

VIEWS FROM THE DESK (VFTD)

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From Apollo 5 to iPhone 5

The main topic of conversation in our office over recent days – interspersed with debates around who is going to win BBC Sports Personality of the Year 2012 (such a tough call) – has been the controversial and widely quoted National Bureau of Economic Research paper titled 'Is U.S. Economic Growth Over?'. Before you start thinking what a terribly dull office Affinity Private Wealth must be, let us provide you with a brief overview of what the paper covers. Written by Robert J Gordon, an economist at Northwestern University, it argues the greatest technological innovations are behind us and there is little prospect for transformative economic change along the lines of the three previous industrial revolutions (IR). He defines these as IR1 (steam engines, railroads) from 1750 to 1830; IR2 (electricity, internal combustion engine, running water and indoor plumbing, communications, chemicals, petroleum) from 1870 to 1900; and IR3 (computers, the web, mobile phones) from 1960 to present.

The thesis presented by Gordon is that each of these revolutions was followed by a period of economic expansion, particularly IR2 which saw spin-off developments such as airplanes, interstate highways, urbanisation and significant improvements in public health, create "80 years of rapid productivity growth between 1890 and 1972." But progress has slowed - before IR1 the world had minimal economic growth and Gordon believes there is no guarantee that growth will continue indefinitely. Indeed, he suggests in his paper that "the rapid progress made over the past 250 years could well turn out to be a unique episode in human history". Gordon believes the US economy faces a series of "headwinds" that could cut annual growth in GDP to as little as 0.2% p.a. – one tenth the rate of growth enjoyed from 1860 to 2007.

On its own, this paper and its implications are thought provoking enough, but our interest has been further fuelled by the comments raised at a recent debate hosted by the Oxford Union. The topic for debate was 'The Innovation Enigma – Is the current growth crisis a result of decades of technological stagnation in a risk-averse society?'. If the topic was not interesting enough – bear with us, we promise we are not dull – the choice of debaters was fascinating. Arguing in favour of the motion were Garry Kasparov, the former World Chess Champion and for many, the greatest player of all time, and Peter Thiel, the hugely successful Silicon Valley entrepreneur (PayPal inventor, early Facebook investor). Countering their arguments were Professor Kenneth Rogoff, the highly respected and influential Professor of Economics at Harvard University and Mark Shuttleworth, the technology entrepreneur and Africa's first man into space. Wow – what a gathering.

The debate*, by all accounts, was very lively and enjoyed by all. Kasparov was the first to speak and described current innovations as only "incremental" built on technological developments made in the 1950s, '60s and '70s. "Can we compare the impact of the iPhone 5 with Apollo 5?" he asked and went on to state technological advancement had clearly stalled in many areas including life expectancy, energy production and speed of travel. Consistent with the case presented by Robert Gordon, Peter Thiel told the audience US wages rose by 350% between 1932 and 1972, but by only 22% from 1972

to 2012. If progress is driven by technology, he believes something has changed in a radical way to cause this relative stagnation of the last 40 years. In his opinion, Governments and policymakers should not be risk averse and must create an environment that fosters innovation and allows technology to do what it does which is "doing more, with less".

As a counter, Shuttleworth argued Governments have always been risk averse and innovations such as the space programme were built out of fear. Moreover, he believed there are "inventions being made today that will define the next decade in the same way that the internet and space flight defined what came from the '50s and '60s." In a similar vein, Professor Rogoff thought scientists working in the spheres of Artificial Intelligence, nanotechnology and neuroscience were very excited at the progress being made and the impact their work will have on mankind in the future. He accepted Government policy, patent regulations and tax policies all had a role to play in fostering innovation.

We think it is fair to say the Oxford Union debate, as interesting as it was, did not fully explain why economic growth has stalled compared to the rates once enjoyed by developed economies. There are a myriad of issues that run in tandem with the points made which Robert Gordon believes centre around changing demographics – particularly the one-time boost enjoyed by women entering the workplace, falling educational standards in the US and rising debt.

Amongst all of this, two things have really caught our attention. The first is Peter Thiel's comment that technology is doing more, with less. In a Financial Times article** published ahead of the Oxford debate, both he and Kasparov argue information technology (IT) has enabled the processes of globalisation and efficient management that has delivered economic growth, but without increasing real median wages. This, of course, is a view seen through the lens of high-income countries. Globalisation and rapid advances in IT have encouraged automation and outsourcing to low-income nations and facilitated economic catch-up across these countries and regions. Globalisation has been a very good thing seen through their lens and high-income nations must accept their slice of the economic growth pie is getting smaller and will continue to do so.

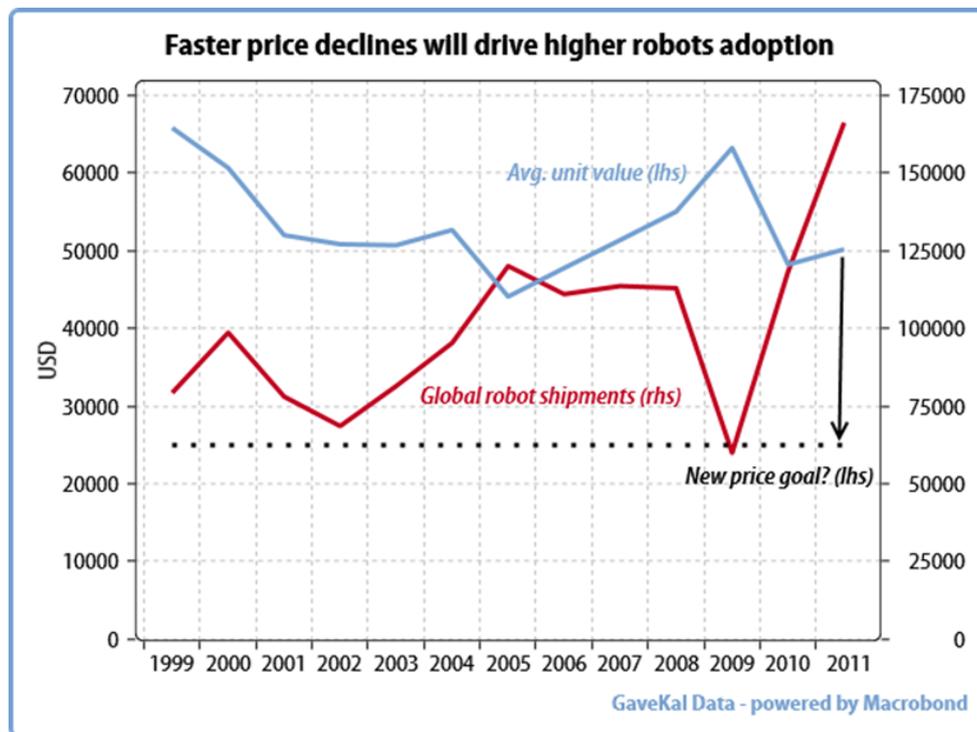
The second point we have asked ourselves is how can we accurately measure the impact of IT and innovation on economic growth and prosperity? At the basic level, we know a country's economic growth is dependant on the capital it owns, the size of its population and its productivity. With reference to the latter, we feel certain the impact of the internet and email, for example, must have improved productivity and growth. The problem comes in measuring this accurately. Thiel and Kasparov argue the ability to send photographs to friends and family around the world, via a smartphone, does not lead to greater prosperity. To counter this, research has shown faster internet speeds do lead to higher economic growth (doubling broadband speeds increases GDP by 0.3%***), but to our mind measuring the impact of IT has to start with understanding how it has changed our behaviours. For example, within all the numbers published recently to gauge the level of retail spending over the US Thanksgiving weekend, it was eye-catching to read on-line sales were 26% up on the same period last year. This is spectacular growth and highlights, amongst other things, the US consumer is back spending money and companies like Amazon (the most visited website over the

weekend) must be enjoying rising profits. Moreover, as e-commerce accounts for only 4% of total retail spending, the opportunity has barely been scratched.

Conclusions and asset allocation implications

So, what does all this mean for client portfolios?

1. We are on the same page as Professor Rogoff and Mark Shuttleworth believing technology and innovation will have a positive impact on global economic growth. We cannot predict – nor would we wish to try – when IR4 will arrive, but think it will. Secular investment opportunities abound, albeit identifying the winners and losers remains the toughest challenge of all. Of the tech funds we hold, one is managed by a veteran of this sector whose investment experience dates back to the 1980s. Through a more private equity orientated vehicle, the manager gains exposure to early stage tech companies, providing access and ideas that are subsequently utilised in the offshore fund we hold. Our other manager adopts a more dynamic investment style, consistent with the sector’s fast changing profile. This often leads him to be underweight the largest brand names (e.g. Apple), instead preferring to access a theme via holdings in smaller companies which play a key role in the supply chain.
2. For low income nations, the speed of economic catch-up has clearly been enhanced by technology and their prosperity, as a whole, is rising accordingly. Looking ahead, we believe automation and robotics will play an increasing role in maintaining profit margins, in particular in countries such as China where advances in technology should help offset rising wage costs (see chart below, which shows a rising volume of robot shipments accompanying the falling unit price).



In 2011, China became the third largest buyer of industrial robots, behind Japan and South Korea.

Whilst we acknowledge inflationary pressures are building, valuations are not stretched and as technology continues to 'shrink the world' it facilitates the ability of emerging market economies to compete. With this in mind, in November we added to our existing emerging market equity exposure, with an allocation to the First State Global Emerging Market Leaders Fund, within our Real Return and Growth portfolios.

3. The epicentre of technological advancement remains the US. Recent economic news flow from the States has improved marginally, although the near-term picture is muddled by the impending fiscal cliff and data distortions created by super-storm Sandy. With the growth rate likely to remain sub-trend for a while to come, innovation from Silicon Valley companies will remain a key driver for the US economy. However, we need to retain a focus on valuations – especially following 3rd Quarter corporate earnings, which revealed limited top line revenue growth and weak Capex. Consequently client portfolios are exposed to the US story via global equity funds and through our thematic holdings in healthcare and tech.

Performance of strategies

Strategy	Nov 2012 % Performance	YTD 2012 % Performance
Income	0.61	8.77
Real Return	0.92	8.10
Growth	1.03	8.17

Composite performance numbers are currently being calculated and will be provided on request.

Sources

No More Industrial Revolutions? – NY Times, 15/10/2012

* Innovation or stagnation – a great debate. University of Oxford, Oxford Martin School ThinkLONG blog

** Our dangerous illusion of tech progress – FT, 08/11/12

*** Report conducted by Ericsson, Arthur D. Little and Chalmers University of Technology in 33 OECD countries

The performance detailed above is for illustrative purposes only and reflects the returns across Affinity Private Wealth's Income, Real Return and Growth model strategies, net of 0.95% management fees.

This does not constitute investment advice and past performance should not be viewed as an indicator of future performance.

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