

TECH SECTOR : PERFORMANCE DRIVEN BY INNOVATION

Shift in performance drivers

Since the 2008-09 global financial crisis, the global technology sector has delivered an impressive annual return of 15.4%, easily outpacing global equities as a whole (10.2%). 2018 appears to be no different with global technology shares rising almost 11.6% by mid-October, well ahead of global equities (-0.6%).

Prior to 2018, performances in the tech sector benefited mainly from earnings, dividends and P/E expansion. While many investors are right to believe that earnings growth has been the main force behind the technology sector's performance since the crisis, earnings have actually accounted for only 49% of total returns. P/E expansion has been another significant booster, accounting for 37% of total returns over the period.

Focusing on year-to-date performance, dynamics have shifted dramatically. Earnings growth has been by far the largest contributor to returns, while P/E ratios now appear to be a headwind.

It appears unlikely that P/Es can resume their role driving returns in the technology sector, as was the case following the financial crisis. Aside from the early-2000s bubble in technology stocks, the global sector has traded around 22–25x trailing earnings in periods when the global economy has not been in recession or crisis. It has become apparent that, in the absence of a bubble, the technology sector will no longer be able to rely on P/E re-rating for returns in the years ahead.

Although sector multiples may not expand much further in the future, the tech sector can continue to rely on innovation to create new sources of revenue and profits.

Major technology trends

There are some very powerful trends driving the performance of tech stocks. MIT economists Erik Brynjolfsson and Andrew McAfee, in their book entitled "The Second Machine Age", brilliantly explained the forces at work in the current technological revolution. This revolution is generating considerable productivity gains, which according to the authors have been the main support for US GDP in the last few decades. Eventually, productivity gains turn into revenue and profits for innovative companies. Share prices can then rise.

A large number of sectors and industries are riding the current wave of innovation, and several areas are particularly exciting. They include, in no particular order, self-driving cars, artificial intelligence, blockchain, video games and, still, internet services.

Internet services

The web sector is symbolic of the technological revolution we are experiencing. Internet giants have unique characteristics. They have dominant market shares: 80% for Facebook (worldwide, outside China) and more than 70% for the Google search engine. Netflix has an estimated 70% share of the paid video streaming market. Paypal also has a 73% market share according to Forrester. This is a very unusual market structure, especially since the average revenue growth rate for all of these companies combined is expected to be 26% in 2018. These companies are therefore massively outperforming their peers in other sectors, and are also growing at a spectacular pace despite being very large already. How long can this growth continue? One clue is given by end-market penetration. The aforementioned four companies have only achieved 32% market penetration, and so there is scope for them to continue growing for a good while to come. It is likely that the questions arising from their dominance are far from being answered.

One challenge for global Internet service companies today is China, where restrictions against foreign operators have allowed the development of domestic giants in their place, including Baidu

(the Google of China), WeChat (the equivalent of Facebook), Weibo (Twitter), iQiyi (Netflix) and Alibaba (Amazon).

Self-driving cars

Autonomous cars clearly represent the big innovation of the future. The ability to travel effortlessly, more safely and more cheaply will probably change the world just as much as mobile phones have. There are many companies targeting this segment. Waymo, Alphabet's self-driving car division, seems to be in the lead with its "early rider program". Through this programme, several hundred participants in Phoenix, Arizona can come and go as they please in the city centre, and in several other urban areas, in driverless vehicles that do not even have a steering wheel. The service will apparently be launched commercially as early as this year. There are many other equally ambitious players in the market, including Uber, Tesla and General Motors.

Artificial intelligence

Artificial intelligence is currently entering a phase of major expansion. "Machine learning", "natural language processing" and "machine vision" techniques are gradually being used more and more widely. Having machines that can imitate human cognition will help companies to automate repetitive tasks, resulting in considerable productivity gains. Accenture predicts that artificial intelligence will create USD 14 trillion of value by 2035, equal to 17% of 2017 global GDP. Only 20% of data are currently structured, and so infrastructure will have to be created to manage the data being created in the most effective way. In addition, only 0.5–1.0% of the data being created are actually used. Key sub-segments of artificial intelligence include cybersecurity, machine-to-machine language and online health. Around 150 companies specialising in these areas are currently listed on the US stock market.

Blockchain

This technology, which involves putting together a huge shared database in which data are fully traceable, is highly promising and has great disruption potential. The recent bubble shows the potential future impact of blockchain technology. Although blockchain applications and deployment are at a very early stage, the technology is here to stay, regardless of the form it may take in future. Blockchain is also an internet of transactions, which are more secure and efficient as a result. However, blockchain implementation will require highly robust architecture, and to be deployed very widely to be efficient. This means that the process could take longer than some would have liked initially.

Video games

Since the latest generation of consoles was launched, we have seen a video-game renaissance. The market's competitive structure has favoured the incumbents because of the constantly rising cost of producing new games, along with the importance of intellectual property and franchises. In addition, the digitalisation of video games has improved margins. For example, Sony's *Game & Network Services* division is growing revenue at a rate of more than 35% with margins sharply higher on increased PS4 software sales.

But although existing positions have been strengthened, new opportunities have also arisen. Video games are being streamed on an unprecedented scale and gaming is taking an ever-growing place in people's lives, particularly among millennials. People are also forging entire careers by taking part in e-sports – video game competitions. There is also no doubt that the imminent virtual reality wave will take the industry to the next level. We fully expect video-game producers to take advantage of these new technologies. Again in China, the gaming sector is dominated by two local players, Tencent and NetEase, which together control 70% of the market (Tencent 45%), but depends on both local and foreign game developers.

Julien Leegenhoek, Equity Technology Analyst, Union Bancaire Privée (UBP)