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CIO Special



Venture Capital investing
Returns and diversification

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01

Introduction



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Global economic recovery from the coronavirus pandemic will eventually trigger interest rate rises, but historically low fixed income yields are likely to persist for some time to come. This will help keep investor interest in equities high but there are other ways to invest in business enterprises. Some alternative approaches attempt to capture an illiquidity premium: the investor forsakes immediate liquidity (as in a market-based investment) in the hope of achieving higher long-term returns. Private equity investments fall into this category, but here we focus on Venture Capital (VC) investment – investment in start-up or still young firms.

Venture Capital is a dynamic investment field and has helped to create novel business models and even industries by spurring innovation. History shows that venture capitalist investors, through targeting the most promising young start-ups, have played a critical role in turning them into engines of economic growth. Many of world's 10 largest companies by market capitalization – including numerous prominent Tech bellwethers – were Venture Capital-backed at some stage.

For many private investors, however, this is still largely unknown territory. This report therefore starts by discussing what Venture Capital investing is and concepts such as the “life cycle” of a respective engagement. It also considers the role of Venture Capitalists in corporate development.

We then look at the reasons behind recent continued growth in Venture Capital investing, the impact of the COVID-19 pandemic and the key sectors receiving investment.

In our view, the medium-term environment is likely to remain supportive for Venture Capital investing, and access to the sector is getting easier.

If done well, Venture Capital can both deliver strong returns and provide considerable diversification benefits within portfolios.

But, as we discuss, it is important to try to reduce the risks around this type of investment which is associated with an overall high risk profile. History suggests portfolios should hold a wide range of Venture Capital investments (across different industries, stages and geographies) to offset the likelihood of individual investment failures. Access to the top Venture Capital managers is crucial for deriving benefits from respective investments.

As always, Venture Capital investing should be considered in the context of your portfolio objectives as well as risk tolerance. Venture Capital investing delivers returns in a very different way from a conventional liquid portfolio build-up. A Venture Capital approach relies on a likely minority of firms invested in delivering very high returns: these need to be sufficiently high to offset low or zero returns elsewhere.

In a nutshell: Venture Capital investing

- Venture Capital is a dynamic and growing area of investment, with the potential to deliver strong returns and portfolio diversification.
- However, potential investors need to be aware of a wide range of risks. Many investment targets will deliver low or no returns: returns on investment successes need to be high to compensate.
- Venture Capital portfolios therefore need to hold a carefully diversified range of assets. Using top Venture Capital managers should help boost returns.

02

What is Venture Capital investing?

Firms need to be funded from start-up to profitability. But young firms may find it difficult to access conventional sources of finance, given their unproven nature and low visibility.

Instead, Venture Capital (VC) investing can provide funds in exchange for an equity stake in the business, with the Venture Capitalist hoping that the investment will yield a high potential return.

Venture Capital firms mostly invest in start-ups with high growth potential – in contrast to private equity firms that usually buy into more mature companies.

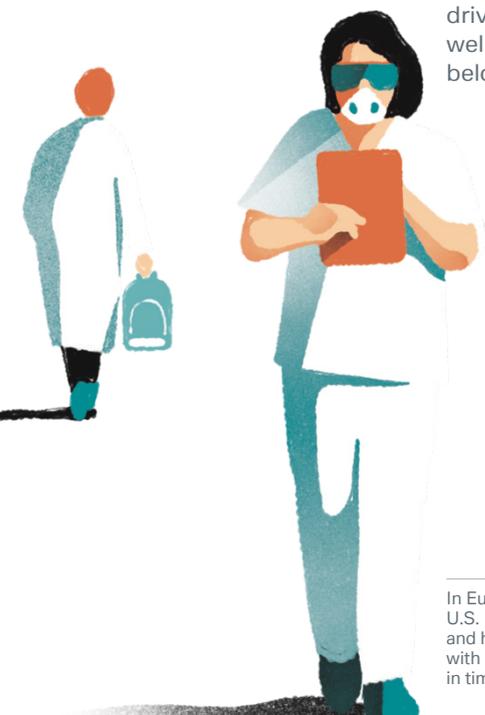
Venture Capital can be set up by “angel” investors, i.e. high net worth individual investors, or can be private capital organized as a company or institution. Alternatively, Venture Capital can be delivered through specially set up subsidiaries of corporations, commercial bank holding companies and other financial institutions. In the latter case, there may be objectives beyond high returns – for example the development of a technology – that bring synergies to both the corporate and the Venture Capital firm. The main focus of this report is, however, on general Venture Capital funds.

A brief history

Until the 1940s, investments in private companies were the prerogative of wealthy individuals and families. In 1946, the American Research and Development Corporation (ARDC), likely the world’s first institutional Venture Capital (VC) firm, was founded by Georges Doriot. The firm raised USD3.5mn supported by MIT, University of Pennsylvania, University of Rochester, Rice University and many financial institutions to back new Ventures in the science and technology spheres.

The 1960s and 1970s saw the rise of private VC firms on the U.S. West Coast at the same time as the development of the semiconductor industry in Silicon Valley. In 1979, the U.S. Labor Department allowed pension funds to include alternative assets in their portfolio mix. Consequently, big capital began flowing into the VC industry. In 1978, 23 Venture funds managed about USD500mn of capital. By 1983, there were 230 firms overseeing USD11bn. VC also moved from a focus on semiconductors and data processors to include sectors like personal computers and medical technology and was seen as a factor behind the dotcom bubble that ended in 2000: large investments were made in fledgling tech companies that, in retrospect, had only a very slim chance of success. Venture Capital fell out of favour in the years following the tech bubble collapse.

In the last decade or so, however, the internet has produced a range of companies with sustainable business models. The rise in big tech firms has been accompanied by (often tech-driven) advances in other areas such as healthcare. Venture Capital firms have found themselves well positioned to capitalize on the opportunities and we discuss recent growth in the industry below.

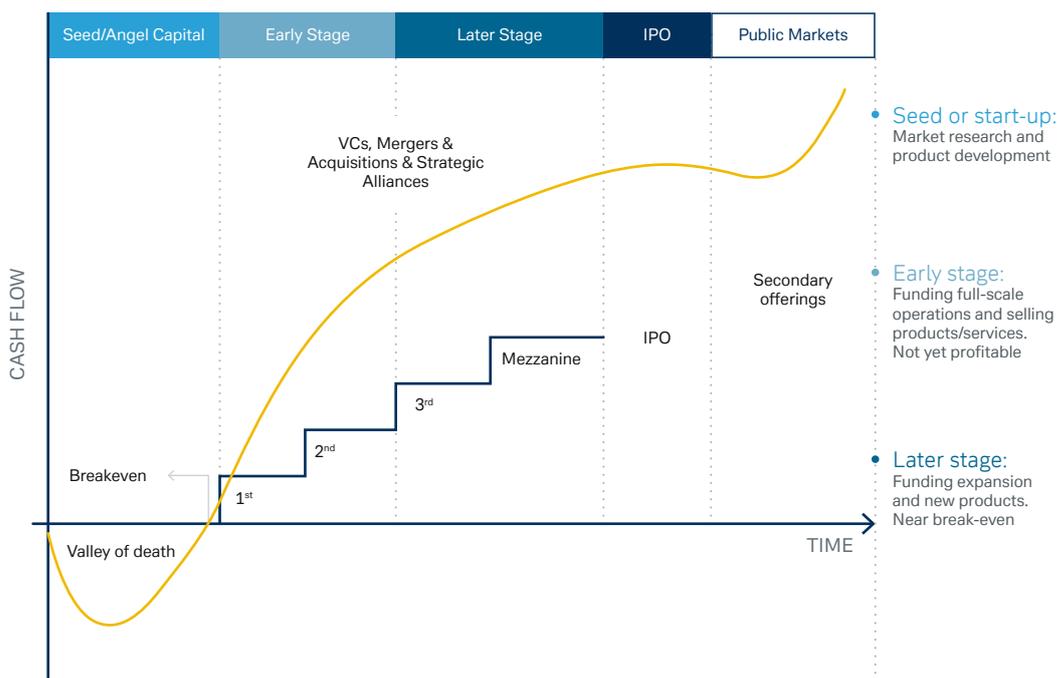


Life cycle of a VC investment

The key stages of Venture Capital financing are shown in Figure 1. Exact terminology may vary slightly, but “staged funding” is the key concept here. Rather than providing funding upfront, staged funding allows Venture Capitalists to regularly refresh information about the firm, monitor its key metrics, review plans, and evaluate whether to provide additional capital funding or look for an exit.

Figure 1: The stages of Venture Capital investing

Source: Cardullo (1999), “Financing innovative SMEs in a global economy”, 2004.



"Staged funding is the key concept here. This allows Venture Capitalists to regularly evaluate whether to provide additional capital funding or look for an exit."

1 **Seed financing:** “Seed” capital was historically provided to many firms by friends and family, but recently has been regarded as the first institutional funding round in a start-up. Seed funding is mainly invested in research and development, continuing to build out the company’s initial product. Companies at this stage are often characterized by severely negative cash-flow: seed capital needs to be sufficient to carry companies through this so-called “valley of death” when many company failures can occur.

2 **Early stages investing:** 1st Stage (sometimes referred to as Series A): Once start-ups have achieved traction in terms of user growth or sales, they are in a position to raise additional funds from an early stage investor. The product is improved as further feedback is incorporated. Amounts of money raised at this stage tend to be several times higher than during the initial seed capital stage.

2nd Stage (Series B): The final “early stage” round: 2nd Stage companies typically have the required product market fit by this stage and have strong user growth, if not revenue. Companies often raise capital for investing in sales and marketing to help scale up the product for broader markets. Amounts typically raised at this stage are larger still, with some specialist investors perhaps only getting involved at this point.

3 **Expansion or later stage / third stage capital:** Once a start-up has reached third (Series C) or later stage funding, it is generally no longer considered an early stage company. Such companies continue to fund expansion through investment in the business. The focus here is on achieving strong growth – perhaps through acquisitions of other potential competitors. The type of investors involved here may broaden out further to include non-Venture Capital specialists as the company is now seen as fundamentally viable.

Mezzanine / pre-IPO financing: Late stage companies at this point typically remain unprofitable and continue to raise capital to fund growth via fourth (Series D) and further fund raisings and ultimately achieve an exit, although some companies may exit before this stage.

The last round of funding before an exit is often referred to as a “Pre-IPO round” (or Series E+). In recent years, such rounds have been dominated by non-traditional start-up investors, like sovereign wealth funds, mutual funds and hedge funds.

4 **IPO or M&A exit:** Successful VC-backed portfolio companies traditionally exit in either one of two ways: a sale to a larger company or through an IPO. Media attention is often focused on IPOs, but M&A transactions have been more of a norm when it comes to exit for start-ups of all stages. We discuss SPACs (special purpose acquisition companies) later in the report.

Ultimately, the investors’ aim is usually to realize investment gains at this point – assuming that the company has survived and prospered.



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Venture Capital in entrepreneurship

The role of Venture Capitalists

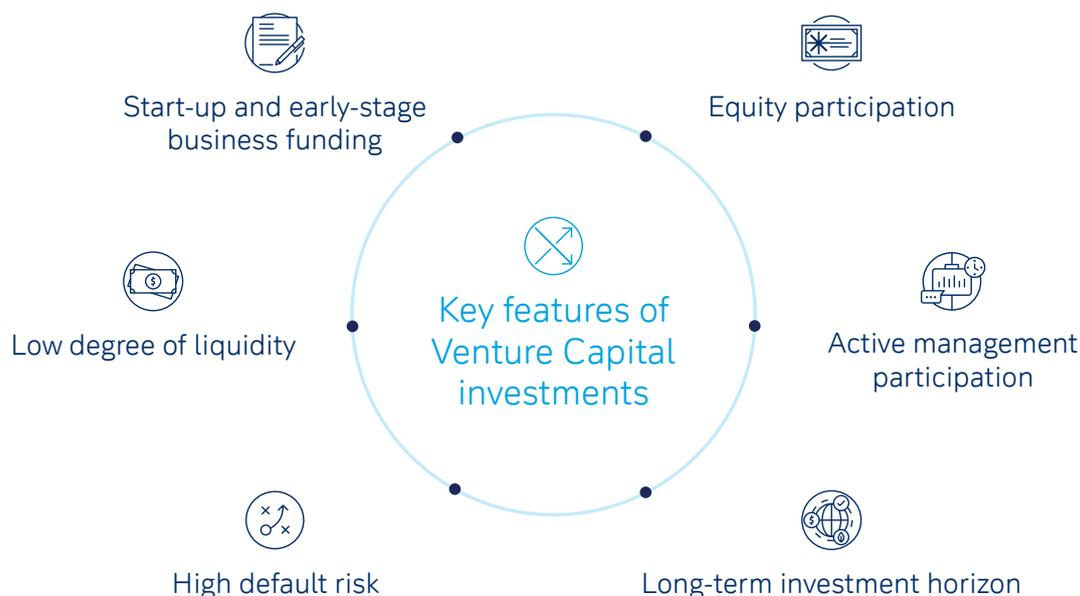
One study (Lerner and Nanda, 2020) suggests that each year in the U.S. less than 0.5% of set up firms have Venture Capital funding – they account, however, for nearly 50% of companies that make it to the public marketplace.

Venture Capitalists provide more than just capital. Many start-ups are high risk due to high uncertainty about returns, asymmetric information, the lack of substantial tangible assets etc. Typically, besides providing the capital buffer, VCs take seats on the boards of their portfolio companies and participate actively in management. This often includes connecting the firm with resources and expertise for development and production, providing advice and networks for marketing, and assisting in recruiting management. In this way, they remain partners with the entrepreneurs / founders in growing the company to a point where it can stand on its own feet.

As part of this process, VCs take the company through multiple rounds of financing. In each round, the company must meet certain deliverables to receive fresh funds for continued growth or expansion. If the company fails to satisfy these goals, or if the risk profile changes significantly (due to market conditions or regulatory policy, for example), the VCs' responsibility to their own stakeholders can result in them making an early exit. These features – the patience, the hands-on guidance and knowledge, the willingness to take on high degree of risk and fail – make Venture Capital unique as an asset class. The key features of Venture Capital are summarized in Figure 2.

Figure 2: Key features of Venture Capital investments

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



Venture Capital and ESG

Potential Venture Capital investors cannot ignore ESG (environmental, social and governance) issues, even if they are not at the core of the investment decision. The demand for ESG-compliant investments has grown dramatically in recent years and so has the pressure on investors to integrate sustainability factors in their investments. Venture Capital investors, given their importance in shaping the form and direction of potential future market companies, can help to improve sustainability through incorporating ESG (environmental, social, governance) issues in their portfolio selection processes.

However, this may be easier said than done. Venture Capital investors are known for targeting disruptive business models that often do not have developed models on how to address ESG issues. These may also be in sectors (e.g. technology) that are the focus of emerging ESG concerns. But, even given these caveats, the relatively early adoption of ESG policies can help mitigate risks. It is likely to be less painful for the company if ESG has been part of its culture in its early stages, rather than retrofitted under the pressure of investor, auditor or regulatory scrutiny.

"Addressing ESG issues may be difficult in some Venture Capital investments. But adoption of ESG policies can help mitigate risks."



04

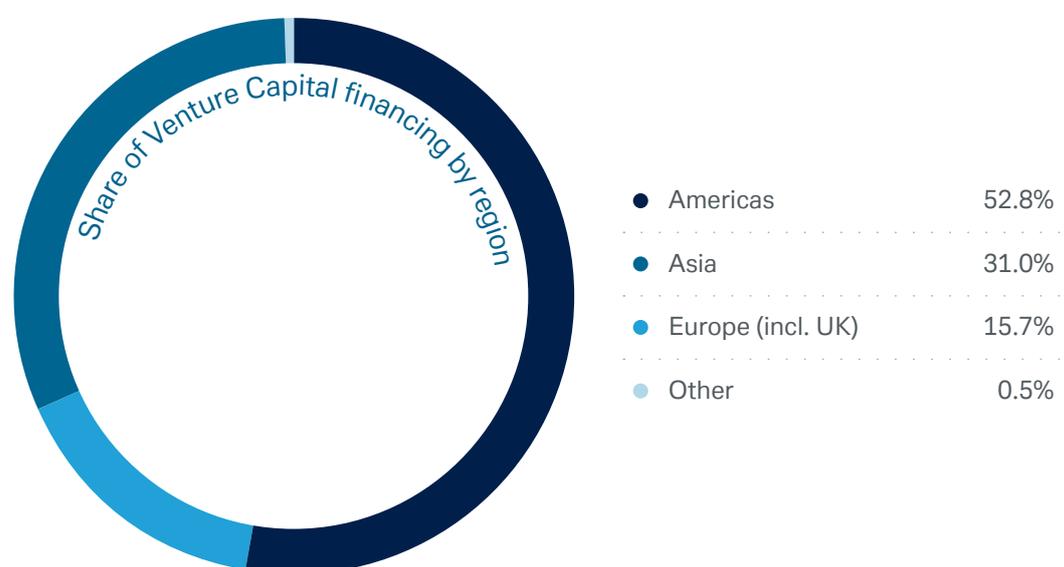
Venture Capital trends

Growth and the COVID-19 pandemic

Global Venture Capital investment increased at a 13.5% compound annual growth rate (CAGR) between 2015 and 2020, to reach a total of USD330.2bn in that year. The Americas has still the biggest market share, accounting for 52.8% of total deal value in 2020. Asia and Europe account for 31.0% or 15.7% of the global market, respectively (see Figure 3).

Figure 3: Regional breakdown of global venture capital investment in 2020

Source: Venture Pulse, Q1'21, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook. Data as of April 21, 2021.



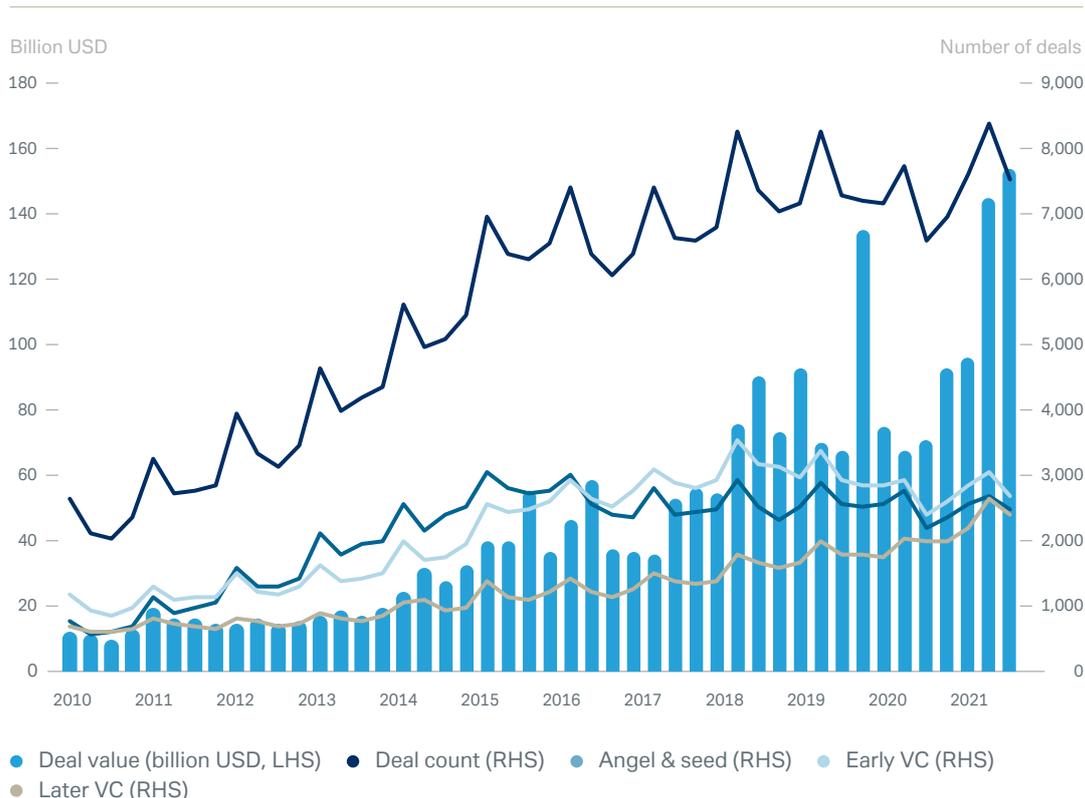
In 2020, coronavirus was highly disruptive to many sectors but also boosted technological transformation and innovation as the corporate world strived to capitalize on booming digitization trends and to rethink business models. This environment of rapid change led to a funding surge in numerous segments during the second half of 2020 as investors tried to engage with companies experiencing the most extensive acceleration in demand.

Global venture capital investment then reached unprecedented levels in 2021 with Q2 2021 with capital investment at USD157.1bn (see Figure 4). Europe (USD34bn), the United States (USD75bn) as well as the overall Americas region (USD84bn) have all hit new highs for VC financing volumes, although Asia (USD38bn) remained well below its Q3 2019 peak. It is worth mentioning that Europe has now seen four consecutive quarters of record VC investment and the sixth straight quarter of increases in Venture Capital financings. This impressive growth was mainly driven by a rising number of mature companies as well as existing “unicorns” (companies with a valuation over USD1bn) that demand substantial amounts, across various sectors/ industries. While UK deal volumes were slightly down from the record levels reached in Q1, Ireland and Germany have seen their strongest quarters in terms of VC investment ever.

It is striking that, over the last four quarters, global VC investment has been growing on YoY basis, despite lower deal counts. This may reflect a growing preference for proven business models and later-stage deals across most regions of the world, because during periods of high uncertainty, later-stage companies may be regarded as safer bets. The risk here is that continued falls in very early stage VC financing could have a longer-term adverse impact for the overall deal pipeline. Rivalry among investors to get a piece of the cake has also certainly fuelled concerns about high valuations in some sectors – but high post-IPO multiples for companies that eventually go to market are helping to back current price levels.

Figure 4: Global Venture Capital financing

Source: Venture Pulse, Q2'21, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook. Data as of July 21, 2021.

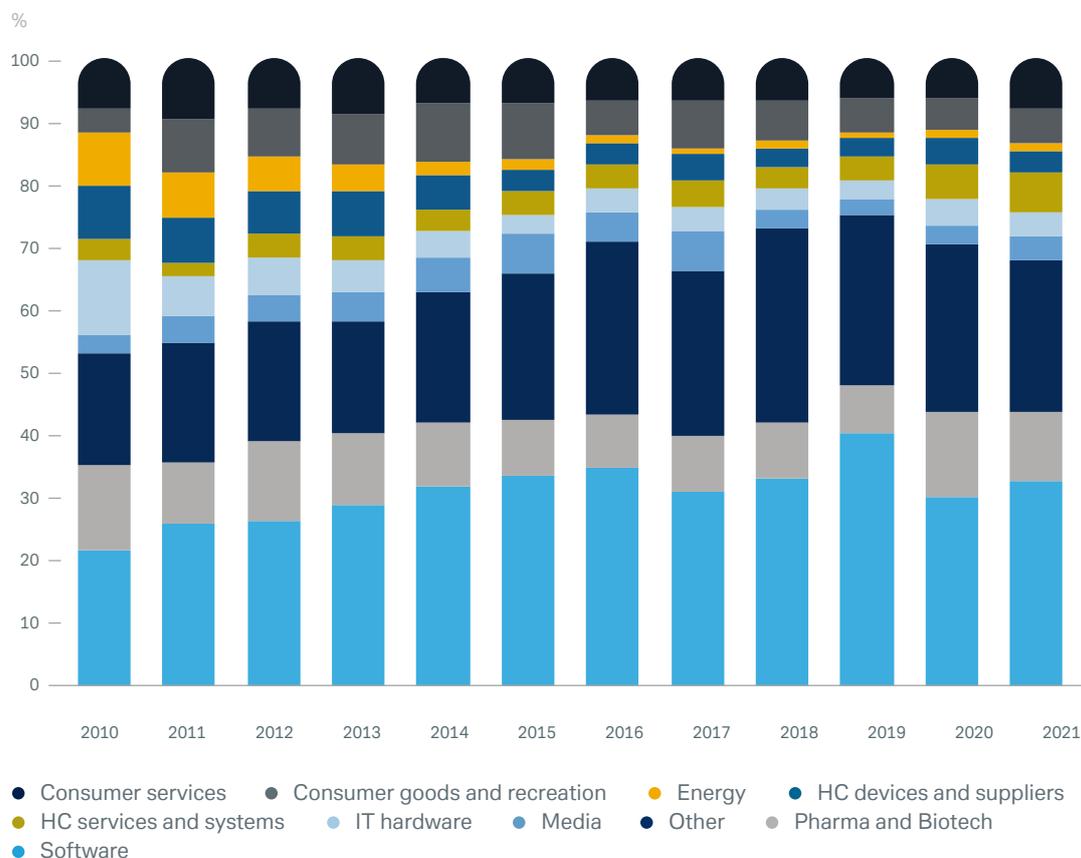


In H1 2021, most funds invested went into sectors boosted by the pandemic. Software and diverse consumer-centric digital solutions (e.g. gaming, fintech, edtech, logistics and food delivery as well as healthcare and biotech) were sought after. But this is not just a short-term response: Figure 5 looks at the sectoral breakdown of global Venture Capital financing since 2013 and shows that software, pharma & biotech and health services & systems have increased their share of total investment.

"Most funds in 2021 have gone into sectors boosted by the pandemic. But this is not just a short-term response."

Figure 5: Global financing trends to VC-backed companies by sector

Source: Venture Pulse, Q2'21, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook. Data as of July 21, 2021.



Investors have also continued to commit large amounts of funds to Venture Capital funds. USD 127.7bn was raised in 2020, with capital commitments then reaching USD103.7bn in H1 2021 (see Figure 6). If the pace of capital commitments continues at the current rate 2021 will probably see the first-ever USD200bn+ globally allocated to Venture Capital funds. The concentration of funds is also clearly rising (i.e. more capital allocated across fewer investment vehicles). In 2021 there has been a stronger focus on “USD1bn+ funds” with investors looking for fund managers with a proven track record of “best in class” returns. But there are still significant first-time fundraisings and an increasing number of vehicles are aiming at stakes in niche areas (often underserved segments) which might benefit radical innovation.

"The concentration of funds is rising: more capital is being allocated – but across fewer investment vehicles."

Figure 6: Global Venture Capital fund raising volumes

Source: Venture Pulse, Q2'21, Global Analysis of Venture Funding, KPMG Private Enterprise. Data provided by PitchBook. Data as of July 21, 2021.



Medium-term outlook

Over the medium term, the overall environment is likely to remain supportive for further growth of the Venture Capital market. Plenty of “dry powder” (the industry term for committed but as yet unallocated funds) exists in the market and competition for the top deals should support valuations. A continuing low interest rate environment in many parts of the world is also likely to maintain investor interest in Venture Capital.

Digitization trends as well as shifting consumption and investment habits may also help developing the Venture Capital market even further. Mutual funds and the banking industry are also making it easier for their clients to access the Venture Capital universe.

Looking beyond the COVID-19 pandemic, Venture Capital investments into many areas of the healthcare universe are likely to stay buoyant given the need to revamp many facets of the healthcare system and the opportunities for new technologies to be utilized or leveraged in this context (Healthcare is one of our long-term key investment themes). AI and robotics also seem likely to become core Venture Capital investment themes.

The shape of the Venture Capital industry may also change. Corporate Venture Capital investment also continues to gain steam with established companies on the lookout for innovative start-ups able to help them expanding their digital portfolio and improve the efficiency of their operations.

We may also see changes in the final stage of Venture Capital investing – when investors realize their gains by bringing companies to public markets.

SPACs (Special Purpose Acquisition Companies) have been increasingly evident in recent quarters, and represent an alternative to the traditional initial public offering (IPO) way for a firm of exiting private ownership and “going public”. (Investors commit money to the SPAC on a “blank cheque” basis and then the SPAC itself goes public, rather than the firm it eventually purchases). There are a number of legitimate concerns with the SPAC approach, for example around whether it will encourage firms to go public before they have achieved the necessary maturity. The performance of announced SPAC mergers over the next few quarters may determine whether they turn out to be a longer-term trend or not.

IMARC (a leading market research company) forecasts global Venture Capital investment to grow at a CAGR of around 16% over 2021-2026: if achieved, this would represent even faster growth than over the last five years.

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Portfolios and Venture Capital

Performance vs. public markets

Venture Capital is still under-represented in many private investor portfolios, despite long-standing interest in it by institutional investors and UHNWI (ultra-high net worth investors).

Institutional investors have had good reasons to invest via Venture Capital. Research undertaken by Cambridge Associates (“The 15% Frontier”, 2016) suggests that allocations to private investments might represent a key determinant of long-term outperformance. It shows that 242 endowments and foundations that allotted at least 15% of their capital to private investments achieved a median annualized return (2005-2015) of +7.6% outperforming competitors with a max. 5% allocation to private investments by 1.5%.

Cambridge Associates data also reveals that in the U.S. Venture Capital consistently outperformed broader equity market indices over the 3-, 5-, 10-, 15-, and 20-year periods with respective data from recent vintage years backing this picture. As Figure 7 also shows, co-investing alongside top the top two quartiles (i.e. top 50%) of Venture Capital firms has resulted in average annualized returns which are multiple times higher than the public market equivalents over a 20-year horizon (CA Global Venture Capital top two quartiles: +76.1% / CA Global Venture Capital Index: +13.1% / S&P 500: +5.9% / Russell 2000: +7.8%).

Some of these excess returns can of course be explained by the so-called “illiquidity premium” – the need for higher returns to compensate for less liquid investments – but Venture Capital does also seem to be an attractive way of tapping into technological progress and entrepreneurial talent/spirit. Note, however, the need to have a range of Venture Capital investments to guard against individual firm failures, as discussed below.

Figure 7: Venture Capital performance vs. public markets

* Twenty-year CA Global Venture Capital (Top Two Quartiles) return capped for scaling purposes.
Sources: Cambridge Associates LLC “Venture Capital positively disrupts intergenerational investing”.
Data as of June 30, 2019.



● CA Global Venture Capital (top two quartiles) ● CA Global Venture Capital Index ● S&P 500
● Russel 2000

Notes: Pooled private investment periodic returns are net of fees, expenses, and carried interest. Multi-year annualized returns are generated for time periods ended June 30, 2019.

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Possible diversification benefits

Besides offering exposure to evolving industries or emerging transformative technologies, Venture Capital investing can also be seen as offering a natural hedge against risks linked to mature companies/business models which may be vulnerable to disruption.

Historical data indicates that Venture Capital returns have been only loosely correlated with returns of other asset classes (see Figure 8) with some research even pointing to an inverse relationship of overall Private Equity and global equity markets.

In a diversification context, it is also worth mentioning that public market equities are no longer as diverse as they once were. The number of companies listed on U.S. stock exchanges has more than halved from its peak in 1996 and the S&P 500 accounts for ~80% of U.S. equity market value. Moreover, 25-30% of the S&P 500's total market cap is attributable to the top 10 stocks by index weight, with a strong tilt towards Information Technology (which has a 28% weighting in the overall index).

By contrast, the number of private companies has been steadily on the rise during the past decades (comparing 1990-2000 and 2010-2020) but this has not stopped a fall in the number of IPOs. High IPO costs, public markets' rather short-term nature/focus and the increasing availability of private capital are cited as the key drivers for more and more early stage firms securing funding from private investors, rather than going public. There are still options to engage in small-cap stocks in public markets, but the range of opportunities has shrunk.

It is therefore possible to argue that the private investment market today offers more diversity in terms of industries, technologies and business models than the public market does. Investment portfolios comprising solely of publicly-traded assets will also be excluded from the potential value creation happening between early stages of a company life cycle and an IPO – if the company goes public at all.

"Public equity markets are no longer as diverse as they were. The private investment market may offer more diversity in terms of industries, technology and business models."

Figure 8: Correlation of Venture Capital returns with other asset classes'

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

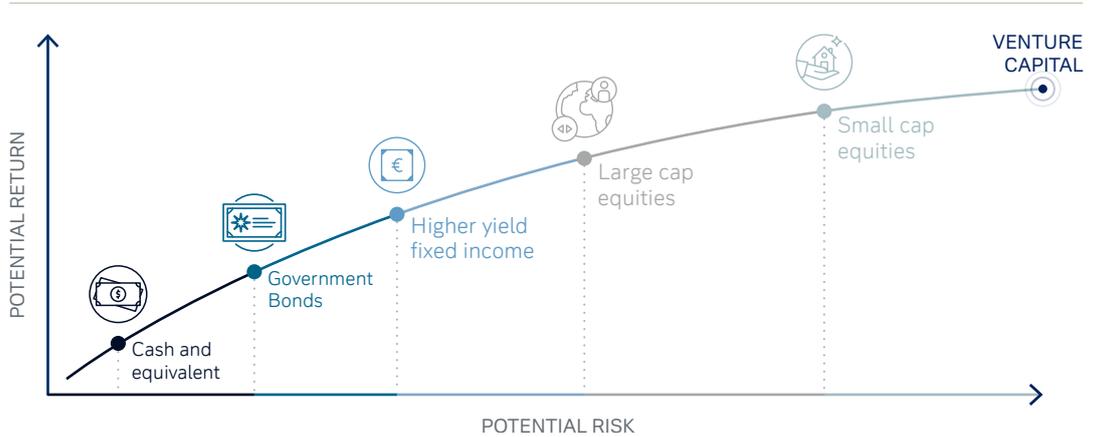
Note: Matrix displays correlation between different asset classes with a value of +1 indicating perfect positive correlation (i.e. asset classes move by the same direction and amount), while -1 implies perfect negative correlation. Private equity asset class excludes Venture Capital. Large-cap equity proxy is Lipper aggregated US large-cap equity fund performance. High yield bond proxy is Lipper aggregated high yield bond fund performance. Aggregated core bond proxy is Lipper aggregated core bond fund performance. Returns for period dating 1990-2014, as of Dec. 31, 2015. Sample size for each asset listed is as follows: Venture Capital: 771; private equity: 932; real estate: 309; large-cap equity: 674; high yield bonds: 421; and aggregate core bond: 385. Past performance is not a guarantee of future results.



Investors may consider adding some Venture Capital exposure in accordance with their overall investment objectives and constraints to their investment portfolio. But it is important to be aware of the notably higher degree of risk which is associated with Venture Capital when compared to traditional asset classes. Figure 9 illustrates the risk/return profiles of Venture Capital and some major traditional asset classes.

Figure 9: Risk and return profiles of different asset classes

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



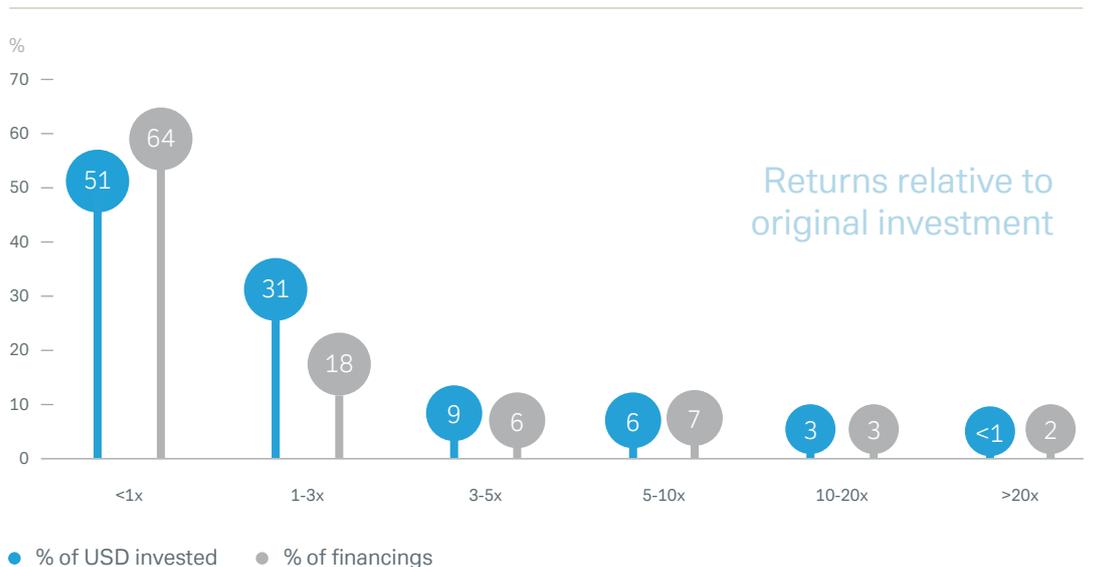
Note: The chart is for illustrative purposes only.

We would like to outline two major risks in Venture Capital investing. First, this is a long-term commitment of Capital (typically locking up any investment for ~10 years).

Second, there are substantial default or failure rates for early-stage companies. Over 10-year time horizon some portfolio companies may prosper, but the majority will not. A Correlation Ventures study which examined the outcome of over 27,000 investments (from 2009-2018) showed that 64% of Venture Capital deals did not even return the original principal (see Figure 10). As a rule thumb, Venture Capitalists tend to assume that two-thirds of the start-up universe will simply not return the initial investment or stagnate somewhere in the VC process, not being able to secure follow-up funding or to find an appropriate exit, respectively. Returns from Venture Capital investing will depend on the strong performance by the remaining third of companies that do well.

Figure 10: Distribution of Venture Capital returns vs. original investment

Source: Correlation Ventures "Venture Capital – No, We're Not Normal". Data as of September 11, 2019.



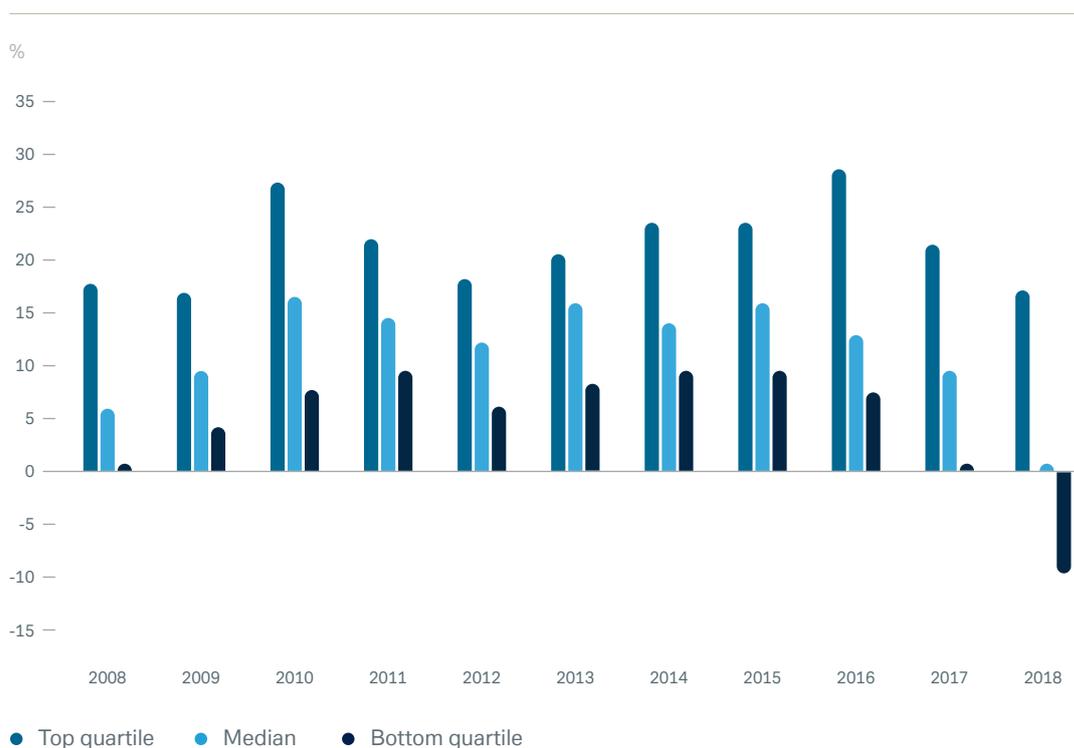
Notes: Right-skewed distribution of U.S. venture returns. Percentage of dollars invested and percentage of financings in companies going out of business, acquired or IPO, 2009-2018 (n=USD20.5bn; n=27,878 financings)

This implies that Venture Capital portfolios will need to include a wide range of investments. But it is not solely the number of eggs in the basket that is important. Diversification plays probably an even more crucial role in limiting the impact of investments that do not work, reducing overall volatility and risk, and improving the aggregate outcome. Investing into a broad range of industries across different stages (e.g., seed, early, expansion), regions and vintages can make an important contribution in this regard.

As well as this issue of diversification, it is worth returning to the point that top quartile funds consistently generate a disproportionate share of aggregate returns (see Figure 11). Unlike in most traditional (publicly-traded) asset classes, returns of VC investments tend to be very skewed. This makes it important to access the best-in-class VC investors.

Figure 11: Venture Capital IRRs by quartile

Sources: Cambridge Associates LLC "Q2 2020 U.S. Venture Capital – index and selected benchmark statistics". Data as of June 30, 2020.



Notes: Based on data compiled from 1,529 U.S. Venture Capital funds, including fully liquidated partnerships, formed between 1995 and 2018. Internal rates of returns are net of fees, expenses and carried interest. CA research shows that most funds take at least six years to settle into their final quartile ranking, and previous to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful.

06

Conclusion

Venture Capital has been an exciting investment area over the last few years and is likely to remain so, particularly given continued financial repression in the form of low interest rates. 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. We attempt to summarise the main positives and negatives of Venture Capital investing in the table below (see Figure 12).

Figure 12: Venture Capital investment: positives and negatives

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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Glossary

American Research and Development Corporation (ARDC) was a venture capital and private equity firm founded in 1946 by the “father of venture capitalism” (Georges Doriot).

Artificial intelligence (AI) refers to the intelligence demonstrated by machines.

CA Global Venture Capital Index Cambridge Associates derives its Global ex U.S. Developed Markets Private Equity and Venture Capital Index from the financial information contained in its proprietary database of global ex U.S. private equity and venture capital funds. As of June 30, 2019, the database comprised 839 global ex U.S. developed markets buyouts, growth equity, and venture capital funds formed from 1986 to 2019 with a value of about USD266 billion. The funds in this index invest primarily in developed markets in Australia, Canada, Israel, Japan, New Zealand, Singapore, and Western Europe.

CAGR stands for compound annual growth rate.

Correlation is a statistical measure of how two securities (or other variables) move in relation to each other.

Diversification refers to the dispersal of investments across asset types, geographies and so on with the aim of reducing risk or boosting risk-adjusted returns.

ESG stands for Environment, Social, Governance, and is the acronym most commonly used for sustainable investments. They measure the sustainability and societal impact of an investment in a company or business.

High yield (HY) bonds are higher-yielding bonds with a lower credit rating than investment-grade corporate bonds, Treasury bonds and municipal bonds.

The **illiquidity premium** is the excess return on an illiquid investment, to compensate for illiquidity.

An **initial public offering (IPO)** is a stock issuance by offering shares of a private company to the public.

A hybrid of debt and equity financing is called **mezzanine financing**.

A **mutual fund** pools money from many investors to purchase securities and is a professionally managed investment fund.

Mergers and acquisitions (M&A) are two key methods of corporate consolidation: A merger is a combination of two companies to form a new company, while an acquisition is the purchase of one company by another in which no new company is formed.

Private equity refers to funds or individuals investing directly in private, non-listed companies.

The **Russell 2000 Index** is a U.S. Small Cap Index that includes around 2,000 companies, the bottom two-thirds of the Russell 3000 Index.

A **strategic asset allocation (SAA)** process involves setting preferred allocations for asset classes on a medium to long-term horizon.

The earliest stage of a capital-raising process of a Start-up is called **seed financing**.

Special Purpose Acquisition Companies (SPACs) is a shell company with no commercial operations listed on the stock exchange with the aim to raise capital through an IPO or by acquiring a private company.

A **Start-up** is a project or company that is carried out by an entrepreneur to scale a business model through seeking, developing and validating.

The **S&P 500 Index** includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

Glossary

Ultra-high-net-worth individuals (UHNWI) refer to very wealthy clients (sometimes having a net worth of at least USD30 million).

Unicorn is a term used in the venture capital industry to describe a privately held start-up company with a value of over USD1 billion.

Venture capital (VC) is a type of private equity financing, typically to small, early-stage, emerging firms.

Volatility is the degree of variation of a trading-price series over time.

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