3 June 2016

The Southbank Private Briefing

Premium

- **Are the bulls gone?**
- **Market-tracking fund are over-exposed to the US**
- **Are the Fangs about to fall?**
- **The big debt correction**
- **Why R&D works for investors… and where we're looking now…**

Henry Bonner

Welcome back to The Southbank Private Briefing. This week, we'll start with a special insight from Charlie Morris. Unlike most of our editorial team, Charlie is cautiously bullish on UK stocks. But what happens in Britain often tracks the United States (the only developed stockmarket that's back up this year). Right now investors are mainly "on the fence" about the S&P 500, as indicated by a recent poll. In this week's update, he told readers how he's treating the latest "sentiment indicators" and what they could mean.

Then, we'll show you two of the important ideas in this week's London Investment Alert, authored by Tim Price. Tim is more cautious about stocks and bonds overall, and he warned that most "diversified" funds are merely tracking benchmarks – the problem is that those benchmarks for global stocks are mainly geared towards the US. That means you're almost always buying into expensive US stocks and bonds when you purchase a low-cost diversified exchange-traded fund (ETF).

> "Right now investors are mainly "on the fence" about the S&P 500, as indicated by a recent poll"

Specifically, Tim explained that technology stocks are expensive – and they've been one of the standard-bearers for the rally in the US. A problem with the big technology stocks – including Google and Facebook – could start to sink the whole market. He explains why he's steering clear of these popular names.

Following in Tim's broad theme concerning over-priced stocks and bonds, Bill Bonner explained to paid readers of the Bill Bonner Letter what's really happening with debt levels in the US. Fewer private borrowers are willing to take on debt – but the government's appetite for debt is as high as ever, which is only exacerbating the problem of sluggish growth in the US.

Finally, as a premium subscriber, you'll find an extensive excerpt from Dr Michael Tubbs's latest update for paid subscribers. If you've been wondering why Dr Tubbs spends so much time looking at R&D expenditures and innovation, he explains why below… and shows you which areas of scientific research are especially attractive right now.

Please send me your feedback at henry.bonner@moneyweek.com. Tell us how to make the Briefing better. Or anything you'd like to see changed.

Where have the bulls gone?

Charlie Morris, *Fleet Street Letter*

US investors have swung extremely bearish. The S&P 500 has recovered from its big sell-off earlier this year, and is back around its all-time highs. But few investors are bullish.

The American Association of Individual Investors (AAII) Investor Sentiment Survey, carried out weekly, has been asking the same question to its members since 1987:

Do you feel the direction of the market over the next six months will be up (bullish), no change (neutral) or down (bearish)?

The results give us a clue as to how the crowd feels about the stockmarket. The survey hasn't seen so consistently few bullish investors since the early 1990s. The series is volatile and fickle. It shows you how the crowd can quickly turn from being optimists to pessimists. To lessen that effect, I have smoothed the data in the hope of making some sense of it. Currently, there's a severe lack of bulls compared to history.

The chart (fig. 1) shows you the percentage of bulls in red who think the market will rise over the next six months and the percentage of neutrals in black who think it will remain broadly the same. I left off the bears to keep the chart clean. They are the residual as it adds to 100%.

Many believe that the consensus data is something you should trade against. In other words, if the crowd is bearish, you should be bullish. I did some number crunching on this data. But before you expect some magical outcome, I can say that the results are as noisy as the data itself. However I did draw a couple of conclusions:

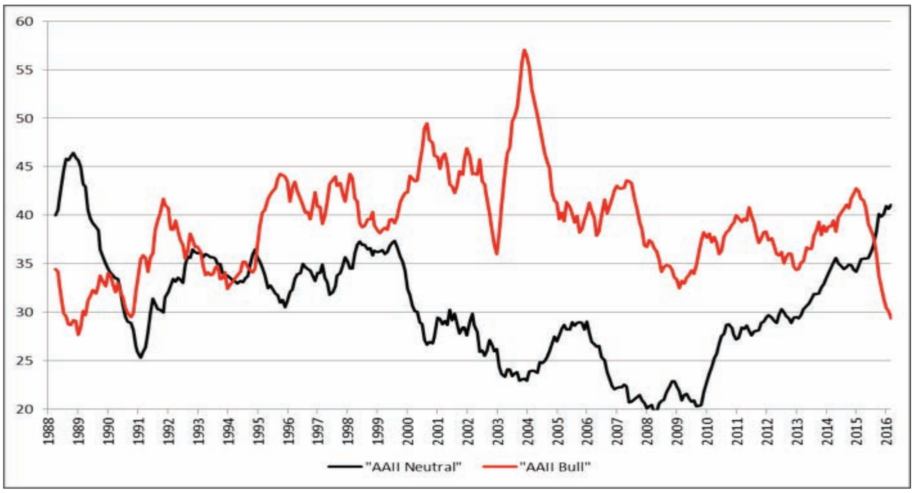


Fig. 1: Source Bloomberg, AAII – Neutral and Bulls since 1988 smoothed by a 12 month moving average

• It has rarely been wrong to buy the stockmarket when the percentage of bulls has been low. The late 1980s weren't great, yet the market did rise slowly rather than fall. The mid 1990s was an excellent time to buy (ahead of the tech boom) as was early 2009 (after the credit crisis) and late 2012 (after the Euro crisis). Could this be a buy signal before our eyes?

• Before you get excited, it hasn't been profitable to buy the stockmarket when the majority have sat on the fence. After all, they did in the late 1980s and the outcome was OK – just not great. And then again in the late 1990s (start of the tech collapse). That was a total disaster.

On the one hand, this data is telling us to buy the market, yet on the other it is suggesting that returns will likely be somewhere between modest and disastrous. That's unhelpful to say the least.

What is clear, is how unclear things have become for most people. Following the economic events we have witnessed in recent years, that's no great surprise. For Americans there's interest rate hikes and Trump to consider. For the Europeans there's jobs and immigration. For the British, there's a referendum just three weeks from now. Britain must decide whether it stays in or leaves the European Union. Which way will it go?

The accuracy of polling

In financial markets, it's well known that when the majority are bearish, the market ought to rise. That's because the crowd has already sold and the market can't fall without sellers. It's logical; as when the sellers are gone, prices can only rise.

The problem with this is who to ask. The crowd is not a bunch of people at a bus stop, because in markets the wealthier investors get more say. Financial markets are not a democracy. Those with the cash have more impact than those with less...

With the S&P 500 back up to its all-time high around 2,100 – a level where it's been hovering since early 2015 – and so many investors who are going to wait and see what happens next, this could be a "make it or break it" time for the general stockmarket.

Beware of "market-tracking"

Tim Price, London Investment Alert

It is one of the saddest headlines you will ever see. The Financial Times this week reported that the amount of money invested in passive funds since the global financial crisis had grown by 230% to $6 trillion.

Don't get me wrong. I'm all for low fees. It is universally acknowledged, and rightly so, that high fund management fees are a significant anchor that can drag down investment returns.

But the corollary does not follow. It is not automatically the case that a fund with low fees is naturally a superior proposition. Starting values matter. In many cases, they are practically the only thing that matters.

The single most important characteristic of any investment you make is the initial price you pay for it. Whether you're investing in shares, bonds, property, fine wine or classic cars, what you pay on purchase will be the biggest driver of subsequent returns. Everything else is of secondary importance. Price is what you pay. Value is what you get. (Or don't get.)

Take global stocks. Any manager of a global equity fund will likely be tracking, explicitly or implicitly, the MSCI World Equity Index. The current geographical composition of MSCI World is as follows:

United States:	**59%**
Japan:	**9%**
United Kingdom:	**7%**
France:	**4%**
Canada:	**4%**
Other:	**18%**

Figures have been rounded to the nearest percentage point.(Source: MSCI)

The Shiller Cape ratio, 1880 to 2016

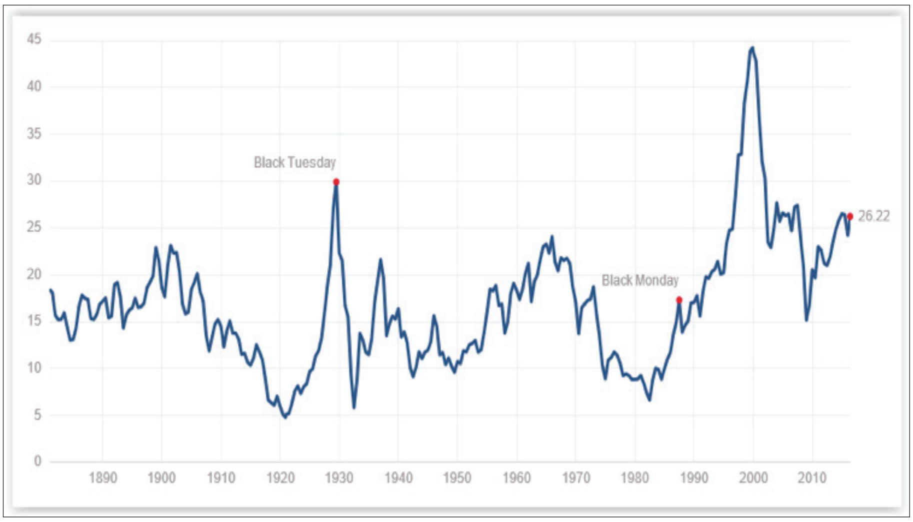


Fig. 2: Source – http://www.multpl.com/shiller-pe/

What that means is that any manager of a global equity fund is pretty much obliged to have roughly 60% of his portfolio invested in US stocks irrespective of whether there is any value in that market or not.

One of my favourite metrics for assessing equity market valuation is Robert Shiller's cyclically adjusted price/earnings ratio, or Cape. Cape is simply the ten year average of p/e ratios, smoothed to iron out the short-term volatility of the corporate earnings cycle.

One hundred and forty years of the Cape ratio, in relation to the US stockmarket, (specifically, the S&P 500 stock index) are shown above.

The US stockmarket currently stands at a cyclically adjusted p/e ratio of 26 times. That is higher than where it traded just before the 1987 crash. It is not far from where it traded just before the 1929 crash. Its long-term average, however, is 16.7 times.

In other words, if you believe the Cape ratio is a fair assessment of long-term market valuation, which I do, then the US stockmarket today is roughly 60% overvalued relative to its long-term average.

And every manager of a global stock fund is obligated to have the lion's share of his or her portfolio invested in it.

This is just one reason why the cult of benchmarking is a disgrace to the private investor. It is not fit for purpose.

The bond market is even more ridiculously overpriced. The chief economist of the Bank of England, Andrew Haldane, recently acknowledged that interest rates have not been this low for 5,000 years. Bond prices, in other words, have never been this high. Ever.

Which is odd, given that the world is drowning in debt. It's almost as if the laws of supply and demand have been rescinded.

Which is, in effect, what quantitative easing has wrought. QE, a state-sanctioned policy of inflationism, has buoyed up the prices of financial assets, not least stocks and bonds, and has driven down the interest rates deriving from those assets. Now is a uniquely terrible time to be a saver, investor or pensioner.

Now is also a uniquely terrible time to be a market-tracker.

Debt levels are correcting

Bill Bonner, *The Bill Bonner Letter*

If an economy could be said to have a goal, it must be to increase the well-being (the wealth) of the people in it.

And yet, despite an increase of credit-money at more than twice the rate of GDP growth, 95% of American men have actually lost real income over the last 46 years. Today, they earn nearly 5% less than they did in 1970.

And a new study from the Levy Institute tells us the US has suffered four lost decades since the new money system was put in place in 1971. For 9 out of 10 Americans, earnings growth ended in the early '70s.

How is this possible?

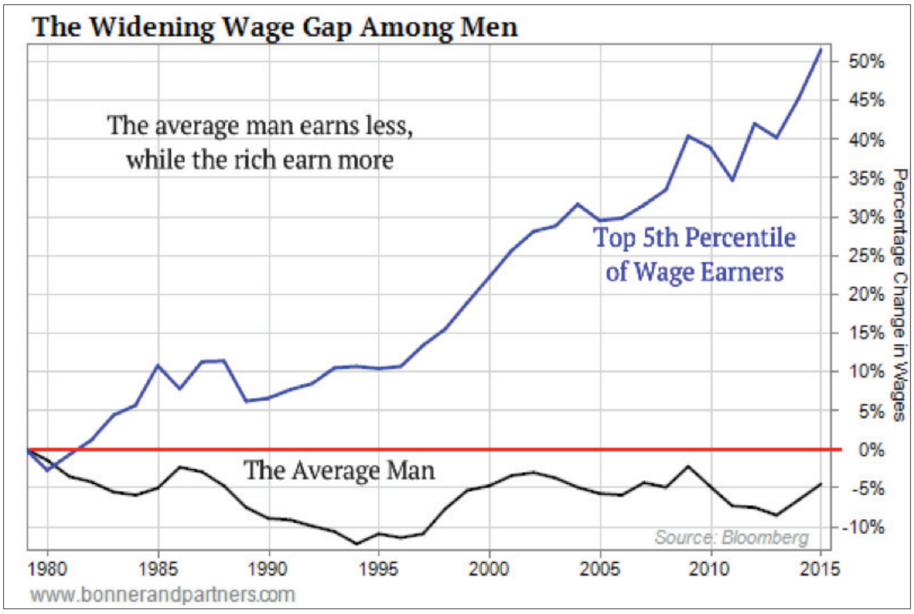
A society gets richer by saving its money (building capital) and investing it wisely. But it is the scarcity of capital – not the abundance of it – that is the key. Scarcity gives capital value and causes it to be used wisely, on projects that increase the economy's real wealth.

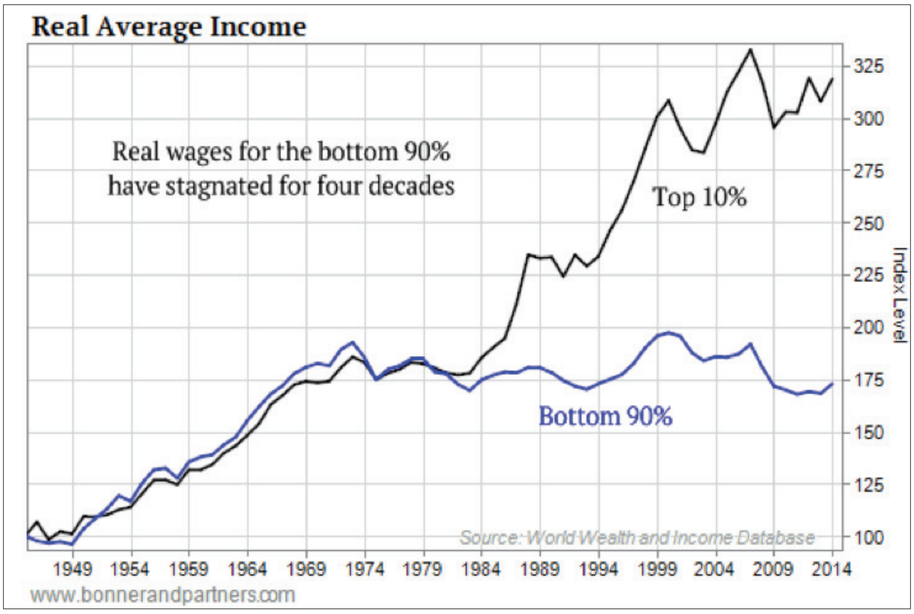
If the amount of savings appears to be infinite, capital tends to be squandered on consumption, stock buybacks, student loans, wars… etc, etc. This leads to less real capital investment, fewer productivity increases, and lower wages.

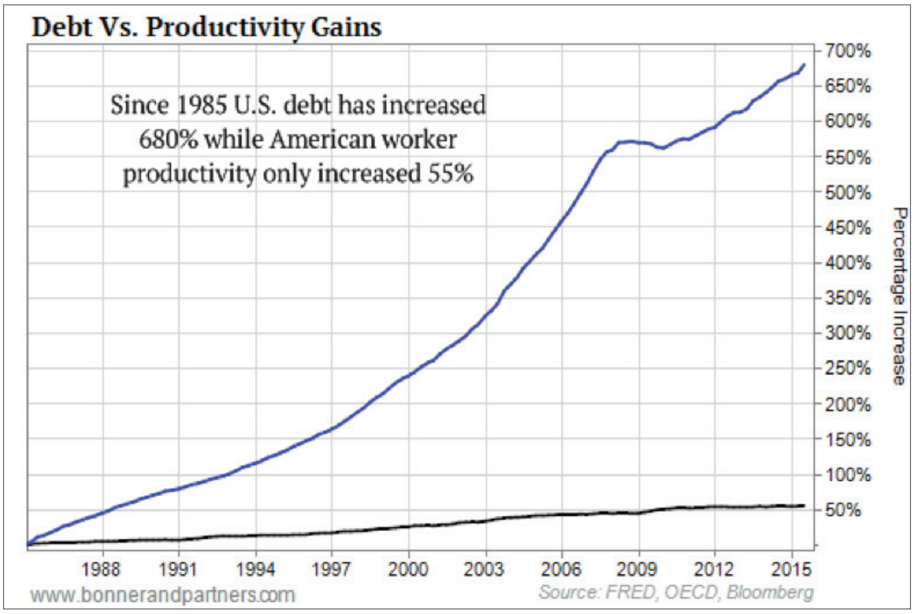
Debt is the flip side of credit; you lend… your borrower has debt. And the more debt there is in the system, the more you need robust growth to service it.

So you see… the whole system is self-correcting after all. Credit, credit everywhere, but hardly a drop has gone into the kind of capital investments that actually raise productivity and wages.

Debt increases, and then the







burden of debt itself decreases the means to pay the debt back, which ultimately (we're still waiting!) results in a credit crisis… debt defaults… asset-price collapses… and more.

And now, with so much debt outstanding, the private sector is pretty much tapped out. It is no longer creditworthy. It cannot take on any substantial new debt.

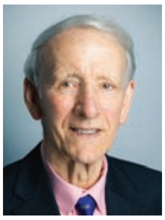
That leaves only one borrower still standing – government. Alas, government is probably the worst investor of all. Very rarely – and then only by accident – does government spending produce any positive return on investment, and it is practically never enough to justify the risk and expense.

As government takes over the role of major borrower and primary capital allocator, growth slows further… then goes negative… and the economy collapses.

There… now, you can see what our credit-money system has wrought and why it is doomed to catastrophic failure.

Why R&D stocks work

Dr Michael Tubbs, Research Investments



First, we are going to discuss the three ways in which R&D companies can develop or build successful and profitable positions in market subsectors or niches.

That's important since these are the routes many of our companies have followed to achieve profitable growth.

It helps to define three different types of innovation, and we'll use the classification developed in Clayton Christensen's two books The Innovator's Dilemma (1997) and The Innovator's Solution (2003). I used some examples from both during the time I was senior industrial advisor to what is now the UK government's Department for Business, Innovation & Skills.

Christensen distinguishes three types of innovation:

1. Sustaining innovations: bringing a better product to an established market.

2. Low-end disruptive innovations: a lower-cost business model for currently over-served customers.

3. New-market disruptive innovations: a new product competing against non-consumption (ie, consumers have not realised they need the product until it appears).

Sustaining innovations are "business as usual", such as a completely new and better model range for a car manufacturer or a much better smartphone (eg, Samsung Galaxy S7 Edge). Low cost airlines (Ryanair, easyJet) are a low-end disruption and, in common with many such disruptions, are gradually moving upmarket (eg, easyJet's Flexi option). New-market disruptions include the JCB hydraulic excavator (the world's first), Cobham's invention of air-to-air refuelling, the Polaroid instant photography camera and the inkjet printer. Some innovations are "hybrid" and have elements of two of the three types.

Very few established market players manage to compete successfully with disruptive innovators entering their market. However, the disruptor firm can also face disruption – BlackBerry (formally known as RIM) is a recent example. Conversely, it is very difficult for a new company to enter an established market with a somewhat better sustaining innovation; since the established firm's market position gives it time to come up with a competitive new product. I remember when I headed up an R&D department for Xerox that both IBM and Kodak – larger and longer established companies – entered the xerographic copier market but failed to make enough progress and had to withdraw.

We'll now take a look at some examples from our own portfolio with the emphasis on disruptive innovations. Then we'll discuss some potential future disruptive innovations.

Eight current and eight future disruptive innovations

Here are eight examples of companies in our portfolio that have successfully disrupted significant markets:

1. Alphabet used its Google search engine to build a commanding position in online advertising which is disrupting the advertising world. Other Alphabet products such as YouTube are extending the company's lead. The older types of media such as print, TV, poster and cinema advertising are suffering as a result of this disruption.

2. Intuitive Surgical developed its da Vinci robotic surgery system, which is disrupting the laparoscopic (keyhole) surgery market which was previously manual only.

3. Gilead Sciences developed effective anti-viral treatments for HIV and then a cure for hepatitis C. In both cases it rapidly added customers who previously had no effective options and soon became global market leader in each

disease area.

4. ARM designed power-efficient processor chips for early mobile phones, a low end market that Intel, the world leader in PC processor chips, did not bother with. But ARM steadily moved up to more complex chips and now has 85% of the world mobile chip market (smartphones, tablets & laptops). And the company is now in many other markets such as servers, automotive and the Internet of Things (IoT). Intel has tried but failed to make any substantial progress in smartphones.

5. Bristol-Myers Squibb is now leader in the growing market for immuno-oncology drugs with Opdivo and its combinations (such as Opdivo+Yervoy) now having five approvals in the EU for three different tumour types. Immuno-oncology drugs are proving to be effective for conditions that previously often had no effective treatments.

6. Victrex's PEEK high performance polymers. Victrex was formed by a management buyout from ICI which invented PEEK, an advanced high performance polymer that is light with excellent electrical and mechanical properties. It is increasingly used in aircraft and vehicles to replace metal and save weight. It is also used in medical components, consumer electronics, energy exploration and food processing. PEEK has disrupted higher value added component supply to all these markets.

7. Genus has developed gene editing technology to eliminate certain serious diseases in farm animals. The first application has been to develop PRRSv-resistant pigs. PRRSv (porcine reproductive and respiratory syndrome virus) is a serious disease with no cure. We reported last week that Genus has entered a collaboration with Caribou Biosciences to apply the latest gene editing technique (CRISPR-Cas9) to other livestock species and diseases. Genus looks set to disrupt the market for improved farm animals.

8. Victoza for type 2 diabetes. Novo Nordisk launched Victoza in 2010 in the US as the first in a class of drugs that stimulate the pancreas to produce insulin. It is effective for patients whose diabetes needs more than Metformin but who do not necessarily need regular insulin injections to control blood glucose. Victoza also results in weight loss, which is important since many type 2 diabetics are overweight or obese. Victoza is thus very effective but competes against non-consumption, since there was no effective treatment for these patients other than putting them on insulin injections earlier than necessary.

We now take a forward look at potentially disruptive innovations and the role some of our companies are playing, or hope to play, in bringing them to market.

1. Self-driving cars. Alphabet is the leader in self-driving cars having completed over a million miles of fully autonomous driving. It has recently teamed up with Fiat Chrysler to develop a mass market product. Armed with increased range and rapid refuelling, reasonably priced electric self-driving cars and vans are likely to disrupt the automotive industry.

2. Robotics. Many of the navigation technologies used in self-driving cars will be used in the next generation of robots, so it is not surprising that Alphabet is also a leader in walking robots made by subsidiaries such as Boston Dynamics and Schaft. Alphabet's Japanese company Schaft has recently shown a new lower-cost walking robot that can carry up to 60kg over uneven terrain and upstairs. Schaft won the inaugural US Defence Advanced Research Projects Agency's humanoid robotics challenge. Although static robots are widely used in manufacturing, humanoid robots have yet to find mass market applications – but they will, and Alphabet is likely to be among the leaders.

3. Novel batteries and fuel cells for electric cars and other products. An increasing range and shortening charging time at reasonable cost are the two major challenges facing electric cars, which are then likely to disrupt the automotive market. Progress is being made in novel batteries (such as solid state batteries), in improving lithium batteries and in hydrogen fuel cell cars. A hydrogen tank gives a range of 300-400 miles and can be refilled in 3 minutes.

4. An effective treatment for Alzheimer's disease? One of our portfolio companies has a Phase III pipeline drug (Aducanumab) and two Phase II drugs for Alzheimer's, a disease for which there are currently no effective treatments. These three drugs could all in different ways reduce or block the formation of the amyloid plaques in the brain that are thought to cause Alzheimer's symptoms and could therefore slow progress of the disease. That would be of enormous benefit to patients.

5. A cure for Parkinson's disease? Another of our portfolio companies has a Phase I pipeline drug, PRX002, for Parkinson's disease, a neurological condition with no cure. The drug is being developed in collaboration with Roche, which must have a positive view of its potential or it would not have signed up to the collaboration.

Then there are three disruptive technologies being developed by current market participants, so they could also be viewed as major advances in sustaining innovations.

6. A drug to reverse the damage caused by multiple sclerosis? All current treatments for MS slow down the disease but do not heal the damage it causes to nerves or cure it. One of our portfolio companies has a Phase

II pipeline drug which could restore nerve communication in MS patients. This is a case of the market leader in MS treatments developing a disruptive technology, which could therefore also be viewed as a major sustaining innovation.

7. EUV lithography. Another portfolio company has developed EUV (extreme ultraviolet) precision lithography for chipmakers to move to a smaller 7nm architecture, which will provide the next step in maintaining Moore's Law.

It is working with, one of the world's major chipmakers, to design even higher performance chips using this 7nm architecture.

8. MRI-guided radiotherapy. Another of our promising companies is in collaboration with Philips is developing a MRI-guided radiotherapy system which will enable real-time viewing of tumours and surrounding tissue during radiotherapy. This should allow precision targeting of tumours with higher doses of radiation combined with minimisation of damage to surrounding tissue. The third of seven prototype system is currently being installed at a major medical facility with the others due to be installed by the end of this year. Commercial sales should begin in 2017.

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