

## Why growth? Why now?

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Join Partners Tim Garratt and Stuart Dunbar to hear why we believe looking past the short-term noise leads to exceptional opportunities in the current market.

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**Your capital is at risk. Past performance is not a guide to future returns.**

**Stuart Dunbar (SD):** Right, good morning, everyone, let's get started. Thank you very much for joining us. I know some of you are quite far afield, so we appreciate you probably taking some time at the end of your working day.

My name is Stuart Dunbar, I've got the easy job today of really just setting the scene, doing the introductions for my colleague Tim Garratt, who's one of our specialists, on one of our global equity strategists, many of you will know him. Tim's going to talk about the growth opportunities that we're currently seeing, themes that we're interested in.

We think there are some... Many of you will be aware that for growth investors it's been a somewhat tempestuous few years, first on the up and then on the down, but we think we're in a very interesting position now where there are some very interesting growth opportunities that the market is really blind to and we see now as being seriously undervalued. Hence, we thought we'd have a bit of a chat about it this morning.

Tim's going to chat for about half an hour, but we will break it up a little bit so it is not just a monologue, so if you do have burning questions, please fire them in on the Q&A, and I will keep an eye on them. We'll take most of the questions at the end but we might stop a couple of times on the way through.

Just briefly, I think almost everybody on this call will know Baillie Gifford, but in case we've got any newcomers, we are an asset management company, obviously, private partnership, based mainly in Edinburgh, we run about \$300 billion, mainly in global growth strategies. Our clients are mainly institutional pension funds, financial intermediaries, sovereign wealth funds, etc.

I'm just going to set the scene for one minute, and then I'll hand over to Tim. One of the... We think things have changed a bit for growth investing in the last two or three years. What you see on the screen here are some of those changed inputs. Interestingly, the picture on the right-hand side is an AI-generated image of the topics on the left-hand side. I find it rather bizarre, quite interesting,

but it probably tells us that AI's not quite managing to look into the future yet.

We are in a much more capital-constrained environment. We know that interest rates have gone up, capital's harder to come by, we think interest rates are probably returning closer to normality than anything else, even if in all likelihood they might come down a bit from here. Growth is harder to come by in a more capital-constrained environment, so that means that we're having to think hard about where we think future growth will come from.

We do think some companies are benefiting from this, incumbents certainly now have a bit more pricing power, as speculative, almost free capital is leaving some sectors which hasn't been really subject to much competition for a long time. We all know about environmental constraints and the linear economy becoming more circular.

And regardless of how well you think we can tackle that, I think there is a lot to be thought about in how companies everywhere, at different speeds, being forced to really account for environmental and natural capital issues that they haven't in the past.

We all know supply chains, are shifting. Geopolitics is in the background, it's not something we spend an awful lot of time thinking about, but we all have to be very aware that that environment has changed as well. Frictionless imports and exports has now gone into reverse, so not all companies are well-managed to deal with that.

Finally, there seems to be a trust deficit. Regulation everywhere is becoming harder, not just in the financial industry rear end but also just in companies in general. That's causing, I think, a lot of headaches for companies.

And that all sounds a bit negative. On the plus side, AI is obviously the topic of the day. We're very early in where these general-purpose technologies can take us, but we're already seeing I think, long before ChatGPT made this a popular topic, lots of companies have been working on applying AI, in healthcare, robotics, transport, etc.

So the point I'm really just trying to make here is we think there's an awful lot changing. That causes problems, but it also causes huge opportunities if we can find the companies that will benefit from that. So Tim is going to chat us through all of that for the next half-hour or so. So fire in the Q&A. I'll hand over to Tim now, and I'll be back in seven or eight minutes to see if there are any burning questions. Thanks, all.

**Tim Garratt (TG):** Thanks, Stuart. You've talked there about some increasing challenges, and I think that's a really interesting starting point, because there's this assumption, often, that growth investing needs a strongly-growing economy with a nice, smooth backdrop, but I actually don't think that's the case at all.

We're seeing a lot of structural tailwinds that are actually accelerating at the moment, not despite the challenges in the world that you've just described but actually because of them. And I wanted to

just give a few examples of that.

The first ones are tied in with this idea of removing friction and driving efficiencies for companies that are going through tough times. And if you take an area like logistics, this is not an industry that we've actually had a huge amount of exposure to as a firm over the last 20 years or so, but we're increasingly finding opportunities in this area.

If you take a company like Samsara, that operates telematic systems for the logistics industry, and what they do is they turn dumb assets like trunks, trailers, industrial warehouse equipment, into essentially data-enabled assets. And that means that their productivity can be optimised. That saves the underlying customers millions of dollars, particularly in an environment where there is this increased friction.

Another one would be Symbotic, that's a robotics company that's completely reinventing how warehouses operate with its AI-powered robots autonomously navigating warehouses the size of football fields. And again, that hugely reduces costs, it reduces friction, and that's why those two companies between them, they're just an example, are growing over 60% per annum in the current environment. Not despite economic challenges but because of them.

Where else do we see friction that needs to be removed? Definitely an area of consumer finance would be a good example, and that tees up strengthening tailwinds for a company like Adyen, Dutch digital payment processing platform. It's radically simpler, radically cheaper than traditional banks, and the imperative for using that platform again has increased in an environment where companies need to cut costs all the way through their transaction chain.

And then a company like Mercado Libre, delivering similar benefit in Latin America. 70% of people there don't have a bank account but are using MELI's platform to drive their consumer finance in a much more frictionless way.

And then I think healthcare is interesting, we've talked about it a lot, but we do need to go back to it because it's actually the biggest contributor to inflation over the last few decades. Any company that can help to remove cost from the healthcare system and save the public sector money is going to enjoy the strong tailwind.

And a great example of that is a business like Dexcom, which applies continuous glucose monitoring systems, monitoring blood glucose levels to keep patients out of hospital, that's where the cost comes in, and avoid all these costly interventions. And then going back to Moderna, we think that just continues to have massive potential to remove friction by revolutionising the whole way that drugs are developed.

Remember, this company took just two days to program COVID, and what the market misses at the moment, I think, is that this is a technology platform, it's repeatable across a whole range of applications with learnings transferred from one disease to another. And because healthcare costs are so out of control, the imperative to find a new way of developing therapies has actually never

been greater.

And then, on the right-hand side here, we have potential to remove friction from communications, and that's a massive tailwind for any company that is helping to make data flows faster and more reliable. And I would cite SpaceX as sitting right at the heart of this. So, yes, still private but we're shareholders on behalf of many clients, and because they can deliver payloads 700 times more cheaply than NASA can, then they've been able to put about 2,000 or so satellites into low-earth orbit.

That's paved the way for the provision of high-speed internet access at a fraction of the cost of other companies, initially in developing markets but more and more people in companies that are struggling with legacy telco providers shifting to use their services.

So I think those growth tailwinds around comms are quite clear in the case of SpaceX, but also in an era of waning trust, geopolitical tensions, security is obviously a huge consideration, and that's where a business like Cloudflare comes in.

At one point at the end of last year, this business was defending companies from over 200 million attacks per second, would you believe, and with the sophistication and volume of cyberattacks growing all the time, it's probably no surprise that businesses are needing to spend more and more on Cloudflare's platform.

And I think the growth tailwinds are increasing in energy as well. Humankind, we've got a global metabolism of about 19 terawatts at the moment, and obviously with energy security and climate change to the fore, we can't keep meeting those energy needs just by burning dead dinosaurs. And that's where companies like Enphase come in. They provide the hardware and the software to maximise the efficiency and the uptime of solar panels, and they're growing very, very strongly as a result.

But of course you also need to think about energy storage, so the accelerating tailwinds here apply to companies like Northvolt, and this is a business that again is a private one, as it happens, but it's assembled a team of top battery chemists in northern Sweden to develop clean battery plants and help to deliver more energy self-sufficiency in Europe.

And perhaps just before pausing, there is one other tailwind that I'd like to touch on, and relates to the brands and behaviours that will emerge in this era of societal and geopolitical change. I think post-COVID, at one end of the spectrum, you had this idea of the return to the great outdoors, more people treasuring nature, and we think that provides, potentially, quite a long-term tailwind for brands such as Rivian.

This is an electric sports utility vehicle manufacturer, been through a pretty rough time over the last two or three years but, on the back of that, developing a really interesting brand that plays to that great outdoors theme.

And at the other end of the spectrum you have this new generation of younger consumers who are increasingly at ease blurring the physical and the virtual worlds. And that's where online ecosystems like Roblox come in. You've got over 10 million developers now on this ecosystem earning a living from designing games and experiences for the platform, and there's a whole virtual economy here because this ecosystem has people watching concerts, buying virtual merchandise, playing games, personalising their characters with accessories.

And that's why luxury goods companies like Gucci, or lifestyle brands like the skateboard brand Vans, are now deriving pretty serious revenue from selling virtual handbags and virtual skateboards on the platform. So there's a whole range, Stuart, here are tailwinds that I think are strengthening in this slow and uncertain environment, not despite it but because of it.

**SD:** I may be the last person in the world to buy a virtual skateboard. There's no Q&A yet, but in time-honoured fashion what I'm actually going to do is ask you a question that a client asked me yesterday on this very subject, whilst people think about what they want to ask.

You talked about solar panels being commoditised, I think we've seen this a couple of times now at least, can you say a bit more about how we try to zoom in on those parts of the value chain where we think the value is actually accruing, if it's not these most obvious companies? And ask the obvious one on this slide, will batteries not go the same way as solar panels and become commoditised, so huge growth but terrible margins, potentially?

**TG:** Yes, I think when you see rapid technological adoption, we've obviously got a lot of experience of looking at this in the context of all manner of different industries, and we do need to be very open-minded about where in that supply chain the value is going to accrue.

Is it going to be at the picks and shovels end of the spectrum, the miners, or is it going to be in some of the service providers around it, or is it going to be the software ecosystem that sits on top? And I think in the context of solar, we've learnt a lot from our forays in this area in the mid-2000s, where we made a few mistakes for clients in a very deflationary sector.

I think we've done a lot of work on solar, from the raw material mines, you're going to need to dig up 35 million tons of solar material per annum in terms of metals, to the factories, components.

Enphase, the company I mentioned, they make inverters, and what they do is they convert DC to AC current for domestic use, and the interesting thing about that is they're a very, very low percentage of the installation cost, a couple of hundred dollars a unit, but they're a really significant contributor to the operating performance of the panel in terms of reliability, power density.

And there's a whole ecosystem in terms of the solar installer base coalescing around their kit, so they now operate effectively a CRM system for solar installers which deals with design costing, permitting, and so on. So there's an example of where they've started in hardware but they're now building out a software ecosystem and they're earning 25% margin on the back of that.

Will batteries go the same way? We need to be very open to that. If you take a business like CATL, which is a Chinese company that we hold for many clients, biggest battery manufacturer in the world, we think that their gross margins are actually going up at the moment, mid-20s. And I think that's for a number of reasons. Firstly, they've got incredible technology, they spend more than twice the rest of the industry combined on R&D, they're leaders on energy density, but we do need to, even there, keep an eye on costs.

What we like, what we want them to be thinking about is different business models. Should they be offering essentially battery infrastructure as a service? What kind of margins might they enjoy on recycling? Is there a software energy management utility ecosystem they can build around it?

So yes, absolutely, when you see these rapid periods of adoption, we need to keep an eye on the bottom line returns as much as the top line growth, and maybe where the value accruals will shift over time. But in terms of batteries at the moment, we're talking about mid-20 growth margins, which we think is decent.

**SD:** Okay, thanks. There are questions coming in now, so thanks everyone, we will get to them. Tesla, Starlink, private versus public, etc., but I think what we'll do is we'll definitely get to those at the end, but we want to make sure Tim gets through this, so let's carry on for now. We will definitely come back to those, thanks for asking them.

**TG:** Sure, thanks. If we move on to the next slide, I think the point I'd make here is I talked about tailwinds but, from an investment perspective, that's not enough on its own. We're shifting, as you mentioned at the beginning, Stuart, into an era of structurally more expensive capital here, so we need to focus on financial robustness as well.

So at a portfolio level, what we've been doing for all of our strategies is really closely monitoring the intrinsic cash-generating power of the companies that we hold, the strength of their margins, their balance sheets. The data on this slide relates to one of our global equity funds, and on the left-hand side you can see that the vast majority of the holdings have very, very strong cash generation.

And on the table on the right, you can see that not only are the companies sitting on very strong balance sheets relative to a pretty indebted index, but importantly they're also earning average gross margins in their mid-40s, so they're in a much stronger position than the index from a starting profitability point, and that really matters in an environment of more expensive capital.

Another metric to keep a close eye on, as you can see from the chart on the left-hand side here, is research and development spend relative to sales. I think this gives a really good sense of a management team's level of ambition, their level of innovation.

And again, R&D to sales for our clients' portfolios tends to be much, much higher than the index in all cases. Two to three times higher is pretty typical, and you can see that from the chart, here.

And then another one to think about is pricing power. The strongest companies in the current environment are those that can comfortably push through price increases without affecting

demand. I think a really good example here would be Netflix. They've increased rates on their monthly subscription services several times over the last few years.

And other one would be Shopify. This provides a toolkit, and online toolkit, for merchants to build and manage online storefronts, process payments, perform market analytics, optimise reach and so on. And the value of Shopify's toolkit to those merchants is growing and scaling all the time. And again, not despite the tough environment, because of it. And that's why Shopify have been able to increase the take-rate on the merchandise that flows through their platform.

So I talked about tailwinds and financial resilience there as two characteristics of the really successful companies, but I think the next one that I'll just touch on is probably the most important of all, and that's adaptability.

We talk about the accelerating pace of change, so any company needs to continually revisit its business models if it wants to survive and thrive. And I think that's really relevant against a backdrop of expanding machine learning capabilities.

And so far a lot of the focus in this area I think has been on the ability of machine learning technologies to drive efficiencies in operational areas, so when you read the financial news or whatever, you often hear about this concept of AI offering capabilities of infinite interns, what can they automate in terms of the bottom line, but I think in a way that's the easy and obvious bit.

I think the harder, but probably the much more interesting, part relates to the potential for machine learning to completely change company business models. And on the right-hand side I've got a little picture of John Deere, because I think that's such an interesting example of this.

A really old, traditional tractor company with centuries of heritage, and it would have been really tempting, I think, to sit there, just comfortably, with their amazing brands, selling agricultural machinery, but they've been adaptable to realise, as a management team, that their contextual data their tractors are gathering is incredibly valuable, and they've integrated computer vision into their machinery by putting cameras all over their spraying booms, as you can see from this picture.

And those cameras are processing thousands of images every second and automatically using image recognition to figure out whether they're positioned over a weed that the farmer wants to remove, or are they positioned over a crop which the farmer wants to keep.

And that means their equipment can provide these really targeted doses of herbicide only where it's needed, and of course that massively reduces the amount of herbicide that's needed, probably really bad news for the herbicide industry if you've got shares in those sorts of companies, but great news for the environment and great news for farmers who save a fortune.

So a really good example of a company that has a super-adaptable mindset, and the evolution to their business model is going to massive increase the addressable markets for them in the years ahead.

So there's that technological adaptability piece, but it's not just about that, it's also about physical and societal adaptability. And as you mentioned at the beginning, I think companies are increasingly going to have to financially internalise the downstream ecological consequences of their business model, so how they're thinking about 1,500 ton carbon, for example, how are they thinking about societal changes in values and ethics?

If it's a luxury leather company, what happens if leather becomes socially unacceptable on a 20-year view? If it's a data company, how are they thinking about their resilience to acute water stress, because water's needed to cool the servers? If it's a coffee or a battery company, how are they thinking about their supply chain resilience, given physical climate change?

And our view here is that companies with cognitively diverse boards, and by that I mean generational and cultural diversity as well as gender diversity, have the best chances of adapting. But of course the issue here is that most boards are incredibly homogenous.

And on the left here, just for a laugh, this is what came up when I typed listed company board in Microsoft's AI image generation tool. It's a pretty depressingly homogenous picture. But I think corporate adaptability is probably the single biggest determinant in whether a company's going to thrive or perish in the years ahead.

And it's subjective, it can't be neatly modelled in a spreadsheet, it can't be extracted from a quarterly earnings report, but I'd argue that when an investment manager has superior levels of access to management teams, like I think we do, they're better placed to evaluate adaptability.

So when you're assessing an investment manager, you should probably always ask about their levels of access to company management teams. So hopefully a bit of food for thought there.

**SD:** Okay, loads of questions now, so I'm keen to keep motoring through this but I'll ask a couple. This is two questions in one. A couple of people asking, R&D spend, just because it's big doesn't mean it's wise or sensible, how do we think about that? And I think that links loosely to a different question about unprofitable growth, so spending a lot on R&D for future revenues, but how do you think about the profitability of that? Particularly, that questioner mentioned Starlink.

**TG:** I think it's a really important point. Just because a company's spending a lot on R&D, doesn't mean it's sensible. We've seen plenty of examples of terrible capital allocation, or diworsification, over the years. I think my favourite recent example is Banana Republic who obviously are struggling with their upscale clothing, and they tried to diversify into homeware and hospitality, would you believe.

So I think it starts by a company management team understanding their core strengths and skill sets, and where they can be applied to adjacent areas. I think Amazon's done that really well. They've got a very clear view of what they are good at and what they're not good at, and that dictates their experiments.



So we need to look at whether they've got a really good understanding of where their strengths start and end. We also need to look at how they go about experimenting, how much discipline is around that, not only in terms of lowering the barriers to experimentation.

Again, I think Amazon, they have an institutional yes, where if someone proposes a new experiment, the default answer has to be yes, and the manager has to explain and properly argue why the answer should be no if they don't believe that's the case. So it's lowering the barriers to experimentation, decentralising it, but also being very disciplined about when to move on from an experiment and shut them down and pivot away from it when appropriate.

And I think Meta's actually a really interesting example of this because they committed billions of dollars to the metaverse, but they're now pivoting back into hyperscale data centres. And so they've been flexible enough to move on and be pragmatic. And that humility is really important. So it's about understanding where strengths start and end and understanding the parameters around experimentations.

And then, in terms of profitability, I think in a portfolio you want to have a blend. So it's absolutely fine, and indeed for many of our portfolios our clients will be expecting us to back the next generation of companies. If you take a business like Joby Aviation in electric aviation, this is perhaps where Tesla was back in 2010, so it's fine that they're not making a profit yet but we need to see a path to a profitable business model.

And we need to also be disciplined about the percentage of allocation that we have to those sorts of companies, and have some very clear milestones about how and when we expect them to be able to turn a profit. And if a company like that is volatile, and it almost certainly will be in the eyes of the market, we also need to have a lot of discipline around how and when we add to those positions before they move to profitability.

I think this is why I mentioned cash flow earlier, because I think cash flow gives a much better sense of intrinsic profitability than earnings. We will applaud and celebrate management teams that are prepared to defer earnings by investing for the long term, jam tomorrow, but we do need to see a path to a profitable business model.

Starlink's interesting. We could spend a whole hour on that. There are many different parts of their business models, but I think what's interesting is that the telecom-related business, the comms business, is perhaps the easiest one for the market to get its head around, because there are peer comparisons with the telco industry there.

And that is an intrinsically profitable business because the returns on deployed satellites are very significant. So that's a but that is structurally profitable and that's the case with a lot of our other private holdings as well.

**SD:** Okay, thanks, Tim. Let's skip through to the end of the presentation. Although I said we'd wrap up after 45, we'll get through as many questions as we can, and then Tim and I can stick around for

a little bit longer than that, so anyone who wants to hang on, please do so. Right, Tim?

**TG:** Okay, so been talking a little bit about the companies, the traits of the companies that are going to be the big winners, in our view, but I think one of the really exciting things at the moment is that a lot of these attractions are being heavily overlooked by the stock market, and that throws up some really interesting opportunities from a valuation perspective.

And I think there are three market inefficiencies that we, as long-term stock-pickers, can take advantage of at the moment. And the first relates to the monitoring tools that our industry's so fond of. What I'm showing here is a picture of the flight control deck from a really early Boeing 747 in the 1960s. I like this kind of thing because I'm an aeronautical engineer by training, but this aircraft was developed and rolled out in the 1960s, at pretty much the same time as modern portfolio theory.

And one of the things that I think is interesting about this cockpit is just how dated it looks, and just how many dials there are. Those early 747s needed an extra person in the cockpit to monitor all the dials. Now, modern airlines today have about half this many dials, and are statistically about 20 times safer, and I think there's an interesting lesson for finance here, because so much of our industry has fallen into the trap of thinking the more measuring screens and dials you have, the more people monitoring, the more risk is reduced.

But actually in my view, that's not the case, and some of the most misleading dials relate to volatility, because people are obsessed by this idea that low volatility equals lower risk. And there's this whole panel of volatility monitoring screens with people poring over them in an attempt to optimise volatility-adjusted returns.

But the big problem with this approach becomes really clear when we look at charts like the one on this next slide, because what we're doing here is taking the last ten years of data for all the stocks in the index and we're dividing it into deciles of total return, and the top 10% returners, right through to the bottom 10% returners.

And I think it gets really interesting when you plot returns against absolute levels of volatility. Because, as you can see, very clear, there's a linear correlation here. In other words, the stocks that post the greatest levels of returns are typically the most volatile. And we have seen this in our portfolios as well. Some of our best stock picks over the last decade, like Nvidia, which has delivered returns of well over 2,000% have been by far the most volatile.

And why is this? It's because companies that experiment and innovate don't go up in a straight line. Innovation is a messy, bumpy process, it involves rolling around in the mud. And companies that are focused on experimenting rather than trying to engineer their earnings in a bit to manage volatility are going to be the most adaptable in the long term.

I think it's really interesting that one of Nvidia's massive drawdowns was when it introduced CUDA, which is the operating system that has really locked in its competitive advantage. So there's this wonderful inefficiency here that we can take advantage of, as long-term stock-pickers.

And it doesn't just apply on an individual level, it applies at a portfolio level as well. If we take a look at Scottish Mortgage, that's our longest-standing client portfolio, how did it behave last time inflation really spiked sharply, and in the UK that was in the mid-1970s? And it fell by almost 70%, which would obviously have been very uncomfortable for shareholders at the time, but look at the benefits of holding on through that period of volatility.

Because over the subsequent decade, the portfolio rose by over 1,000%. So imagine how dangerous and costly it would have been to have been fixating on that volatility dial too much. It would have led to capitulation, it would have led to selling out right at the bottom, and that would have been a massively costly mistake.

And it's a similar picture when we look at a more recent example as well. One of our institutional global equity portfolios is called Long Term Global Growth, it holds some of the world's most innovative, and therefore volatile, companies. Look at what happened to that portfolio during the financial crisis in 2008, when the market was panicking.

Again, it fell off a cliff, but again, roll forward a decade, and if you'd sold at the bottom or even looked to bank the gains once it'd recovered, you'd have missed out on this really significant upside. So I think for as long as our industry remains fixated on these old dials, there's this wonderful inefficiency we can take advantage of.

The next one relates to this massive conservatism and, I think, lack of imagination in our industry. In a deglobalising world that you mentioned at the beginning, it feels to me as if a lot of investors and market participants are becoming more and more entrenched in their views.

And a lot of them are locked in to the bottom-left-hand corner here, they're focused on dodging downside risks, they've got a mindset of extreme pessimism, they're really short term, and that means they spend most of their time trying to predict and digest very similar information to each other, short-term macroeconomic data, geopolitical knowledge, interest rate expectations, what's going on in the Middle East right now and so on. And they're trying to model the implications out with these really spurious levels of precision

And then you've got this other cohort of people, in the top-left-hand corner, and they're the tech utopians, a lot of them on the West Coast of the US, who think that technology will solve everything. They're a pretty elite bunch, often in quite wealthy little enclaves, and that means they often lack an understanding of societal nuances, and they can be pretty short-term as well because their main focus is on how to become billionaires in short order, rather than trying to address big societal challenges.

And I think what both of these cohorts have in common is they typically rely on this narrow set of mainly Western information sources. And these self-reinforcing echo chambers are opening up a massive opportunity for us, as investors, to step away and think differently, using a much broader set of inputs, academics, scientists, authors, anthropologists, to think about really long-term

possibilities to the left of the decimal place, rather than trying to assess short-term certainties to two decimal places.

And I think the wonderful opportunity that comes from that is shown on this diagram. And what we're showing here is the multiple of return that a company can generate from compounding at different rates over different periods. For example, if an investor can make a 1.5 X return from a stock that grows 10% over four years, or they can make that same return from one that grows at 20% per annum for two and a bit years.

But the really exciting bit happens on the top-right-hand side there, because if we really stretch out those time horizons, as we've just been discussing, you can get some interesting outcomes. If a stock grows at 20% but for nine years, it will deliver a 5 X payoff. And if it grows at 30 X per cent for that period, the payoff is 10 X.

So this is the magic of compounding, it's the eighth wonder of the world, really. And this alchemy is on offer to every market participant, but not many people actually tap into it, because most investors are stuck in the grey zone, and that's because being long-term requires a mixture of patience, it needs stubbornness, it needs humility, and it needs the ability to weather these periods of underperformance at both a personal level and also an institution level.

So when I think of the most successful investments that have ended up there in the dark green zone, they've all gone through these incredibly tough periods where there were so many doubters and it required quite a lot of fortitude to hang on.

And I think that leads directly into the third market inefficiency. Most investment managers are absolutely terrified of losing money and losing face. And that's because they're measured over very short-term time periods. They're worried about making one or two poor or embarrassing investment decisions that might lead them to lose a bonus or lose a job. And I think ultimately ego, ambition, fear, means they end up hunting around in that bottom-left-hand corner of the previous slide, because that's the best way of them avoiding risk and sleeping easily.

But what actually should keep people up at night, from an empirical point of view, is sins of omission, the stocks that they never buy which go up a lot. For us, that's stocks like Nike, which has posted incredible returns over the last few decades. We've never owned it as a firm, despite all the research notes we've written on it.

And we also try and learn from the stocks that we could have got to a bit earlier. Stocks like Netflix which went up 4x between the time of our initial research in 2011 and then our purchase in 2015. So yes, we still hold it and it's gone up 9x since, but from an investment perspective, from a process point of view, what could we have done to make us buy it a bit earlier?

And we try and learn from the stocks we sell too early as well. Apple went up about 7x during our holding period, but it's risen another 5x since we sold it in 2014. So what would have made us hold on to it for longer?

And I think that third big inefficiency in our industry then, to sum this up, is that most market participants spend their lives trying to dodge the two mistakes at the top, and that means that we can instead spend most of our lives trying to learn from the three mistakes at the bottom.

Doing that requires intellectual honesty, it requires a sense of shared vulnerability, it requires the trust of colleagues, but it may be where our biggest advantage lies as a firm because our partnership structure I think gives us a higher, if you like, institutional learning rate. And I think that's something, again, you should always ask your managers about.

So I think together it's these inefficiencies that underpins some of the biggest dislocations in the market at the moment. And just as a way of bringing this all together, before we open up to Q&A again, I think it's quite interesting to look at a few comparisons.

When we look back at this period in ten years' time, what might seem a bit odd? Might it seem strange that a company with over a third of the world's battery share was worth less than a quarter of Exxon? Might it seem strange that a company with arguably the most advanced computational drug platform is worth about 5% of a traditional pharma company? Might it seem odd that the world's most important communications company was worth less than 10% of Apple?

I think in a decade from now, people might look back at these dislocations between ageing incumbents, if you like, and these newer, more adaptable companies as being quite odd.

Ultimately, I think there's a choice here to be made by investors. Do we want to embrace and lean into this new era of investment by backing the most adaptable and future-proof companies, or do we just want to ring the sponge on the last few drops of the old shareholder value movement? And of course it's an individual, it's an institutional choice, but quite an obvious one in my view. So I'll stop there and we can continue the discussion over Q&A.

**SD:** Thanks, we'll rattle through quite a few questions, I'll try and group them together a little bit. Let's start with people asking about both Nvidia and Tesla, they're obviously quite different firms at different stages, but the common theme here is, in the case of Tesla, what do you do when your growth scenario appears to be slowing down?

And then, as a sort of related question, in the case of Nvidia, everyone loves how rapidly it's growing, what are you seeing that the market isn't seeing? So very abridged versions of those two, please, Tim.

**TG:** Tesla, obviously we've held it for decades and it's a really interesting juncture now, because the obvious issue here is massive price competition, and we hold a number of the Chinese companies as well, so there's the question about they may not be able to outrun the short-term EV slowdown, but to what extent will their vertical integration and their superior margin structure ultimately present them with an opportunity to drive down, ride out those cost declines and emerge in a much more consolidated industry in a more profitable way? So that's a question about what kind of

returns can they earn on their cars on a five to ten-year view. That's a very, very live debate.

And the other one relates to their autonomous driving software, which I say slightly with a wry smile because people will say you've been talking about that for a long time, but we do think they're making progress on that, and if they can earn a software-like revenue stream on licensing them out to 10% of the global car fleet on a ten-year view, what kind of margin and return structure might that translate into?

These are the kinds of debates that we're having around Tesla at the moment. In aggregate though, we have taken a lot of money out of the position over the last five, six years, and there's quite a robust debate around that, and holding some of their competitors, like Rivian and like BYD and other portfolios, at Baillie Gifford is helpful in terms of calibrating their competitive advantage.

Nvidia is a fascinating one. I think it's remarkable that that company's actually de-rated despite the share price appreciation over the last year or two, and that's a function of just how quickly they've accelerated. I think the question here is around the extent of the competitive moat that they have, and that relates to their CUDA ecosystem as well as their software architecture.

They've got over 300 million developers using that ecosystem now, and to our minds this is the kind of advantage that IBM might have enjoyed, or AT&T in the 1980s, IBM in the PC era, Microsoft, Sysco, Intel in the 1990s. It feels to us like Nvidia has sewn up the dominant architecture and ecosystem for the next five, ten years, and I think it's just the longevity of that growth profile and the extent to which they can earn very significant returns. It's that compounding.

So the insight relative to the market perhaps isn't as big on a six to 12-month view, which is why we've been trimming a little bit in many cases, but on a ten-year view, it's just the longevity of being able to compound away in an industry that they've effectively sewn up, and all the adjacencies around that.

So really interesting times. We do keep an eye on competitors, we hold AMD, for example, for some clients, but our current view is that Nvidia has an almost unassailable competitive moat around them, so don't underestimate the returns that can accrue to that.

And in some ways, it ties back to the mistake we made selling Apple in 2014, just underestimating the breadth and the profitability of the walled garden they could build around that.

**SD:** Okay, thanks, I hope that satisfies the question. China, inevitably, I guess we knew this was going to be a question, for these tailwinds is China contributing to them, or is it a headwind for the non-Chinese companies we've mentioned, I guess as well as Chinese?

**TG:** China, it's obviously a very interesting market to be invested in at the moment. We've done a lot of travelling there in recent months, a couple of colleagues just back from China, I was there in November, and despite the macro challenges they face, innovation remains alive and kicking, whether that's through companies like ByteDance, which is growing incredibly quickly but is worth

a fraction of Facebook, or new businesses like Little Red Book, which is one that we came across recently, user-generated content platform, a mere 300 million users. These companies are still spooling up.

And in particular, the government has a very clear objective around addressing big societal challenges in areas like healthcare, decarbonisation and social mobility. So I think ignore Chinese innovation at your peril. There's a whole separate discussion around what to be paid for these kinds of companies, but I think our starting point, at this point, is that China, when you look at the valuations, there is a really important role for some innovative Chinese companies in a portfolio, and potentially it's quite an uncorrelated return stream from this starting point.

**SD:** What about those companies, Tim, that are reliant on sales in China, which might become more different?

**TG:** I think it depends on the industry. If you take a company like BeiGene, which is, in some ways, seen as a bit of a domestic champion in terms of biotech, there's a massive market in China. For other businesses, like Alibaba for example, there's a bigger challenge, so I think you need to look at it on a case-by-case basis.

Some businesses, where we were looking for a company to need to expand into Southeast Asia, for example, to continue growing, the chances of that are now perhaps a bit more capped than they were, and so we've moved on from some companies that have basically reached full saturation in their domestic market.

Then there are other cases, like Meituan, we still think there's a huge runway for growth in the domestic market around online delivery, so we need to look at each stock on a case-by-case basis.

But there is this whole new generation of local heroes popping up in Southeast Asia, like SCA or Coupang in Korea, and these are companies that perhaps wouldn't have been able to grow as they were doing five years ago, because Alibaba would have just eaten their lunch, so there are some new local heroes that we're finding as well.

**SD:** Right, changing tack a little bit, do you see better growth opportunities in public or private markets at the moment? Which is the bigger pond, and how do you think about liquidity, etc.?

**TG:** We remain of the view that there is this whole cohort of companies growing up in the private markets that, in any other era, would have listed a long time ago but they're choosing to remain private, partly because they want to avoid the quarterly merry-go-round, and whether it's ByteDance or SpaceX or all manner of really interesting private companies, that source of innovation in the private area remains very, very strong.

And we continue to see the private markets as a great way of us developing relationships with management teams, getting to know companies before these businesses IPO. I mentioned Joby Aviation earlier, for example, in electric vertical take-off and landing, that's a company we've held

since it was private, and it's helped us develop that relationship with the management team over the long term.

I think it's quite interesting looking at the nature of some of the companies in the private markets now. A lot of, perhaps, VC-type investors were, in the private area, used to analysing two-sided consumer networks, social type platforms, but a lot of the businesses that we're seeing in the private markets now are perhaps more capital intensive. They're addressing physical challenges around manufacturing, decarbonisation and so on, so it's a different type of capital that they're maybe attracting.

There's a whole debate around how to value private companies, and we have what we feel is a very prudent and robust approach around that, but we do think that a lot of these companies are under-recognised and under-appreciated relative to listed businesses.

So the imperative for us to continue exploring private opportunities as a firm remains very, very strong. And it's periods of volatility like this that actually provides us with our competitive advantage in terms of patient capital and supporting those managerial visions for the long term.

**SD:** Okay, thank you. How are Baillie Gifford using AI internally? Well, I think maybe I'll give a quick answer on that, while you're thinking about it. One of the ways we are using it is to interrogate our own research database. We have literally thousands and thousands of research notes that have been written over the years, probably tens of thousands. One of the things we've done is trained ChatGPT on it, that's allowing us to extract from our own research database some of the key highlights.

I'm not saying it gives us answers that we wouldn't otherwise come to, but I think it's a hugely efficient way of summarising what we've done. I asked it the other day to contrast Symbotic versus Ocado, which are sort of adjacent businesses. It was tremendous at summing up what the key similarities and differences are. So that's one way. Tim, any other thoughts?

**TG:** Yes, we've got a tool that lots of people have access to and can experiment with. We've been experimenting with using it to record stock discussion minutes and summarise those. And what's quite interesting then is you can start to help it, if you like, augment your investment diary.

So you can say, when was the first time machine learning featured in any of our stock discussion, and it might say 2013 or whatever. How have our views on X, Y and Z evolved over time? I'm really excited about the potential for us to use it to surface and share more of our archives with our clients.

It's like the British Museum down there, if you look at Baillie Gifford's intellectual capital archives, and I think we can do a much better job of using AI to help surface and interrogate it for clients, to provide some historical context around how our portfolio's evolved.

So we can use it, if you like, as a sort of investment assistant to work alongside our human



investors and improve our portfolio discussions, but we can also use it to improve the insights we provide to clients. So a really exciting area.

**SD:** Good. Okay, so we can run on for another ten minutes, but just to reassure everyone, if you have to go, we'll forgive you at this point because we're running over. But we'll keep going, hopefully it's interesting enough to hang on to some of you.

Tim, this is the million-dollar question. What example would you highlight of a portfolio position that BG believes will generate ten times in the next six to eight years? There's a poisonous question, a toxic question, but go on, have a go.

**TG:** I think I might cheat and cite a couple of different examples, because there are different ways of reaching 10 X. But I think Joby Aviation is a fascinating business. It happens to be the company on the slide at the moment, on the left-hand side. This is an electric vertical take-off and landing aircraft, very early stage. To put it into context, they've delivered one aircraft to the US Department of Defence, but they have plans to build hundreds over the next couple of years.

So this is a bit like looking at Tesla in probably 2009, when they'd just built their first Roadster, but we believe that the vision is absolutely there and the execution and the regulatory environment is coalescing around some of what they do. And so if you think that they can provide rides for the price of an Uber and they can do that over short distances, 25-mile, 30-mile use cases, and the urban infrastructure will develop, and the licensing, in a way that supports that, then ten times is probably conservative.

The one thing we can say is that will probably be a much more binary outcome than a company that might just grow and compound away at a much steadier rate. So the other example, at the other end of the spectrum, with a well-established business model, would be Dexcom.

It's a very sad use case in the sense that, as I mentioned earlier, it's all about diabetes prevalence, but at the moment we think that they are less than 1% penetrated in terms of their devices being used in global diabetes sufferers, and actually some of the chat about GLP-1 actually cements the need for their services. So they will consistently compound away at 25%, 30% per annum, earning really, really decent margins, and if you do that for 10, 15 years, you can get to more than a 10 X return as well. So two quite different ways of getting there.

**SD:** We'll be back here in eight years to reexamine both of those cases. How do we decide when we've made a mistake and it's time to move on?

**TG:** I think that's a really, really interesting question. I would say sometimes we don't know whether we've made a mistake until several years later. And I think there's a difference between making a process mistake and then what might happen in terms of shareholder outcome.

If we sell a stock today and it goes up over the subsequent six months, that doesn't necessarily mean it's a mistake. It might only be that over the subsequent five years we can establish what the

mistake is.

As I mentioned earlier, there are three kinds of mistakes. There's omission, belated commission and premature capitulation. And I think it's been a really interesting period, with all the lumpiness around COVID, in terms of establishing which business models have settled and which ones have some way to go.

If you take a business like Zoom, for example, during the pandemic, basically the whole long-term investment case played out in the space of six to 12 months, which was quite frustrating. And then, coming out of that, the decision was do they still have a competitive advantage, how much time should we give them?

And I think the hardest ones are where actually we're right on the demand side case, like we're using video conferencing at the moment, but the returns are accruing elsewhere. The returns are accruing to Microsoft. So I think the hardest one is where you're right on the top line intention around industry growth, but you're wrong on the competitive dynamic. And being very alert to that is very important.

Team-based decision-making helps. It's very important to depersonalise investment decisions. That's why we try and have everybody in a team covering a particular stock, rather than this person's responsible for stock A and that person's responsible for stock B. It makes it much easier to be objective.

And I think the other answer to that question is around competition for capital. If you have a strong ideas pipeline, then it sometimes makes it easier to move on from a position that's not working out, and it's really, really important, a bit like a football team, to have a strong subs bench, so every stock in the portfolio needs to constantly justify its position in the portfolio.

And what's exciting at the moment is not only do we have very high conviction in the positions in our portfolios, the turnover remains low, but we also have a really, really strong ideas pipeline jostling for position. And that tension is important in terms of acknowledging mistakes and moving on where an investment case is not working out.

But I would say that our most common mistake is actually moving on too early, and there is a danger that, as a long-term shareholder, you can just get a little bit bored, and sometimes we have actually just... A stock can continue to go up 20%, 30% per annum for a very long time after you sell it, and then you have to look at what you recycled the money into, and look at both sides of the trade, and was it worthwhile?

**SD:** Thanks. We'll do two more and will wrap up by the hour. A lot of these are big-picture, abstract stuff, so I'm going to ask you a couple of the more granular ones now, a bit of a test. NIO and its battery swap, will they survive this period of investment and negative cash flow?

**TG:** This is a Chinese electric car company, for those that aren't aware, they've developed a really

interesting brand in China. We backed it when it was private. Very interesting founder, who we really admire, in William Li. And it's been through a very bumpy period since it IPO'd.

Their thesis is around battery as a service, so you can actually buy the car without the battery and then have a subscription service around battery swapping technology. And so it's a slightly different model.

For some funds, we've been selling NIO because we just feel although they've got a great culture and management team, they're going to really struggle to survive this period of intense competition.

I think the ultimate model around batteries is really interesting to think about. I think if you look at charging rates, if you extrapolate, today, you've got about, on average, 13 miles a minute at a charging station, if we extrapolate that, five years out, you can get to 50 miles a minute.

So if you end with battery chemistries that allow you to add 400 miles or kilometres in a couple of minutes, on a ten-year view, maybe you don't need battery swapping. So there's a whole interesting question about which model will win out, and the chemistries around that, and that ties in to this question. We have CATL, their new innovations as well.

But NIO, really admire the founder, really admire the business model, but think they're going to struggle to weather the current environment. So some big questions around that at the moment, and some portfolios have been moving on.

**SD:** Got it. Last one, it's very specific but probably a good one to finish on. How do you think about stock-based compensation and our definitions of cash flow? If we do think about it, how do we account for what is effectively an expense, or at least a dilution?

**TG:** Firstly, couldn't agree more with the gist of the question. It is an expense, and a lot of companies out there tend to try and disguise that fact. So we absolutely need to be thinking about it as an operating expense, and we've done a lot of work with our risk team to look at stock-based compensation as a proportion of sales and earnings.

And that's an ongoing dashboard that we have. It's obviously particularly prevalent on the West Coasts, it's particularly prevalent in industries like healthcare and SaaS-type business models, but we need to be absolutely factoring it in.

And it has led us to move on from a couple of companies that we haven't felt have been accurately representing stock-based comp in their financials. And I think it is an area where the market perhaps doesn't always pay as much attention as it should do. So yes, where you get companies that can grow very profitably without recourse for stock-based compensation, Adyen would be a great example of that, we think it provides them with quite a big competitive advantage.

**SD:** Right, thanks, Tim. I think we will wrap up there. I hope everyone has found that useful. Thank you very much for attending. The general idea, I think, was just to try and provide some thoughts

and reassurance that we do think the outlook, if not generically, for growth, the outlook for some of these companies that are in the sweet spot of change is pretty strong. So we hope you've given you that impression, reminding everyone to think long term.

We got through most of the questions. There are a couple, I think, that we didn't, so we can pick up on those separately. If anyone wants to follow up, you know where to find us. Thanks again for coming, and enjoy the rest of your day.

**TG:** Thank you.

## Long Term Global Growth

### Annual past performance to 31 March each year (net%)

	2020	2021	2022	2023	2024
LTGG Composite	10.7	104.4	-18.1	-18.1	26.2
MSCI ACWI Index	-10.8	55.3	7.7	-7.0	23.8

### Annualised returns to 31 March 2024 (net%)

	1 year	5 years	10 years
LTGG Composite	26.2	13.9	14.7
MSCI ACWI Index	23.8	11.5	9.2

\*Inception date 29 February 2004.

Source: Baillie Gifford & Co and MSCI. US Dollars.

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