

The source of all information in this video is AXA Investment Managers as at 24 July 2017. Learning outcomes: 1. How demographic change is impacting the global economy 2. Why revenue growth is an important component of long-term stock returns 3. The growing influence of robotics in manufacturing

MATT LOVATT: What's long term? It's kind of tricky Mark if I'm honest. Our perspective when we look at companies is always to think how long do we want to own this for? And our perspective is often forever, frankly. What we're trying to do is find a company with a business strategy of at least three to five years. So if I had to put numbers on it I'd put three to five years. But really it's for longer than that. Because as long as the company executes its strategy at the outset, that's the kind of perspective we see. And indeed actually when you look at chief executives and how they're kind of operating, what time horizon they're operating on, typically they're operating on a three to five year view. So I'm very keen on thinking long term. You know, it's going to be out in that kind of range rather than anything shorter term.

PRESENTER: Are there any particular pros and cons of an approach like that? MATT LOVATT: There are challenges. When you're a long-term investor the challenges are shorter-term volatility. So the market can get obsessed about features, events, stories, and can derail your or a company's longer-term perspective. And you have to ride through that. You have to have a singularity and approach, I think, when you're thinking longer term. That I will for short-term measures, short-term periods struggle a bit, my portfolio might struggle, but you have to just ride that through for the longer-term success.

PRESENTER: But given so many analysts, investors we hear are thinking ever more short term, doesn't that mean there's a mismatch between the way you're looking at companies and the mismatch others are looking at companies? MATT LOVATT: I think the way we look at companies is the way chief executives look at companies as I said. I think the way that we as an industry are becoming more and more short-term focused is to our detriment ultimately. I think that when you read the media, when you read what comes out of investment research, often it's very myopic. Often it's next week or next month or next quarter. And the reality is the chief exec cares about that because he's got a path. But he's thinking five years out am I going to be making my market share growth, am I going to be building my success in the way that I envisaged in the first place? So I think our alignment is very much with the corporate strategy, and that's where we sit, and I think I'm more comfortable doing that, but as I say that may in the short term you can be derailed a little bit.

PRESENTER: So the remuneration structure of management must be crucial given what you've said. MATT LOVATT: Yes, I think the alignment of interest is right across the business. So we invest for a three to five year view. We invest in companies on that perspective. We listen to their business strategy on a three to five year view. And then also we like to see them rewarded off their success on that kind of time horizon as well. The quarter-to-quarter shape of earnings estimates, earnings delivery is too focused on that very short term. The reality is, is the company making that kind of strides towards its longer-term strategy?

PRESENTER: And behind all these stocks are what you call mega trends, what are they? MATT LOVATT: Yes, so when we think long term we have to look at businesses. There was a piece of work done by BCG. This was about three/four years ago, BCG did an analysis, and they looked at the structure of holding periods for companies in markets. So if you were to hold a company for a year what really drives the company's success? And no surprise multiple is the most important thing. So timing your decision into the market becomes a very important decision if you're thinking on a one-year view. If you're thinking about a 10-year view, what drives the company? It's about 70, over 70% of the returns accumulate from revenue growth, top-line growth, i.e. market share. So we have to think, when we're thinking long term we have to think about that long perspective of companies, and it's about market share growers. So our mindset is always to focus on market share growth. And when you're thinking that long-term perspective, sometimes there are big secular growth trends around in the markets. I think more recently in the last five years I think the world has, the investment world for all my almost 30-year career has talked about demographics. But right now it's really in the focus of both investors but also corporates. So the way these kind of bigger

themes are playing out is it feels like they're happening right now. So demographics is one, and the other major trend we look at is the implementation and adoption of technology. So technology has been evolving rapidly, but feels like it's really biting. And what I mean by that is the adoption of both consumers and industry to technological changes is really fast. So there is a real material pickup in that.

PRESENTER: Well, you mentioned demographics; can you put a couple of numbers on that just to give us some sense of what we're talking about? MATT LOVATT: So there are two big demographic trends that we look at I think that are important, and one is ageing. And I'm probably the youngest baby boomer around, I think official it cuts off around my birthday. PRESENTER: Your birthday. MATT LOVATT: But the growth in ageing population is very material. So that economy is growing rapidly. By 2020 that economy is going to be about \$15trn. So the ageing population, the 60 plus age group will have \$15trn to spend. So that wealth shift is massive. And it's happened in Japan, it's happening faster across Europe actually, Italy, Germany, but increasingly in China and increasingly in the US. So when we think about it, we've got to think about what are corporates doing, and are corporates looking at that wealth shift, and that longevity economy that I call it becoming more and more material. That's one. Do you want me to give another? PRESENTER: Please. MATT LOVATT: The emerging world is the other big trend which I think is most talked about: the movement of people out of poverty into the middle class. The pace of change there is huge, and there are about 30 households a minute according to numbers released moving from poverty to a middle class, i.e. earning some kind of material income and starting to change their lives. That movement of consumers, I think across Asia it's about a billion and a half, two billion consumers in the next 12 years are going to move from poverty to middle class. That's a huge wealth shift again in the economy. When you're a corporate you've got to start anticipating change. So both of those areas you think should I think about how we sell our products to that 60-year-old, or that 70-year-old? Yes, you probably increasingly should. And should I think about how I sell my products to a middle class consumer in the emerging world? Then definitely yes, and I think companies are reacting and responding to that. PRESENTER: Is there a danger that you end up extrapolating your vision from today and putting that out into the future? And the two, the reality and what you think reality is diverge quite spectacularly over time? MATT LOVATT: Yes, I think there is hype. And we see hype emerge. We're talking about the short term, I must admit we talk about themes such as technology influences, and we think of hype in the past. We think of 2000 and all of the dotcom bubble. And that was very material. But there is a point I think where it gets beyond hype. Early stage adoption of changes in industry are often not very commercial. If I take one example that's been around, had capital flooded at it for a number of years is 3D printing. What an amazing concept that digitally you can express a desire for a product and it be printed at a local manufacturer. It's a huge potential business because we're talking here of a reversal of all of the offshoring trend of the previous 20 years. So this would be local manufacturer where you need it almost at point of sale, revolution. Huge amounts of capital chased it. No one's ever really made much money in that industry. So we've sat out from it, and thought actually we need to wait for it to evolve. So in technological change I think we think of two principles. One is it often takes longer to prove commerciality in a technological change than you expect, so be patient. So 3D printing will be impactful, I'm not saying it won't be impactful, it will be impactful, but maybe we just need to wait a little while before we see the commercial evidence. And the second thing is once it becomes commercial actually it affects far more customers than you ever expect. So those two things are kind of principles we think about with technology which become quite important. PRESENTER: Is this any different from the themed funds we've seen launched in the past; I mean there are healthcare funds, biotech, financials, technology? MATT LOVATT: I don't think they are. I think they are more sector-based activities. So historically what we've done is think about the world by sector. So we think about it by those blocks. I think what we're seeing now is evidence of multi-sector companies. You know, what is Amazon? Is it a technology company? Is it a consumer

product? Its web service business is huge. What kind of activities are these businesses in? And we're seeing more and more businesses not being confined to a single sector – which means that actually increasingly we're looking more broadly than that and thinking about these themes in a wider context than a single sector. So be it we think about financials now, we think about two big trends is the impact of technology on financials, and the impact of the emerging markets and middle class and the new customers. So supply of customers but also supply of product is more broad than it used to be. So in there we're thinking about a broader set than just a bank. So I think the way we're thinking in the investment industry is changing. I must say geography, company listing, where it's listed is largely irrelevant. So whether it's a UK company or a Taiwanese company it doesn't matter particularly to our investment assessment. What matters is where its consumers are, how it sells its product. And equally I'd argue probably now sector's becoming less important. I think many of the sector definitions were created when I first started in the industry I think. And I don't think they've changed. But I think business has changed. So I think it's a natural evolution, if you like, moving away from sector into a broader thematic approach, but we're seeing this much more widely adopted. PRESENTER: So if you like will the index providers be able to catch up with this? Will they need new definitions of sectors or is that old way of looking at companies hold hat? MATT LOVATT: They're just starting, actually, because the technology area. And I saw an article this week about GIC sectors - the global industrial classification sectors - and they were looking at technology companies, because all of these technology companies, defining what Google is or what Facebook is or what Amazon is, is quite tricky, and which sector they should go in, and they are starting to look again at the sectors. In a sense, they're just catching up with where the companies are moving. So if you always look at sectors, you're looking really in the rear-view mirror; you're not looking quite so forward. So I would advocate that you should think about sectors much more broadly from a forward-looking perspective, and that's where I think the themes are trying to take us. PRESENTER: But at this time where everyone's getting very excited about the companies of the future, what does this mean for valuations? MATT LOVATT: Yes, valuations are, that's where you get the hype occurring in companies. You can get slightly over-extended multiples at various points in time, so I think you have to watch valuation quite carefully. I think you always have to put it in perspective of how the company's growing. So as I said we're looking at businesses in this space where you're seeing market share growth, top-line growth, revenue growth. You've always got to think about the multiple in context of that growth. So you can see multiples 20, 30, 40 times, but at the same time you can see there are companies emerging in these areas that are growing 20% a year. The multiples contract massively when you get that amount of increase in the earnings base, so context of the growth and the perspectives for what the company can achieve are very important. But yes, it can happen, we can get overhyped and we have to be careful. PRESENTER: Are megatrends any use at all to an income investor? Because you've been talking, this is very much a growth phenomenon. MATT LOVATT: I'm talking more about revenue growth, and I'm talking more about market share, which instinctively I think in the longer term is where you want to be. But income can be important, and it can be an important part of these companies' evolution. So over time there will be moments when those companies are quite happy to release capital back to shareholders in the form of a dividend. It doesn't mean it doesn't happen. I divide up the world into what I'm calling about these themes, these demographics, into what I call a new economy, so the new economy where technology and demographics is moving a lot faster. So I'm talking about growth rates in this area of maybe 10 to 30% growth. In that new economy I looked at creating what that universe looks like. It still yields me 2%, so it's sub-market. And in the old economy as I call it, many of the more traditional businesses, we might be yielding over 2½%. So you're getting more of a premium. So younger businesses don't tend to pay a dividend, but it doesn't mean that they don't. PRESENTER: I suppose one thing we've seen particularly with technology companies is they can get very big and take these huge dominant positions – if we think

of the likes of Apple or Microsoft type. Is there a size beyond which a company just can't naturally grow; it just gets too big? MATT LOVATT: Yes, their ability to get this far has been extraordinary. We had a talk from one of the Googles, head of their European business. And he said essentially we look at innovation - because these businesses are born out of innovation - we look at innovation, and they try and centre it around the individual. So if you Mark were a talented creator of some vision that Google are interested in, they'd let you run your business from wherever you wanted. So if you were based in a penthouse flat in Copenhagen, you could run it from there: we'll get a couple of guys to support you, we want you to free think. So companies are adaptive in how they do research. They don't have, they might have an HQ where they're thinking about the ideas, but they often think about creativity a different way. So that ability of companies. So Google will invest huge amounts in people and their ability to create and innovate. And they'll use them the best way those people need. So they're quite smart about adapting rather than having three million researchers writing programmes in some building in Silicon Valley. Their creation is using people from around the world, and using it in a smart way. So I think those companies' ability to innovate is their key thing. PRESENTER: So as you look out over the future is this about new or newish companies like Apple, or can existing companies evolve into this new world? MATT LOVATT: Yes, I think that's what's really interesting, we're seeing companies change. Now, there are many companies out there talking about their digital strategy and how they adapt to a newer world, but there are some that are really doing it. I'll point to a couple: Philips Healthcare - Philips that we know of and love for our CD players or our Walkman's or our... PRESENTER: Light bulbs and things. MATT LOVATT: Eight-track stereos, always been innovators, always focused around electronics historically and light bulbs. They've divested most of that electronics business. They've moved themselves and acquired businesses in CT scanners, healthcare diagnostics, and have become Philips HealthTech. You know, actually they've done it over a period of 10 years, but really in the last three years they've evolved their business, and they're moving. And so it's not just about the new, the brand new business, the creative entrepreneur that's got some amazing bit of technology or something that he's applying in the world, or the big monsters that are the much bigger companies. It's also the old economy, as I call it, adapting and moving in and changing. Siemens is another interesting one, because traditional industrial kind of business, but 20 to 30% of their revenues are now about their software sales. So they're selling software into automated factories and factory of the future as we call it, where software is really driving a lot of industry. So businesses are moving, and I think that's a big business line, because the old economy is going to be a pretty challenging place to be in the next 10 years. PRESENTER: Well we've talked a bit about where the future lies, but can you talk us through a bit more where the future doesn't lie, which are the parts of the world that you think will be looking challenged? MATT LOVATT: The obvious ones might sit out things like high street retail, and I think pretty much every retailer is looking at its physical businesses. You know, the Nexts of this world have tried to adopt a multi-channel approach to their directory, their online business, really smart to move their logistics business forward quite aggressively, and I think increasingly we're seeing most retail businesses try and use multi-channel outlets. But the high street is the big challenge, and that's quite disruptive, and that's quite disruptive for property companies. That's quite, shopping malls and the use of stores. Some of the big luxury brands are using it as their come and have a look and see what our new range is and you can buy it online. So they're using them as flagship kind of stores, not necessarily that people purchase there. PRESENTER: It's a huge 3D advert. MATT LOVATT: Yes correct. And increasingly that brings us on to another thing which is augmented reality, but you are starting to see people use online as their way to sell their flagship. So I think things like high street retail is a big challenge in the next 10 years. Most of the retailers are adopting a strategy towards it. But where it'll be, and the outflow of that effect, what is the end effects on real estate companies, on broader communities, is yet to be seen. PRESENTER: Given all of this change you've been describing, how easy is it to work

out what you think a company's going to be worth in five or ten years, particularly as you were talking about Apple, you said is it a retail company, is it a logistics company, how can you do that? MATT LOVATT: Yes, really tricky, because you're talking about growth, big growth numbers. You're talking about big change. But I think most of the companies are formalising how they see, and giving us, when we meet the companies and we understand how the strategy is, you can break down where within what they do is driving the growth. So I think there's a lot of evidence from building up research of the fundamentals of a business, and that's where you get a lot of information from. But you are talking about, when you're talking about 10, 20, 30% growth, these are big numbers and big change for businesses. Their ability to absorb that change and still be as profitable as they were without hitting any roadblocks is very important. So management execution here is so vital. A lot of our time is spent talking to the company to understand how are they dealing with that huge growth that they face, and are they able to absorb it? And that's one of the assessments we have to make. PRESENTER: Particularly around the tech piece, doesn't this give any portfolio a massive bias towards the US and the dollar? MATT LOVATT: Yes, the US are, you know, whether we like it or not, they're kind of technological innovators, and it's interesting this geographical bias of intellect if you like. If I look at the technology in the industrial sector, it's originating out of Japan and Germany. So when we think about robotics and the application of technology in industry it is really those countries. The US probably more to harder core software businesses, chips, all of the advancements I think we're making in intelligence in systems, a lot of it's coming out of the US. But it's not just the US. So I think when we look at robotics, when we look at digital commerce, those kind of technological areas which are really on the focus of our horizon now, you're talking about 50, 60% of those kind of ideas coming out of the US. So there is innovation and change going on in other countries too, but it may be different in style and different in kind of classification of technology. PRESENTER: Do you see any evidence that China will become a world leader in some of these megatrend areas in the future? MATT LOVATT: Yes, China has adopted, China, there's a company called Midea in China, which is an industrial giant that bought the German robotics manufacturer KUKA. Now KUKA has been one of the lead developers of what we call collaborative robots. So robots used to be in a big aerospace factory or auto factory behind a cage, don't go near them as a human because they could kill you. So they're being a cage, and they're operating on heavy lifting, heavy industrial processes. I think the robotics companies now, and KUKA have been one of the big developers of this, have moved into collaborative robots so that you and I could operate together. If I'm the robot and if you come anywhere near me I just slow down or stop, because I've got sensors on me which are effectively vision systems on the robot. So the robot's no danger anymore. So all of a sudden this opens up a massive plethora of opportunity for robotics to apply to different industries rather than just auto and aerospace. This is a big change. And the acquisition by Midea of KUKA has led to some suggestions that the Chinese are really trying to build higher quality industrial product. They've got a programme going on called Made in 2025, where they're trying to raise the quality of products and industrial processes in China to a much higher level. Midea and KUKA are going to be very much part of that. So I think for sure Chinese innovation, particularly in industrial processes and robotics, is a massive opportunity set. PRESENTER: What is the growth potential around robotics? MATT LOVATT: So we look at it in terms of just, if we look at the pure industry of selling robots, which is a part of the industry, and a significant part of the industry but there is more to it than that, and I can maybe come onto that in a minute or two. It was running at about a 5% growth, and that was as I say largely driven out of auto, aerospace businesses. I think in about 2015 there was an inflection point, and it start to grow about 10 to 15% a year. So you're seeing that kind of growth now, and that's accelerating – because it's accelerating use. We had an event where we had a robotic barman. Now, you think pouring a glass of beer really nice and simple, which it is for a robotic, the guy can keep doing it all night. But the interesting thing is when the robot passes you the beer, think of the sensory systems that are in place on

its robotic arm as it hands it to you. It needs to make sure you're not going to drop it. So as the weight lifts out of it, it first of all can see you, where your hand is so is pointing towards you, but it also knows when you've got a grip of it because it can feel the weight lift and it records the weight, and then will let go and let you take the beer. So there are sophistications in these systems which are quite extraordinary, and that development is a big change to broader industry. PRESENTER: But what are the implications for people and jobs, because if everything ends up with robotics don't we just end up with a great massive unemployed? MATT LOVATT: Yes, this is a challenge. But I'll point to, I'll say a couple of things, I'm not going to give you an answer because I don't know. I think the way that human spirit has evolved - I think if we go back to the industrial revolution and how industry changed as a result of that - I think it was very material change. And somehow society, we managed to deal with that transition. I think somehow there is an ability of human spirit to adapt and change. I think jobs will change. So repetitive tasks, which frankly ain't great for the actual worker, it's a job for sure but it ain't necessarily a great opportunity for that worker. That may well change over time. But I think these changes will come over decades. So it's not like it's going to happen tomorrow morning that there'll be no taxi drivers or no lorry drivers or whatever it might be as a result of a change. It's going to be a multi-decade change, and I think, I trust society somehow will find a way to navigate that. So we'll create different ways of using the human intellect and flexibility that maybe you don't quite get through automated systems. PRESENTER: We're living in a period where there's a lot of worry about the lack of GDP growth out there just in the round. Does this vision of the future, does that make it easier to get GDP growth, less easy, it's all in the hands in the central banks? MATT LOVATT: Yes, I mean I think some of the changes we're seeing here as a result of the kind of darker times we've been through in the last 10 years. And the reality is it's hard to generate growth now, it's been harder. And part of it is we've had this dysfunctional world. So for some time China was going great and then while Europe was suffering, and then the US started to pick up. So it's all been a bit unsynchronised. It's becoming more synchronised, so this year I think we're starting to see more synchronicity and GDP being a little bit positive. So it's harder to grow, and therefore I think companies have had to be more efficient, smarter in the way they do it. So I think the evolution that we're seeing is robotics ultimately is about more efficient factories, which is going to be a good thing for industry. It's going to stand it in better stead longer term to generate more profitability and more opportunity for people. So I think all of these thematic changes are things where it's an adapting society, so societies. My use of my iPhone now has just increased exponentially over the last five years, and now it's become a reliant system for me. I need it to find out what's happening in my life. And increasingly I think that's becoming the norm. So we're changing, we're getting the benefit of a better lifestyle so I don't have to think so much, because my iPhone's doing some of it for me. But increasingly as society adapts that way I think it becomes more efficient and we can grow. So I don't think, I think the growth in the economy is more likely to drive out of this new economy than it is out of the old economy. But in the round I think we're moving in the right direction economically. PRESENTER: We are almost out of time, so a quick final question. If you're an investor and you've got your portfolio of fund managers, what can you do to work out whether they're taking this idea of a new economy and the way the world's going to look, if they're taking that onboard seriously? MATT LOVATT: Yes, it's challenging because I think every investment group will think about these themes. The headline is much more about what's going on in the new economy than the old. I don't always say that the old economy has necessarily got bad companies. You can get exceptional companies in high street retail that will still generate profit. But I think the investors have to have the mindset of change. I think the investors have to have the mindset that they're thinking about market share growth. They're looking at businesses that are expanding their books. And I think the opportunities are there. And I think most investors will be looking at markets now thinking about these themes. And I think you've got to start to think globally as well. You have to think about what the

opportunity sets, so I think most investment groups will think I want to be unconstrained, I want to go wherever I need to go to find the best opportunities. And I think undoubtedly that takes us into a new economy kind of world. The challenge for many investment groups is how do we deal with valuation and growth in that environment, as we discussed earlier, but I think the opportunities are very much there. PRESENTER: We have to leave it there. Matt Lovatt, thank you very much. MATT LOVATT: It's a pleasure, thank you.