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Disruption: it's everywhere, but so are the investment opportunities

This is a time to be optimistic as a consumer. Everywhere in life there are new ideas, products and services, being brought to us either by a recently created company, or an evolving incumbent. I'm not usually a subscriber to "this time it's different", but when it comes to the emerging disruption to so many industries, "this time it's more than average" doesn't really seem to cut it.

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There is of course a scary part to the disruption. Large numbers of working people will need to retrain and do something different. Many businesses are under great pressure. In this respect, those who say this time is no different are correct. For centuries, scientific developments and new ways of doing things have resulted in major employment shifts. But this time I have a feeling it may be different, because today's disruptions are not isolated to particular industries – disruption is everywhere, and that means that there are investment opportunities right across the spectrum, from the disrupters to incumbents willing to invest in the future.

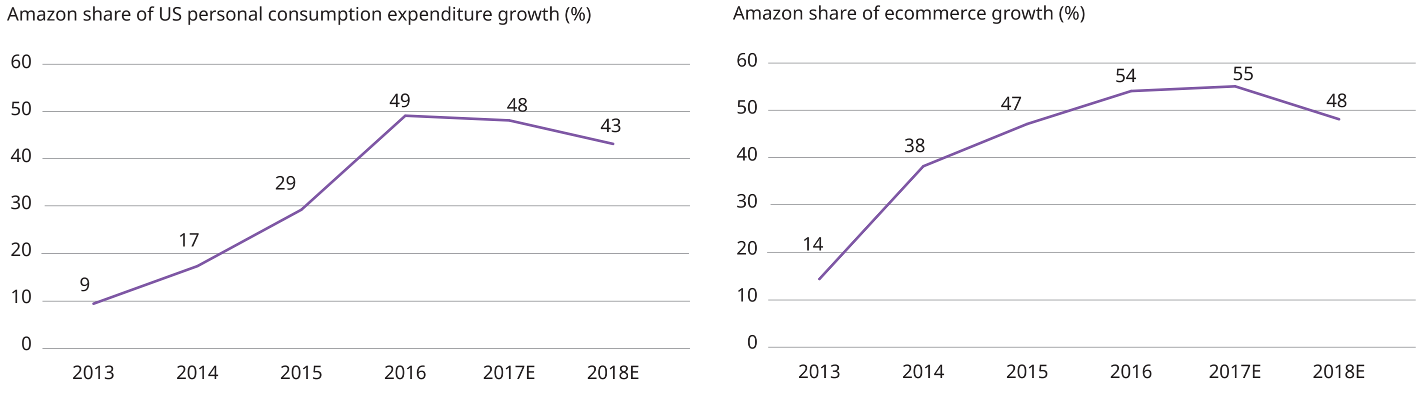
Let's take a look at some of the most significant changes.

Retail

Online retailers such as Amazon simply have a more compelling consumer offering. The convenience, efficiency and breadth of the platform mean it is becoming applicable to distribution of more and more types of products, and to businesses as well as consumers.

In the US, e-commerce is now approximately 16% of total retail spending, but Amazon's addressable market is much larger than this and it is expanding into many more business-to-business markets. In recent periods, Amazon alone has accounted for 50% of all US retail and e-commerce growth (Figure 1). Nearly 50% of US households now have an Amazon Prime membership, spending on average approximately $2,500 a year. The high margin revenue streams Amazon has generated from, for example, their Cloud computing business, are allowing them to pursue continued investment at effectively zero levels of profitability in retail and new distribution markets. Amazon is now a deflationary force in grocery, basic industrial products, and media, playing according to different rules of engagement to the incumbents.

Figure 1: Amazon has been behind as much as half of US retail and e-commerce growth



Source: Morgan Stanley research, December 2017

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Amazon and other online distributers are disrupting all types of traditional retailers, which is relatively well understood. However the online expansion into the distribution of more industrial, business to business, and pharmaceutical products is also now beginning to introduce pricing pressure in these other huge markets. For example, Grainger, America's leading broad line supplier of maintenance, repair and operating products (MRO), reported worldwide price declines of 4% in the third quarter of 2017, and 5% in the US, as it attempted to fend off Amazon from entering its market.

Consumer products

Some of the biggest stock market success stories of the last 50 years have been consumer brands, taking their name to a global audience and capturing millions or billions of foreign customers. They have been resilient and durable. Many will continue to be so, but the shift in consumer purchasing patterns online is very disruptive to the way in which consumer products are sold, and the ability of the industry to put through regular price increases. In the last five years, the organic growth of the large listed global fast-moving consumer goods (FMCG) companies has halved from 4% to 2%, largely due to much weaker pricing.[1]

Although the growing presence of hard discounters has been one cause of the weaker pricing, social media and online distribution have also been a major driver of competition. Having designed a product, a new company can set up a website and start selling direct almost immediately, using innovative social media campaigns to capture the consumer imagination. The "shelf space" on Amazon is effectively limitless, providing distribution to innovators and in doing so breaking the cosy relationship between large retailers and the FMCG companies that dominate the scarce shelf space within a physical store.

Although driven by revived consumer interest in more local and interesting products rather than e-commerce distribution, the US craft beer category is another good example of a distruptive industry trend. Craft beer sales have trebled in the last 10 years, reaching 12.3% of US beer industry by volume and 22% of the $107 billion US beer market by value in 2016. Whereas the overall beer market is flat, leading to very weak sales growth for the large global beer companies, craft beer sales have been growing at over 10% per annum.[2] The trend is also spreading to the spirits category, where George Clooney's "Casamingos" Tequila was recently acquired by Diageo for $1 billion just four years after it was launched.

Media

Just ask the music industry about disruption from digital, where recorded revenues halved in nominal terms between 1999 and 2013.[3] Ironically, and very interestingly for shareholders, the music industry is now emerging from this rout, with revenues finally returning to growth in 2016 and 2017 as consumers adopt bundled streaming subscription services from the likes of Apple, Spotify and Amazon. This is at the same time as ubiquitous cheap connectivity is finally beginning to crack the distribution monopolies and bundles of cable and satellite TV companies as customers choose their own digital content through individual subscriptions directly from the content producers, or spend their viewing time on much cheaper online platforms, such as Netflix or YouTube. It is likely to be a very painful transition period for those incumbents as consumers exercise their new-found freedom and break the bundle, which may happen quite quickly as cable companies are among the most disliked companies in America.

Technology

There is always change and creative destruction in the technology industry, but the concentration of artificial intelligence (AI) capabilities in the hands of only a few players means that they are now making significant inroads into other industries. AI systems have natural scale advantages, as the more data they process, the more they are able to learn and improve their outputs. Voice enabled digital assistants, such as Apple's Siri and Amazon's Alexa, will be incredibly hard to compete against, and look set to play an increasingly important part in offering up information and consumption opportunities to consumers. If Alexa suggests a certain brand of laundry powder (or Amazon's own brand), you are much less likely to ask her to change the brand as you would be to pick a different brand from a supermarket shelf.

AI is also disrupting traditional business process automation, which is moving to a whole new phase with robotic process automation driving big savings for companies and revenue losses for outsourcing companies. Morgan Stanley has estimated the revenues at risk in the business process outsourcing (BPO) and IT services markets are from $25 billion to $60 billion over the medium term.

Within the technology industry itself, however, there is also considerable disruption underway as the public cloud companies threaten to replace almost all the proprietary hardware and software that would typically be found in a corporate datacentre (for example, an HP server, EMC storage, Oracle database, Checkpoint Software firewall) with products they have developed themselves. Amazon wants to do everything, including providing the servers, switches, databases, storage and security software necessary to operate on them. Shifting to the cloud also means that companies don't need service companies for repairs and maintenance. When you sign up for Amazon Web Services computing functions, you are currently offered a drop-down menu offering the option of external vendors, or Amazon software. How long before the options start becoming more restrictive or software providers have to pay to remain on the platform?

Autos/mobility

While many national auto makers have fallen by the wayside over the decades, there has been barely any true technology disruption in auto industry technology for nearly a century, only incremental penetration of electronics and additional functionality that the car companies have built in to new models. In the next 10 years, autonomous driverless vehicles and a dramatic change in motive power from the combustion engine to electric motors are likely to turn the industry on its head, with new entrants and massive

[1] Company data, Bloomberg, Schroders' estimates.
[2] The Brewers Association.
[3] JP Morgan estimates: Vivendi – Multiples of upside, November 13, 2017.

investment requirements. Just the publicly-listed auto parts companies account for approximately $175 billion a year in capital spending. The capital stock required to manufacture an electric vehicle (EV) is very different, comprising battery components, chemical processes, electric motors and semiconductor content instead of engine components and gearboxes. These are completely different core competencies, so most suppliers will struggle to adapt to the new technologies.

As budgets rapidly shift, we will see major growth in capital invested across the new supply chain. To put this in perspective, the Tesla Gigafactory – expected to supply Tesla with batteries for 500,000 full-range vehicles – is costing $5 billion. Replicating that factory enough times to support the transformation of 50% of global auto sales into EVs would cost $400 billion – and that is just the spend on the battery plants. It is already clear that the manufacturers of Korea and China are likely to dominate the economies of scale in battery manufacturing, threatening the future of significant chunks of industry employment in other regions. Around 12 million people work in the automotive industry within the EU, of which three million are in manufacturing. Companies and nations will need to adapt and retrain their workforces very quickly to mitigate the problems associated with the major shifts in employment that the transfer of manufacturing to other geographies usually entails.

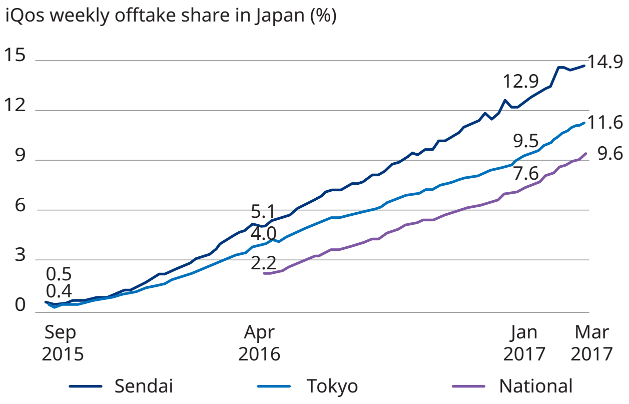
Services

The distribution of services, from insurance to dry cleaning, is moving to platforms. The best example of this is in China, where the Tencent and Alibaba platforms have expanded from their respective bases of social media and ecommerce to encompass a vast array of services. These “super apps” are now the home for financial payments, the distribution of banking and insurance services, online video, and access to consumer services from home hairdressing to grocery delivery. Incumbent, offline distribution networks, whether retailers or industrial distribution networks, need be very worried as the consumer becomes increasingly used to accessing almost everything they need in one place.

Tobacco

There is a quiet revolution stirring in the $770 billion global tobacco industry[4], where so called “reduced harm products”, such as iQos, developed by Philip Morris International (PMI), might finally be starting to dent the market. These “heat-not-burn” products are different to vaping, providing something much closer to a traditional smoking experience without many of the chemicals associated with the combustion process. In Japan, the launch market, iQos has taken a 15% market share in just over two years (Figure 2), and PMI claims that 75% of those who try iQos fully convert to the product[5]. In their second priority launch market, South Korea, iQos is also proving significantly disruptive. Policymakers and advisory bodies, such as the UK Committee on Toxicity, are acknowledging the reduced risk attributes of iQos, which could mark the beginning of the end for the combustible cigarette, not to mention those companies that don’t have the new technology or brands to compete.

Figure 2: iQos has come from nowhere in two years

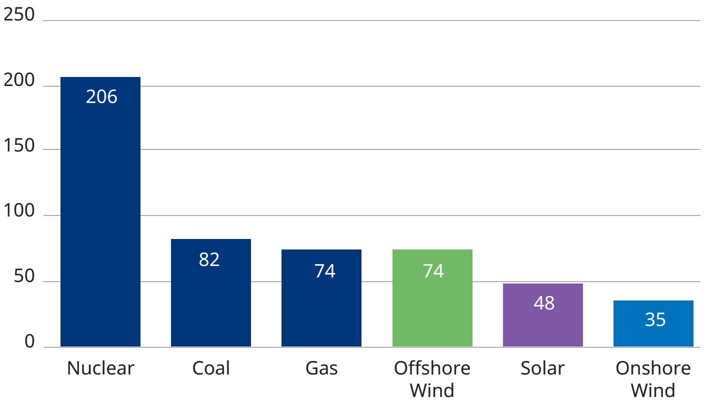


Source: PMI, Q2 presentation.

Power generation

The fossil fuel era, so powerful for human development for centuries, appears to be nearing its end. Renewable power and battery storage keep getting relentlessly cheaper. There are now more and more instances of both wind and solar developments producing unsubsidised power at cheaper all-in costs than coal or gas powered generation. If this trend continues, it threatens to overwhelm the economics of fossil fuel energy, as Figure 3 suggests.

Figure 3: Onshore wind power could soon set energy prices



Expected average levelized US energy costs in 2020 ($/MWh)

Source: Citi Utilities Research, October 2017.

The investments now going in to solar and storage technologies have freed these industries from their previous reliance on government subsidy, with the private sector now driving substantial improvement. But power generation is a massively capital intensive industry. To meet international climate change goals, the UN Intergovernmental Panel on Climate Change has estimated that over $100 billion in investment needs to be shifted every year from fossil fuel to renewable technologies between 2010 and 2029.

[4] British American Tobacco and Statista.
[5] Philip Morris International, Q3 earnings presentation.

This will have terrible consequences for the utility company owners of large, centralised, incumbent power generation assets. The unpredictability and minimal variable costs of renewables will make them almost always the lowest-cost marginal producer, meaning utilisation of traditional assets becomes unpredictable, and profitability collapses.

Banking

The business of banking is changing faster than most. Younger generations barely set foot in a bank branch anymore, and technology is making switching providers easier than it has ever been. The high costs of technology platform investments for banks favour larger banks that can spread the investments across a big customer base, while nimble financial technology start-ups and the internet super-apps chip away at profitable banking niches, product distribution revenues, and user engagement.

For those banks that can and do lead the digital transition, it could be a rewarding experience. As shown below in Figure 4, Singaporean bank DBS has provided interesting data that segments its customer base between those who primarily use digital banking channels and those that don't, demonstrating a clear value proposition for digital leadership.

In most parts of the world, the credit cycle is at multi-year lows because negative or zero short-term interest rates have allowed levered or challenged businesses to struggle on, avoiding what would in normal circumstances lead them to bankruptcy. If we are right about the extent of potential disruption to many industries discussed in the sections above, we could be about to enter a period where a normalisation of interest rates coincides with increased disruption-related bankruptcies, putting intense pressure on banks with weak credit underwriting and inefficient cost structures.

All this supports the view that there will be considerable disruption in the banking industry itself, which will be particularly challenging for small and mid-size banks that do not invest sufficiently in technology or reduce their legacy cost base fast enough. This will be particularly the case in some European countries, where making redundancies is time-consuming and expensive.

What this means for investment decisions

With so much change, the challenges facing incumbents are significant and most are well aware of the disruption coming their way. Information is not the problem, but it remains rare to see an incumbent brave and nimble enough to respond aggressively by sacrificing near-term profitability to drive long-term value.

There are many reasons why incumbents fail to change fast enough, including:

- An addiction to legacy revenue streams and the related temptation to position new technologies as an add-on, rather than to fully embrace a new business model.
- A current growth rate that may still be reasonable for now but also leads to complacency.
- Business processes designed to reduce risk or create efficiency but become resistant to innovation, particularly as individuals get used to certain ways of doing things.
- Pressure from shareholders focused on short-term performance, who can be unwilling to support managements' more transformational long-term ambitions if they risk lower near-term profits: in this, the make-up of a shareholder base matters.

So, as well as remaining focused on the new generation of disrupters and growth companies, as investors we need to be looking for companies that are capable and courageous enough to disrupt themselves before disruption comes to them. Though they are the exception, we think these companies will have a bright long-term outlook. As their resilience comes to be understood they will be differentiated by the stock market. A few good examples are:

Aviva – Despite coming from a traditional, multi-line insurer, the new myAviva product radically changes the insurance business model. It uses a digital platform and customer data to simplify the buying process and generate new business more cost-effectively.

Figure 4: Not all DBS Bank customers are equally valuable

2017 profit and loss (S$bn)	Total	Traditional	Digital	Digital is material
Customer (m)	5.9	3.6	**2.3**	**39%** of customers contribute **60%** of income and **68%** of profit before allowances
Income	5.1	2.0	**3.1**	
Costs	2.2	1.1	**1.1**	
Profit before allowances	2.9	0.9	**2.0**	
Key indicators				**Digital is more valuable**
Income per customer (S$000)	0.9	0.6	**1.3**	**2x** income per customer
Cost-income ratio (%)	43	55	**34**	**20 percentage points** lower CIR
Return on equity (%)	24	19	**27**	**9 percentage points** higher ROE

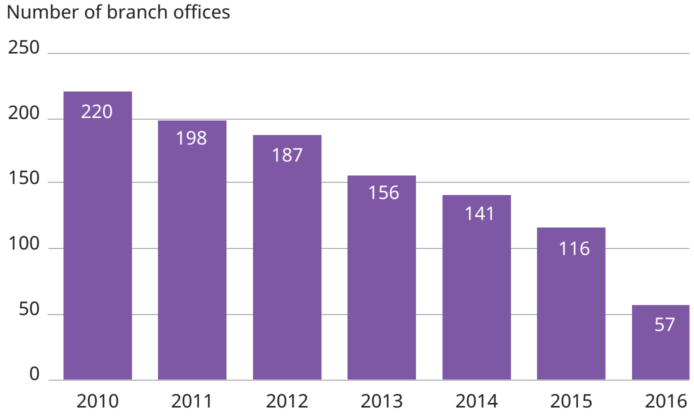
Source: DBS, June 2017.

It increases customer retention and creates a virtuous circle of growth by guaranteeing to return most of its lower costs to the consumer, making a commitment not to ratchet up prices by the 10% per annum typical in the industry, and cross-selling multiple insurance products. This new approach will be very disruptive to other incumbents.

Umicore – The largest profit driver for Umicore today is catalyst materials for petrol-driven cars, which will eventually decline with the demise of the combustion engine. However, Umicore has focused almost all its capital investment and most of its research and development on a cathode technology business for electric vehicles, quadrupling cathode production capacity over the next three years. This will eventually replace the catalyst materials business completely.

DNB – Despite being the largest and one of the oldest banks in Norway, DNB now operates with only 50 branches nationwide, having reduced the network by 70% since 2013, and migrating the vast majority of its customer interactions to digital. In the last 10 years, this program has improved the cost/revenue ratio for DNB from 56% to 44%, and its revenue per full-time employee is over 35%, above their main competitors.

Figure 5: DNB has radically re-engineered its business



Source: DNB, July 2017.

Philip Morris International – PMI is one of the largest tobacco companies in the world. Even so, it has a new mission: to replace cigarettes with smoke-free products and, accordingly, has dramatically shifted capital allocation in this direction. As discussed earlier, its iQos heat-not-burn product is already taking radical share in markets like Japan and South Korea, and has important footholds in Europe.

Burberry – While many traditional luxury brands have seen the internet as a threat to the exclusivity and control of their brands, Burberry has embraced digital solutions. It has created an industry-leading platform of “omnichannel” shopping (a seamless integration of in-store and online sales) and established social media marketing leadership, which has strengthened and brought many younger customers to the brand.

BlackRock – The US investment manager has not just embraced, but actively led the low fee passive/ETF wave that has swept the investment industry and brought down costs for consumers. The result is a very broad and diversified business with clear scale advantages.

NextEra Energy – This company was once a simple regulated power utility based in Florida, with coal, gas and nuclear generation assets. Over the last 10 years, however, it has relentlessly allocated capital to its renewable energy development business. As a result, it is now by far the largest owner and developer of renewable assets in the US, enjoying economies of scale and an unrivalled working knowledge of the technologies transforming the global power generation landscape. During this period, most investors have worried about the high valuation of NextEra shares, yet up to the time of writing the company had managed to generate a compound annual return of 12.5% over the last 10 years, compared to 6.8% for the US utility sector as a whole. Bear in mind, of course, that past performance is not a guide to future performance and may not be repeated. Moreover, the value of investments and the income from them may go down as well as up and an investor may not get back what they originally invested.

Conclusion

It is, as I said, an exciting time to be a consumer. It is also an exciting time to be an investor. Such a period of pervasive and disruptive change across many industries will, in our view, be a powerful source of alpha for well positioned portfolios. Many of the exciting disruptor companies touched on in this paper have a place as core portfolio holdings. What makes them interesting, despite strong past performance, is the consistent inability of the stock market to factor in the true long-term growth prospects of high-quality growth businesses. However, in the next few years, our hypothesis is that there will be just as much alpha to be had sorting out the wheat from the chaff among the incumbent businesses on the disruption front line as there is from the disruptors themselves.

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