which LPs agree at the time of investment prevent them from providing detailed information on venture capital fund performance and structures.

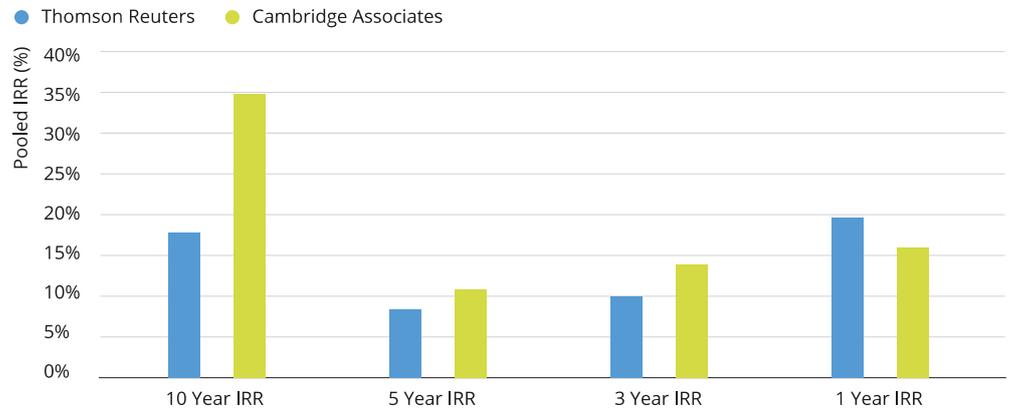
Cambridge Associates, among others, does produce quarterly results of venture capital, currently comprising over 1,800 funds. However, as the data base does not capture all venture funds launched and funded, we can expect the data to have a potentially upward bias as underperforming funds do not report their results.

Furthermore, the standard industry benchmarks provide different performance numbers, as reported by SVB Capital:

**Performance data has to be used with caution. Standard industry benchmarks provide different performance numbers.**

**Comparison of Investment Horizon Venture Capital Benchmarks**

Source: SVB Capital



Preqin does not provide cumulative benchmarks over specific time horizons. Pooled IRR is calculated based on cash flows of all funds regardless of vintage year during the specified time horizons. All data are as of December 31, 2007. Cambridge Associates data were provided at no charge.

**Benchmarking  
 venture capital  
 remains elusive.**

SVB Capital reports that “the business of benchmarking venture capital has many complications simply because it is hard to collect accurate financial data on private investments. It is also difficult to report consistently on performance due to the metrics, the sample sizes, and the collection methodologies. With clear shortcomings and inconsistencies in industry benchmarks ... accurately benchmarking venture capital remains elusive”.

We come to the crux of the problem in allocating capital to venture capital ... a lack of reliable and meaningful data to guide us in assessing the value added by venture capital and the ability to assess how best in class GP’s manage to add value. There is simply no available data that is meaningful.

Where do we go from here?

# A Tale of Two Investors - Yale & Galdana

Yale has an allocation to venture capital of 23.5%. The mean allocation of U.S. educational institutions is 7.7%. For three of the past ten years, Yale's ten-year track record ranked first among its peers.

Yale's experience, team, and network are not the only path to exceptional investment returns. How do we know? Just take a look at Galdana.

Yes, we do lack reliable and meaningful data on venture capital that may help investors develop an informed view as to the contribution venture capital makes to long-term investment policy in terms of portfolio return and risk.

However, even in dark stormy nights, sailors can find their location and where to head next. Sailors can take compass bearings on lighthouses. That's what they are there for – to provide a positional reference. By taking two cross-bearings, sailors can determine their position pretty accurately.

Are there lighthouses around on which we as investors can take a bearing?

Yes! Here, we are most fortunate as we can take bearings on both a top-down asset allocation process and a bottom-up fund selection process.

## The Yale Endowment

The Yale endowment totals, as of June 30, 2020, \$31.2 billion. The endowment contains thousands of funds with various purposes and restrictions as donors frequently specify a particular purpose. These funds, however, are comingled in an investment pool and tracked with unit accounting much like a large mutual fund. In fiscal 2020, the endowment provided \$1.4 billion, or 34%, of the university's \$4.3 billion operating income.

## Management and Oversight

The Yale Investment Committee is responsible for oversight of the endowment. The committee incorporates best-in-class senior level investment experience and brings discipline to the endowment management process by thoroughly and thoughtfully vetting investment recommendations. It inspires investment staff to produce ever more carefully considered proposals.

Since its establishment in 1975, the committee has been led by six chairs. There is a short biographical note of them in the 2019 report. They have been outstanding thought leaders and professionals. The chairs have encouraged long-term, independent, and contrarian thinking.

**The Yale endowment has encouraged long-term, independent, and contrarian thinking.**

The Investment Office has been led by legendary David F. Swensen since 1985. Most unfortunately, Swensen passed away from cancer, aged 67, in May 2021. Swensen revolutionized how endowments and other institutional investors set investment policy and manage their assets. The “Yale model” set a standard of best practices that changed the wider investment industry.

The Investment Office consists currently of thirty-two professionals. A significant number of Yale’s Investment Office alumni have gone to serve in investment leadership positions at other endowments or foundations. Fourteen Investment Office alumni currently hold or have held the title of chief investment officer in the nonprofit world, including The MIT Investment Management Company, The Rockefeller Foundation, The Metropolitan Museum of Art, and The Stanford Management Company.

So, what have these ladies and gentlemen been up to?

**Investment Process**

**The investment process is structured using mean-variance optimization and informed market judgement.**

Yale’s portfolio is structured using a combination of academic theory and informed market judgment. The theoretical framework relies on mean-variance analysis, an approach developed by Nobel laureates James Tobin and Harry Markowitz, both of whom conducted work on this important portfolio management tool at Yale’s Cowles Foundation. Using statistical techniques to combine expected returns, variances and covariances of investment assets, Yale employs mean-variance analysis to estimate expected risk and return profiles of various asset allocation alternatives and to test sensitivity of results to changes in input assumptions.

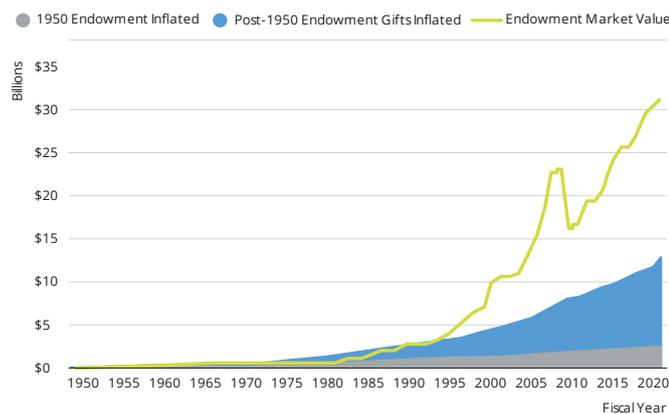
Because investment management involves as much art as science, qualitative considerations play an extremely important role in portfolio decisions. The definition on an asset class is subjective, requiring precise distinctions where none exist. Returns, risk, and correlations are difficult to forecast. Historical data provide a guide but must be modified to recognize structural changes and compensate for anomalous periods. Quantitative measures have difficulty incorporating factors such as market liquidity or the influence of significant, low-probability events.

In spite of the operational challenges, the rigor required in conducting mean-variance analysis brings an important perspective to the asset allocation process.

So, what have these outstanding professionals with a well-thought-out investment process been able to deliver?

**Endowment Growth Outpaces Inflation 1950-2020**

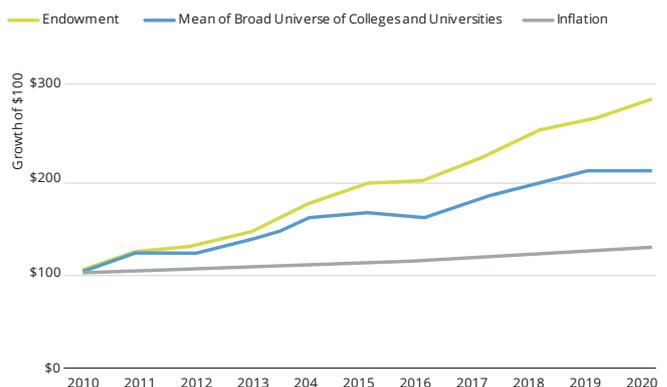
Source: The Yale Endowment.



**Yale’s Performance Exceeds Peer Results**

Source: The Yale Endowment.

July 1, 2010, to June 30, 2020, 2010 = \$100



For three of the past ten years, Yale's ten-year track record ranked first among its peers.

### Investment Performance

Yale's endowment generated a 6.8% return, net of fees, in fiscal 2020. Over the past ten years, the endowment grew from \$16.7 billion to \$31.2 billion. With annual returns of 10.9% during the ten-year period ending in 2020 the endowment's performance exceeded its benchmark and outpaced institutional fund indices. For three of the past ten years, Yale's ten-year record ranked first in the Cambridge Associates universe.

Final question: How did these outstanding professionals, with their well-thought-out investment processes, were able to achieve these impressive results? What do you need in addition to people and processes?

### Investment Policy

You need the right investment policy. So, what is the investment policy at the Yale endowment?

#### Yale's Policy Portfolio

Source: *The Yale Endowment*.

Asset Class	June 2020		U.S. Educational Institution Mean %
	Actual %	Target %	
Absolute Return	21.6	23.5	20.0
Domestic Equity	2.3	2.25	21.7
Foreign Equity	11.4	11.75	19.8
Leveraged Buyouts	15.8	17.5	8.4
Natural Resources	3.9	4.5	6.6
Real Estate	8.6	9.5	3.6
Venture Capital	22.6	23.5	7.7
Cash & Fixed Income	13.7	7.5	12.2

Yale's venture capital program has an allocation of 22.6% vs 7.7% of its peers.

So, here it is ... an allocation of 22.6% to venture capital, triple the educational institutional mean allocation in the U.S.

### The Venture Capital Program

Venture capital investments produce compelling option-like returns, as Yale's premier venture managers provide exposure to innovative startup companies from an early stage. The venture capital portfolio is expected to generate real returns of 12.3% with an annual volatility of 37.8%. Over the past twenty years, the venture capital program has earned an annual compounded rate of return of 11.6%.

Yale has unparalleled manager relationships, market knowledge, and extensive network.

Yale's venture capital program, one of the first of its kind, is regarded as among the best in the institutional investment community. The university is frequently cited as a role model by other investors. Yale's venture capital managers field strong, cohesive, and hungry teams with proven ability to identify opportunities and support talented entrepreneurs. The university's venture capital portfolio contains an unparalleled set of manager relationships, significant market knowledge, and an extensive network.

As Yale clearly highlights, people, processes and investment policy together with the right culture, manager relationships, market knowledge, and extensive network can deliver consistent superior results.

Here we have one of the two lighthouses that may guide investors as they approach investment policy and the role that venture capital may play.

Let's now look at another, quite different lighthouse ... Galdana.

**Galdana brings together entrepreneurs and tech experts with a leading private-asset firm.**

**Galdana**

Galdana Ventures S.L. (Galdana) is a joint venture founded in 2015 bringing together Altamar CAM Partners Group (Altamar) and a team of leading entrepreneurs and tech experts formed by Marcel Rafart, Javier Rubió, Roque Velasco, and Dídac Lee.

Galdana seeks to become a leading investor in the venture capital space, providing added value not only for investors but also for investee funds. Galdana serves as the investment advisor to Altamar’s family of venture capital funds. Altamar serves as the investment manager.

The white papers we have published have relied on publicly available data, peer reviewed academic journals, and publications from industry thought leaders. We have presented these materials as objectively as possible with the purpose of offering an expert educational deep dive into the subject matter.

There is, however, no granular public available data of venture capital funds of funds. In this paper, we have had to rely, thus, on confidential information made available to us by Galdana. We have had full access to Galdana’s portfolios and the track records of the underlying managers. This opportunity to peek into a real venture capital fund of funds is precious. For the sake of transparency, we detail later on in the paper the verification process we designed.

**Altamar’s portfolio construction process has a strong focus on resilience and risk management.**

Altamar is a leading independent firm specialized in international Private Equity, Private Equity Real Estate, Venture Capital, Infrastructure, and Private Debt. Altamar Capital Partners has raised over €9.0bn of capital commitments through its alternative investment vehicles.

Altamar’s primary goal, since its founding in October 2003, has been to provide pension funds, insurance companies, high net-worth individuals, and family offices with superior access to private investments, resilient portfolio construction, and prudent risk management.

As of August 2021, the executive partners owned 81% of the capital, Larrain Vial in Chile 10%, and private investors the remaining 9%.

Altamar currently has a team of over 190 employees based in Madrid, Barcelona, Santiago de Chile and New York.

**Altamar Capital Partners Structure**

Source: Altamar

**Investment Areas**

Private Equity & Venture Capital & SMAs	Real Assets	Private Debt	Other Alternatives	Advisory
<b>Asset:</b> Private Equity <b>Asset:</b> Venture Capital <b>Launch:</b> 2004 <b>Launch:</b> 2015	<b>Asset:</b> Real Estate <b>Asset:</b> Infrastructure <b>Launch:</b> 2007 <b>Launch:</b> 2015	<b>Asset:</b> Private Debt <b>Launch:</b> 2017	<b>Launch:</b> 2014	<b>Launch:</b> 2015 Financial Advisory and Merchant Banking

On July 2021, Altamar Capital Partners and CAM Alternatives combined their businesses to create an independent partner-led European private asset manager and solutions provider with over €14.0bn in assets under management, to be named Altamar CAM Partners S.L.

The global team will comprise 220 employees, including more than 70 investment professionals.

### Investment Scope

Galdana advises the Altamar global venture capital funds of funds. This suite of funds target a significant capital appreciation within the medium to long term with a balanced approach from a risk/reward standpoint. The underlying funds focus on startups and companies in development phases with a high-growth potential.

### Investment Process

The investment decision process is structured along three stages:

- Identification and sourcing of venture capital managers, analysis of their DNA and investment strategy, and monitoring of their fundraising calendars,
- Tiering of managers and preselection into a preferred short list, and
- In depth-due diligence.

Galdana, together with Altamar CAM Partners, pays close attention to the investment track record, strategy, team, terms and conditions, and overall portfolio fit of each manager.

Interesting but the same process anyone else would have. So, what is the secret ingredient in the investment process of the Galdana funds?

Galdana has been particularly mindful that returns in venture capital follow a power law distribution in which a small percentage of companies account for a significant share of the total value creation. At the same time, there is a small number of venture capital managers who are consistently able to identify and access an outsized share of these top value creating companies, thus becoming themselves top performing funds.

Out of over 5,000 venture capital managers worldwide, Galdana has identified a target group of about 100 that are able to consistently deliver top quartile returns across successive funds. Access to these managers is highly constrained, if not almost impossible for most investors, due to very high oversubscription when they fundraise new funds.

Galdana has been building and establishing relationships with most of the top performing managers in the US, Asia, Europe, and Israel. The deep and high-profile network of relationships Galdana has nurtured in China is particularly noteworthy as China is the co-leading epicenter of the tech revolution alongside the US. Thanks to the tech and entrepreneurial background of the team, together with its valuable global network, Galdana has been able to position the Galdana funds as a value added investor with highly successful and highly oversubscribed managers.

### Investment Performance

As we wondered with the Yale endowment, what have these professionals at Galdana have been able to deliver?

Galdana was created just six years ago, in 2015. So, the actual track record in terms of TVPI and IRR is not yet mature and, as a result, not that meaningful. There is, however, a track record that is the relevant one in venture capital. As we have discussed, venture capital is not an asset class. It is an access class.

So, what managers has Galdana been able to access over its life and what returns have they earned?

Here you have it, the historical performance of the funds that Galdana has been able to access and the median for Preqin, both on a net-of-expenses basis. In the blue box

**Galdana has been able to build and establish relationships with most top-performing managers in the US, China, Europe, and Israel.**

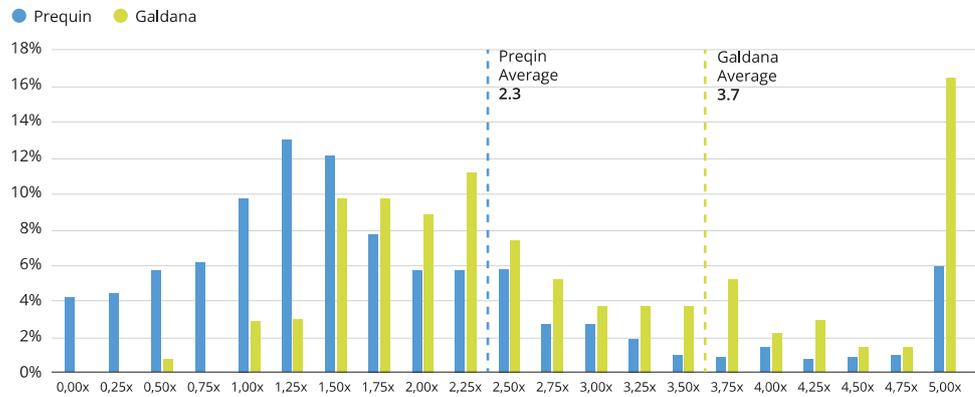
**Galdana's managers have strongly outperformed Preqin's peer universe by avoiding losers and gaining exposure to big winners.**

“Verification of Performance Data” on page 35, we detail how we derived this data.

**Galdana’s managers have earned a TVPI 60% higher than Prequin’s average.**

**TVPI Track Record – Galdana and Prequin**

Source: Galdana and Prequin.



The historical TVPI earned by the managers in which Galdana's funds have invested stands at 3.7x, almost 60% higher than Prequin’s 2.3x TVPI. The secret? Avoid losers and gain exposure to big winners:

- Over 20% of Prequin’s sample delivers TVPI’s below 1.0x. In the case of Galdana’s managers, the rate stands at just below 1%. Let’s now look at winners.
- In Prequin’s sample, not quite 10% of funds earn TVPI’s in excess of 4.0x. Galdana’s percentage of big winners stands in excess of 20%. Funds earning TVPI’s of 5x or higher stand at over 15%.

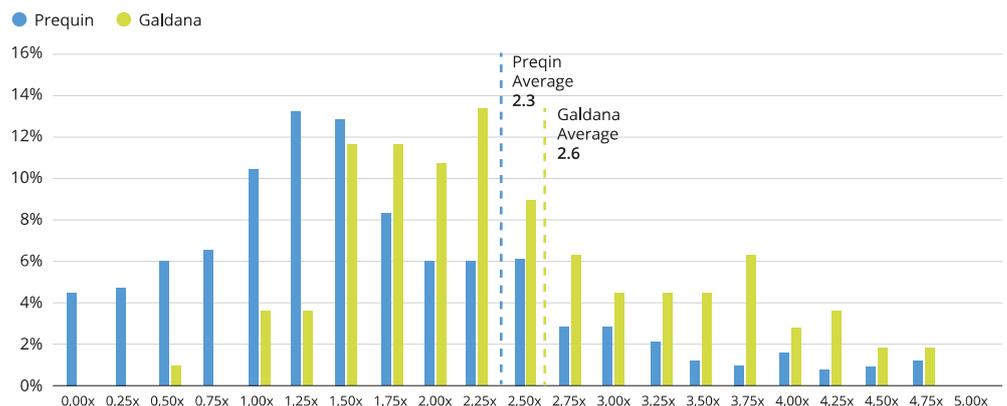
**The performance track records of Yale and Galdana’s managers are remarkably similar.**

Let’s assume that LP’s were stuck with their committed capital for, let’s say, 10 years. What annual compounded rate of return delivers a TVPI of 3.7x over 10 years? ... 14.0%. Subtract from 14% the annual all-in expected expense ratio of the institutional class of the Galdana Ventures III fund -1.4%- and you get ... 12.6%. Where have we seen a similar number in this paper? Yale’s 20 years track record ... at 11.6%.

Let’s go a step further in the analysis and let’s explore consistency in Galdana’s track record. Does Galdana need to rely on its big 5x winners to add value to investors? What if there were no big winners and, well, Galdana delivered just as it delivers on those investments earning less than 5.0x? Let’s take a look at the data:

**TVPI Track Record ex Top Performers – Galdana and Prequin**

Source: Galdana and Prequin



**Even without the big winners, Galdana’s managers outperforms Prequin’s peer universe.**

**Galdana shows another way to earn Yale like returns without being Yale.**

Even without the big winners, Galdana's managers would have delivered a TVPI of 2.6x beating Preqin's 2.3x TVPI with just 30% of its dispersion.

This data clearly highlights Galdana's ability to access top managers and to consistently select better managers than the overall venture capital universe.

Yale provides compelling support for a material top-down allocation to venture capital and Galdana provides compelling evidence that you do not need to be Yale to earn Yale-like venture capital returns.

## Verification of Performance Data

We conducted the following audit to verify the data presented.

### Preqin

Used Preqin's dataset as of June 15, 2021. We selected all funds classified as Venture General, Early Stage, Early Stage: Seed, Early Stage: Startup, and Expansion/Late Stage. The dataset delivered 3,076 funds under this selection criteria.

We applied three screens to this data set of 3,076 funds:

- Funds with last reporting date between 2020-2021,
- Funds at least six years old as of the last reporting date, and
- Vintages starting in 2003.

We ended up with 698 funds and excluded 30 that do not report TVPI.

### Galdana

Galdana provided us with a spreadsheet containing the TVPI, among other metrics, of all the funds in which Galdana funds have invested as well as all other funds run by those same asset managers. All in, the spreadsheet contains 387 funds, of which 105 are funds in which Galdana funds actually invested and 282 are the earlier funds of the GP's in which Galdana funds have invested.

We designed a structured process to verify this data:

- Received a statement from Altamar CAM Partner's internal control unit as to:
  - The funds of funds that Galdana has been advising since inception and
  - All the underlying funds in which Galdana Funds have invested.
- Galdana enabled a data room where we were able to access the original unedited performance data provided by the GPs during Galdana's due diligence process. The data provided by the GP's includes performance data on all its other funds. Reviewed the information the GPs sent Galdana as part of the due diligence process.

The data provided by Galdana is consistent with the data provided by the GP's.

On the back of the screen requiring funds to have a maturity of at least six years old, all funds in which Galdana has actually invested were excluded. Galdana's first vintage is 2016. We, however, used the track records from older funds from the very same investment managers. We ended up with a universe of 137 funds, 134 of which had reported a TVPI.

Both sets of data are reported on a net of expenses basis.

# Implementation

Investing in private assets requires experience and judgment to carefully ponder and balance portfolio attributes that go beyond a mean-variance optimization.

In the case of venture capital, the key consideration is access.

Investors have to consider carefully their unique objectives and competitive advantages.

Portfolio construction has to integrate a top-down macro view with a bottom-up selection of investable assets, just as the Yale endowment does.

For traditional asset classes, this process can be highly structured and quantified:

- Mean-variance strategic allocations have intuitive appeal as distributions of returns, volatilities, and correlations can be reasonably developed.
- Investable assets are known, traded in liquid markets, and easily accessed through indexed products such as ETF.

For private assets, however, investors need to look carefully beyond mean-variance outputs. To determine actual policy weights for private assets, each investor has to carefully consider their very own circumstances and objectives, including access to top managers.

## Strategic Asset Allocation

Unlike traditional asset classes, and even other private asset classes like infrastructure, private credit, or private equity, deriving robust optimization inputs for venture capital is challenging. To illustrate, JP Morgan's well regarded *Long-Term Capital Market Assumptions* studies do not include estimates of return, correlations, or volatility for venture capital. Neither do other studies such as those of BlackRock Investment Institute and Research Affiliates.

As you derive your own set of estimates, more likely than not, you will forecast high Sharpe ratios for venture capital and low correlations to other asset classes. Feed that into an optimizer and see what happens ... the optimizer will crave to allocate to the asset class !!! As we highlight in our paper *Targeting Private Assets*, optimizers end up allocating to private assets as much as the risk budget allows.

We, thus, suggest that you start your strategic asset allocation process with your risk budget. What budget do you have for private assets and how do you intend to allocate that budget among private asset classes? As you try to answer this question, you will come up with the following implementation issues.

## Challenges Investing in Venture Capital

Investors diving into venture capital need to carefully consider their investment objectives and constraints as well as a broad range of implementation issues:

**What is the right balance for us between liquidity and foregone returns?**

**What commitment strategy is best suited for us to achieve a self-financing exposure to venture capital?**

### Team

To execute your investment strategy, you need a suitable investment team:

- Do team members have the mindset to provide equity capital to startups in disruptive industries?
- How long will it take the team to gain access and be part of the venture capital ecosystem?

### Liquidity

Investors need to strike a balance between having a portfolio liquid enough to meet future obligations and the opportunity costs associated with liquid investments.

Issues to ponder:

- How much liquidity do we really need? In business-as-usual scenarios? In Lehman moments? What yield does our overall portfolio provide and how does it mitigate illiquidity risk?
- How can we proactively harvest illiquidity risk premia? How can we best cope with the fear of the unknown?
- How can we best leverage our competitive edge as a long-term institutional investor? Actually, what is our competitive edge? What is our edge in venture capital?

### Commitment Strategy

Investors need to search for an investment strategy that will reach and maintain the desired exposure and consider too the trade-offs in terms of exposure and funding risks of each one. The uncertainty of future cash flows, taking into account capital calls and distributions, creates the need for careful analysis and monitoring.

Issues to ponder:

- How do we measure our actual investments in venture capital? Commitments? Called capital? Net asset value?
- How will we reach our desired target exposure and sustain it over time?
- What risks do we face under different commitment strategies?

### Valuations

Primary funds usually face a J curve at launch. The net asset value declines as the fund incurs in expenses but does not yet earn any income or capital gains.

Issues to ponder:

- What impact will the J curve effect have on the overall return of the portfolio? How long will it last? Can we cope with it? How can we mitigate it?
- Are we comfortable with the smoothing effect of mark-to-model valuations? Do we need to measure value generation taking into account real underlying economic exposures?
- What impact should current valuation levels across the public and private markets have on our venture capital strategy?

### Strategies within Venture Capital

Venture capital encompasses various growth strategies with differentiated risk- return profiles.

Issues to ponder:

- What is the right venture capital strategy for my overall portfolio?

- What is the real level of risk associated with each strategy?

#### Deal Flow

To construct a portfolio, you need access to deal flow. No flow, no portfolio. Poor flow, poor returns. Privileged access, top returns.

Issues to ponder:

- What edge do we have in accessing top fund managers? Do we have access? What size of allocations will we get?
- Can we expect to construct ourselves a well-diversified robust portfolio of seasoned and proven investment managers?

#### Exit Environment

In addition to earning a return on our money, we need the money returned.

Issues to ponder:

- How exposed is my venture capital portfolio to current market conditions? How skilled are the managers in dealing with economic or credit downturns?
- How can I set an investment strategy that creates resilience in both the venture capital and the overall portfolios?
- What impact may slower than expected exits have on my overall portfolio? May I be a forced seller of other assets in order to meet existing commitments?

#### Performance

Need to measure performance against predefined targets over a relevant time horizon.

Issues to ponder:

- What are we seeking by investing in venture capital? Enhance returns? Current yield? Reduce portfolio volatility?
- How will we measure the performance of our venture capital program? Which are our key performance indicators? What is success for us?

#### Internal Control

As investors gradually build up a diversified portfolio of venture capital through funds and funds of funds, the internal management and control can become challenging.

Issues to ponder:

- What transparency do we get?
- How much complexity can our organization take investing in venture capital?
- Is our investment strategy aligned with the complexity that we can manage?
- Shall we manage this complexity internally or rely on third-party experienced managers?

#### Fees

Investors have to ascertain that they get value for the fees they pay.

Issues to ponder:

- What level of transparency do we need regarding costs?
- What is the value added of the investment managers for us today? What do we need from them?
- What is fair compensation for those services?

**How do we measure success? Which key performance indicators are most relevant to us?**

**How do we get value for our money?**

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# Important Notice and Risk Considerations

The purpose of this paper is to provide a framework to assess the role that venture capital has in constructing a diversified investment portfolio. As discussed in the paper, our framework has important limitations. It is a simplified view of reality. It, thus, cannot fully capture all the risk dimensions to which an investor is exposed. Reality, besides being complex, evolves.

Venture capital funds are typically exposed to investment, liquidity, leverage, sustainability, currency, valuation, regulatory, market and country risks, amongst others.

Readers will derive the greatest benefits testing by themselves the hypothesis presented in the paper and seeking to understand how the resulting learning outcomes are relevant to their very own investment objectives.

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