

## STUDY OF VENTURE CAPITAL (A GLOBAL ASSET CLASS): BLUE PRINT FOR INDIA

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### ABSTRACT

*Venture capital has emerged as a dynamic and influential asset class within the realm of investment and entrepreneurial finance. This paper explores the distinct characteristics and unique features that differentiate venture capital from other traditional asset classes and define venture capital as an asset class. The long investment horizon, active involvement of venture capitalists, and the illiquid nature of investments are among the key characteristics discussed. It delves into the motivations of venture capital investors, the investment process, and the risks and rewards associated with investing in early-stage ventures, emphasizing the desire for high returns and the opportunity to participate in the growth of disruptive innovations. The risks and rewards associated with venture capital investments are examined, shedding light on the unique risk-return profile of the asset class. It discusses the high failure rates of startups and the potential for significant financial losses. However, it also emphasizes the potential for exceptional returns through successful exits, such as initial public offerings (IPOs) and acquisitions. Moreover, it addresses the diversification benefits of venture capital in an investment portfolio, particularly in relation to traditional asset classes. The study further explores the broader impact of venture capital on innovation, economic growth, and job creation. By providing capital and expertise to nascent ventures, venture capitalists play a pivotal role in nurturing entrepreneurship and commercializing breakthrough technologies. The historical evolution of venture capital is presented, tracing its roots back to the mid-20th century and its subsequent growth and evolution. The paper highlights the key milestones and developments that have shaped the industry, including the emergence of prominent venture capital firms and the evolution of investment strategies. It also examines the impact of external factors, such as regulatory changes and technological advancements, on the growth and maturation of the asset class in the United States. The Indian venture ecosystem is in a nascent stage both for investors and early-stage companies raising capital from venture capital funds. The availability of Indian data points is low since the industry is in a very nascent stage here. Hence studying the developed markets can provide us a roadmap of how things can shape up in this extremely important asset class.*

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**Keywords:** Illiquidity Premium, Long-term Focus, Manager Selection, Value Creation, Early Stage, Risk Management.

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## Objectives

The main objectives of the paper are:

1. Understanding the evolution of Venture Capital over the decades in Developed Markets with a focus on United States as it is the oldest and most developed market.
2. Compare and contrast the impact of Venture Capital backed companies on Innovation, Employment and Value Creation with a focus on US as it is more than 50% of Global Market Capitalization.
3. Understanding the inclusion of this asset class and the role it can play as a part of an Investors' Portfolio. Examining the risks and rewards of Venture Capital.

## Methodology

We have followed a secondary data strategy in researching the topic on hand. The venture capital industry is a global industry whose access is limited to extremely large investment houses and hence primary data is not widely accessible. On the other hand, since this is a widely tracked asset class, the quality of secondary data available in the field is of good quality and quantity.

## What is Venture Capital

Small and nascent firms operating in uncertain environments often face difficulties in accessing traditional sources of finance due to their unproven nature and limited visibility. As an alternative, venture capital (VC) investing emerges as a viable option, wherein funds are provided to these firms in exchange for an equity stake.

Venture capital can be initiated by individual investors known as "angel" investors, who possess substantial personal wealth. It can also be organized as a private capital entity such as a company or institution. In the latter scenario, the objectives may extend beyond financial returns, such as the development of specific technologies that offer synergies for both the corporate entity and the venture capital firm. Funding young firms from their inception to profitability can be a challenging task. Venture capitalists undertake such investments with the expectation of achieving significant returns. It is important to note that venture capital firms primarily target start-ups with high growth potential, differentiating them from private equity firms that typically invest in more established companies.

## Evolution of Venture Capital

The Evolution of venture capital can be traced back to the mid-20th century, with its roots firmly planted in the United States. Over the years, venture capital has evolved from a niche investment approach to a thriving industry that plays a crucial role in funding innovative startups and driving economic growth. The following is a brief overview of the key milestones and developments in the history of venture capital:

1. **Post-World War II Era:** The birth of venture capital can be attributed to the post-World War II period, when a group of investors, including Georges Doriot, founded the American Research and Development Corporation (ARD) in 1946. ARD is considered the first modern venture capital firm, aiming to provide capital to commercialize technological innovations developed during the war. This marked the beginning of an era where investors saw the potential of investing in early-stage, high-growth companies.
2. **Silicon Valley and the Rise of Technology Startups:** In the 1950s and 1960s, the emergence of technology-focused companies in the Silicon Valley region gave a significant boost to the venture capital industry. Firms like Kleiner Perkins and Sequoia Capital were founded during this time, focusing on financing semiconductor and computer-related startups. These firms played a vital role in supporting iconic companies such as Intel and Apple, establishing Silicon Valley as the epicentre of technological innovation.
3. **Regulatory Changes:** The 1970s witnessed regulatory changes that facilitated the growth of venture capital. The Employee Retirement Income Security Act (ERISA) of 1974 allowed pension funds to invest in venture capital funds, providing a new source of capital for the industry. Additionally, the passage of the Bayh-Dole Act in 1980 enabled universities and research institutions to commercialize their discoveries, leading to increased collaboration between academia and venture capital firms.
1. **Dot-com Boom and Bust:** The late 1990s and early 2000s marked the dot-com boom, characterized by a surge in internet-related startups and skyrocketing valuations. Venture capital

investment reached unprecedented levels during this period, with a focus on internet companies. However, the bursting of the dot-com bubble in 2000 resulted in a significant decline in venture capital funding, leading to a period of introspection and recalibration within the industry.

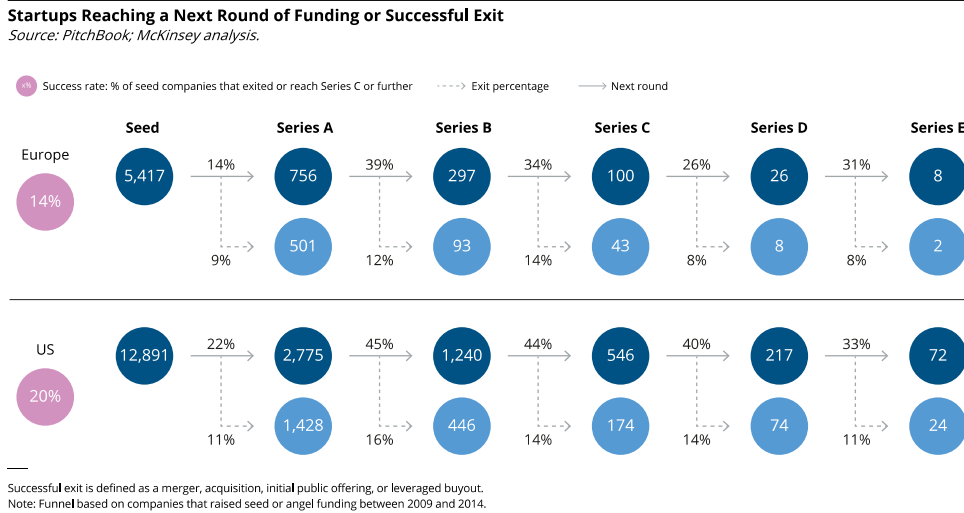
2. **Emergence of Global Venture Capital:** The 2000s and 2010s witnessed the globalization of venture capital, with the industry expanding beyond the borders of the United States. Venture capital hubs emerged in various regions worldwide, including Europe, Asia, and Latin America. This globalization has led to increased cross-border investments, knowledge sharing, and the development of vibrant startup ecosystems in different parts of the world.
3. **Rise of Corporate Venture Capital:** In recent years, corporate venture capital (CVC) has gained prominence. Established companies have set up dedicated venture capital arms to invest in startups and gain access to disruptive technologies and innovation. This trend reflects the recognition that collaboration between established corporations and startups can foster mutual growth and market disruption.
4. **Impact on Industries and Societal Challenges:** Venture capital has played a transformative role in various industries, including technology, biotech, cleantech, and healthcare. It has funded companies that have revolutionized sectors, such as e-commerce, social media, and autonomous vehicles. Additionally, venture capital has increasingly focused on addressing societal challenges, supporting startups dedicated to sustainability, renewable energy, and social impact.

The history of venture capital illustrates its evolution from a nascent investment approach to a powerful force driving innovation, entrepreneurship, and economic growth. The industry's ability to adapt to changing landscapes, embrace technological advancements, and support disruptive ideas has contributed to its continued relevance and impact in the modern economy.

#### Stages of Venture Funding

The funding of startups backed by venture capital progresses across the following stages

1. **Angel / Seed:** Refers to the first round of funding raised by a startup, "seed" funding has historically been the domain of friends and family. The seed capital raised, is usually deployed to create the initial product or Minimum Viable Product (MVP) as is colloquially called.
2. **Series A:** This round is usually raised, once the MVP launched with the "Seed" capital has received requisite traction (usually in the form of user growth or revenue and in a position usually referred to "product-market fit") they are slated to raise an institutional round from a traditional early stage or lifecycle investor. This round's capital is used build out a team, iterate the product by incorporating customer feedback and scale revenue.
3. **Series B** funding is a crucial stage for startups, following seed and Series A rounds. It involves securing additional capital to fuel growth and expansion. This funding round marks increased investor confidence and aims to accelerate product development, expand the team, and solidify market position.
4. **Series C** involves securing additional capital from investors to support the company's expansion plans. At this stage, the company has likely demonstrated strong market traction, revenue growth, and scalability. Series C funding is typically used to invest in research and development, expand into new markets, acquire other companies, or further strengthen the team. It indicates a high level of confidence from investors in the startup's potential for long-term success and helps propel it towards becoming a mature, established company.
5. **Series D:** Series D funding aims to provide additional capital to fuel further expansion, acquisitions, international expansion, or to strengthen the company's competitive position. It is often secured from institutional investors, venture capitalists, and private equity firms. Firms at this stage typically are not generating enough cashflow from operations to fuel rapid growth.
6. **Series E** or Pre-IPO rounds allow investors to get in on the company's growth potential before it becomes publicly traded and can potentially offer attractive investment opportunities with the anticipation of the company's successful IPO.
7. **IPO or M&A:** IPO and M&A are common exit strategies for venture-backed companies. IPO enables public trading, while M&A involves selling or merging with another entity for growth and investor returns.



**Venture Capital and the Analysis of its impact on Enterprises and Economy:**

**Venture Capital and Entrepreneurship:**

According to the US National Venture Capital Association, venture capital investors use their networks and resources to provide industry expertise and guidance to their entrepreneurs in their portfolio. Once VC's take a stake in the company they actively engage with the company's management, by sitting on their boards and help in creating systems and process that allow the company to scale efficiently giving it a huge moat.

The venture capital industry's advantageous position lies in its ability to attract, retain, and motivate exceptional talent across the value chain. This is primarily due to the alignment of interests and incentives that prioritize long-term value creation.

Figure 2: Key features of Venture Capital investments

Source: Deutsche Bank AG. Data as of August 2021.

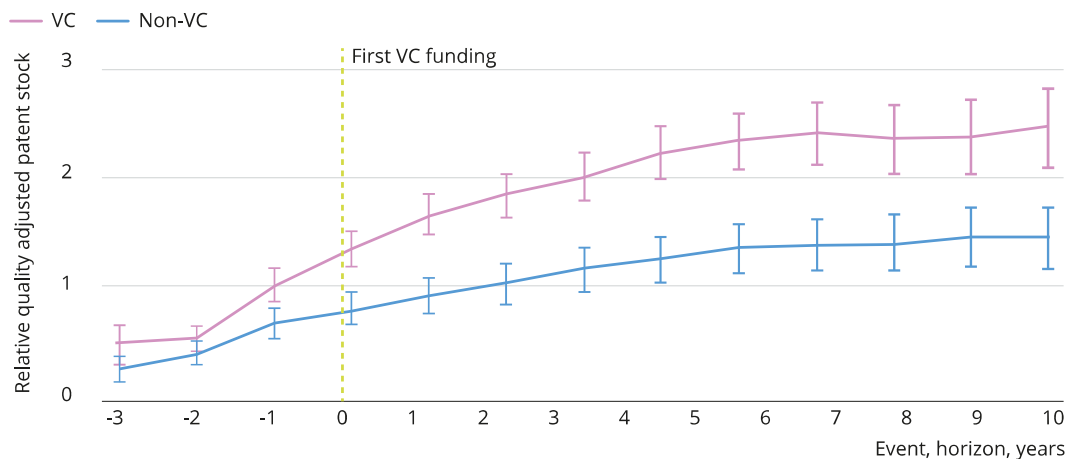


A working paper by the Federal Reserve Bank of Atlanta, published in September 2019, examined the growth rates of startups supported by venture capital. The study's empirical findings indicated that VC-backed startups generally exhibit superior growth rates and initial patent quality. The study also highlighted the following points:

1. Startups that were funded by experienced venture capitalists have better outcomes, contributing disproportionately to the creation of large and successful firms. The precise mechanisms behind the success of these superstar firms are not fully understood, but the study suggests that venture capital plays a critical role in elevating the odds of success of a startup.
2. Venture capitalists tend to fund startups with higher growth prospects and deeper innovation moats.
3. Involvement of venture capitalists is crucial for both firm-level and overall innovation. Analysis of patenting activity and patent quality indicates that venture capital backs a higher than average number of innovative startups. Venture Capitalist with higher experience typically invest in companies that exhibit superior innovation.

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

Source: Federal Reserve Bank of Atlanta.

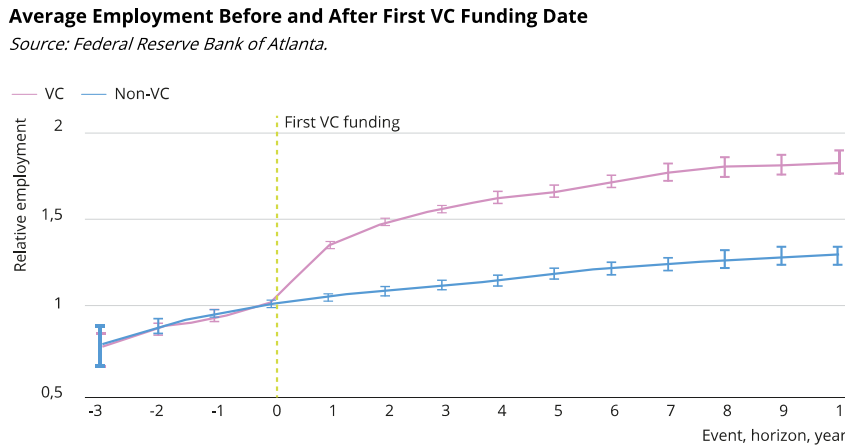


1. Innovations by venture capital-funded firms, particularly those that achieve significant success, generate substantial positive impacts on the overall economy.

#### Evidence from Public Companies:

Evidence from publicly traded companies supports the impact and significance of venture capital. A study conducted in 2015, titled "The Economic Impact of Venture Capital," examined the impact of venture-backed companies on the broader economy. The study focused on U.S. companies listed in the USApost 1974 that received early-stage funding from venture capital funds. The relaxation of the Prudent Man Rule in 1979 led to a substantial increase in pension fund allocations to venture capital funds.

- i. Out of the currently public U.S. companies founded after 1974, approximately 42% (556 companies) were venture capital-backed. These VC-backed companies represent 63% of the market capitalization of these newly public companies. Moreover, VC-backed companies have emerged as significant employers. Over the years, a quarter of the net job growth for publicly listed corporations can be attributed to VC-backed companies.

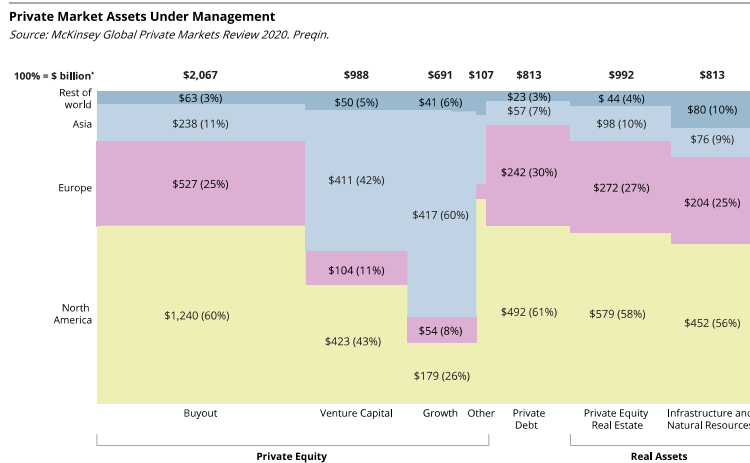


- i. In addition to their role as major employers, VC-backed companies are known for their innovation. Prominent examples include industry leaders like Apple, Intel, and FedEx. In fact, among the five largest publicly traded companies by market capitalization (excluding Saudi Aramco), venture-backed companies such as Apple, Microsoft, Alphabet (Google), Amazon, and Facebook dominate the list.
- ii. In terms of research and development (R&D) spending, VC-backed U.S. public companies witnessed a substantial increase from essentially zero in 1974 to \$131 billion in 2014. These companies now account for 44% of the total R&D spending by U.S. public companies. This investment in R&D not only generates value for the companies themselves but also contributes positive effects that extend globally.

**Size of the Venture Asset Class within the private Markets:**

According to McKinsey's 2020 Private Markets Review, the venture capital market holds significant relevance within the private markets. The total assets under management (AUM) in private markets have reached \$6.5 trillion, nearly 2.7 times the 2010 levels. Venture capital represents approximately €1 trillion, accounting for 15% of the AUM.

The United States and Asia each hold a 40% share of the venture capital market, but Asia surpasses the US in growth capital, claiming a 60% market share. In other private asset classes, Asia's market share is typically below 10%. The exponential growth of venture capital is largely driven by technology, with Asia playing a prominent role in this sector.



**Performance of the Venture Asset Class vis Public Markets:**

Despite institutional investors and ultra-high net worth individuals (UHNWI) showing a longstanding interest in Venture Capital, it remains underrepresented in many private investor portfolios. However, there are compelling reasons for institutional investors to consider Venture Capital as an investment option.

Research conducted by Cambridge Associates in 2016, titled “The 15% Frontier,” suggests that allocations to private investments can be a crucial factor in achieving long-term outperformance. The study examined 242 endowments and foundations that allocated at least 15% of their capital to private investments. It found that these institutions achieved a median annualized return of +7.6% from 2005 to 2015, outperforming competitors with a maximum allocation of 5% to private investments by 1.5%.

Moreover, data from Cambridge Associates reveals that Venture Capital consistently outperforms broader equity market indices in the United States. Over various time horizons, including 3-, 5-, 10-, 15-, and 20-year periods, Venture Capital has demonstrated superior performance.

While the “illiquidity premium” (the need for higher returns to compensate for less liquid investments) may explain some of these excess returns, Venture Capital also offers an appealing opportunity to tap into technological progress and entrepreneurial talent and spirit. However, it is important to note the necessity of diversifying Venture Capital investments to mitigate the risks associated with individual firm failures, as further discussed below.

US VENTURE CAPITAL		US VENTURE CAPITAL							
		AS OF DECEMBER 31, 2022							
FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME) Net to Limited Partners									
CA INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR	
CAMBRIDGE ASSOCIATES LLC US VENTURE CAPITAL INDEX*1	-6.87	-20.77	24.95	22.46	18.65	12.73	12.23	25.40	
MPME ANALYSIS*2									
Constructed Index: MSCI World/MSCI All Country World Index <sup>3</sup> (gross)		-17.61	4.06	5.49	8.54	5.60	8.54	6.77	
Value-Add (bps)		-316	2,088	1,697	1,011	713	369	1,863	
mPME Russell 2000*4 Index		-20.06	2.82	3.95	9.50	7.58	9.73	7.86	
Value-Add (bps)		-71	2,213	1,851	915	515	250	1,754	
mPME Constructed Index: NASDAQ Composite Price Index/NASDAQ Composite Total Return <sup>4</sup>		-32.42	6.77	10.28	15.62	11.26	12.04	9.89	
Value-Add (bps)		1,165	1,818	1,218	303	147	20	1,551	

The index is a horizon calculation based on data compiled from 2,344 US venture capital funds, including fully liquidated partnerships, formed between 1981 and 2022.

1 Pooled horizon return, net of fees, expenses, and carried interest.

2 CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME NAV is a function of mPME cash flows and public index returns. "Value-Add" shows (in basis points) the difference between the actual private investment return and the mPME calculated return. Refer to Methodology page for details.

3 Constructed Index: MSCI World/MSCI All Country World Index: Data from 1/1/1986 to 12/31/1987 represented by MSCI index gross total return. Data from 1/1/1988 to present represented by MSCI ACWI gross total return.

4 Constructed Index: Data from 1/1/1981 to 10/31/2003 represented by NASDAQ Price Index. Data from 11/1/2003 to present represented by NASDAQ Composite.

Sources: Cambridge Associates LLC, Frank Russell Company, MSCI, Inc., Standard & Poor's, and Thomson Reuters Datastream.

See Notice on Third Party Index Disclosure

MSCI data provided "as is" without any express or implied warranties. Total returns for MSCI Emerging Markets indexes are gross of dividend taxes. Total returns for MSCI Developed Markets indexes are net of dividend taxes.

**Possible diversification benefits:**

Venture capital investing not only provides exposure to evolving industries and emerging transformative technologies but also serves as a hedge against risks associated with mature companies and vulnerable business models. Historical data demonstrates that venture capital returns exhibit a loose correlation with returns from other asset classes, and some studies even suggest an inverse relationship between private equity, including venture capital, and global equity markets






Moreover, in terms of diversification, it is crucial to acknowledge that public market equities are no longer as diverse as they once were. The number of listed companies on U.S. stock exchanges has significantly dwindled, with the majority of the U.S. equity market value concentrated in the S&P 500, accounting for approximately 80% of the market. Additionally, the top 10 stocks in the S&P 500 command a considerable share of the market capitalization, with a pronounced emphasis on the Information Technology sector.

In contrast, the number of private companies has been steadily increasing over the past few decades, while the number of initial public offerings (IPOs) has declined. Factors such as exorbitant IPO costs, the short-term focus of public markets, and the availability of private capital have prompted early-stage firms to seek funding from private investors instead of pursuing the traditional route of going public. While there are still opportunities to invest in small-cap stocks in public markets, the range of available options has significantly diminished.

Therefore, it can be argued that the private investment market offers a greater degree of diversity in terms of industries, technologies, and business models compared to the public market. Investment portfolios that solely consist of publicly-traded assets may overlook the potential value creation that occurs between the early stages of a company's life cycle and its IPO, assuming it chooses to go public at all.

Source: Invesco "The Case for Venture Capital; Cambridge Associates Global Venture Capital, Global Private Equity, and Global Real Estate Benchmarks Return Report. Venture Capital, private equity and real estate data from Cambridge Associates. Data as of December 31, 2015.

### Correlation among asset classes' quarterly returns

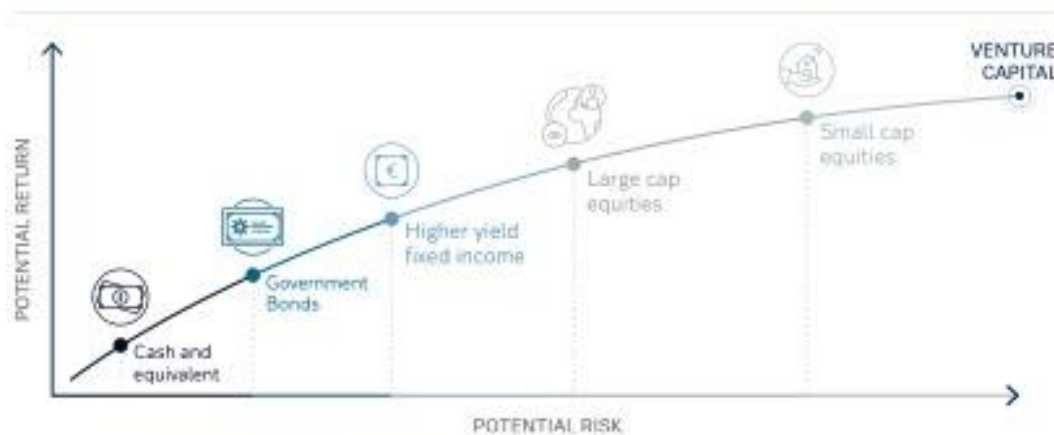
	Venture Capital	Private Equity	Real Estate	Large-cap Equity	High Yield Bond	Aggregate Core Bond
 Venture Capital	1.00	0.71	0.69	-0.06	-0.13	-0.13
 Private Equity	0.71	1.00	0.65	0.46	0.33	-0.06
 Real Estate	0.69	0.65	1.00	0.13	0.03	-0.11
 Large-cap Equity	-0.06	0.46	0.13	1.00	0.73	0.13
 High Yield Bonds	-0.13	0.33	0.03	0.73	1.00	0.35
 Aggregate Core Bond	-0.13	-0.06	-0.11	0.13	0.35	1.00



### Risks of Venture Capital as an Asset Class

Investors may consider incorporating Venture Capital exposure into their investment portfolios based on their overall investment objectives and constraints. However, it is essential to recognize the significantly higher level of risk associated with Venture Capital compared to traditional asset classes. The following figure illustrates the risk/return profiles of Venture Capital and major traditional asset classes.

Source: Deutsche Bank AG. Data as of August 2021.



Note: The chart is for illustrative purposes only.

There are two notable risks that investors should carefully consider when engaging in venture capital investing.

Firstly, it requires a long-term commitment of capital, typically locking up investments for approximately 10 years. This implies that investors must be prepared for their funds to be tied up and inaccessible for an extended period, thereby limiting liquidity and flexibility.

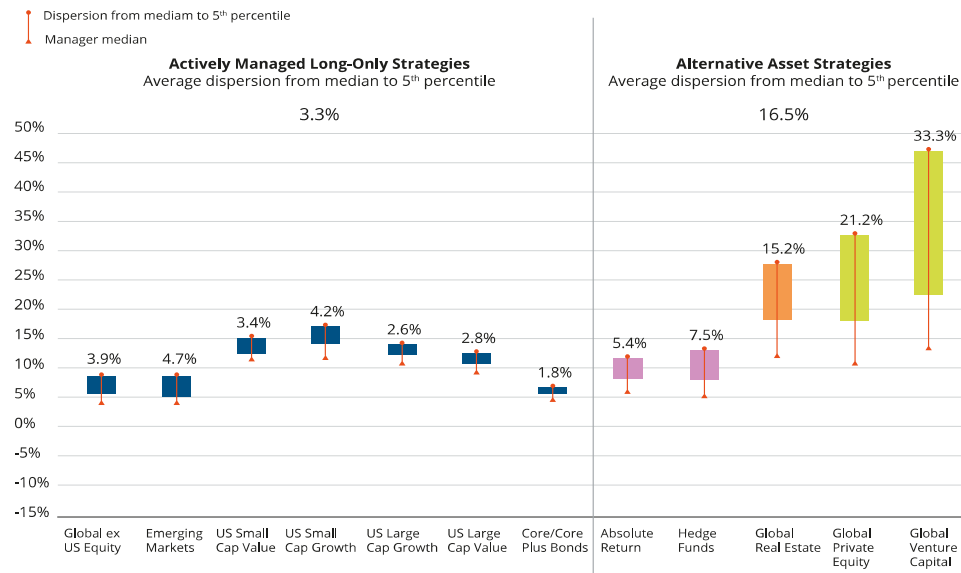
Secondly, there is a substantial risk of default or failure associated with early-stage companies. While some portfolio companies may thrive over a 10-year timeframe, the majority are unlikely to succeed. A comprehensive study conducted by Correlation Ventures examined the outcomes of over 27,000 investments made between 2009 and 2018, revealing that a significant 64% of venture capital deals did not even recoup the original principal invested (refer to Figure 10). As a general rule, venture capitalists often operate under the assumption that approximately two-thirds of the startup universe will either fail to provide a return on the initial investment or experience stagnation within the venture capital process. This stagnation can occur when companies struggle to secure follow-up funding or find a suitable exit strategy. Consequently, the success of venture capital investing heavily relies on the performance of the remaining one-third of companies that demonstrate strong growth and generate substantial returns.

The realm of venture capital presents a wealth of opportunities for value creation through active management, surpassing the potential of traditional long-only strategies. In measuring the value added by active investment management, Cambridge Associates employs the concept of dispersion, which quantifies the range between the median manager and the 5th percentile. The dispersion figure reveals the extent to which managers deviate from the average performance. Interestingly, traditional long-only strategies exhibit a relatively modest dispersion of 3.3%, indicating limited divergence in performance outcomes. Conversely, private asset strategies showcase a significantly higher dispersion of 16.5%, highlighting a broader range of performance results. Notably, venture capital stands out among all asset classes with the highest dispersion, implying that the variance in outcomes between managers is more pronounced. This underscores the immense potential for value creation through active management and the critical role of judicious manager selection within the dynamic and high-growth venture capital landscape.

### 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 (IRR) calculated since inception to March 31, 2018. Time weighted returns (AACRs) and money weighted returns (IRRs) are not directly comparable.

In summary, venture capital investing entails long-term capital commitment and carries inherent risks due to the significant default or failure rates observed in early-stage companies. Investors should be aware that the majority of investments may not yield satisfactory returns, and success in venture capital relies heavily on the relatively smaller portion of companies that achieve notable growth and profitability.

#### Conclusion:

We attempt to summarise the main positives and negatives of Venture Capital – An Asset Class in the table below

1. Venture Capital has evolved over the last few decades, into an important part of the economic machinery. The asset class has grown to larger than \$1 tn of assets under management out of a total of \$6.5 tn of global private capital. With green shoots of VC visible in the Indian markets as well, we feel that this would become an equally important part of the Indian economic machinery as well.
2. The economic impact of VC Funding can be more clearly seen by contrasting against Non VC backed companies both in the public and private domain. The Impact on Innovation (seen through patent filings), employment, and value creation is much higher for VC backed companies.
3. Venture Capital has been an exciting investment area over the last few years and is likely to remain so. Amounts invested are likely to continue to grow and Venture Capital will continue to play a key role in funding innovative firms and industries. Over time, Venture Capital returns may continue to beat those available on public markets. However, it is important to understand the fundamental differences between Venture Capital and more liquid investment strategies, the risks involved, and how to try to possibly mitigate such risks via diversification and manager selection. The Risk and rewards of venture capital as an asset Class has rightly been summarized by Deutsche Bank as below:

Source: Deutsche Bank AG. Data as of August 2021.

## Positives

Long-term outperformance  
of public markets

Gain from illiquidity premium

Wide range of private firms  
accessible

Only loose correlation of returns  
with other asset classes

## Negatives

Very high risk profile

Long-term commitment  
necessary

Diverse VC portfolio advisable  
given likelihood of individual  
investment failures

Performance may depend on using  
top quartile funds / best-in-class  
investors

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