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Previously Investec
Asset Management

Is tech partying like it's 1999?

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Analyst

The fast view

- A few US technology names have dominated equity market gains this year in a way that has been compared to the tech bubble at the turn of the century.
- Some see this as a warning that market conditions have become detached from fundamentals and a premonition of more challenging times ahead.
- Our 4Factor framework gives us the confidence to argue that fundamental trends are still supportive, and – in contrast to 1999 – many of these companies are high returning, cash generative businesses with robust balance sheets.
- Growth prospects and historically low discount rates should be considered when assessing whether valuations are attractive.
- The global pandemic has only accelerated secular trends that underpin future growth potential, be it remote working, online shopping and entertainment, or cloud computing.
- We address the risks to the continued dominance of these stocks and ask whether they remain attractive investments.

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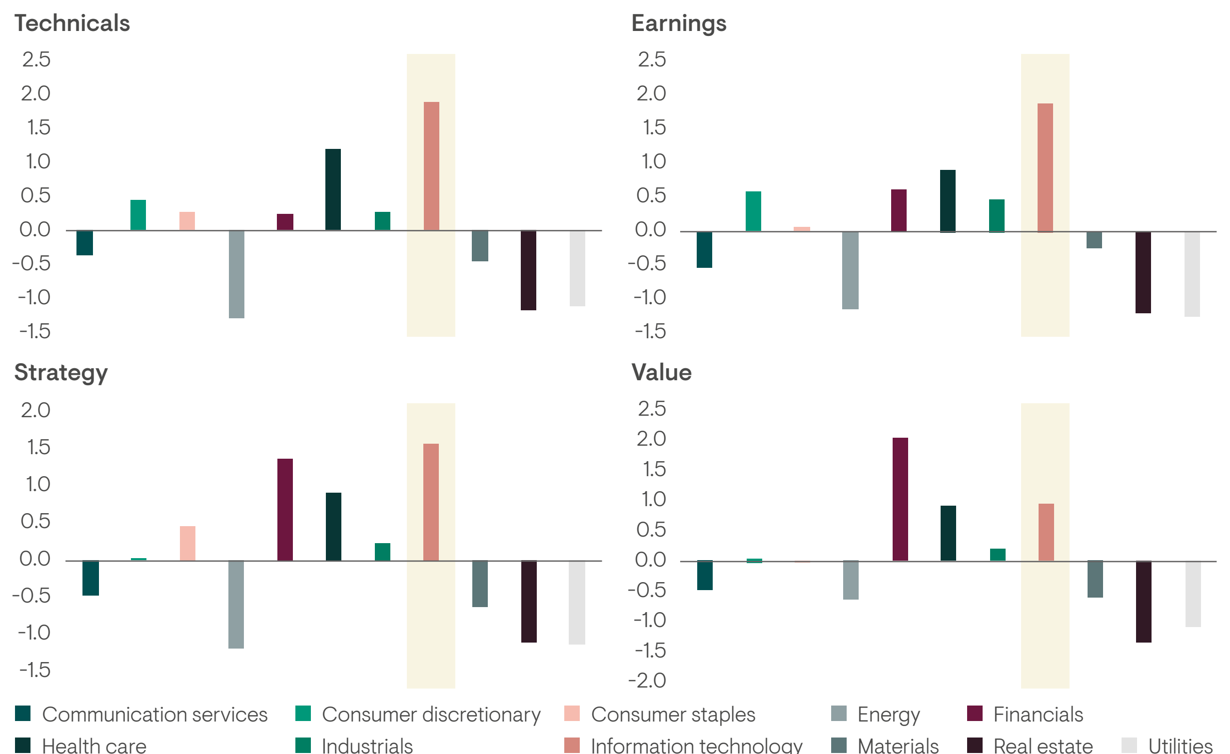
Are we in a dot-com bubble?

A handful of mega cap technology stocks have dominated equity markets in 2020. This has caught the attention of the media where pundits are quick to highlight the extreme nature of the moves and draw parallels with the dot-com tech bubble. This paper will address those comparisons by looking past the headlines, and through the 4Factor lens, to debunk many of those assertions and refocus on the fundamentals. We then assess the risks and opportunities for investors. Analysing the quality of business models, valuation levels and operational momentum – as our 4Factor analysis allows us to do – gives us the confidence to invest in those stocks that are beneficiaries of strong secular trends. The global pandemic has only served to accelerate some of the trends that will further widen the gap between the digital winners and analog losers.

Putting a 4Factor lens on tech

As has been the case for several years, technology continues to be the strongest 4Factor sector steer, reflecting the positive momentum and fundamental attractiveness of technology mega-caps in the index. The two momentum factors are the strongest for the sector relative to the universe, as operational outperformance ('Earnings') has accelerated through the COVID-19 pandemic, which is reflected in stock price performance ('Technicals'). But what we believe is under-appreciated are the two fundamental factors. While valuations appear relatively high, technology is by no means the most expensive sector. The 'Value' factor is positive on a market-cap weighted basis, reflecting that reasonable valuations can be found among some of the mega-caps. More importantly, this is underpinned by a best-in-class 'Strategy' factor score that reflects material free cashflow generation, improving relative returns, and fortress-like balance sheets. Price rallies may be reminiscent of the dot-com bubble at the turn of the century, but other aspects paint a very different – and more reassuring – picture.

Figure 1: Technology scores highly across the factors



Source: Ninety One, 30 September 2020. Data shows the universe on a market-cap weighted basis.

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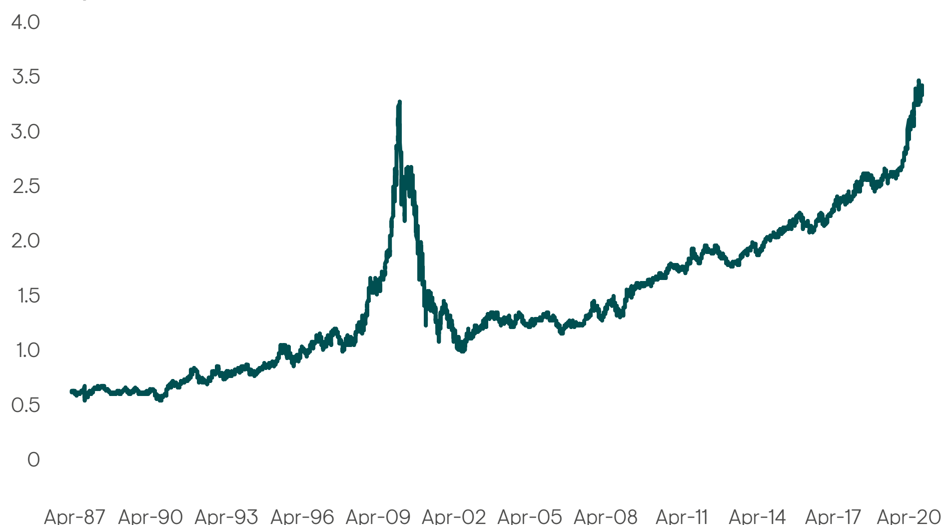
'Technicals': The parallels and differences to the dot-com bubble

> "The stocks of Apple, Amazon, Alphabet, Microsoft and Facebook, the five largest publicly traded companies in America ... now constitute 20 percent of the stock market's total worth, a level not seen from a single industry in at least 70 years."
>
> **New York Times, 19 August 2020.**

The media is quick to call out extremes in indices (Figure 2) as a signal that we are in a bubble in tech. The problem with this simple analysis is that it focuses on nominal price levels and does not consider the underlying earnings power ('Earnings') nor the fundamentals ('Strategy', 'Value') of these companies. While it is true that these five companies contribute a record in terms of market capitalisation, they also constitute nearly a fifth of the free cashflow to be generated in 2020 for the S&P500[1]. The fundamentals, therefore, are currently supporting valuations. Moreover, research from Arizona State University has found that since 1926 the best-performing 4% of listed companies have driven the net gain of the entire US stock market, suggesting this situation is by no means unusual[2].

Figure 2: Are we in bubble territory?

Nasdaq 100 relative to S&P 500



Source: FactSet, 30 September 2020.

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1. Source: Ninety One, free cashflow calculation using FactSet data.
2. Source: Hendrik Bessembinder, 'Do stocks outperform treasury bills?', Journal of Financial Economics, May 2018.

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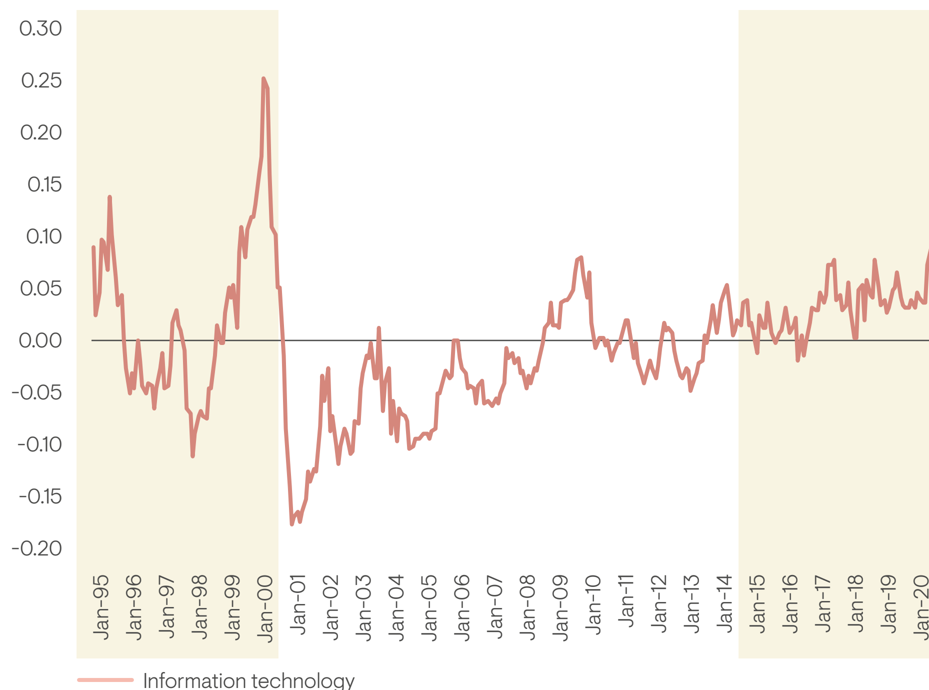
There are **some** parallels to the dot-com bubble (the material outperformance of technology stocks; increased valuation multiples relative to other sectors; elevated retail participation), but there are also several aspects that are notably different (more moderate rate of increase in stock prices, much stronger company fundamentals; less extreme valuations relative to the dot-com bubble; a more accommodative interest rate environment). In particular, lower long-term interest rates mean that future cashflows when discounted back to the present day have a much higher present value, boosting the net present value of such companies. Today's exceptionally low rates are a far cry from 2000 when rates were higher and rising.

Moreover, the recent increase in retail participation[3], although it has exacerbated the pre-existing price momentum, is arguably highlighting the fundamental appeal of these companies and their relative operational outperformance compared with old economy business models.

The 4Factor 'Technicals' score for the technology sector is one of the strongest factors across the global universe, which is evidence of strong price outperformance. The extended nature of the price rally could lead to short-term reversals, but without any changes to the risk factors discussed later in this viewpoint, we would not expect the long-term trend to change.

Figure 3: Technology ranks most highly on the 'Technicals' factor



Source: Ninety One, 30 September 2020. Data shows top quartile steers against an equally weighted universe.

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3. Source: Wolfe, 'Retail investor behaviour and participation alpha,' 23 July, 2020.

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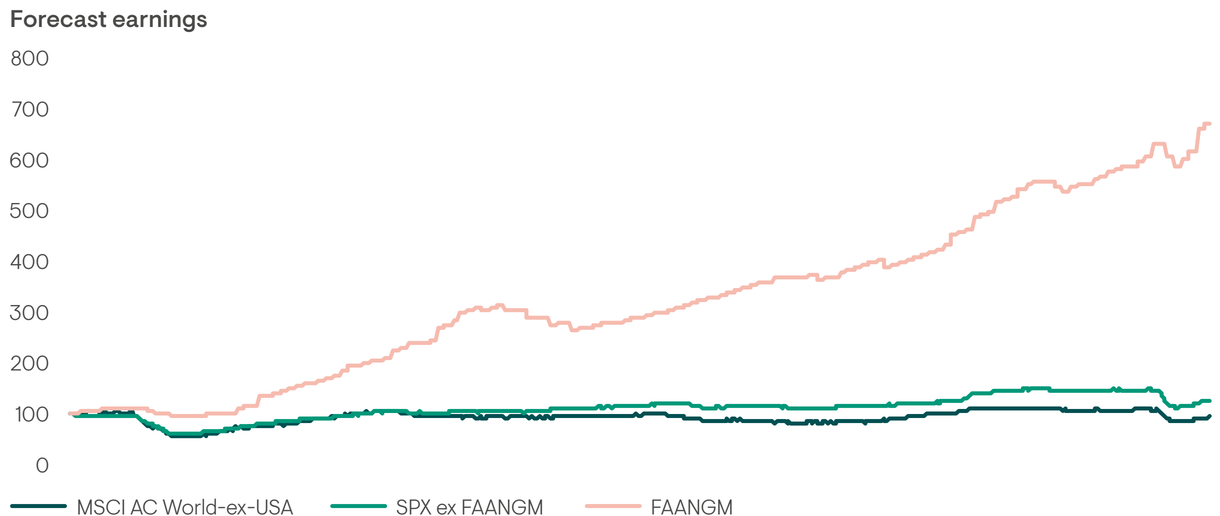
'Earnings': Acceleration in pre-existing structural trends

> "Recent months have seen tech shares hit record highs again, and many loss-making companies have attracted valuations that some view queasily."
>
> **The Telegraph, 10 March 2020.**

While index price charts are often used as evidence of a high-water mark in the sector's outperformance, this overlooks any difference that underlies those returns and the earnings power of the mega-caps that have been driving technology's performance. Since the global financial crisis, we have seen material earnings growth from Big Tech as digitisation has permeated across multiple industries, shifting profit pools, and allowing for these technology companies to take share from offline companies (Figure 4).

Figure 4: Earnings growth for FAAANM stocks outpaces peers in and outside the US



Source: MSCI, IBES/ DataStream, NBER, Minack Advisors, "Thoughts on the Equity Correction", 23 September 2020.
FAAANM= Facebook, Alphabet, Apple, Amazon, Netflix and Microsoft.

So, while stock price performance has been stellar, what is underappreciated is the degree to which this is a function of earnings growth, which account for half of the returns. This is in contrast to the dot-com bubble (Figure 5) where earnings growth was a minor factor driving the returns of all technology companies.

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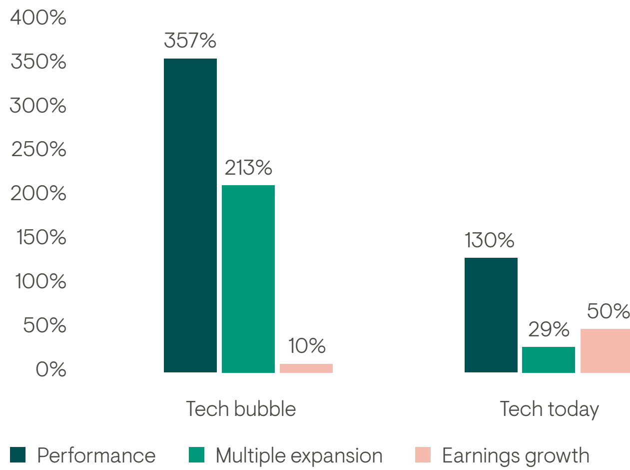
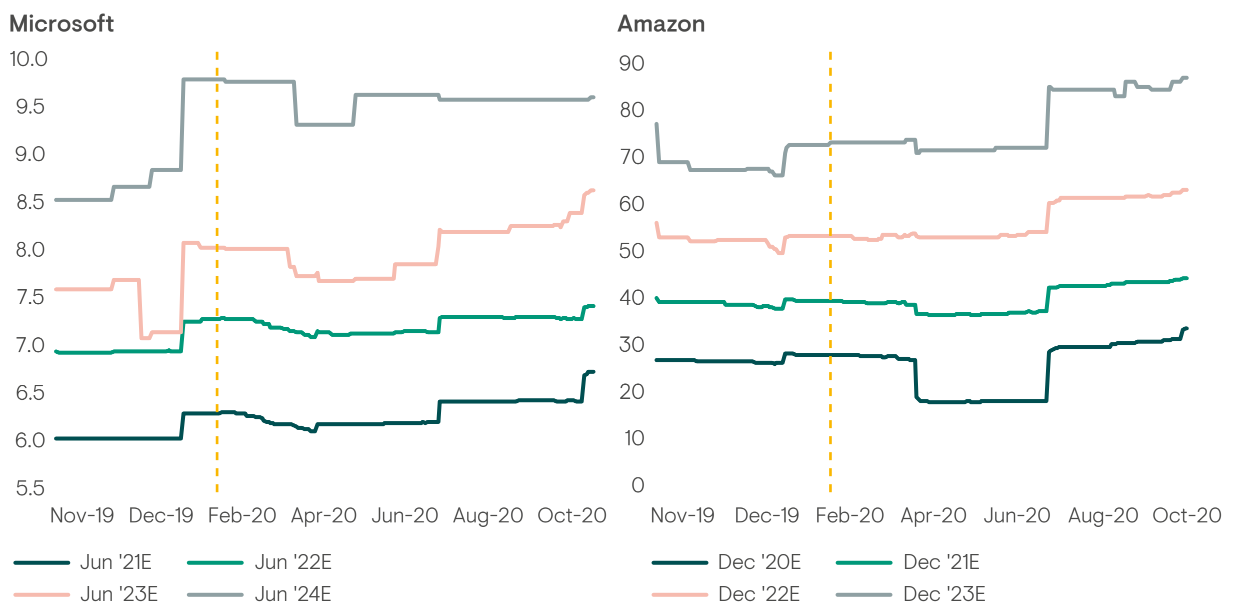
Figure 5: Relative drivers of tech performance



Source: FactSet, CRSP, Bernstein analysis, "Looking back at the Nifty Fifty... What does it tell us about the tech sector today?", 5 October 2020.
Tech bubble peak- March 2000. Tech today- September 2020.

Such earnings growth has been supported by the COVID-19 pandemic, which has accelerated existing structural trends across areas such as online commerce, digital payments, digital advertising and cloud adoption. Some companies that are benefiting from these trends now have earnings expectations (the 'COVID winners') above pre-pandemic levels, including both Amazon and Microsoft (Figure 6).

Figure 6: Microsoft and Amazon earnings revisions emerge stronger post COVID



Source: FactSet, 31 October 2020.

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However, not all behavioural changes are made equal, and there is still valid debate on the degree to which these changes persist or revert to pre-pandemic norms, and how quickly the 'new normal' becomes the status quo. This makes stock selection critical. In addition, while the consensus recognises an acceleration in these trends, it is less recognised that the rate of penetration in several areas is still remarkably low. This provides ample room to generate the growth rates expected to justify valuations.

Examples include:

- **Online commerce**, where a sustained acceleration appears likely, as new behaviour has extended to new digital buyers (the older generation) and underpenetrated categories (grocery). This is against a backdrop of just 8% online shopping penetration outside of China[4].
- **Digital payments** are expected to ride on the coat tails of e-commerce growth while also benefiting from accelerated cash displacement offline, driven by COVID-related hygiene concerns. This should boost card penetration levels (be it physical or virtual) from today's 13% of total global payment volume[5].
- **Cloud adoption**, where the benefits of remote activity have only become more apparent in a pandemic world. Migrating data and processes to the cloud can lower fixed costs for businesses and allow them to create a simpler and more flexible IT environment without the burden of legacy systems. The growth potential remains material when considering that only 6% of total global IT spending was directed to cloud services in 2019[6].

'Strategy': Why has technology dominated market performance?

> "The valuation of the Big Four technology companies reaches 24% of US economy amid growing concerns about their market dominance."
>
> **Forbes, 18 April 2020.**

This observation is like comparing apples with oranges. Market cap largely reflects the value of future expected free cashflows a firm will generate discounted back to today, whereas GDP is a static value for all goods and services generated in a given year. In addition, these companies' proportional share of corporate profits in the US has never been higher and could grow even further with the structural tailwinds from the pandemic, such as the digitisation of industries outside of the technology sector. We expect this will continue to accelerate the divergence in returns of technology companies versus the broader market, underpinned by fundamental changes in the economy enabled by US technology (Figure 7).

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4. Source: Bernstein, E-commerce outlook, "Just how permanent is the pull forward?", 15 September 2020.
5. Source: Mastercard investor day, September 2019. Data as at end of 2018.
6. Source: Gartner, July 2020.

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Figure 7: Divergence in returns between US tech and non-tech began before the pandemic

Source: HOLT "Global Viewpoint", 3 September 2020. CFROI = cash flow return on investment.

Such changes in the economy has allowed them, often from natural monopoly positions, to generate outsized returns and growth. This has been reinforced by a positive evolution in business models where software, intellectual property (IP) and increased outsourcing has enabled them to build material scale at low capital intensity. In some cases, against conventional thinking, these companies have derived increasing returns to scale, as they benefitted from network effects. This has materialised in their higher relative profitability, which has persisted (Figure 8) and we expect this to continue.

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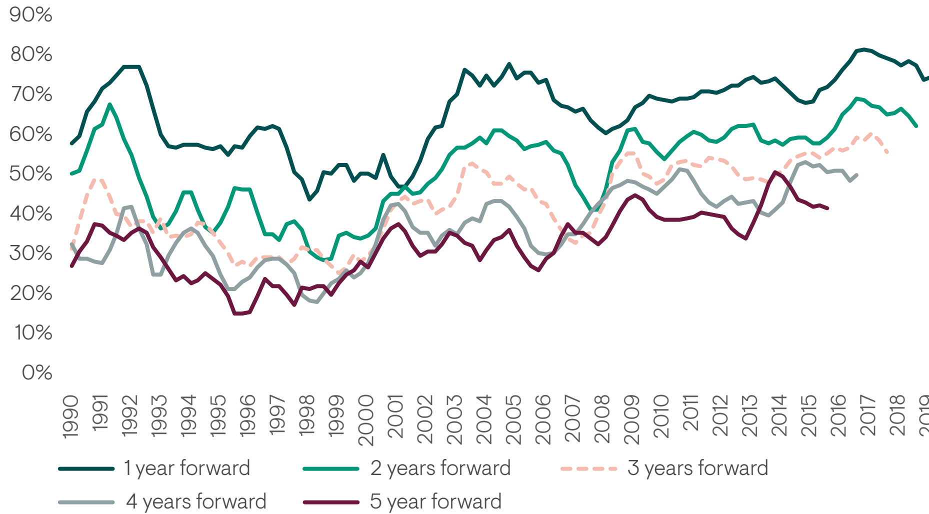
Figure 8: High profitability companies are sustaining these levels for longer

Percentage of stocks in the high return-on-equity (ROE) decile at time t which are in either deciles 1/2 one to five years later

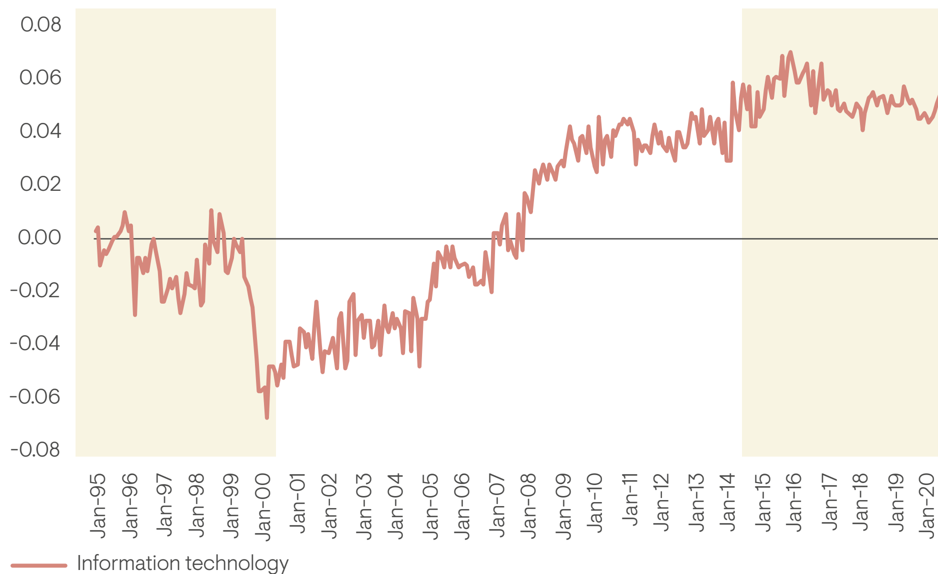


In each quarter since 1990, we split the stocks in the MSCI US index into groups by ROE decile (within sectors) and calculated the percentage of stocks in the High ROE decile at time t that were in the highest two deciles over the next one to five year period. A four quarter smoothing is applied to the quarterly percentages.

Source: FactSet, Bernstein analysis, "Portfolio Strategy: Why US growth can continue to shine", 1 September 2020.

This improvement in companies' business and financial models is apparent in the 4Factor 'Strategy' score progression since the dot-com bubble (Figure 9), when it was significantly negative. Compared to 25 years ago, the 'Strategy' score for technology is much stronger and positive, underpinned by improving returns, free cashflow generation and higher capital returns.

Figure 9: The 4Factor 'Strategy' score now versus the dot.com bubble



Source: Ninety One, 30 September 2020. Data shows top quartile steers against an equally weighted universe.

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These positive fundamentals are further supported by a comparison of key financial metrics of US mega caps technology stocks (Apple, Microsoft, Amazon, Alphabet, Facebook) against the rest of US market (Figure 10). As we will show, several of these metrics are important inputs into the 'Value' Factor.

Figure 10: The top five companies generate an estimated US$200 billion in free cashflow in 2020

Metric	Top 5	Rest of S&P 500
Market capitalisation	6,596,000	19,256,774
FCF, 2020	205,695	735,664
Net cash	299,342	-4,304,586
ROIC*	19%	9%
20/21 Sales CAGR*	14%	2%
20/21 EPS CAGR*	15%	4%

* Median values. ROIC = return on invested capital.
CAGR = compound annual growth rate.
Source: FactSet, 30 September 2020.

'Value': Is this all baked into the price?

> "Measures of equity valuations are now at 2000 dot-com bubble levels and appear to be pricing in an ideal scenario."
>
> **Seeking Alpha, 18 September 2020.**

It is fair to question whether all this good news is already discounted in current valuations. This requires taking a fundamental perspective, considering both conventional multiples and cashflow valuation methods. Conventional price-based multiples show that historical valuations are high, but far from dot-com peak levels. This is apparent when we consider the price-earnings (PE) multiple of the technology sector based on the following year's earnings relative to the broader market, since the beginning of the century (Figure 11). The sector is currently only one standard deviation above the average over that period, and only a little above average relative to the rest of the market.

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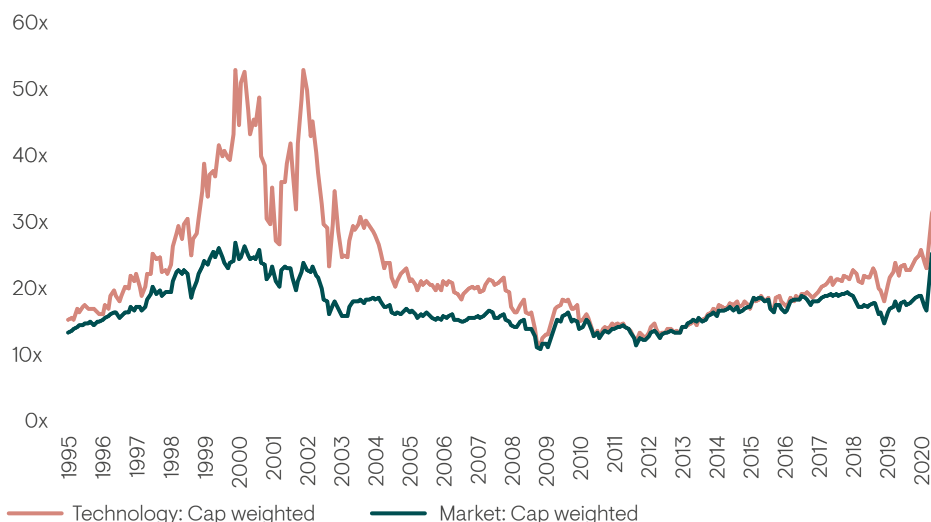
Figure 11: PE multiple of the technology sector relative to the market



Source: Bernstein; "How does Tech compare with the 2000 bubble? Should investors be worried?", 14 September 2020.

Consideration of valuation inputs is often overlooked and is instructive when comparing back to the dot-com bubble. Just as a discounted cashflow (DCF) valuation can be derived as a function of future cashflows, growth and discount rates (Figure 12), a PE valuation can be derived as a function of returns, growth and the cost of equity (COE).

Figure 12: Cashflow-based valuation calculation

$$DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots + \frac{CF_n}{(1+r)^n}$$

Where:

CF = The cash flow for the given year. CF_1 is for year one, CF_2 is for year two, CF_n is for additional years

r = the discount rate

Source: Ninety One.

All things being equal, higher returns, stronger growth and lower discount rates should therefore translate into higher PE ratios and higher net present values. This is exactly what we are seeing today with US technology exhibiting structurally higher returns, stronger growth prospects and certainly lower discount rates. The US 10-year treasury rate (a proxy for the risk-free rate) was 6% at the turn of the century compared to below 1% today. The impact of lower discount rates has an outsized impact on assets with long duration cashflows, which applies to technology stocks where strong free cashflow is expected from compelling future growth prospects. Looking through the 4Factor lens, the 'Value' Factor score is nowhere near as extreme as at the dot-com peak (Figure 13).

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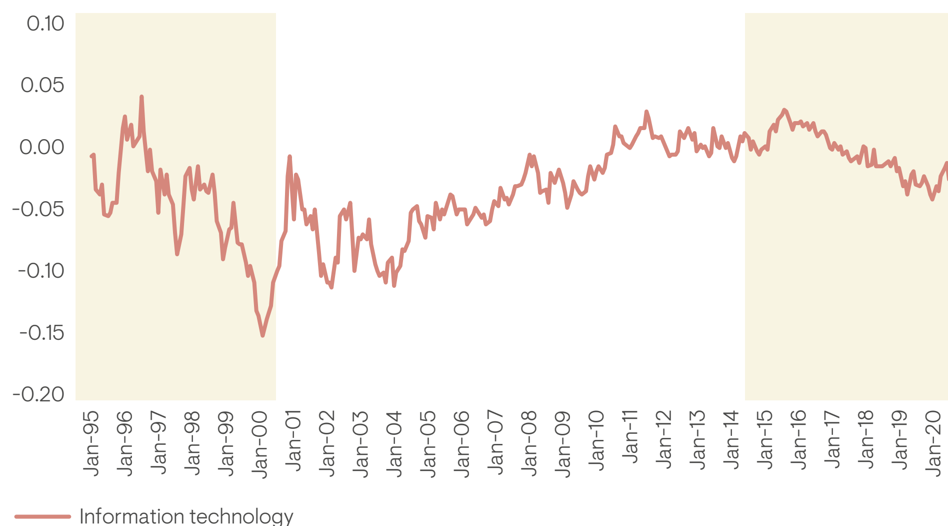
Figure 13: Technology's 'Value' score is neutral compared to extremely negative in the dot-com peak



Source: Ninety One, 30 September 2020. Data shows top quartile steers against an equally weighted universe.

Where are the risks to the factors?

- **'Technicals' – Price reversal:** Given the extended outperformance, crowding, narrow market breadth and higher levels of retail participation, price reversal risks are elevated. However, we believe this is likely to be only short-term phenomena while fundamentals remain supportive.
- **'Earnings' – Rotation:** A long-term shift away from growth stocks would necessitate a change in relative operational momentum, which is likely to require an improvement in broad economic growth prospects. Given the acceleration in structural trends that we have highlighted, we believe that the long-term underlying earnings power of technology stocks has materially improved relative to the broader market, but this does not mean that there will not be periods when sentiment moves against them.
- **'Value' – Rising interest rates:** Conventional valuations are relatively high, but not at dot-com extremes, while the lower interest rate regime and evidence of companies' strong long-term growth prospects support current multiples. Nevertheless, with the discount rate a key input, rising interest rates represent a valuation risk. The low interest rate environment, however, looks set to continue for the foreseeable future, endorsed by the US Federal Reserve's recent announcement of a more flexible inflation targeting framework.
- **'Strategy' – Regulation:** Unencumbered, the competitive position of these businesses is difficult to challenge and so the primary business risk is from exogenous factors, primarily regulation. The shift to a digital economy has occurred in a light-touch regulatory environment, which means that the laws applying to the tangible world have yet to be transcribed for the intangible economy. However, market dominance is attracting the attention of regulators, with one example being the antitrust lawsuit filed against Google. Under current US anti-trust law, the burden of proof rests narrowly on the issue of consumer welfare, so proving harm is difficult when the services are 'free' to the consumer or price leading. While we acknowledge the potential for unfavourable headlines, our base case is that anti-trust regulation will not have a materially detrimental effect on business models, but we need to monitor the potential for any changes to legislation.

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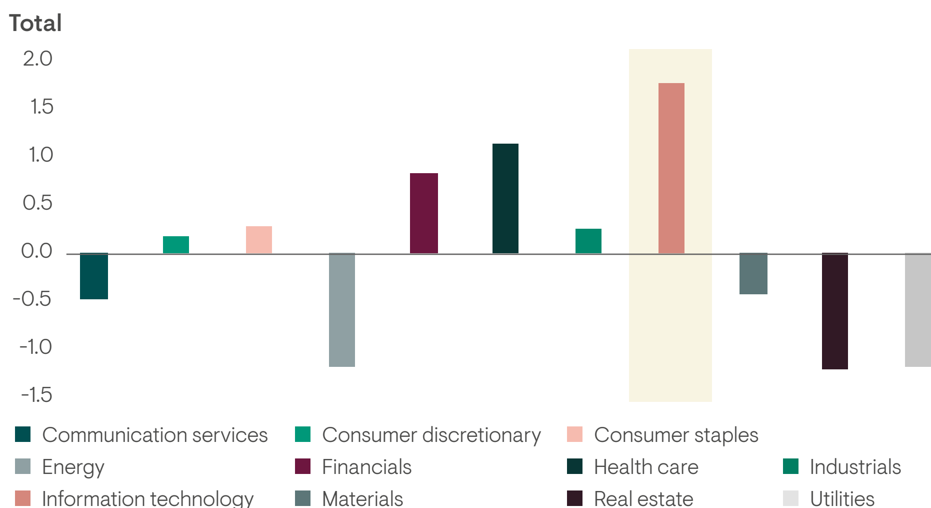
Other regulatory risks include personal data privacy, offensive content moderation and low tax. We believe that most of these issues will be addressed by incremental regulation, but with any new laws likely to benefit incumbents by raising the cost to compete. This has certainly been the case, for example, with the recent GDPR data privacy regulations in Europe. These risks are discussed in greater detail in a previous viewpoint[7].

The dot-com bubble was based on eyeballs; tech outperformance today is based on fundamentals

Technology stock promoters during the dot-com bubble were forced to adopt ever more outlandish methodologies to justify stock valuations, including, for example, the number of 'eyeballs' a website attracted. Today, the technology sector's significant outperformance has been accompanied by rising valuations, but this remains grounded in fundamentals. We believe:

- Existing secular tailwinds have been accelerated by COVID, driving lasting behavioural changes which favour companies that were already showing improving structural competitiveness.
- Technology is no longer just a sector, but a broader enabler that permeates across other industries. The most compelling opportunities relate to the continued digitisation of these industries.
- Record low interest rates underpin the valuations of these stocks given the long-dated nature of cashflows tied to future growth prospects.

Figure 14: Technology remains the strongest 4Factor steer



Source: Ninety One, 30 September 2020. Data shows universe on a market-cap weighted basis.

7. Source: Ninety One, 'De-FANGED? What lies ahead for internet platforms?', June 2019.

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Although we do not dismiss comparisons with 2000 lightly, we feel that simplistically assuming that history repeats itself overlooks the significant fundamental changes that have occurred in the sector over the last two decades. Valuations are a long way from dot-com bubble extremes and are underpinned by strong operational momentum and fundamentals, as evidenced by best-in-class returns and robust balance sheets. While we do not believe this is a bubble, if this is the case, then we are more likely to be closer to the beginning than the end.

For the sector in aggregate, unless there is a material change in the highlighted risk factors, we would expect continued relative operational outperformance to be rewarded in share prices. All of our global 4Factor strategies reflect this stance by holding an active overweight position in the technology sector, constructed from strong bottom-up investment ideas. Our global perspective allows us to look beyond large cap US stocks too, and we are also finding attractive ideas in the mid-cap space and in Asia that benefit from the same structural tailwinds, and offer similarly compelling valuations. Beyond the names that make the headlines, there are a wealth of investment ideas that constitute the 4Factor steer towards the technology sector. Through the 4Factor lens, we are able to focus on the long-term fundamentals, identify the most compelling stock ideas, and not be distracted by false analogies with the past.

General risks. The value of investments, and any income generated from them, can fall as well as rise. Past performance is not a reliable indicator of future results.

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