Baillie Gifford™

The innovation advantage: investing on the right side of change

July 2026

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Annual past performance to 31 March each year (%)

	2022	2023	2024	2025	2026
Long Term Global Growth Composite (gross)	-17.5	-17.5	27.1	8.5	5.0
Long Term Global Growth Composite (net)	-18.1	-18.1	26.2	7.7	4.3
MSCI ACWI Index	7.7	-7.0	23.8	7.6	20.5

Annualised returns to 31 March 2026 (%)

	1 year	5 years	10 years	Since inception
Long Term Global Growth Composite (gross)	5.0	-0.3	15.4	12.3
Long Term Global Growth Composite (net)	4.3	-1.0	14.6	11.5
MSCI ACWI Index	20.5	10.0	11.9	8.8

Source: Revolution, MSCI. US dollars. Net returns have been calculated by reducing the gross return by the highest annual management fee for the composite. 1 year figures are not annualised. *29 February 2004.

Past performance is not a guide to future returns.

Risk factors

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The innovation advantage: investing on the right side of change

Innovation is rarely neat, timely or predictable. This paper explores why Long Term Global Growth (LTGG) looks for exceptional companies with the patience and adaptability to turn bold ideas into transformational growth.

At the turn of the century, in the unassuming town of Veldhoven in the Netherlands, a small team of researchers was quietly solving the impossible.

Their invention had previously belonged to the realm of science fiction. A laser hit droplets of tin 50,000 times per second, twice, to create a plasma 40 times hotter than the surface of the sun. That plasma emitted extreme ultraviolet (EUV) light, which was then reflected in a vacuum using a series of high-precision mirrors, each flatter than any surface known to humankind, to etch the finest of patterns into silicon microchips. This entire process was housed inside a machine the size of a bus that, crucially, could be mass-produced. Hence, ASML's EUV lithography system was born. It would enable billions more transistors to be packed onto chips, unlocking a new era of computing power. It cemented ASML's position as a crucial bottleneck in the global semiconductor industry, making it one of the world's most important companies. Without it, the AI revolution that has electrified markets in recent years would probably still be fantasy.

ASML's astonishing feat isn't solely a story of science, but also one of patient investment. ASML poured billions into EUV research and development (R&D), a project which would take 17 years to reach commercialisation. Moreover, it did so despite the implosion of the Dotcom bubble, the collapse of stock market indices, the Fed's tightening of interest rates, the war on terror and the later Global Financial Crisis – events that would prompt an average company to batten down the hatches and focus on reassuring its shareholders with near-term profits rather than the costly pursuit of obscure science with seemingly no end in sight. But here's the point: ASML is not an average company. Moreover, its investment paid off handsomely for patient shareholders, catapulting its market capitalisation from approximately $10bn in 2000 to approximately $500bn at time of writing.

Thousands of miles away from the epicentre of the Global Financial Crisis in 2008, another company on the eastern bank of the Pearl River Delta in China started experimenting in battery chemistry. Having first focused on making batteries for laptops and mobile phones, its research department pivoted into a tiny and heavily ridiculed market: electric vehicles.

Remember, electric vehicles (EVs) back then were little more than curiosities: widely scorned and caricatured as glorified golf carts. Incumbent automakers dismissed their mass market viability. By 2011, only a modest 1,000 EVs were sold in China – ie about 0.005 percent of the country's auto market at the time. Meanwhile, macroeconomic rumblings in China pointed to problems that led many companies to rein in their long-term R&D spending: a stuttering property market, chronic manufacturing overcapacity and a slowdown in GDP growth. However, the EV battery researchers ploughed ahead. Sure enough, by the time of the company's public listing in 2018, Chinese customers bought one million EVs that year – a 1,000x increase in seven years and more than the rest of the world combined. Forty percent of those EVs' batteries were supplied by that single company. It was called Contemporary Amperex Technology Co., Limited (CATL). Today, it retains its position as the world's largest battery manufacturer, whose products are now used in EVs, energy storage systems, shipping, electric vertical takeoff and landing aircraft, and its batteries are increasingly considered essential for energy security. Again, patient shareholders have been rewarded, with CATL's market capitalisation surging from approximately $20bn in 2018 to roughly $290bn at time of writing.

Let's jump to the southern hemisphere for one final example. In the mid-1990s, in the workshop of a New Zealand appliance manufacturing company best known for its ovens, washing machines and dishwashers, something remarkable was under way. A young tool-and-die-maker apprentice who left high school at 16 used the workshop to experiment with rockets and propellants. He became obsessed with them. Surrounded by tools and materials typically used for kitchenware, he taught himself to build a rocket bike, a rocket-attached scooter and a jet pack. His name was Peter Beck.

After visiting NASA and several space companies in the US in the years that followed, Beck was disappointed to learn that many of the components he had been making from scratch in the workshop (and his garden shed on the weekends!) were of higher quality than those being made by the professionals. There was ample room to improve the status quo. Yet without a university education, his dream of working in the US space industry never materialised. When he returned to New Zealand, he realised that his only route into the space industry would be to do what he did best: build it himself. Thus, he founded Rocket Lab in 2006.

Rocket Lab has since defied imagination. The fact that it was the first private company in the southern hemisphere to reach space is impressive in itself. It is even more remarkable when considering this happened on a shoestring budget amid the Global Financial Crisis, in a country with no aerospace ecosystem, and situated thousands of miles away from traditional centres of rocket heritage.

Rocket Lab's feats continued in the years that followed. Having raised capital in Silicon Valley in 2013, the company built its first small orbital-class rocket, 'Electron'. It became the fastest commercial rocket to reach 50 successful launches and has made Rocket Lab the world's second most active commercial launch company after SpaceX. Its market capitalisation has rocketed from $4bn at the time of its public listing in 2021 to more than $45bn at time of writing – a reminder that for the world's most innovative companies, the sky is not the limit.

What should we take from examples such as ASML, CATL and Rocket Lab? Even in the darkest of economic times, someone somewhere is innovating, designing, building and growing. Someone somewhere is daring to do the unexpected. And if these companies are correct in their beliefs that their innovations could spearhead deep transformations, the payoffs for their businesses and their shareholders – and indeed for wider economies and societies – can be extreme and last for decades. Much of the inevitable tightening and loosening of interest rates, the ups and downs of industry cycles, and the warming and cooling of geopolitical relations will, over time, pale in their significance versus long-term innovations of such leviathan scale.

Given such wondrous innovations, there is little wonder that many governments around the world are attempting to mobilise patient sources of capital, notably large pension funds, to invest in innovation[1].

As sensible as this may sound, inevitably there are nuances that can spell the difference between success and failure for any 'investing in innovation' approach. This paper will explore three aspects of this phenomenon. Firstly, what actually is the relationship between company innovation and investment returns? Secondly, is that relationship changing due to structural shifts in financial markets? Thirdly, what are some of the features of a proven approach for investing in innovation?

[1] Examples include the UK (eg the 'Mansion House' reforms aim for around 10 percent allocation to private markets, including innovation-focused assets), France (encouraging institutional investors to fund late-stage tech and scale-ups), Japan (initiatives to fund venture and innovation), as well as Canada and Australia (where debates continue on whether to allocate more to domestic venture/growth equity).

Why invest in innovation?

Between 1926 and 2025, the 29,754 common stocks listed on the public US stock markets generated total net shareholder wealth of $91tn.[2] And yet, shareholders who invested in the majority (close to 60 percent) of the stocks listed during those 100 years made less than they would have done if they had invested in Treasury bills instead.

Let's think about that for a moment. Equities as an asset class are designed for long-term capital appreciation, and yet most equities have underperformed T-bills over the past century. It would take a further 35 percent of all listed US equities during that period to simply offset that poor performance. The result? Just under 4 percent of stocks created the $91tn in net wealth over the past century. Even more strikingly, half of that net wealth, ie more than $45tn, was generated by only 46 companies (0.15 percent of the total number of listed stocks during the period).[3]

Given that a few outliers are responsible for the overwhelming majority of net wealth creation, are there any discernible characteristics of those exceptional companies? Baillie Gifford commissioned academic research in 2020 to address precisely this question. Based on empirical analysis by Professor Hendrik Bessembinder between 1950 and 2020, only four traits of US listed equities were found to have any statistical significance on 10-year share price returns: strong cash accumulation, rapid organic asset growth, large share price drawdowns in the prior decade[4] and, last but not least, they tend to spend much more on R&D – ie *innovation* – during the prior decade than the average company.

Other academic research corroborates the relevance of innovation for subsequent share price returns, examining not simply the *amount* or *intensity* of R&D spending, but specifically the company's return on R&D investment – ie how every incremental dollar of R&D investment contributes to the company's future revenues.

The efficiency of this return on R&D investment, or what we might call 'innovation optimisation', is found to be a leading determinant of subsequent share price returns. One academic study suggests it is statistically more significant than the market factors that many in our industry obsess over, such as momentum or value.[5]

[2] Bessembinder, Hendrik (Hank), One Hundred Years in the U.S. Stock Markets (March 18, 2026). Available at **SSRN: https://ssrn.com/abstract=6438198** or **http://dx.doi.org/10.2139/ssrn.6438198**

[3] A similar phenomenon is evidenced in global equity markets, albeit data is only available over a relatively shorter (30-year) period: Bessembinder, Hendrik (Hank) and Chen, Te-Feng and Choi, Goeun and Wei, Kuo-Chiang (John), Long-Term Shareholder Returns: Evidence from 64,000 Global Stocks (March 6, 2023). Financial Analysts Journal, Volume 79 (3), 33-63, 2023, Available at SSRN: **https://ssrn.com/abstract=3710251** or **http://dx.doi.org/10.2139/ssrn.3710251**

[4] Note there exists a linear relationship between share price returns and short-term volatility over the long term, whereby stock demonstrating superior long-term returns are associated with greater short-term volatility along the way.

[5] Cooper, Michael & Knott, Anne Marie & Yang, Wenhao, 2022. '**RQ Innovative Efficiency and Firm Value**,' **Journal of Financial and Quantitative Analysis**, Cambridge University Press, vol. 57(5), pages 1649–1694, August.

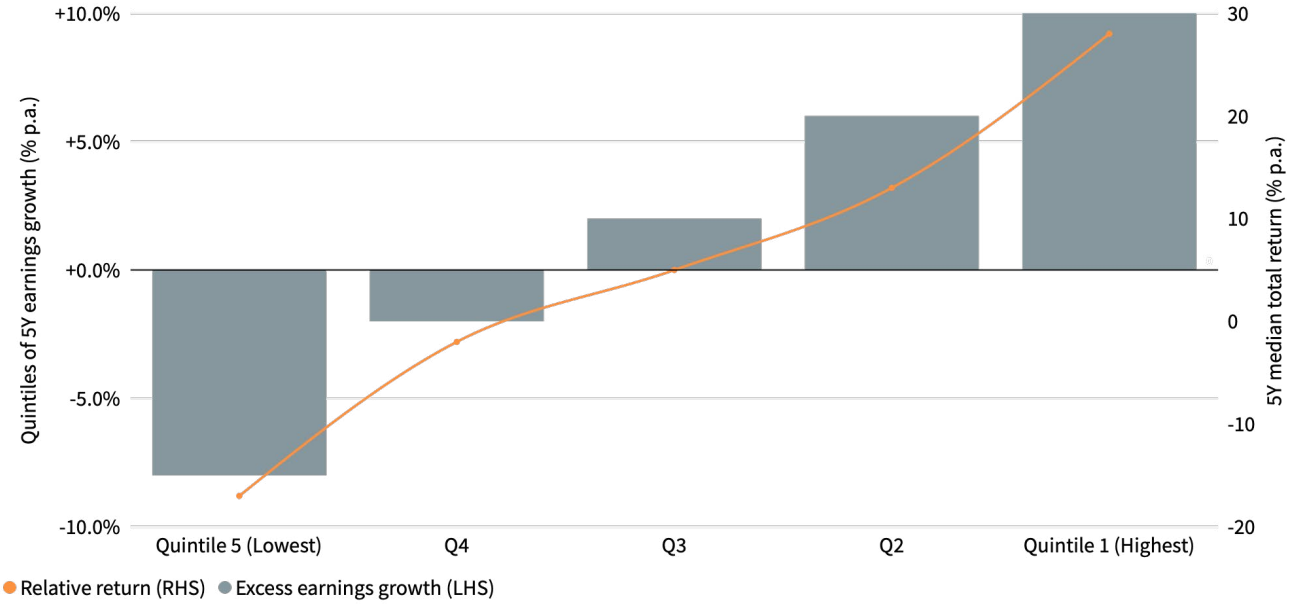
Again, only very few companies do this well. In her empirical multi-decade study of the US stock market, Professor Anne Marie Knott finds that approximately 95 percent of companies don't invest efficiently in R&D.[6]

The crucial piece to explaining the relationship between corporate innovation and shareholder returns is this: if companies reinvest in innovation, and do so efficiently, this is correlated with greater *profitability* in future.[7] Why does this matter? Because over periods of five years or more, stronger earnings growth is positively associated with superior share price returns.

The following chart breaks out companies by earnings-per-share (EPS) growth quintiles and plots their relative share price movements over rolling five-year periods.

In summary, if investors can find companies which they believe generate the fastest future EPS growth, these companies have higher odds of outperforming in share price terms over five years, regardless of their initial valuation. And one of the leading predictors of greater EPS growth is whether a company optimises for innovation.

Median total returns on earnings growth quintiles rolling 5-year horizons (December 1990 – December 2025)



Source: FactSet. Universe: The analysis is based on a global universe of companies (MSCI AC World) between December 1990 and December 2025, excluding loss-makers and using an inflation-adjusted minimum market cap of $1bn. Each measurement period is grouped into quintiles of earnings growth, excluding loss-makers, allowing observations of their distributions of concurrent share price returns. Relative returns for each quintile are calculated by comparing the median return of the quintile to the overall median for the universe.

[6] Knott defines the optimal level as being where the expected rate of return on a company's R&D investment is equal to, or close to (ie within 10 percent of), its cost of capital. If return on R&D is greater than its cost of capital, then there is a case for the company to spend more on R&D, because each incremental dollar spent on R&D generates strong value. Conversely, if return on R&D is lower than the company's cost of capital, then the company should reduce its R&D spending, or at least better allocate its R&D budget. Knott, A. (2017) 'How innovation really works: using the trillion-dollar R&D fix to drive growth', McGraw Hill.

[7] Professor Anne Marie Knott finds, for example, that firms with greater returns on R&D tend to exhibit higher gross margins and higher operating profitability. Professor Hendrik Bessembinder similarly finds that top-performing firms have higher R&D spending than average and tend to be more profitable.

Structural shifts in company innovation

At first glance, innovation appears to be doing just fine. Better than fine, actually.

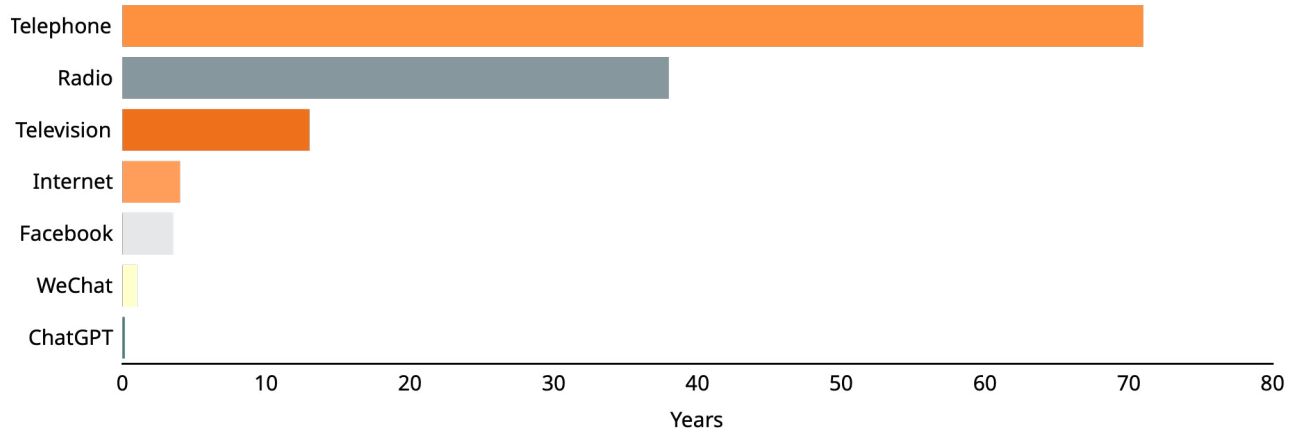
Consider, for example, that it took over 70 years for the telephone to reach 50 million users in the 19th century. A couple of decades later, radio achieved the same feat in approximately half that time. By the early 20th century, television roughly halved that timeframe again. And so on. By the time of Facebook in 2004, it took just three to four years. Most recently, ChatGPT took only two months. In other words, generative AI crossed the same adoption threshold more than 400x faster than the telephone – supercharged by the Internet, mobile devices and global connectivity.

Innovation, it seems, is accelerating.

Companies also appear to be spending more on innovation, whether measured in absolute terms (ie dollars invested in R&D) or in terms of R&D intensity (ie R&D as a portion of total sales). In fact, R&D intensity has risen by 1.7x between 1989 and 2025 for the MSCI ACWI index.[8] But there is growing evidence that paints a very different picture.

The rising R&D intensity in the index can, for instance, be explained by the changing composition of the index, rather than by companies getting better at optimising for innovation. For instance, the sector weights of technology, healthcare and communication services – typically sectors in which companies reinvest more than the average company in R&D – have doubled since 1970 and now represent just over half of the S&P 500.[9] Similarly, the combined weight of technology, healthcare and communication services within the MSCI ACWI has increased by approximately 50 percent since 1990 and now accounts for more than 40 percent of the total index[10]. This is compounded by the historically high concentration in the index today, whereby just 10 companies account for about a third of the S&P 500, and roughly a fifth to a quarter of the MSCI ACWI by weight[11].

Time to 50m users



Sources: Visual Capitalist, UBS Group.

[8] Based on our analysis of MSCI data from 29 December 1989 to 31 December 2025, where average MSCI ACWI R&D spend as a portion of sales has risen from 3.01 percent to 5.19 percent.

[9] Baillie Gifford analysis of S&P 500 sector-weight data, 1970 to 2026. Technology, healthcare and communication services have approximately doubled as a share of the index and now represent just over half of the S&P 500.

[10] Baillie Gifford analysis of FactSet/MSCI data, 30 March 1990 to 31 March 2026.

[11] Baillie Gifford analysis of FactSet/MSCI and S&P 500 constituent-weight data, 30 April 2025 to 30 April 2026. The average combined weight of the ten largest holdings was approximately 24.5 percent in the MSCI ACWI and 37.6 percent in the S&P 500 over the period.

Other indicators point to a structural de-prioritisation of innovation. During the period 1989 to 2025, the ratio of companies' growth capex-plus-R&D spending (shorthand for how heavily the average company reinvests in its future innovation and growth potential) versus dividends-plus-share buybacks (shorthand for how heavily the average company prioritises short-term rewards to shareholders) has fallen from about 2.5x to 0.7x. That is a roughly 3.5x decline. The average company today spends more on short-term rewards to shareholders than it does on innovation.

Academic evidence also suggests the *return* to R&D has dropped dramatically. Between 1980 and 2010, for instance, Professor Anne Marie Knott's examination of US listed stocks found that returns to companies' R&D spending declined by 65 percent.[12]

Remember for instance that GE was an innovation powerhouse in its early decades, during which it reinvested 40 to 50 percent of its earnings in R&D each year. Its return on that investment was one of the highest in the US. However, between the 1980s and early 2000s, GE's strategic direction turned to profit maximisation. R&D was an obvious target, as cuts to R&D translate into immediate increases in profit, whereas any detrimental impact of those cuts is difficult to quantify and usually takes multiple years to reveal itself. The company divested many business segments that had been dependent on R&D (such as televisions, semiconductors and aerospace) and expanded into businesses that required little to no R&D (such as television broadcasting). This strategy helped to spark GE's meteoric rise in share price during the period, particularly in the 1990s, while the Dotcom bubble was brewing. It all seemed very sensible and lucrative. The uncomfortable fact, however, was that GE's innovation-fuelled motor of future growth had been all but hollowed out. The consequence? After its Dotcom-era implosion, GE's share price would take a quarter of a century to finally recover.

In summary, something seems to be going awry in corporate innovation. The reasons may be multiple, but here are two worth considering:

01. The rise of indifference

The average stock market trader today does not pace the floor of the stock exchange; instead, they sit in dark server racks in datacentres. They do not follow their intuition, trust their gut or exercise their discretion; instead, they trawl endless seams of data and mechanically adhere to pre-programmed rules. They do not believe investing is an art as much as a science; for them, it is a sequence of 1s and 0s. They never meet the companies in which they invest, nor do they support them during tough times on their innovation journey or challenge them if they deviate from their stated course; instead, they simply divest if the model tells them so.

Quantitative funds (including factor investing, macro and high frequency funds), together with hedge funds, now comprise about 75 percent of US daily trading volume.[13] High-frequency funds alone have grown nearly eightfold as a portion of US daily trading volume over the past 15 years. Such funds may own shares not for months, but for *minutes*...or even just a few seconds.

12 Knott, A. M. (2017). How innovation really works. McGraw-Hill Education. **https://go.oreilly.com/stanford-university/library/view/-/9781259860942/?ar**. 13 Diamant, Delany and Scherer (2025) 'Short-term orientation of equity market creates time arbitrage opportunity for long-term investors', CIBC Asset Management.

Diamant, Delany and Scherer (2025) 'Short-term orientation of equity market creates time arbitrage opportunity for long-term investors', CIBC Asset Management.

In contrast, long-only fundamental investors make up a decreasing portion of US daily trading volume. From a roughly 80 percent share in 2003, they are now estimated to account for only about 15 percent.[14]

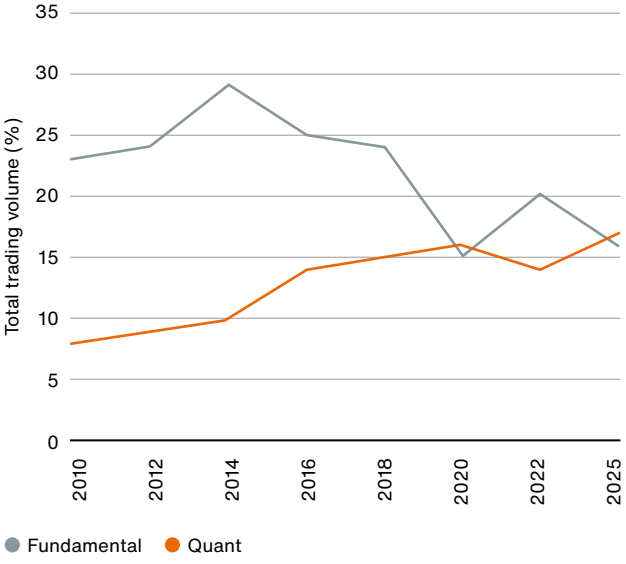
Meanwhile, index funds in the US now command a greater share of equity ownership than actively managed funds.[15] This means (i) capital is increasingly directed towards all index constituents, the innovative and the antiquated alike, despite the fact that (as explained earlier) most companies detract from share price returns; and (ii) capital is mechanically and disproportionately allocated towards the largest index constituents (ie the larger market cap companies), regardless of their underlying fundamentals. Put differently: "it is cheap precisely because it invests with little or no heed to the long-term productivity of that capital."[16] This isn't a uniquely US phenomenon; the rise of passive investing is playing out rapidly elsewhere too.

2. The rise of impatience

Regardless of whether it's vaccines, semiconductors or flying taxis, innovation can take years if not decades to commercialise. Unlocking share price returns from innovation, therefore, requires patience. But stock markets are increasingly starved of it.

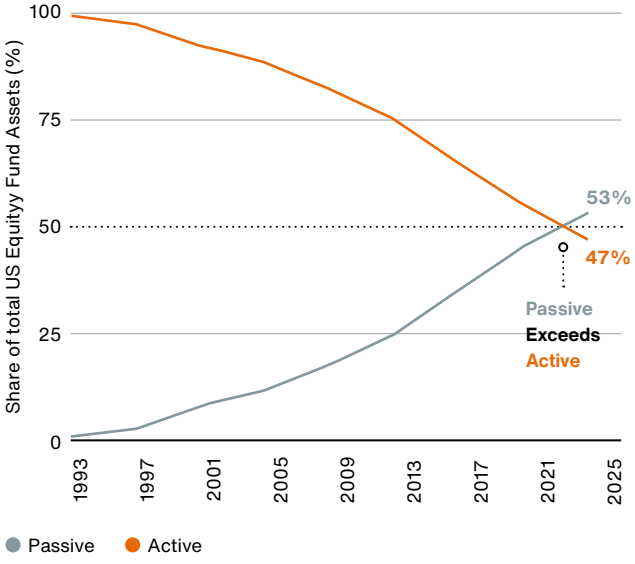
From nearly nine years in 1975, the average holding period in a publicly listed company in the US has declined to a little over six months today. A similar phenomenon can be observed at the global level over the past several decades. The shift to short-termism is explained in part by increasingly frictionless trading, regulation requiring quarterly reporting, which reinforces shorter evaluation cycles, and real-time news, which increases the proclivity to trade. It is also explained by the fact that many of the participants in today's heavily intermediated investment supply chain are under pressure (or incentivised) to make incessant changes.[17]

US Equity Trading Volume



Source: 'Share of US Equity Fund Assets': Research affiliates as at 31 December 2024, 'US Equity Trading Volume': via 'Who is on the wrong side?' Counterpoint Global; Bloomberg; data as at 2025 through Q3.

Share of US Equity Fund Assets



Source: 'Share of US Equity Fund Assets': Research affiliates as at 31 December 2024, 'US Equity Trading Volume': via 'Who is on the wrong side?' Counterpoint Global; Bloomberg; data as at 2025 through Q3.

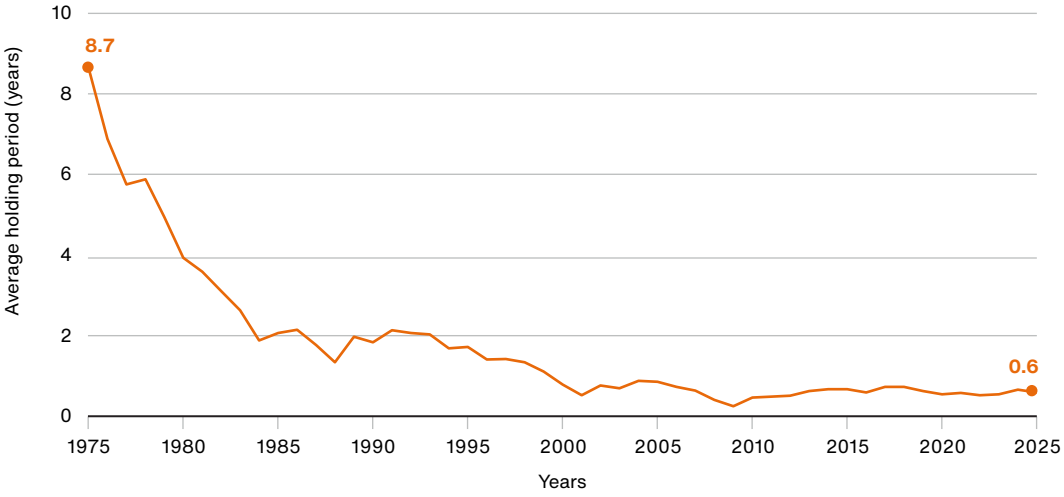
[14] Mauboussin and Callahan (2026) 'Who is on the other side?', Counterpoint Global Insights, Morgan Stanley Investment Management.
[15] Fundsmith (2026) **https://www.fundsmith.co.uk/media/4hcfd1pg/2025-fef-annual-letter-web.pdf**. 16 Garrett and Hamilton (2016)
[16] 'The loneliness of the long-term investor: a comment on patience in practice', Oxford Socio-Economic Review, Vol 14, No 4, 789-806. **http://ser.oxfordjournals.org/**
[17] See Garrett and Hamilton (2016).

In summary, listed companies increasingly find themselves faced with financial markets that are becoming *structurally* more short-term, *structurally* more uninterested in their individual company characteristics, and structurally less supportive and engaged in what these companies actually do.[18]

Why would the average listed company reinvest in far-off and uncertain R&D when its shareholders are now more interested in what happens in the next five to 10 months, not the next five to 10 years? This might explain the phenomenon of declining returns on R&D in recent decades. And by the same token, what incentive is there for the average private company to list on public markets?[19] This is already evident in the data, where the average age of companies at IPO has risen from about 7 years in 2000 to about 14 years in 2024.[20]

What does this imply for an asset allocator seeking to invest in innovation? Greater exposure to low-cost index funds, whose underlying investee companies are mostly becoming more motivated by short-term profitability rather than potentially superior long-term returns on innovation? Greater exposure to innovative private companies, albeit with more competition, smaller scale and substantially higher fees than in active public equities? ...Or is there another way?

Total US market: average holding period



Source: CIBC Asset Management, May 2025. Refinitiv Workspace as at 14 March 2025. Stock market holding period is derived through calculating 1/turnover ratio. The turnover ratio is the value of equities traded/market capitalisation. Index used: TOTMKUS.

[18] See Stuart Dunbar (2025) 'Lets' talk about Actual investing some more' here: **https://media.baillliegifford.com/mws/dsgcyk4l/20250718153441_digital-pdf-lets-talk-about-actual-investing-some-more-0525.pdf**.

[19] Baillie Gifford holds a 'Founders Forum' at which the leaders of private and public companies can share experiences and perspectives on navigating the glare of public markets.

[20] Ritter (2026) 'Initial public offerings: Median age of IPOs through 2025', see here: **https://site.warrington.ufl.edu/ritter/files/IPOs-Age-of-Companies-Going-Public.pdf**

Investing in innovation: features of a tried and tested approach

Let's recall a couple of critical things. Firstly, only a tiny number of companies are responsible for generating the vast majority of net wealth in equity markets, ie there is an inherent asymmetry of returns. Secondly, one of the common features of such outlier companies is their exceptional optimisation for innovation.

An asset allocator seeking to invest in innovation may therefore be tempted to maximise their odds of investing in those few outlier companies and largely eschew the rest. This is easier said than done of course, but at Baillie Gifford, where we have been investing in public equities for over a century and private companies for over a decade, this is precisely what we seek to do.

So how do we attempt to do this? While we have multiple flavours and strategies at Baillie Gifford, the following features pertain to arguably the most distilled version of what we do – our public equities strategy called *Long Term Global Growth (LTGG).*

01. Resolutely long term

Our investment horizon is five to ten years. It's over this period of time that a company's superior fundamentals can translate into superior share price returns. The LTGG portfolio has an average holding period of about eight years, and some of its holdings have been held for over 20 years.

Long-termism is commonplace across our range of Baillie Gifford strategies, all of which have a minimum investment horizon of five years. This is also evident in our approach to investing in private companies, recognising that the pre-IPO versus post-IPO divide is an artificial division; if the investment thesis for one of our private holdings remains intact post-IPO, we have plenty of public equities strategies, LTGG included, that may seek to invest.

02. Distinct from the benchmark

LTGG portfolio management is entirely benchmark-agnostic. To find the best ideas in the world, why should we constrain ourselves to being overweight or underweight according to specific index criteria? Instead, LTGG's approach is inherently bottom-up. Its active share is close to 90 percent. While several of our other strategies are benchmark-aware to varying degrees, they all maintain high active share, averaging at 80 percent at the time of writing. It's worth recalling that academic evidence finds active managers that are truly long-term and with high active share tend to significantly outperform not only passive funds over time after fees, but also dramatically outperform other active managers.[21]

Time horizons: the power of patience

Source: Baillie Gifford & Co. Long Term Global Growth representative portfolio average based on since inception turnover (29 February 2004) to 31 March 2026. *Source: Refinitiv Workspace, Bloomberg as at April 2025. Stock market holding period is derived through calculating 1/turnover ratio. The turnover is the value of equities traded/market capitalisation based on blended returns of S&P500 and MSCI EAFE.

[21] Cremers and Pareek (2014) *Patient Capital Outperformance.*

03. Volatility as a feature, not a bug

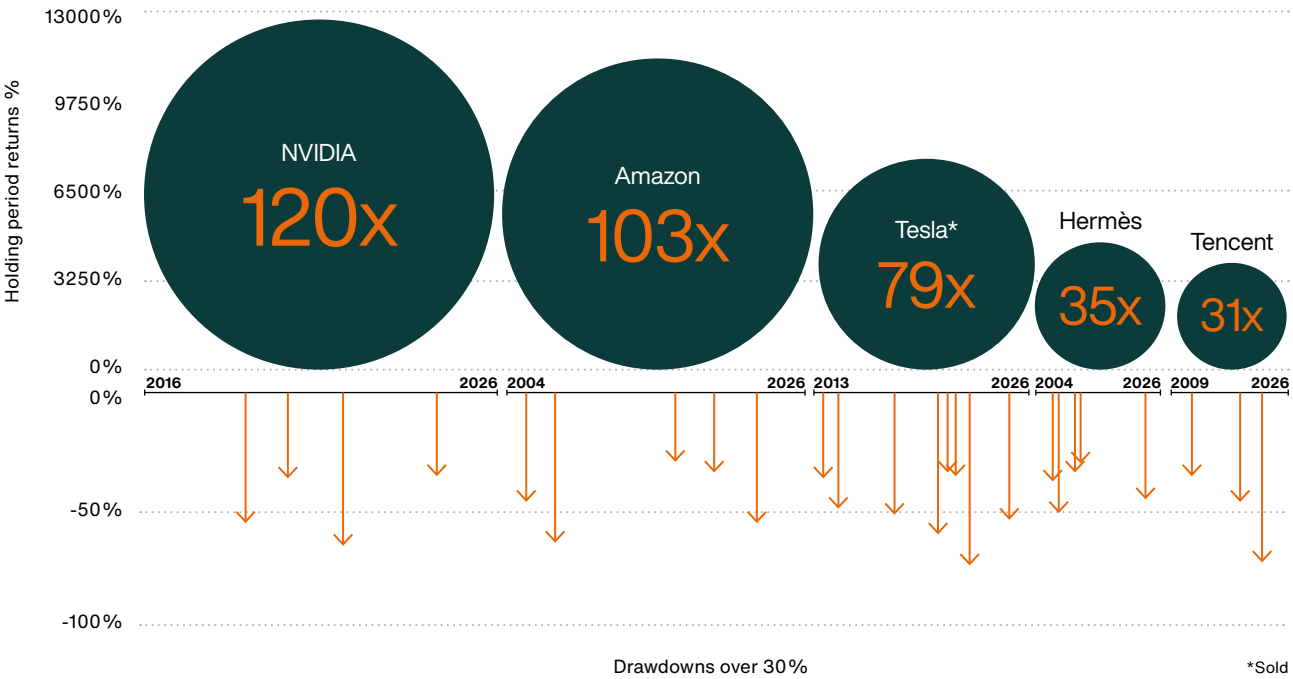
As stated earlier, a common characteristic of outlier companies is that they are inherently more volatile in share price terms. Many of the greatest performers in the history of the LTGG strategy, including the likes of NVIDIA, Amazon and Tesla, have also been among the most volatile – see the chart below showing multiple drawdowns in excess of 30 percent for such companies during the strategy's holding periods. We purposely make no attempt to manage such volatility so long as our investment thesis for each company remains intact.[22] Holding companies through periods of exceptional volatility can also be conducive for patient shareholders to earn greater access to the leaders of these companies, which in turn can provide insight into the strategic directions for innovation as well as the culture of the business.

04. Making each investment matter

The LTGG portfolio typically holds between 30 and 40 companies. The point here is that if we're going to find the few outlier companies capable of delivering exceptional long-term returns, we need to not only invest in them over time to allow for the power of compounding – we also need to invest in them *in size* to ensure they can move the dial on portfolio returns.

Concentration is a feature across many Baillie Gifford investment strategies. Depending on one's flavour of growth, they range from as high as approximately 100 holdings to as few as 10 or fewer. For context, the MSCI ACWI currently has more than 2,500 stocks.

Our reality: progress is not linear



Source: Revolution. US Dollar. Long Term Global Growth Composite.
Holding periods returns and drawdowns since inception (29 February 2004 to 31 March 2026). *No longer held.

[22] Barkhuizen, G. (2025) Volatility in LTGG: A feature, not a bug. See here: **https://media.bailliegifford.com/mws/zcsli5qr/20250109103751_baillie-gifford-volatility-in-ltgg-january-2025-1.pdf**

05. Fundamentals, not fairytales

Innovative companies are often perceived by investors as flaky and/or frothy. In LTGG, we maintain a discipline in our assessment of company valuations. Each company must pass an exceptionally high bar for inclusion in the portfolio and must continue to justify its position on an ongoing basis thereafter. Little wonder, therefore, that the fundamentals of companies in the portfolio are so elevated compared to those of the average company in the index, as the charts below show.

This focus on bottom-up fundamentals is a feature of all Baillie Gifford investment strategies.

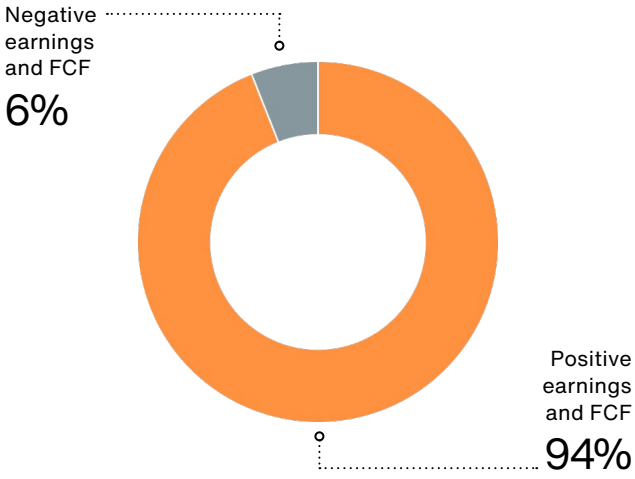
06. Treating investment as an art as much as a science

In financial analysis, we suspect that more fiction is written in Excel than in Word. Our approach to valuing companies is purposefully quantitative and qualitative, including, for instance, the sustainability of returns, adaptability, culture, capital allocation, and alignment with the interests of long-term shareholders. In contrast, the market has shifted increasingly towards spot multiples, tracking errors, information ratios and other conventional financial metrics.[23] Again, this is not unique to LTGG – all our Baillie Gifford strategies recognise the inherent art of long-term investing. Our valuation discipline, rooted in company fundamentals, helps us to separate hype from hypergrowth.

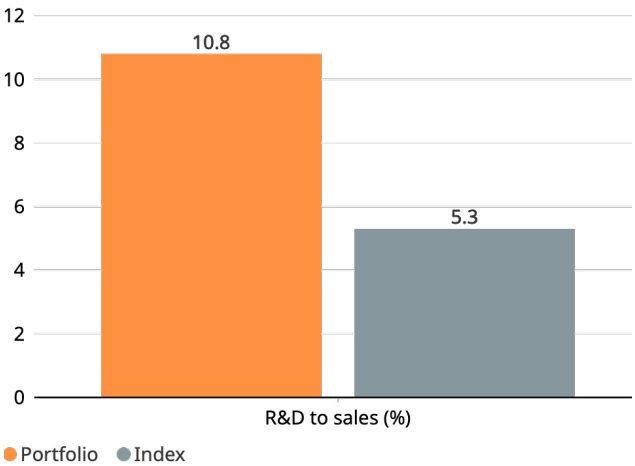
Resilient

	Portfolio	Index
Earnings 5Y growth p.a. (%)	25	13
Free cash flow 5Y growth p.a. (%)	34	7
Sales 5Y growth p.a. (%)	24	8
Gross margin (%)	46	31
Net cash (portfolio weight)	78	29

Self-financing



Future-proofing



Source: Baillie Gifford & Co, FactSet, MSCI. Index: MSCI ACWI Index. 31 March 2026. US Dollar. Based on a representative Long Term Global Growth portfolio. Portfolio and index earnings figures exclude companies with negative earnings.

[23] See "Fairytales and fundamentals: some thoughts on valuations" (2025), here: **https://www.bailliegifford.com/en/uk/institutional-investor/insights/ic-article/2025-q3-quarterly-letters-q325-fairytales-and-fundamentals-10056227/**

07. Optimism and probability

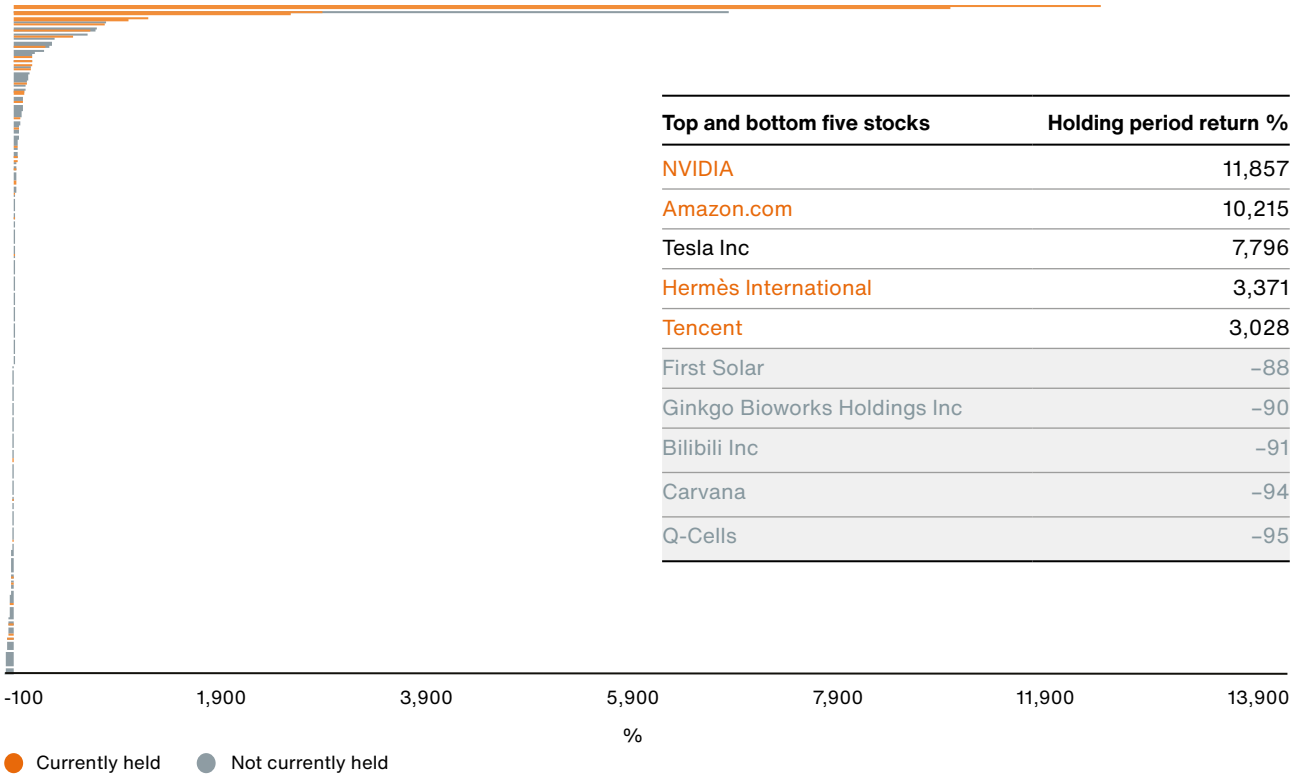
Even in a concentrated portfolio of what we believe to be outlier companies, we know we'll be wrong more often than we're right. However, the few that we get right more than offset the inevitable mistakes along the way, given the inherent asymmetry of returns – see chart below.

The greatest risk facing a portfolio like this is therefore the risk of missed opportunity. Ignoring outliers altogether, investing in them too late, or selling them too soon, would be enormously value-destructive. So, whenever we examine a company, we ask ourselves: 'What if...?' This is why the first half of our stock discussions is focused exclusively on positivity.

The range of possibilities for the outlier companies we invest in is typically large, the outcomes are uncertain and potentially extreme, and the changes they pioneer are often exponential and therefore inherently difficult to model and price. Accepting the fact that no model can spit out a simple answer to satisfy us, we must stretch our minds to entertain several scenarios, from the ordinary to the outlandish. If we were to constrain our thinking to the 'average' scenario, then we should expect only average returns.

The final piece of the puzzle is asking ourselves what likelihoods we would attach to our scenarios for our holdings. Knowing that only a tiny percentage of companies in our investment universe can be expected to quintuple over a five-year period (the growth hurdle for entry into the LTGG portfolio), we seek to gain sufficient conviction that the likelihood of our upside thesis for a company is higher than that base rate.

Returns: All about outliers



Top and bottom five stocks	Holding period return %
NVIDIA	11,857
Amazon.com	10,215
Tesla Inc	7,796
Hermès International	3,371
Tencent	3,028
First Solar	–88
Ginkgo Bioworks Holdings Inc	–90
Bilibili Inc	–91
Carvana	–94
Q-Cells	–95

Source: Revolution. As at 31 March 2026. US Dollar. Long Term Global Growth Composite. Inception: 29 February 2004. Some stocks may not have been held for the full period.

What has been the output of this approach over the past 20+ years? A cumulative return that is approximately double that of the MSCI ACWI.[24] Outperformance in more than 90 percent of all rolling five-year periods, and 100 percent of all rolling 10-year periods, since inception of the strategy in 2004, *after fees*.[25]

And while a strategy like LTGG does not explicitly seek to 'invest in innovation' (its sole focus is long-term investment returns), what do its innovation credentials look like?

The portfolio's top contributors to performance over the past decade include the likes of Amazon, NVIDIA, Tesla (since sold), Tencent and Intuitive Surgical. During our holding periods, these companies have spearheaded seismic shifts in cloud computing, artificial intelligence, electrification of transport, digital payments, robotic surgery, ecommerce and much more. They have furthermore proven themselves to be highly adaptable over time, harnessing their innovation prowess to unlock new businesses and markets.

Moreover, a back-of-the-envelope estimate finds that these companies demonstrate strong efficiency of returns on R&D[26]. NVIDIA in particular appears to be exceptional in this regard: it is estimated to be several times more effective at optimising for innovation than the average company.[27] A similar phenomenon can be observed for many other holdings in the LTGG portfolio.

[24] Source: Baillie Gifford & Co, Revolution, MSCI. As at 31 March 2026. US dollar. Since inception (29 February 2004) net of fees returns.

[25] Source: Baillie Gifford & Co, MSCI. US Dollar.

[26] Taking an approach somewhat similar to that of Professor Anne Marie Knott's research, albeit recognising certain data limitations. Our calculation uses an approximate Knott-style 'research quotient', a long-lag adjustment based on industry economics, and a comparison versus the MSCI ACWI average company.

[27] We estimate that NVIDIA, for instance, has a return on R&D of 2.8 versus Knott's 'all firms' average of 0.2 to 0.3.

Conclusion

It feels fitting to end a paper on innovation with an experiment. Specifically, a time travel experiment...

First, let's cast our minds back 10 years to 2016. Were there things back then that sounded like science fiction but became reality within just a few years? Perhaps it was the spectacle in 2018 of two booster rockets guiding themselves back from space to execute near-simultaneous landings, ready for reuse. It was the equivalent of sending a pencil over the top of the Empire State Building and having it land on a dime on the other side. Or perhaps it was in 2020, when a vaccine was developed within just two days to combat a global pandemic – a process which had historically taken years. Or perhaps it was in 2022 in China and 2024 in the US, when fully self-driving taxis began whizzing along city streets. Do any other examples come to your mind?

Now, let's project our minds 10 years into the future, to 2036. What sounds like fantasy today, but has the potential to become reality in 2036? Will we see solar-powered datacentres orbiting the Earth? Or personalised cancer vaccines? Or perhaps it's the recent application of quantum computing to address the challenges of climate change? Perhaps. Doubtless, several innovations were in the early stages of development back in 2026, rumbling away in the background amid all the noise of financial markets, only for their growth trajectories to turn exponential in the decade to 2036.

Finally, and while we're still in the year 2036, let's ask ourselves how we've invested over the past decade to take advantage of these innovations and their exceptional return potential. Have the twin trends of indifference and impatience overwhelmed the global investment community to the point that such potential returns have been largely missed? Or have some remaining active managers such as ours continued to invest in a few innovative outlier companies early, held them in size, and held them over time – even if doing so has caused us to fall out of step with the wider market on multiple occasions – to generate exceptional long-term returns for our clients? And have those clients, ie the asset allocators, sufficiently positioned their portfolios to reap those long-term returns for their underlying beneficiaries? In other words, are we satisfied that we have invested in a manner that future-proofs portfolios for yet another decade of wondrous innovation?

Author bio

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Jonny is a director and investment specialist, working primarily on the Long Term Global Growth strategy. He is also Vice Chair of the Innovation and Technology Committee of the business advisory body to the OECD. Prior to joining Baillie Gifford in 2016, Jonny worked on international policy for over eight years at the OECD in Paris. Jonny graduated MA in Geography from the University of St Andrews in 2005 followed by MA in Contemporary European Studies from the University of Bath and Sciences Po in Paris in 2007.

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