Cover story
Can markets withstand the removal of QE?

The withdrawal of quantitative easing marks a milestone in the economic recovery. Yet, it also causes anxiety among investors who have enjoyed a decade of asset prices rising alongside QE. Are the two related? Or are fundamentals strong enough to sustain markets as the post-crisis era gives way to the post-QE world.
konzept
Welcome to another issue of Konzept, Deutsche Bank Research’s flagship magazine. This edition, the eleventh, comes as memories of the first stirrings of the global financial crisis enter their eleventh year. A decade ago, subprime problems were thought to be contained, global stock markets were scaling record highs, negative interest rates were unimaginable, and barely anyone had put the words ‘quantitative’ and ‘easing’ together. That blissful ignorance met its demise soon after, and QE has been a feature of the economic and investing landscape ever since.

Therefore, the Federal Reserve’s announcement that it will begin rolling back QE is a defining moment in the post-crisis era. However, many investors remain apprehensive about its implications. After all, charts show central bank balance sheets and asset prices have climbed higher hand-in-hand. Does the planned descent of the former necessarily lead to the latter following suit? All three features in this Konzept are devoted to testing this hypothesis.

Our first feature notes that the post-crisis equity rally has been accompanied by an improvement in the operating performance of US companies. Investors can, therefore, have some confidence that corporate America is healthy enough to withstand the QE unwind. However, while the effects of policy normalisation may be benign in aggregate, there are pockets of the market that might be exposed. Read inside to see where these vulnerabilities lie.

The health of corporate America is also the subject of a second feature that investigates the hefty and persistent valuation premium US stocks command relative to European ones. Structural factors such as greater market concentration in the US and demand for dollar assets explains much of this premium. However, QE has also played a role. Find out how rolling back QE might narrow the transatlantic valuation gap.

Moving on to corporate bonds and our feature benchmarks current credit spreads against metrics such as default rates and the health of corporate balance sheets. It turns out that when assessed against these variables credit spreads are not too far out of whack, despite continual warnings of borrowing costs being too low.

Our usual array of shorter articles in the magazine’s front section addresses a number of other topical issues. Following Angela Merkel’s underwhelming election victory, our first article draws attention to some long-term challenges facing Germany’s incoming government. One such challenge, how to reduce carbon emissions further without jeopardising energy security and affordability, is explored in a separate article.

Beyond Germany, our analysts question the excitement surrounding the prospects for online grocery businesses in America. In a similar vein, we cast a critical eye on wealth managers and the long-term challenges facing that industry. And finally, if you think robots are to blame for wages stagnating in recent years, think again. The real culprit, surprisingly, may be your house.

As always, your regular favourites appear at the end. Our book review explains how financial accounting brought about the rise and fall of history’s mighty empires. And your spy brings back some secret intelligence about Silicon Valley’s coolest technologies from the inaugural Deutsche Bank Internet conference. Finally, the infographic puts the scale of QE in perspective.

Hope you enjoy reading this edition.

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The legendary American investor Benjamin Graham characterised the stock market as a voting machine in the short run but a weighing machine in the long run. He might well have been describing politics. Last year the long run caught up with the short run as voter disenchantment over festering economic issues caused upheaval in elections and referenda around the world.

However, despite the underwhelming nature of her recent election victory, Chancellor Merkel’s fourth term makes German politics appear relatively stable. The country’s strong economic performance and a public policy framework steeped in the ordoliberalism philosophy has helped in that regard. Annual output growth in Germany has averaged over two per cent since 2009, matching America as the fastest growing G7 economy in the post-financial crisis period. After expanding at a 2.75 per cent annualised rate in the first half of this year, German growth is set to exceed its potential rate for the fourth year running.

The above-trend output growth has pushed Germany’s unemployment rate down to 3.8 per cent, virtually signalling full employment. The current unemployment rate is almost half the level when the financial crisis struck a decade ago and by far the lowest since the country’s reunification. In addition, the IFO business climate survey has been posting historic highs recently and consumer confidence is very close to record territory.

What is more, unlike other countries such as America where impressive economic statistics stand in contrast to surveys showing public disaffection, the German population feels broadly satisfied with the state of affairs. Even before the strong cyclical economic upswing became obvious in early 2016, a survey revealed that 47 per cent of Germans agreed that things should carry on as they are. The rate increased with age, reaching 55 per cent among the respondents 60 years and older. In fact, when asked to name one problem on the horizon, no single issue has been deemed important by more than half the population for many months now.

While this sounds like a dream scenario for the new government about to take office, to upend a Keynesian quote, these current affairs are a misleading guide to the long run. In fact, despite a strong fundamental level of trust in the government and the country’s institutions, the beloved status quo faces some substantial threats.

The first is the strain that rising interest rates and an ageing society will likely put on public finances over the coming decade. It is hard to imagine that German public finances are a possible issue given recent surpluses. However, current fiscal surpluses are in large part courtesy of loose European monetary policy, which has provided the German government with windfall-savings of €260bn in interest payments since 2008. Rather than acknowledge this fact, various political parties promised substantial tax reductions and redistribution policies during the election.

This is short-sighted given Germany’s worsening demographics. The country already spends more than €11,000 per capita on welfare, amounting to 29 per cent of economic output, and expenditures have increased one-fifth since 2010. The ageing population will shrink the...
workforce and could reduce trend economic growth rate to a meagre 0.75 per cent within a decade. This is bound to place an enormous burden on the sustainability of the German welfare system. In fact, while the gross government debt to output ratio is declining and likely to trough at 50 per cent in a decade from now, it could hit 100 per cent by 2045 in the absence of counteracting measures.

The challenge of acutely worsening demographics can be mitigated to some extent by the 1.3m refugees that have arrived in Germany since 2015. However, to make full use of this influx, these new arrivals need to be integrated into the labour force. That requires putting in place policies that increase the flexibility of the country’s labour market. Unfortunately the political will to do so seems in short supply.

Ironically, the political compulsions imposed by the ageing population are one reason for this. For starters, 56 per cent of Germany’s voting population is above 50 years of age. The members of the major political parties are on average 60 years old. This has led to an implicit consensus between the government and the people, to maintain the cosy status quo for as long as possible, hoping the day of reckoning might only affect following generations. A literal endorsement of Keynes’ maxim, “in the long run we are all dead”!

The second long-term issue to address for the incoming government is defence spending. Usually an anathema in German election campaigns, defence policy garnered greater public attention this time given recent US criticism of Europe’s Nato spending and the efforts towards building a European Defence Union. However, with the issue now open to public debate the incoming government will have to strive towards building a public consensus on the subject.

Germany’s current defence spending is equivalent to 1.2 per cent of economic output, well below the two per cent Nato target. To reach the two per cent target by 2024, annual military expenditure would have to more than double to €80bn. The dilemma is that while most Germans favour Nato membership, two-thirds are opposed to boosting the defence budget. To reconcile this gap between desire for Nato and the requisite spending commitment the new government will have to perform a tricky balancing act.

The third issue the new government must wrestle with is how to use Germany’s influence to provide long-term support for the eurozone and the European Union. Whereas the subject might not seem to have the same urgency as in past market crises, the current calm should not be mistaken for a long-term sustainable resolution. The Italian elections next year and the ongoing uncertainty surrounding Brexit are two events that threaten to add complications in the near future. However, after President Macron’s election, Germany also has an opportunity to revitalise its crucial relationship with France and foster a combined effort to stabilise Europe.

With regards to EU policy, the crucial question to address is that of German fiscal commitments. The incoming German government will be in office when the country assumes the Presidency of the Council of the European Union in 2020, for the first time since 2007. By then Germany will have to decide whether it will provide the financial support required to put the European project on sounder footing. This will imply further and, most likely, irreversible fiscal commitments. Convincing German taxpayers that these transfers are necessary and ultimately in the country’s own interests could present the next government’s biggest challenge.

1 Allensbacher Archiv, IfD-Umfrage 11050
Don’t blame the robots

Six months ago, Bill Gates proposed a robot tax on the grounds that if workers pay taxes, so too should the machines that take their jobs. Such a policy would, in the words of Mr Gates, “slow down the speed” of automation, thereby allowing societies to “manage [the] displacement” of workers. The idea speaks to a widespread sense that the labour market isn’t working like it used to.

But taxing technology entails a comically large number of problems. One is that robots can both reduce and increase the demand for human labour. Search algorithms reduced the need for travel agents, but Uber increased demand for drivers. It is impossible to determine ex-ante which robots to tax. A robot tax would also be impossible to structure and police. If a robot is, as the dictionary puts it, something that “is capable of carrying out a complex series of actions automatically,” then what is a dishwasher? Taxing some machines and not others would be a regulatory muddle.

Finally, whereas Mr Gates saw a robot tax as a way of addressing the negative side-effects of rapid technological change, it is also a tax on capital investment—investment that every country is trying to encourage. No wonder that, when asked if he would support a robot tax, the European official in charge of digital affairs said, “No way, no way.”

Proposals like the robot tax are being mooted because countries across the Atlantic are facing wage stagnation, producing populist backlash. And many have identified robots as at least partially to blame.

At his farewell address, President Obama told an audience, “The next wave of economic dislocations won’t come from overseas. It will come from the relentless pace of automation that makes a lot of good, middle-class jobs obsolete.” At Davos earlier this year, a parade of Silicon Valley chiefs drew the connection between the impact of artificial intelligence and populist movements. Microsoft’s Satya Nadella, for instance, said his “biggest lesson of last year” was to ensure that “the surplus [from] breakthroughs in artificial intelligence” were not concentrated among the few.

But rather than robots, perhaps the culpability for wage stagnation lays elsewhere – the growing market power of companies and raging real estate prices are two prime suspects. Real wage growth is a function of two things: productivity growth and changes in the share of national output that accrues to labour. If the share of output going to workers doesn’t change, then real wages simply track productivity.

Over the past four decades, real wage growth in the US has diverged from productivity because of a decline in the labour share of output. Whereas in 1975 labour received 65 per cent of all income, today that figure is below 60 per cent. If the share had remained the same, American workers would be receiving an extra $1 trillion per year. Instead, that money accrues to capital holders.

So to explore the roots of discontent over real wages requires identifying the causes for the decline in labour’s share of output. Many observers attribute this decline to diminishing worker bargaining power on account of falling union membership or offshoring of production to lower-cost countries. But the decline in labour’s share of income is a global phenomenon, visible not only across the North Atlantic but also
in China and Japan. Moreover, the labour share has fallen in both tradable and non-tradable sectors. Offshoring, then, cannot be the primary cause. And empirical studies have found limited correlation between declining union membership and shifts in the labour share.

It is also difficult to blame robots. As Matt Rognlie, economist at the Northwestern University, has pointed out, the value of robots and automation—broadly defined—are a tiny part of the overall US capital stock, worth at most 15 per cent of the annual national output. The value of structures—houses, apartments, offices—meanwhile, is nearly 12 times larger. Labour share refers to flow whereas these are stock figures, but the serious difference in scale between automation-related and housing-related capital should caution against seeing robots as the primary cause of recent wage weakness.

Instead, a more persuasive explanation for the decline in labour share of output involves diminished market competition among businesses and a rise in real estate prices. It is intuitive how a decline in corporate competition, especially given the rise of tech giants such as Amazon and Google, could increase corporate pricing power and reduce returns to labour. But few people think their own houses have anything to do with stagnant wages.

Much of the increase in the capital share of income has gone to real estate—as hard-pressed renters or homebuyers in London or New York can attest. By one account, the share of housing in total output is three times higher today than in the 1950s. Higher house prices crimp labour share of income because higher rent or mortgage payments eat up a part of any wage increases that workers garner from being more productive. Meanwhile, higher real estate prices benefit a specific class of capital holders—incumbent owners of pricey property, who are often already wealthy.

A key driver of higher house prices in major cities is regulations that limit increases in housing supply. These policies have also reshaped labour migration patterns. Recent research¹ shows that janitors today earn seven per cent less in New York than in America’s Deep South after adjusting for housing costs. Yet in 1960, on the same metric, janitors in New York made 70 per cent more than their Southern peers. Housing costs are locking low-skilled workers out of high-income areas, thereby reducing labour mobility. Indeed, Lael Brainard, a Federal Reserve Board Governor, noted in a recent speech that whereas 17 per cent of America’s population moved within the country in the early 1980s, the proportion had fallen to 11 per cent last year, its lowest level in many decades.

Because low-skilled workers are congregating in low-productivity regions, the surplus of low-wage labour in those areas further suppresses income growth. In other words, zoning laws in New York and San Francisco not only drive low-wage workers out of these cities, they also drive down wages elsewhere in the country. And that, in turn, drives down the labour share of output. Indeed, wages in the lower-income and higher-income areas of the US stopped converging around 1980, around the same time as the labour share of output peaked.

Governments know how to tackle reduced corporate competition. The EU’s antitrust authorities have fined Google billions of dollars over antitrust violations. Even in Washington, anti-monopoly policies are starting to attract attention as a means of boosting real wages.

Addressing the issue of high real estate prices, however, is a trickier political problem across the ideological spectrum. But things are coming to a head. Many countries, particularly the US and the UK, now face a new political “trilemma,” in which only two of the following three things are possible: equitable income growth, low taxes, or expensive houses. If governments choose to tolerate ever-higher house prices, the only way to compensate for their detrimental effect on income convergence is via greater redistribution. A tech leader looking to inject fresh ideas into politics should drop the robot tax and build affordable apartments across Silicon Valley’s most expensive suburbs.

¹ “Why Has Regional Income Convergence in the U.S. Declined?”, Ganong P and Shoag D, NBER working paper 23609, July 2017
Few corporate implosions typified the dotcom crash like Webvan. The online grocery business was valued at nearly $5bn when it went public in 1999. It filed for bankruptcy protection just 18 months later. Quite simply, not enough people wanted to order groceries online back then. It is tempting to believe that times have changed. Have they?

Our relationship with the internet has changed for sure. The web is far more integrated into society and smartphones are fast becoming the dominant way people go online. So when Amazon announced its $14bn purchase of Whole Foods Market earlier this year, the move seemed to be a natural progression that has seen almost all other sectors upended by online competition. However, the idea that Americans en masse are about to embrace online groceries requires critical evaluation.

One way to do so is to look for clues across the Atlantic, and in the UK in particular, where the market is relatively more developed. Indeed, Britain boasts a seven per cent online grocery penetration rate, the highest in Europe, and well above the nascent one per cent rate in America. However, the UK, a pioneer market for online groceries, is now showing signs of maturity with slowing growth. Indeed, just three years ago, the UK’s online grocery market was growing 20 per cent annually. Now that growth rate has more than halved and the online segment is growing barely faster than the wider grocery market.

Most crucially, online penetration rates among young families, the demographic most amenable to online groceries, are showing signs
of peaking. While 30 per cent of young and middle-aged families did some grocery shopping online in 2015, a slightly lower proportion did so last year and we expect this to fall to 27 per cent in the medium term.

A key constraint for growth is that a viable online grocery business can only exist in densely populated areas to keep delivery times and costs reasonable. It is no surprise that both the population density and the online grocery penetration rate in Britain is eight times that of America. Other countries confirm this correlation. For example, online grocery shopping is far more popular in tightly-packed Japan and South Korea than it is in spread-out France. If density is destiny, online penetration in America could peak at only four per cent of the overall grocery market, even adjusting for some very densely-packed cities.

Another problem with online grocery businesses is that the profit per customer is highly dependent on the size of each shopping basket. In fact, delivery expenses remove 11 percentage points from the operating margins of pure-play online grocer Ocado, almost entirely negating the margin it generates before delivery costs.

Of course, if a customer places a single large order, the delivery cost is much lower than for several smaller orders, so shoppers have been encouraged to shop big. But the days of the large weekly shopping trip are over. In fact, 95 per cent of visits to British grocery stores are for baskets that cost less than £65. Online businesses, then, rely on the five per cent of shoppers who make large orders.

Hence, many online businesses have resorted to offering subscription models so customers can pay for unlimited deliveries in advance. Yet only one-fifth of online shoppers are regulars. And those that have a subscription still only shop online three times a month. Worse still, those who are happy to pay for delivery only do so once a month.

One example of managers’ frustration with the entire online grocery business model occurred last year when Tesco, Britain’s largest grocer, increased its delivery fee for online purchases by 17 per cent, which worked out to an effective 30 per cent increase for non-subscription customers. Immediately, Tesco’s online business went from growing 17 per cent a year to contracting three per cent. Clearly, customers are extremely price sensitive to delivery fees and as these rise to sustainable levels, the entire market will be stunted.

Another telling feature of this episode was that none of Tesco’s competitors stepped in to take the market share on offer. This suggests that the market’s growth was always driven by aggressive promotions and unsustainably-low delivery fees. It is no wonder there are no examples of profitable pure online grocers.

All of this bodes ill for the prospects of pure play online grocers in the US. Already, American customers pay delivery costs equivalent to almost five per cent of the weekly grocery bill, double the amount paid by British customers. Yet even with more expensive delivery charges, American online grocers cannot make ends meet. Last year, Instacart increased delivery fees by half or more. Few have reduced fees and while Amazon promoted a reduction in 2016 it already charged much more than its competitors.

Looking forward, it seems likely that the online grocery market will splinter into different subchannels based on the range of items available and speed of delivery. Most importantly, businesses will gravitate to the store pick model, that is, where an attendant walks around an existing store and picks the order’s items off the shelves before passing the basket to the delivery driver. In this way, delivery costs are reduced as the order is sent from one of many close locations rather than a less-dense warehouse network.

Indeed, rolling out a store-pick delivery model is part of the appeal for Amazon in its purchase of Whole Foods. The deal gives it all the infrastructure and dispersed locations of a physical store network rather than having to build it all from scratch. There is also upside for Amazon if it can reframe the online grocery business from being commodity-orientated to service-based. If so, customers may become less price sensitive. Yet even in this scenario, store-based retailers will retain a cost advantage over their pure online competition. That will leave the latter to service just a small niche of the market.
Germany’s carbon chasm—leap or bridge

One of the trickiest tasks that Chancellor Merkel faces during her fourth term in office is reconciling the differences of her likely coalition partners on energy policy and carbon emissions. While Germany remains committed to decarbonisation, the trouble is deciding how to get it done. This matters because, as the Deutsche Bank Carbon Alignment Framework (DeCAF) shows, company profits and investor returns can depend more on how decarbonisation is done than on how much is done.

The decarbonisation route each country chooses requires balancing international commitments with domestic compulsions. In drawing up Germany’s energy policy for the next few years, the incoming government will have to weigh further emission reduction targets against energy security, affordability and jobs.

Energy security is an increasingly pertinent issue in Germany as the nuclear power phase-out continues apace. Decommissioning of nuclear power is scheduled for completion by 2023 but in the meantime many nuclear reactors are still keeping the lights on and carbon emissions down. Indeed, nuclear made up 13 per cent of the country’s power generation last year, albeit down from 30 per cent at the start of this millennium.

Thus far the decline in nuclear power has been offset by growing wind and solar. However, to compensate for the complete phase-out of nuclear power, production of wind and solar energy will have to increase by two-thirds from last year’s level. That raises serious questions about the security of energy supply in a country not known for sunny weather and not always windy at times when electricity demand peaks.

Compounding the problem is Germany’s reliance on coal. Domestic brown coal (lignite) and imported hard coal account for two-fifths of German generation. Meeting Germany’s ambitious emission reduction targets requires replacing this coal generation capacity with cleaner fuels. There are two ways to go about this and the policy path that the incoming government chooses will have critical implications.

The first option is to use natural gas as a bridge fuel to displace coal and lignite quickly and deliver carbon savings before the next generation of renewable capacity comes onstream.

To encourage the switch to gas, many economists have argued for an international price on carbon emissions. In France, President Macron campaigned on a platform of establishing a credible and rising cost of carbon emissions. Even if such an effort on a truly international basis proves unrealistic, France might hope to persuade a group of countries, including Germany, to back a UK-style minimum carbon price floor through taxation. Indeed, British power stations face a carbon tax equivalent to £18 per tonne on top of the €6 per tonne under the European Union’s Emission Trading Scheme.

Such a price should be sufficient to drive a significant switch from coal to gas in Germany using existing capacity alone. The average German gas-fired power station runs for only around one-third of the year while coal stations run for half the year and lignite stations about four-fifths. Increasing the running hours of existing gas stations might displace half the

Martin Brough
current coal and lignite generation, saving about one-quarter of carbon emissions (gas emits about half as much carbon dioxide as coal and lignite). Replacing the other half of coal and lignite generation with new gas capacity over time would save another quarter of their emissions.

The problem with German participation in such a scheme is concerns over affordability and jobs. Indeed, while a carbon price would be financially attractive for French generation, which is dominated by nuclear and hydro, it could add €15bn annually to German wholesale electricity prices. Meanwhile tax revenues for the German government would be gradually substituted by increased spending on imported gas. Furthermore, 20,000 German jobs in lignite production would be put at risk.

These are hefty costs to incur especially since gas may not even be enough to hit Germany’s ambitious emission targets. Last year, German greenhouse emissions were 28 per cent below 1990 levels and the target of a 40 per cent cut by 2020 looks set to be missed. The target for 2040 is for a 70 per cent cut in emissions. If the entire coal and lignite power generation is switched to gas, the latter alone would account for almost half the country’s entire carbon budget by 2040. Additional emissions from transportation, heating and industry would make hitting the target seemingly impossible in this scenario. Hence, investing in gas generation infrastructure looks profligate if another switch is needed in just a decade.

If using gas as an energy bridge is politically unpalatable in the near term and not ambitious enough in the long term, the alternative is a straight leap to renewables. Indeed a gradual but direct switch from coal and oil to renewables and electric vehicles could deliver the same carbon reduction path as a quicker switch from coal to gas. For example, electrifying one-tenth of German road transport and powering this with renewable electricity produces the same carbon savings as switching one-fifth of lignite generation to gas.

This leap approach has its own share of problems. First, with extra wind and solar generation already needed to offset closing nuclear stations, going even further to support additional power demand from transport may seem difficult. In addition, electrification of transport would reduce the taxes raised on gasoline. However, flexible vehicle charging and even opportunities for vehicle-to-grid systems (using car batteries to help meet electricity demand peaks) could support high levels of renewable penetration into the power system.

For all the political attention to top-down targets, investors want certainty about the details. Our DeCAF analysis emphasises the importance of how decarbonisation is achieved for investment returns. Here, the creation of an effective carbon price would significantly increase the value of market-exposed clean generation and support higher utilisation of existing gas generation infrastructure and new gas capacity. This rapid coal-to-gas switch would also encourage German car companies to continue making incremental improvements to internal combustion engines before targeting a more radical decarbonisation of transport.

Rejecting the coal-to-gas switch would place the burden of decarbonisation and associated capital flows on wind and solar deployment, batteries and electric vehicles. In this case, the requirement for new gas infrastructure might be considerably smaller and capital would be best targeted towards transformative technologies.

The current low utilisation of existing gas-fired stations shows that German power generators have already suffered from building capacity ten years too early. Encouraging the appropriate deployment of fresh capital to get German emission reductions back on track requires the new government to clarify its intended policy mechanisms as well as its top-down decarbonisation targets.

The Deutsche Bank Carbon Alignment Framework (DeCAF) was launched earlier this year. Please see Konzept #10 on www.dbresearch.com/en or contact us for our in-depth research report on the framework.
Wealth management
—all that glitters

In the aftermath of the financial crisis, wealth management emerged as one of the banking industry’s few shining lights. Low on trading risk, light on capital requirements, no subprime credit – the business ticked a lot of boxes for wary investors and beleaguered bank chief executives alike.

Indeed, the valuation of wealth management businesses is currently near record highs. For banks that have leading wealth management arms, these units now account for one-third of the overall sum-of-the-parts value, more than double the level a decade ago. However, while the allure of wealth management for investors and bank management teams is understandable, these businesses have their fair share of problems to contend with.

The first, simplest, and perhaps most difficult problem is the increasing importance of scale in the business. Five years ago, large players enjoyed gross margins of around 100 basis points while medium-sized managers got by on 75 basis points. Since then, margins have shrunk for the large firms but they have shrunk twice as much for the small and medium-sized players. Hence, the gap in margins between the two has widened.

The issue of reliance on ever-increasing scale extends beyond the developed market centres as well. The old rule of thumb was that a platform with $20bn in assets was sufficient to sustain a wealth management business in an emerging market region. Now that figure is pushing $30bn. Without major changes to their business model, one-third of wealth managers will fail to reach this size threshold even by 2020. They will be forced to consolidate or die.

Shrinking margins and the race to offer the lowest cost products has forced wealth managers to look at their own cost base. Here, though, many have been slow to make meaningful cuts. In fact, over the past three years, the industry’s costs have grown faster than its revenues. The cost to income ratio for the industry now hovers around the high-70s, ten percentage points above pre-crisis levels.

This problem will be exacerbated if revenue growth comes under pressure. One potential source of revenue squeeze in the near future is the ongoing pressure for regularisation of offshore assets under management. Deutsche Bank estimates more than a trillion dollars, or about one-quarter of all offshore assets under management facing regularisation, will flow out of offshore accounts, with the majority of outflows occurring by the end of 2018. While some of this will be regained by onshore managers, nearly $900bn will leave the industry altogether resulting in a near $13bn drop in annual revenue.

The industry’s hopes of redemption currently rest on a combination of three external factors. The first of these is financial deregulation. If the tide of increasing post-crisis regulatory burden were to turn, it would allow the industry to downsize back offices and save on costs.

The second hope rests on a revenue boost from interest rates moving higher, particularly US dollar rates. Rising interest rates help wealth managers’ net interest margin, as loans and advances re-price more quickly than deposits. Further, any excess deposits get invested in higher yielding securities.

This time might be somewhat different. With ultra-high net worth individuals making up a higher proportion of assets under management, a bigger chunk of rate increases might be passed on to depositors. Deutsche Bank estimates that deposit beta, that is the change in deposit rates relative to changes in benchmark interest rates, will likely hit 55 per cent in this cycle, ten percentage points higher than in previous rate hike cycles. This will temper the revenue uptick for wealth managers from rising interest rates.

The industry’s third hope is that increasing market volatility and risk appetite will boost transactional revenues. Yet the empirical evidence here is disappointing. In fact, historically, there is no observable correlation between market volatility and the wealth management industry’s trading margins.

Rather than wait for external factors to bail them out, there are steps that wealth managers can take themselves. The first is to embrace technology. Of course, many managers talk a big
game here but in reality, the only reason why so many fintech start-ups have established a market is because the traditional industry has been slow to embrace technological improvements.

Indeed, while many wealth managers have focussed their technology initiatives on the front office, implementing digital processes such as machine learning and advanced data science in the middle and back office could reduce operating expenses by one-tenth. Just one specific area is credit and fraud modelling.

When it does come to digitising the client-facing aspects of the business, it is important to understand that ‘digital’ does not mean all things to all people. In Asia, two-fifths of investors prioritise the ability to communicate with their wealth manager using social messaging yet they do not value digital financial planning. In contrast, European and American investors report little interest in social messaging but do value automated goal-setting tools.

Another significant opportunity for the industry lies in meeting the strong client demand for alternative investments. Clients say they want 14 per cent of their portfolios invested in alternatives, twice the average allocation today and in absolute terms a $5tn differential. This also presents a considerable revenue opportunity for the industry because a one percentage point increase in alternatives allocation results in a similar increase in fee revenues.

However, looking beyond these immediate opportunities, wealth managers need to make longer-term decisions about their business models. That is because their clients’ preferences are becoming increasingly diverse. Already, one-third of clients are ‘non-traditional’, that is, they do not fit neatly into archetypes such as self-directed, participator, or delegators of funds. And this proportion will grow further as emerging markets, where non-traditional clients make up a greater share, are forecast to contribute two-thirds of asset growth over the next five years.

Amidst this upheaval, wealth managers might be forced to adopt one of three business models – Amazon, Uber or Salesforce. The first is as a demand aggregator, or the Amazon model. These businesses will differentiate themselves by providing all-encompassing experiences for their clients. This will suit the large traditional wealth managers with strong client platforms.

The second business model is as a platform provider, or the Uber model. Here, managers will supply the platform that underpins broker services between many wealth managers and clients across ecosystems. They will earn their money through subscription or transaction-based fees.

The third business model option is becoming a component supplier, or the Salesforce model. These managers will create products that plug into a range of industry processes and customer experiences. This business model is most attractive for wealth managers with superior niche products and capabilities.

It seems unlikely that wealth managers will be able to excel across the entire value chain. Hence, they will need to make difficult choices about what parts of their business they should invest in and what parts to cut. Only then will they be able to compete with the multitude of fintech start-ups and other low-cost alternatives.
Beyond QE—the resilience of corporate America

We have all seen the charts—those that portray the uncannily synchronous climb of the US stock market and the Federal Reserve’s balance sheet size since the financial crisis a decade ago. The extrapolation appears dire. As the Federal Reserve shrinks its balance sheet, stock prices are bound to drop. That conclusion, though, muddles correlation with causation. Instead, investors need to assess the potential channels through which unwinding quantitative easing might affect equities. >
There are two potential ways in which the withdrawal of quantitative easing may hurt equities and we inspect each in turn. First, we examine whether QE provided an artificial boost to the underlying performance of companies themselves and thus whether its end will cause company fundamentals to deteriorate. Second, we look at whether QE raised investors’ animal spirits and made them disregard fundamentals. If so, asset prices would be dissociated from fundamentals and the end of QE might make investors see the light of day.

Start with the fundamental performance of companies and the return on equity as a measure of a firm’s underlying earnings power. The average return on equity for S&P 500 companies, barring the financials and energy sectors, is currently 14 per cent, a multi-decade high. Is this elevated return on equity thanks to QE? To analyse this we need to disaggregate the increase in returns into its components.\(^1\) Doing so reveals that the bulk of the increase in return on equity has resulted from higher profit margins and increased leverage. Let us see if either relies on QE.

It is true that corporate profit margins have risen by one-quarter to ten per cent since QE was first rolled out. However, this is merely the continuation of a longer-term trend of rising margins that stretches back a quarter of a century to the early 1990s. So any cyclical boost for margins from QE merely supported ongoing structural forces. What is more, by helping repair the labour market, QE might in fact threaten future margins if labour costs rise in response to the low unemployment rate.

Taking a step back, though, the most important determinant of margins should be the level of competition in an industry. Theory suggests that in a well-functioning market economy, supernormal profits cannot persist for long and should be competed away as new entrants are attracted. As these start-ups compete for market share, industry margins should fall and with them returns on equity. But the theory has not worked.

The firm entry rate, that is, the number of new businesses formed as a proportion of the existing number of businesses, has halved to eight per cent over the last three decades in America. Meanwhile, industry consolidation following changes to anti-trust regulation in the 1980s has seen the proportion of manufacturing sectors where the four largest firms control over half the market rise from 30 per cent to 40 per cent. This suggests competition has diminished even as returns have risen rather than the other way around.

Among the reasons why competition has fallen is the rise of non-traditional barriers to entry, particularly in the technology sector. For example, the internet has created network effects unimagined in the past. Even if it were possible to create a new Facebook, Amazon or Uber, the critical mass of people already on these platforms makes it prohibitively difficult for the new entrant. Similarly, while some technology companies make fabulous returns, they consistently complain about a shortage of qualified staff. Indeed, technology companies are some

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1 Return on equity can be disaggregated using the DuPont formula where, RoE = Leverage \times Asset turnover \times Net margin
of the biggest users of qualified foreign labour. Scaling a new technology company, then, requires poaching expensive staff from existing companies, a daunting prospect for a small challenger with a tight budget.

Even if new entrants are not providing the competition, high margins should encourage incumbents to increase supply by investing in fresh capacity and new assets. This doesn’t seem to be happening either. Instead, the data show private non-residential fixed assets, a proxy for the buildings and equipment of companies, have been growing older. Their average age is now over 16 years, the highest level in half a century. Most importantly, the rate of ageing has increased this millennium to almost twice the past three-decade average.

Hence, investors concerned about a fall in corporate profit margins would be better served by weighing up the prospects of regulatory action and other structural changes that force greater competition. As important as these issues are, they are dissociated from the end of QE.

This brings us to leverage, the other factor that has led to an increase in returns on equity for American companies. Some contend that QE caused companies to lever up with cheap debt and as QE is removed interest rates will normalise forcing companies to either delever or face higher financing costs – both of which will hurt returns.

Of course, corporate leverage has jumped since the crisis to reach multi-decade highs. In fact, the value of company assets is three times their equity, a rise of one-fifth over ten years. One reason for this, apart from companies issuing more debt, is share buybacks. S&P 500 companies have bought back $600bn of their stock each year over the past three years, a level only briefly hit pre-crisis, and double the level when QE was first announced. If the rate of buybacks slows, the rise of leverage and return on equity will be stunted. However, buybacks can be seen as an accounting adjustment. When the only effect of buybacks is to change a company’s capital structure, this should not alter its underlying value.

As for interest costs, it is true that if interest rates rise, companies will have to refinance their debt at higher rates. However, they have time to prepare for this. The weighted average debt maturity of American companies is about ten years and most is in the form of bonds with a fixed rate meaning current low interest costs can persist for some time. And even though corporate credit spreads are currently tight, they may be less vulnerable than popularly believed. (Please see the following feature titled “Credit spreads – too tight or just right?”)

Therefore, while returns on equity have risen during the period of QE, the increase is attributable to higher margins and leverage which fall outside the direct influence of QE. Consequently, investors can have some confidence in the resilience of company fundamentals even as monetary policy is gradually normalised.
The return on equity for S&P 500 companies is near multi-decade highs, but it is hard to attribute this increase to QE.
Despite the S&P 500 quadrupling since 2009, the Tobin's Q-ratio for US non-financial corporations has risen merely ten per cent and now stands at one.
What then of the second investor concern, that while company fundamentals are sound, QE has fed irrational investor exuberance causing market valuations to race too far ahead. Indeed, when measured as a multiple of earnings or book value, stock prices are above historical levels. In fact, based on Shiller’s cyclically adjusted price-earnings metric, which compares current stock prices to ten-year average earnings, US stocks have never been more expensive in over a century barring 1929 and 1999.

These common valuation measures, though, do not tell the full story. In particular, they include distortions from distant earnings, random volatility, and business cycles.

For the purpose of determining the sustainability of the business gains from the increase in margins and leverage, a better measure of valuation is a variant of the Tobin’s Quotient which measures the ratio of the market value of equities to the replacement cost of the underlying assets. Because this measures the valuation of companies relative to what it costs to build them, it helps investors understand how strong the incentive is for entrepreneurs to compete with the incumbents and dampen the high returns on equity.

Despite the S&P 500 index nearly quadrupling from its 2009 trough, the Q-ratio for US non-financial corporations has risen merely ten per cent. That suggests that while there may be some exuberance in the market, the growth in business fundamentals has supported a significant part of those market gains. In other words, investors have pushed up share prices in proportion to the asset values that undergird those businesses.

What is more, the ratio now stands just above one, meaning the market value of companies is the same as their asset values. The current Q-ratio is only one-tenth higher than the average of the last 25 years and well below the levels seen in the late-1990s when investors caught ‘internet fever’ and the market value of companies traded 60 per cent above their asset value.

Even if Q-levels are currently rising, history suggests it takes a long time for them to become unstuck. There have been two major post-war run ups in the ratio. The first, mid-last century, lasted 15 years. The second started in the early 1980s and lasted almost two decades before bursting along with the technology bubble. Those cycles make the current increase look young given that Q-levels have only been rising since 2009, just eight years ago.

The question to ask here is not whether there are irrational expectations, animal spirits, or a stockmarket bubble. As Alan Greenspan said, we can only tell for sure afterwards. Rather, the question is to what extent has the post-crisis equity market rally been fuelled by QE and
therefore whether withdrawing QE will have a material effect. After all, investor exuberance is nothing new. Valuations constantly go through cycles of overheating and then correcting.

While there is little evidence to incriminate QE for the improving fundamental performance of companies or for fuelling undue investor optimism, QE can be blamed, at least in part, for one specific feature of the post-crisis market. To identify this, however, investors need to drill down from the market aggregates which tend to mask anomalies in both fundamentals and valuations.

Since the crisis, share prices of companies with differing underlying performances have been pushed higher by similar amounts. To be more precise, the dispersion of stock market returns between individual stocks has been falling even as the divergence in the fundamental performance of companies has been on the rise. In fact, the dispersion of returns on equity between companies has increased by over one-half in the last decade. Put differently, since the crisis investors have become less discerning and have rewarded companies that have increasingly divergent fundamentals with similar market gains. That is quite different from history which shows that the dispersion of fundamental company performance and sharemarket returns tend to follow each other and mean-revert.

Multiple factors have led to this anomaly. We point to three – low interest rates prompted by QE, the popularity of passive investment funds, and the rise of technology and other capital-lite companies. In that sense QE shares part of the blame and hence its reversal holds the prospect of a correction in this recent trend which may hit the low-return companies that have benefitted thus far.

The effect of QE is felt through falling bond yields, which push investors to seek income in many different asset classes. Stocks that pay high dividends have been an obvious target. Companies that have increased their dividends have seen their stock attract increasing amounts of money and their prices have soared. So much for finance theory which states dividend policy should not affect the underlying value of a firm.

This phenomenon is most visible in the performance of the so-called dividend aristocrats, companies that have paid consistent and increasing dividends for a long period of time. Dividend aristocrats have significantly outperformed the broader market, returning half as much again over the last decade. As a result, their price-to-book multiple is now one-quarter higher than the market. Clearly, investors are enamoured by companies offering a cash return and are willing to pay for them.

The popularity of dividend-paying stocks has meant S&P 500 companies now pay out 38 per cent of their earnings, one-third more than a decade ago. And this does not even include buybacks which
amount to nearly half of all shareholder payouts in the US. Of course, increasing payouts can be a good thing when a company is generating cash and covering its capital needs. But again, the aggregate conceals a worrying picture.

The dispersion of the dividend yield of US stocks has fallen steadily since the crisis and is now around its pre-crisis low. Meanwhile the dispersion of payout ratios has jumped one-quarter resulting in the largest disconnect between the two measures in at least two decades. This implies companies have focussed on delivering a certain dividend yield irrespective of their payout ratio. Many American companies have even resorted to debt issuance for funding dividends, although in some cases this is on account of their substantial foreign operations with cash trapped overseas. The risk is that under pressure from investor expectations, companies will overextend themselves and pay out more than they can afford.

Both history and mathematics shows that the gap between payout ratios and dividend yields must close. And as monetary policy normalises, and higher interest rates send yield-focussed investors away from dividend stocks, investor attention should return to the fundamentals. This could hurt companies that have boosted their dividends above a sustainable threshold.

Secondly, the rise of passive investing has also played a role in the widening gap between the dispersion of fundamental and market returns. Indeed, passive equity funds now comprise over two-fifths of the equity fund market, double the level a decade ago. As passive investors do not aim to discern between good and poor quality companies, the greater weight of passive money effectively diminishes the role of fundamentals in determining market performance. As a consequence, poor quality companies are rewarded while companies with strong fundamentals are penalised.

The third reason why investors are less focussed on return on equity as an indicator of fundamental health is the second coming of technology companies. Since the early 2000s, the average return on equity of a US technology stock has risen from five per cent to 20 per cent and the dispersion among them has grown by half. Some technology investors even argue return on equity is the wrong metric for these businesses that tend to be asset-lite. For example, it seems crazy to compare Amazon’s 10 per cent return on equity with Apple’s 36 per cent.

The rise of the capital-lite business is not limited to the technology sector. In fact, the median non-financial company in the US has gross plant and equipment comprising just one-third of its assets – almost half the level 25 years ago. The trend towards capital-lite businesses has coincided with the growing returns this strategy has
offered. Indeed, those companies in the top decile for returns on equity have very low capital expenditure as a percentage of sales. Of course, technology companies have boosted this result but the trend is prevalent across most sectors.

To conclude, the sharp rise in equity markets since the financial crisis has coincided with multiple rounds of quantitative easing by central banks. However, investors should not conflate correlation with causation. The rise in share prices is not out of kilter with fundamental performance, but rather is supported by higher returns on equity and a rise in the underlying value of company assets. Indeed, the underlying earnings power of corporate America looks strong enough to withstand the post-QE world. Hence, fears of a broad-based equity market meltdown triggered by the reduction of central bank balance sheets might be overdone.

The effects of the unwind of QE, however, might be visible in the changing investor preferences among different kinds of stocks. The hunt for yield, among other reasons, has seen the shares of both good and not so good companies being boosted simultaneously. A shake out might see investors becoming more discerning in their choices. If the post-QE world ushers back an era of picking companies based on their fundamental strengths, it should be something to look forward to rather than fear.
Credit spreads—too tight or just right?

John Tierney
The trauma of the financial crisis turned the corporate credit market into a doomsayer’s darling. As borrowing costs for companies have continued falling over the past decade, warnings about impending disaster have become ever louder. Credit markets, however, have proved more resilient than many expected because so far they are not dissociated either from their historical levels, other financial markets or corporate balance sheets.
Predictions of imminent carnage in corporate credit markets usually start by noting that borrowing costs for companies are at record-lows. That is true but the overall borrowing cost for companies is depressed because of historically-low government bond yields. In fact, credit spreads, the extra yield that companies pay over sovereigns, remain some way from their tightest levels of prior cycles.

For instance, credit spreads for US investment grade companies are currently around 135 basis points. They were one-fifth lower in 2007 and even one-third lower in 1997. Similarly, current US high-yield spreads of 375 basis points are not nearly as tight as the 260 points reached in both those prior cycles. Meanwhile, European investment grade spreads now trade about double their 2007 level of near 60 basis points.¹

Of course, there is no preordained reason why credit spreads must necessarily test previous lows in this cycle. A better standard to judge current spreads by is to ascertain where they sit relative to other indicators. The discussion below compares spreads to three relevant metrics – default rates, equity prices and corporate balance sheets.

Start with default rates. Unsurprisingly, credit spreads are highly sensitive to the outlook for this metric. When US high-yield spreads reached cyclical tights in 2014, the one-year trailing default rate was around 1.7 per cent. In 1997 and 2006-07, it dropped below 1.4 per cent and one per cent respectively. After the Long-Term Capital Management crisis in September 1998, high-yield spreads doubled to 630 basis points over the next two years as the default rate rose steadily from 2.5 to 6.3 per cent. In fact, the widening of spreads was probably mitigated by the ongoing dot-com bubble which saw equities rally by half over this period.

The fall-out from the oil price plunge in 2014 provides another example. Following the slump, default rates in the commodity sector soared to 22 per cent by 2016, and to three per cent ex-commodities. Consequently, high-yield spreads jumped from 350 to 700 basis points ex-commodities and to 1,700 basis points for commodities. Investment grade spreads saw similar jumps, albeit to lower absolute levels. With the recovery in oil prices and elimination of the weakest credits, defaults have declined substantially. The US default rate over the past 12 months is now 3.6 per cent and Moody’s forecasts it will fall to 2.6 per cent over the coming year.²

¹ The European IG credit index has historically been tighter than its US counterpart because the duration is several years shorter and the average credit rating is one-half to one notch higher. After adjusting for these factors and currency differentials both indices tend to trade at similar levels.
² The average high-yield default rate over the past 30 years has been about 4.5 per cent. But that doesn’t mean much because defaults are not mean-reverting. Either times are good and defaults rates are considerably lower, or the credit cycle is falling apart and they are much higher, in the 10-12 per cent range. Or they are moving to a high or low point.
So are current high-yield credit spreads appropriate given these default rate projections? To compensate investors for default risk the spread should equal the default rate multiplied by one minus the recovery rate. Based on a default rate outlook of three per cent and a standard 40 per cent recovery assumption, the implied spread would be just 180 basis points. That would be appropriate if one expects the current low default rates to last several more years. If the default rate assumption is raised by half to better reflect default risk across the economic cycle, the implied spread will rise to 270 basis points.

Of course, spreads rarely trade as tight as the levels implied by the consensus default rate outlook because investors demand a premium for taking on liquidity risk, downgrade risk and other uncertainties. In a non-stressed market, high-yield risk premiums typically range between 100 and 150 basis points implying overall spreads between 370 and 420 points. Current spreads remain within that rule of thumb benchmark.

After defaults, the second question to ask is whether credit spreads are out of kilter with other asset prices, and equity markets in particular. After all both corporate credits and equities rely on the same underlying company assets and earnings stream for their value. It makes intuitive sense that if equities are rallying then the favourable sentiment should send credit spreads tighter as well. Periods such as the dot-com boom when the two diverged are very much the exception rather than a rule.

Apart from the empirical evidence, there is also a sound theoretical basis for this relationship. In a famous paper published in 1974, economist Robert Merton showed that equity and corporate bonds can be viewed as options on the assets of a firm.³ Equity is a long call option; if the firm does well, equity holders reap the upside while their downside is capped at zero. Owning corporate bonds meanwhile is akin to selling a put option. If the firm becomes insolvent and the value of its equity goes to zero, the owners default and effectively put the firm’s assets to the bond holders. Merton went further to show that equity and credit could be priced (at least in theory) using the Black-Scholes option pricing framework.

Recall that an option price depends on the price of the underlying asset, the exercise (or strike) price, volatility, and interest rates.⁴ For corporate bonds, the underlying is the assets of the firm and the default option strike price is when the equity value falls to zero, or alternatively, when the market value of the assets falls

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⁴ One way to think about assets in this option framework is in terms of enterprise value, or the sum of debt and equity market capitalisations.
below the face value of debt. Bond investors, being short the put option, receive an option premium in the form of the credit spread. This framework now allows us to assess how the option premium or credit spread moves as the other variables change.

As equity prices rise the market value of underlying assets goes up to make a default less likely. This moves the default put option further out of the money making it less valuable and the option sellers only receive a modest premium or credit spread. This explains why current equity market highs are accompanied by tight credit spreads. Similarly, if equity volatility is low the probability of exercise is also low, and the option value falls.

In addition, a deep out of the money option has a low delta, meaning its price is relatively insensitive to changes in the price of the underlying asset or volatility. Therefore, from current levels, further credit spread tightening should be gradual even if the equity rally continues unabated and volatility keeps falling.

The interest rate input only has a small impact on option values in today’s market. But it is worth noting that, holding other factors constant, the value of a put moves inversely with rates. So in a low rate environment, put options are more valuable and credit spreads wider. This is one reason why credit spreads have not tested the tights of previous cycles when rates were higher. It also implies that credit spreads could actually tighten further as rates rise, assuming the economy and equity values remain firm.

This option framework does not explicitly mention any company fundamental metrics. However, this is not to say that fundamentals are not taken into account. The credit spread or option value depends on the “distance to default”, which is determined by a combination of equity market capitalisation and debt. As a more leveraged firm has a relatively smaller equity cushion, it is less likely to survive a stress scenario than one with less debt.

How do corporate fundamentals look today? There has been a gradual deterioration in key credit metrics, particularly in the US investment grade sector. Over the past five years the debt to equity ratio for non-financial companies in the S&P 500 has climbed steadily from 0.6 to 0.85. This is similar to the 2002 peak level, and well above the 0.7 in 2009. In addition, debt/ebitda ratios have climbed from 1.5 to 2.4 versus a high of 1.8 in 2009. European investment grade companies have also seen some deterioration in their leverage ratios but both remain below 2009 peaks.

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5 Assuming an option buyer finances the option premium, as rates rise the opportunity cost of buying the option also rises, making it relatively less attractive.

6 The IG credit metrics analysis is based on the non-financial components of the S&P 500 and Stoxx Europe 600 equity indices, which are mostly made of investment grade companies.
Unlike previous cycles, US high-yield companies, especially those outside the energy sector, have been quite disciplined about keeping their debt load roughly in line with equity and ebitda.
Unlike previous cycles, US high-yield companies, especially those outside the energy sector, have been quite disciplined about keeping their debt load roughly in line with equity and ebitda in recent years. In a recession high-yield companies will be vulnerable, but so far they have done little to exacerbate that future default risk.

While US companies have added debt to finance share buybacks, they have also taken advantage of low interest rates to reduce interest expense and improve their interest coverage ratios. It’s difficult to argue with that logic, especially as many companies have also extended debt maturities, making it less likely they will be forced to refinance the debt during any recession that happens over the coming decade. Certainly equity markets are not concerned; even as debt has steadily risen relative to the book value of equity, it has remained roughly constant versus market capitalisation. Therefore, in the option pricing framework described earlier, leverage has not changed much.

More importantly, it has not yet weighed on the default rate outlook. This can be seen most clearly in the upgrade/downgrade ratios that the credit rating agencies publish. In the US they are flat now after falling in 2015-16 mostly due to commodity company downgrades. In Europe, they are now in positive territory.

This is significant because over the past two decades the rating agencies have become much better at downgrading companies as their fundamental metrics deteriorate. As a result, credit spreads often start widening months before equities peak ahead of a recession. That occurred in the late 1990s and in the second half of 2007. So the time to raise the yellow flag on credit may be when the rating agencies start issuing more downgrade alerts. It also suggests that credit markets are not unduly frothy. If one is worried about credit spreads, then one should also be worried about equity valuations.

So how do current credit spreads look relative to all their key drivers put together? This can be quantified using a regression analysis between credit spreads and default rates, leverage, equity values and volatility. Based on weekly data spanning this millennium, all variables are highly significant. As of August, US high-yield spreads appear about eight basis points tighter than implied by the regression model while US investment grade spreads are about three basis points wider. European investment grade is five basis points tighter than implied by the model possibly reflecting the additional demand from the ECB’s ongoing bond purchase program.⁷ In summary, current spread levels are not far from the levels predicted by the model.

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⁷ Under its Corporate Sector Purchase Programme (CSPP) the ECB has purchased about €7.5bn of corporate bonds monthly since June 2016.
The model is not designed to produce a precisely “correct” level for credit spreads. But it does suggest that spreads are near historical norms based on the default rate outlook, equities and leverage. When doomsayers talk about frothy credit markets they are usually referring to a lot more mispricing than a mere few basis points in spreads.

Of course, as with equities, credit markets are not immune to unexpected shocks. In fact, credit spreads are particularly vulnerable to events such as the downgrades to junk for Ford and General Motors in 2005, the Lehman Brothers default in 2008, the US debt ceiling crisis in 2011, the European crisis in 2012, and the oil price collapse in 2015. Events like this generate much uncertainty about changes in company fundamentals and the default rate outlook. In addition, equity markets often drop sharply and volatility jumps.

Indeed, credit spreads tend to widen considerably more than warranted by these drivers because corporate bond trading is an over-the-counter market and it tends to become highly illiquid when shocks hit. Historically, such times have proven to be a good buying opportunity.

Despite the ongoing litany of warnings about overheated credit markets, corporate bond spreads actually trade in line with traditional drivers including equity prices, company balance sheets and the outlook for defaults. Should the economic outlook start to deteriorate, credit markets will probably start trending wider. Otherwise it will take an unexpected economic shock for those dire warnings to be realised.
The transatlantic valuation gap—another exorbitant privilege
Everything is bigger in America – cars, homes, food portions, even stock valuations. Indeed, investors currently deem US companies to be worth just over three times their book value. European stocks, by comparison, languish below two times book value. Why do investors confer such a hefty valuation premium on American companies? And, is there any prospect this gap might narrow in the foreseeable future? This piece explores both these critical questions.
The penchant for US stocks over European ones is a persistent tendency rather than a fleeting anomaly. The price to book ratio for American companies has on average been almost 50 per cent higher than that for European ones over the past two decades. The current 70 per cent premium is near the top end of the range over this period but, even at its narrowest, the valuation gap was still 20 per cent in favour of the US during the two years leading up to the 2008 financial crisis.

One plausible-sounding explanation for the valuation gap, namely the very dissimilar sector composition of the major US and European stock indices, turns out not to be relevant in practice. Start by excluding the financials sector, which tends to distort comparisons. Even on an ex-financials basis, the price to book ratio of the S&P 500 is 3.6, whereas it is 2.3 for the Stoxx 600. Thus, the valuation premium of the US index remains intact even after removing financial companies from the comparison.

In addition to financials, it is often argued that the European market is weighed down by sclerotic old-economy behemoths while corporate America is blessed with an abundance of highly-valued technology giants. The popular acronym FAANG coined to include Facebook, Amazon, Apple, Netflix and Google, neatly encapsulates the dominance of high-flying technology companies in US markets. But take away these obvious outliers and the price to book for the ex-financials S&P 500 still only drops to about 3.3. Furthermore, excluding the entire technology and consumer discretionary sectors still leaves the US index at 3.1 times price to book. The valuation of the European index also drops by a similar amount if these sectors are excluded. Clearly, compositional differences by themselves do not explain the valuation gap across the Atlantic.

So what does? To answer this question, we make use of Gordon’s growth model which expresses the price to book ratio as a function of return on equity, the cost of equity, and the dividend growth rate. The formula linking these variables implies the price to book ratio will be higher if either the return on equity or dividend growth rate is higher, or if the cost of equity is lower.

Return on equity represents the fundamental performance of a business while the cost of equity measures investor expectations of the return from it. So this analysis allows us to

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1 Throughout this piece, unless specified, US companies refers to S&P 500 while the Stoxx 600 is used as a proxy for European companies

2 The Gordon formula states that $\frac{Price}{Book} = \frac{(Return\ on\ equity - g)}{(Cost\ of\ equity - g)}$, where $g$ is the dividend growth rate
disaggregate the cross-regional price to book valuation gap into two components – the superior underlying performance of US companies and the lower threshold that investors set for them. Let’s look at each of these in turn.

First, how much better has the fundamental performance of American companies been than European ones in the past two decades? For the period from 1997 through 2005, barring the dot-com bust, corporate America delivered returns on equity about two to three percentage points higher than Europe. Consequently, US price to book ratios were mostly between 40 and 70 per cent higher. Around 2005, the performance of European companies picked up and returns on equity in the two regions converged in the lead-up to the financial crisis. This narrowed the transatlantic valuation premium to 20 per cent as the price to book on European stocks rose to 2.5 while it remained near three in the US.

Since the 2008 financial crisis, returns on equity across the two regions have diverged sharply once again. While corporate America has consistently delivered returns on equity near 14 per cent since 2011, European companies managed just 11 per cent on average over the past five years.

Thus, the valuation premium for American companies is in part due to their higher returns on equity. But what accounts for this superior fundamental performance? To address this question, we deploy another piece of analytical machinery, namely the DuPont analysis. Essentially, the approach explains return on equity as the product of three components – leverage, asset turnover and net profit margin.

So which of these three components is responsible for the higher return on equity of American companies? Start with leverage, defined as the ratio of a firm’s assets to its equity base. European companies have had consistently higher leverage than those in America – which, by itself, would have meant a higher, rather than lower, return on equity. Indeed, Stoxx 600 companies currently have assets about eight times their equity, while the ratio for the S&P 500 is 4.5 times. Even after excluding the financial sector from the comparison, the assets to equity ratio is 3.1 times in Europe versus 2.8 in America. So leverage, by itself, does not explain the higher returns on equity of American companies.

3 The DuPont formula states that \( \text{RoE} = \frac{\text{Net income}}{\text{Equity}} = \left(\frac{\text{Assets}}{\text{Equity}}\right) \left(\frac{\text{Sales}}{\text{Assets}}\right) \left(\frac{\text{Net income}}{\text{Sales}}\right) \)

4 Using other metrics of leverage such as debt/equity and debt/EBITDA, the leverage for the Stoxx 600 is actually lower than the S&P 500. The reason is that US companies rely more on debt, and European companies rely on other forms of liabilities including current liabilities, some of which may not be classified as debt. Debt as a percent of total liabilities is 52 per cent for S&P 500 companies and 45 per cent for the Stoxx 600. On the other hand, current liabilities ex-short term debt run about 32 per cent of total liabilities in Europe, but only 22 per cent in America. These differences reflect in large measure the role of banks versus capital markets in providing financing to companies in the two regions.
For the period from 1997 through 2005, barring the dot-com bust, corporate America delivered returns on equity about two to three percentage points higher than Europe.
It is net profit margins where US companies really outshine those in Europe.

America’s original “exorbitant privilege” of issuing the world’s premier reserve currency feeds into yet “another exorbitant privilege” — higher equity valuations for American companies.
Asset turnover, defined as the ratio of sales to assets, is the second driver of return on equity. Here, American companies with an asset turnover of 0.33 do significantly better than the 0.18 that their European peers manage. However, the inclusion of the financial sector distorts these numbers. US banks usually sell the safest mortgages on to the likes of Fannie Mae and Freddie Mac, while these tend to be retained on the balance sheets of European lenders. Excluding the financials sector, the gap in asset turnover is much smaller, 0.68 versus 0.51 in favour of US companies, or a 33 per cent difference rather than 83 per cent at the headline index level.

Hence, these two measures, leverage and asset turnover, put together are not sufficient to explain the higher return on equity of US companies. For the overall indices, the two metrics combined have roughly the same effect. For non-financials, the two combined metrics contribute to make return on equity about six per cent higher⁵ for US companies, explaining a mere one-tenth of their superior overall performance.

It is net profit margins, the third driver of return on equity, where US companies really outshine those in Europe. Indeed, the two-year period in the lead-up to the financial crisis when margins for European companies nearly matched levels across the Atlantic, their returns on equity were also similar and the transatlantic valuation gap was at its narrowest in recent times. Since 2012, however, net margin for the S&P 500 has been around ten per cent, whereas Stoxx 600 companies have managed barely half that level. For non-financials, net margins have been about 8.5 per cent in the US and five per cent in Europe.

Corporate America enjoys higher margins than Europe across all levels in the income statement – gross, operating, ebitda, pre-tax and net margins. Differences in gross and operating margins largely stem from the disparity in market structures across the regions. For instance, US gross margins are abetted by much greater market concentration. Across sectors as varied as airlines, mobile telecom services and banking, the four or five largest American companies enjoy market share that European companies can only dream of. (See our first feature “Beyond QE – the resilience of corporate America” for a discussion on declining market competition in the US). More flexible labour markets and lighter regulation in America amplify this gross margin advantage as it flows down into operating margins.

⁵ For the avoidance of doubt, this is six per cent rather than six percentage points. So if, for instance, return on equity for non-financial European companies was 10 per cent, then the effect of leverage and asset turnover would explain US non-financial companies having a return on equity of 10.6 per cent.
Coming down to the next level in the income statement, US companies have boosted pre-tax margins by being more aggressive in taking advantage of the low interest rate environment to issue and refinance debt. In 2007, interest costs were about 5.5 per cent of outstanding debt for investment grade non-financial companies in both the US and Europe. Since then, US companies have cut interest cost to 3.8 per cent, while European companies are still paying 4.8 per cent.

And finally, the gap in net margins is further accentuated by the fact that US companies pay less tax. Even though the US has one of the highest statutory corporate tax rates among developed countries, for many companies the effective rate is much lower. Up until 2015, the all-in tax rate⁶ for S&P 500 companies was roughly one percentage point below that for Stoxx 600 constituents. That differential has widened to over three percentage points since then.

The preceding DuPont analysis emphasises the role of higher margins in the superior return on equity delivered by American companies. Margins are responsible for almost the entire difference in the return on equity for the overall indices. And even for the non-financial companies, higher margins account for more than four-fifths of the US companies’ return on equity advantage in recent years. The rest is due to higher turnover, somewhat offset by lower leverage.

A higher return on equity, however, is only one part of the explanation for the premium valuation that US companies command. Indeed, all businesses earning the same return on equity are not necessarily awarded the same market valuation multiple by investors. To understand why, let’s turn to the other variable that drives the transatlantic valuation gap, the cost of equity.

Based on recent data, S&P 500 companies currently have a cost of equity just below eight per cent, while for the Stoxx 600 it is 8.4 per cent. This seems a small difference, but it is significant. If the US cost of equity were to rise to the same level as Europe, then – holding other metrics constant – the price to book ratio for US companies would fall nearly one-tenth from three to 2.7. This would cause the US valuation premium to shrink from 70 per cent to 50 per cent. Thus, the seemingly slight difference in cost of equity is responsible for nearly one-third of the total transatlantic valuation gap.

⁶ This refers to the overall tax burden, including federal/national, state/province and local taxes
US companies have enjoyed a lower cost of equity for most of the past two decades. Why this persistent advantage? Or, put differently, why are investors happy with a lower risk premium when investing in US equity markets? One structural explanation is that America enjoys deeper capital markets. Furthermore, the dollar denomination of US equities adds to their allure for global investors as the greenback’s central role in the international financial system generates demand for dollar assets. In this sense, America’s original “exorbitant privilege” of issuing the world’s premier reserve currency feeds into yet “another exorbitant privilege” – higher equity valuations for American companies.

This cost of equity advantage of US companies has been further augmented by recent market developments. Realised volatility in the US equity market has generally been lower than in Europe since the financial crisis. Over the past year it has been about eight per cent for the S&P 500 versus 10.5 per cent for the Stoxx 600. Investors generally require some risk premium for exposing themselves to higher volatility. Hence, the lower volatility in US markets also helps to reduce the relative cost of equity for US companies.

One last reason for the difference in the cost of equity relates to the payout strategies of US and European companies – as well as the tax treatment of these payouts. In Europe, 95 per cent of shareholder payouts are in the form of dividends which as ordinary income are taxed at 35-40 per cent rate for top earners. In America, however, buybacks make up nearly half of all shareholder payouts, and are treated as capital gains which are taxed at a 15 or 20 per cent rate. Therefore, even though dividends are taxed at comparable rates in both regions, the higher incidence of buybacks lowers the effective tax rate on total shareholder payouts to around 25-30 per cent in the US. This means investors benefit from higher post-tax proceeds by investing in US companies rather than in European ones, even if the two had the same pre-tax payouts.

So, much of the significant price to book premium that US companies enjoy comes down to corporate America delivering higher returns on equity thanks to its fatter margins. In addition, US companies also benefit from a lower cost of equity because of the appeal of dollar assets for international investors, lower realised volatility, and lower effective tax rates on payouts to shareholders.

Identifying the drivers of the valuation gap helps to analyse what is required for this gap to close in the future. Any narrowing of the difference in returns on equity will likely involve a corresponding convergence in profit margins. What is the likelihood of this? In the near-term, a tightening labour market might scrimp US margins...
Over the past five years, the cost of equity for US companies has declined from 10.5 to eight per cent. This drop was driven by companies boosting shareholder payouts – including buybacks – from 50 per cent of net income to 75 per cent.
through higher wage growth. Meanwhile, in Europe, and particularly in France, the political agenda now includes implementing structural reform to make labour markets more flexible. If successful, this could improve the prospects of European corporate margins.

However, whether these cost changes are passed on to consumers or instead lead to sustainably higher profit margins depends on the extent of market competition. It is possible that US companies raise prices as wage costs increase, while competition forces European companies to pass on any cost savings by cutting their prices. On this front, the attitude of policymakers across the Atlantic remains oceans apart. As their recent actions against big technology companies demonstrate, European authorities are keener on pursuing an anti-trust agenda than their American counterparts. A change in tone on this topic from policymakers on either side of the Atlantic should allow investors to gauge the potential for a meaningful and sustainable shift in future profit margins.

In any case, changes in the fundamental corporate performance metrics are likely to be slow and steady. A much faster and sudden realignment could occur on the cost of equity front, which is a function of market moves and investor perceptions.

What might cause a sudden increase in the cost of equity for US companies? One possible catalyst could be the withdrawal of quantitative easing and further rate hikes by the Federal Reserve if this leads to a reduction in investors’ appetite for cash payouts from companies. Over the past five years, the cost of equity for US companies has declined sharply from 10.5 per cent to eight per cent. This drop was driven by companies in America boosting their shareholder payouts – including dividends and buybacks – from 50 per cent of net income to 75 per cent even though their return on equity remained largely unchanged.⁷

If corporate finance textbooks are to be believed, investors should have been indifferent and the increase in payout ratios should have had no impact on share prices. This is because a higher payout ratio and unchanged return on equity imply less capital is reinvested in the business, thereby slowing the future growth rate. Investors should seek to offset this slower future growth by seeking higher current payout yields. Therefore, the cost of equity, which is the sum of the payout yield and future growth, should not change.

⁷ As per the Gordon’s growth model, Cost of equity = Dividend yield + g, where g = (return on equity)*(1-payout ratio). The dividend yield we use here includes cash dividends as well as cash returned to shareholders through buybacks. The cost of equity for European companies has also declined over the past five years albeit to a lesser extent than US companies. Moreover the payout ratios of European companies have remained within 50 and 60 per cent.
So much for finance theory, though. In recent years, rather than question the sustainability of companies paying out three-quarters of their earnings in cash, income-starved investors have rewarded this behaviour by pushing up US share prices. This kept the payout yield on the S&P 500 stable at around four per cent, despite rising payout ratios. Therefore, the cost of equity for US companies fell in response to their higher payout ratios.

If the recent investor fascination with cash-income delivering stocks were to diminish in the post-QE world, those US companies with high payouts might see their cost of equity rise and their price to book multiple go down correspondingly.

To conclude, over the past two decades investors have bestowed a persistent valuation premium on corporate America relative to European companies. Many long-standing structural factors, such as higher profit margins and tax policy, explain this transatlantic gap. However, investor behaviour over the past few years has driven the valuation differential to near-record highs. Even if the structural differences remain intact in the near future, the impending withdrawal of quantitative easing presents a test for the endurance of America’s supersized equity valuations relative to their transatlantic peers.
Columns

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Only at the end of Jacob Soll’s book does he ask a humorous yet oddly profound question: Why don’t they paint pictures of accountants anymore? Indeed, the Louvre and other great museums of the world have plenty of works by 15th and 16th century masters which depict accountants as pious, upstanding citizens.

The easy answer is that accountants are tarnished by scandals from Al Capone’s tax dodging to Enron’s balance sheet mirage. Soll, however, argues that accounting is no longer intertwined in business and culture as it once was. To prove it, he shows how financial accounting played a role in the rise and fall of some of history’s greatest empires.

For starters, Roman Emperor Augustus directly linked his political legitimacy with the transparency of his accounting numbers. Of course, Roman numerals only survive on buildings because they make calculating anything more than the simplest fraction very difficult. That fact helped cover up the substantial fraud and corruption that eventually contributed to the collapse of the empire.

After the economic malaise of the dark and middle ages it is no coincidence that the economic boom of the renaissance began after Fibonacci popularised the Arabic number system in Europe. With complex mathematics now made easy, accounting flourished and allowed the wealth creation of Italy’s city-states.

In fact, the greatest businessman of the time, Cosimo Medici was educated in accounting from an early age. Even at the height of his success he still reviewed ledgers of many branches himself and was known to personally conduct a line-by-line audit of the books. The thought of a chief executive doing so today is outrageous.

In Spain, Philip II also took a hands-on view of accounting. He calculated that his army cost twice his income and the royal debt was 15 times larger, something that imperilled his empire. Were it not for the subsequent accounting clean-up, the Spanish Armada may not have been raised to fight the English in 1588. As it was, its defeat was a financial disaster and triggered the push for even greater state-wide accounting reform and audits. Uproar from the plutocrats meant the reforms died soon after Philip did. As in Rome, corruption was rife and the monarchy soon declared bankruptcy.

The rise of the Netherlands as a commercial superpower was also based on solid accounting. It was a necessary precursor to the existence of multi-partner firms such as the Dutch East India Company which, despite patchy audits, became the world’s first publicly-traded limited liability stock.

Across the English Channel, Charles II established an accounting office in the treasury, something that made parliament worry it gave him too much power. Essentially, clean books gave the king access to more revenue. Within a decade, parliament sponsored the glorious revolution and Charles lost his throne.

Shortly afterwards, Robert Walpole made his name as a financial wiz. With interest on the debts to fund the war with France consuming 60 per cent of Britain’s national income, he supported a debt restructuring via the South Sea Trading Company. When the South Sea bubble eventually collapsed, the profits were found to be illusory and auditors uncovered an extensive network of bribes. The spotlight fell on Walpole. Fortunately for him, the company’s cashier fled with the ‘green book’ which accounted for all the bribes. Walpole was saved and became Britain’s first prime minister.

Which brings us back to those portraits. Perhaps the pictures of political and commercial leaders such as Augustus, Medici, Philip II, or Walpole, wouldn’t exist without their skills as canny accountants. But accountants today are perceived as mere reporters rather than do-ers. And that, Soll argues, will one day precipitate another crisis.
Virtual reality, artificial intelligence, machine learning, the internet of things. There is probably no better place than Silicon Valley to learn about the latest developments in the coolest technologies. So that is where your spy went last month to listen first hand to industry experts at the inaugural Deutsche Bank internet conference in Palo Alto. Here are some of the most noteworthy nuggets of information that your spy gleaned.

From the panel on virtual reality, conference attendees learnt that despite Facebook and others plunging lots of money into the technology, the consumer market for it seems some distance from reaching significance. However, the technology is ready to scale and close to an inflection point in adoption by enterprises. One use for businesses is employee learning as virtual reality affords trainees near-real life exposure to unfamiliar and dangerous situations with no cost of failure. Wal-Mart, for instance, already applies VR technology in its store associate training. Other potential applications include flight simulations, assembly line packaging and even practising difficult managerial conversations.

The panel on artificial intelligence and machine learning came to similar conclusions about the evolving nature of these technologies. There is no question that AI is having a real impact on business and society. AI makes it possible to compute enormous data sets and uncover valuable insights beyond readily observable attributes such as customer patterns based on gender, age, and geographic location. As machines start highlighting unexpected correlations, the still nascent AI technology is quickly evolving from an academic abstraction to having an increasing number of practical applications.

Critics worry that as businesses pursue an “AI first” strategy, the productivity gains from this technology will be concentrated among a very small number of firms or individuals. But our panel noted some reasons to be confident that artificial intelligence is not about to take over industries and destroy jobs.

It is true that the nature of some work will change, however, AI is unlikely to cause social and work ructions on anything like the scale of the industrial revolution. For example, large technology companies have recently experimented with having robots ‘talk’ to the public. However, some of these experiments lasted barely a couple hours before the machines said things that sent public relations folks scurrying to pull the plug. Quite simply, robots are not yet capable of replacing human beings as they cannot engage in multi-turn dialogue at anywhere near the level of sophistication required for business use. Of course, the technology will evolve and will eventually be rolled out in various iterations with increasing levels of success.

Talking of a technology being implemented in various iterations, another conference panel discussed the user experience in online travel. Contrast the few swipes of a thumb it takes to book a hotel on your smartphone with the cluttered hotel booking interface of PC-based webpages 15 years ago. In fact, the optimisation of the mobile user experience was one of the biggest takeaways from this panel as the mobile user interface continues to define any platform and is paramount to a successful experience, application, and therefore business.

The other big takeaway was the increase in artificial intelligence and machine learning. Algorithms are helping the travel industry to mine data, gather insights, and provide customers with a more personalised platform for research and booking. This helps businesses scale inventory and predict pricing elasticity.

Finally, conference participants learned about the $12bn subscription-based private jet rental market. Although it has problems with occupancy and falling margins, the potential that last-minute booking can have on private air travel is something to watch out for in its next few iterations.
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<td>Annual economic output</td>
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<td>14.5</td>
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</table>

*Non-financial business debt in the US and non-financial corporate debt for the eurozone
Europe (€tn)

Central bank balance sheet
4.3
1.5

Stockmarket value
8.0
3.7

Corporate debt*
14.6
12.9

Annual economic output
11.1
9.5
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