

This Week's Top Articles

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Technology and investing: this time may be different

Hamish Douglass

I am often reminded of the sage advice from Sir John Templeton: "The four most dangerous words in investing are 'this time it's different'." As investors, I think we need to question whether we are entering a new technological and machine age over the next 10-25 years that could disrupt most businesses and possibly society as we know it. In this regard, the new technological and machine age may be more important than The Industrial Revolution. Quite possibly, this time it is different and whilst heeding Sir Templeton's advice, as prudent investors we believe it would be neglectful to ignore the technological developments that are almost certain to provide substantial threats and opportunities to businesses.

In a recent TED interview, Charlie Rose asked Larry Page (Co-Founder of Google) what is his most important lesson from business. He said that he has studied why many large businesses fail and he concluded: "They missed the future." As investors, can we afford to miss the future? In our view, there is mounting evidence that we are approaching a tipping point of exponential technological advancement, particularly through accelerating improvements in artificial intelligence, 3D printing, genomics, computing power and robotics.

We have numerous recent powerful lessons on the rapid disruption of businesses from technological innovation:

- In 1998, Kodak had 145,000 employees and sold 85% of all photographic film. In 1999, Kodak's stock price peaked and in January 2012 it filed for bankruptcy. What is surprising about the Kodak story is that it invented the digital camera in the 1970s and yet the company was effectively destroyed by its own invention.
- In 1998, Nokia overtook Motorola to become the world's largest mobile phone manufacturer. By 2007, Nokia controlled in excess of 40% of the mobile phone market and was highly profitable. In July 2005, Google bought Android and in January 2007, Apple launched the iPhone. In September 2013, Nokia sold its loss-making mobile phone business to Microsoft.
- Google was founded in September 1998. In 1999, newspapers' share of global advertising revenue was approximately 35%. In 2015, Google generated advertising revenues of over US\$67 billion, or 14% of global advertising. Meanwhile, newspapers' share of global advertising revenue had fallen to approximately 12%.

Another lesson is that large scale/global disruption from technological advancements appears to be occurring at a faster and faster pace. Uber was founded in March 2009 and is now the world's largest 'taxi company', with operations in 429 cities in 71 countries. Facebook was founded in February 2004 and has in excess of 1.6 billion

monthly active users. The company is expected to generate advertising revenues in excess of US\$20 billion this year. Airbnb was founded in August 2008 and is now the world's largest accommodation company, with over two million listings in 34,000 cities in over 190 countries.

Exponential versus linear growth

It is difficult to comprehend that we could rapidly face a radically different world from the advancement of technology, when our own experience suggests that fundamental change is occurring incrementally and at a gradual pace. A reason why we may be underestimating the impact of technological change is that most changes in our life (like ageing, learning, career progression, etc.) occur in a well-established linear trajectory whereas technological progression is exponential.

In exponential growth, a measurement is multiplied by a constant factor for a given unit of time (e.g. computation power doubles every year), whereas for linear growth the measurement is added to incrementally and by a constant factor (i.e. we grow older by one year per year). Early on, it is difficult to feel the difference between linear and exponential growth (i.e. from 1,2,3,4 ... to progressions of 1,2,4,8...); however, after 30 iterations the linear sequence is at 30 whereas the exponential sequence is over 500 million. In an exponential world nothing is perceived to be changing in the early stages and then suddenly change starts occurring at an explosive rate.

There are numerous examples of technology progressing at an exponential rate. Three well-cited examples are:

- **Computational power** - In 1965, Gordon Moore, Co-Founder of Intel, predicted that the number of transistors in an integrated circuit would double every two years (the so-called Moore's Law). Over the last six decades, computation power has increased over one trillion times per integrated circuit. An iPhone 5 released in 2013 has twice the processing power of the 1985 Cray-2 supercomputer, which at the time was the world's most powerful computer. At the current rate of progression, a mobile phone is likely to have the processing power of the current largest supercomputer – China's Tianhe 2 – in around 15 years.

- **Genome sequencing** - When the project to sequence the human genome was started in 1990, given the speed at which the genome could be scanned at that time, it was thought it would take thousands of years to sequence the entire human genome (six billion bases). The full genome was sequenced 10 years later. In 2000, the cost to sequence an entire human genome was around US\$100 million and by 2015, the cost had fallen exponentially to US\$1,000.

- **Data** - It has been estimated that the amount of digital data in the world is doubling every two years. To put it another way, estimates suggest that more data has been created in the past two years than in the previous history of the human race.

In order to predict what will happen in the future through technological change, you need to extrapolate and think exponentially. Ray Kurzweil, a natural language processing pioneer and entrepreneur, a renowned futurist and currently Director of Engineering at Google, wrote in a March 2001 paper titled, '*The Law of Accelerating Returns*':

"An analysis of the history of technology shows that technological change is exponential, contrary to the common-sense intuitive linear view. So we won't experience 100 years of progress in the 21st century, it will be more like 20,000 years of progress (at today's rate)."

"It is important to ponder the nature of exponential growth. Toward this end, I am fond of telling the tale of the inventor of chess and his patron, the Emperor of China. In response to the Emperor's offer of a reward for his new beloved game, the inventor asked for a single grain of rice on the first square, two on the second square, four on the third and so on. The Emperor quickly granted this seemingly benign and humble request. One version of the story has the Emperor going bankrupt as the 63 doublings ultimately totalled 18 million trillion grains of rice."

"As exponential growth continues to accelerate into the first half of the 21st century, it will appear to explode into infinity, at least from the limited and linear perspective of contemporary humans. The progress will ultimately become so fast that it will rupture our ability to follow it. It will literally get out of control."

Bill Gates has commented that "we always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next 10." This tendency to overestimate change in the short term and underestimate the long term creates an interesting (and possibly dangerous) paradigm for an investor – acting too early by selling or short selling businesses that are most likely to be disrupted may well be

detrimental to short-term returns, whereas waiting too long could be very costly, as in the end disruption may occur very rapidly. Judging where we are on the exponential path of technological development is becoming critical for any longer term investor. In thinking about the investment impact of exponential growth, it is instructive that five of the world's 10 largest companies by market capitalisation are currently technology companies (Apple, Alphabet, Microsoft, Facebook and Amazon) and three of these companies did not exist less than 25 years ago.

Are we nearing a tipping point?

We believe there is evidence that technology may be nearing a tipping point – technology is now advancing at such a rate that a breakthrough in Artificial General Intelligence (AGI) may be rapidly approaching (AGI is a computer system that is as smart as a human across any intellectual task).

Firstly, we believe that the world's major technology companies are collectively assembling the equivalent of the 'Manhattan Project' that led to the development of the atomic bomb in World War II. Companies such as Alphabet (Google), Facebook, Microsoft, IBM, Alibaba, Baidu, Amazon and Apple are investing unprecedented amounts of money in artificial intelligence research and development, expansion of computational power, collation of the world's data and knowledge and assembling the world's leading intellectual capital by hiring leading graduates, researchers and scientists in fields of artificial intelligence and computer engineering from the world's leading universities.

Secondly, over the last few years there have been dramatic advances in machine learning, voice and image recognition, machine understanding of language (machines can now read and understand documents) and the early development of quantum computers. Each of these areas appear important in the development of AGI and it seems reasonable to expect accelerating advances in the years ahead.

Finally, March 2016 may well be remembered as a seminal moment in the advancement of artificial intelligence, when AlphaGo (a computer program developed by Google DeepMind) beat the Go world champion, Lee Sedol, in four out of five games. Experts had predicted that a computer program would not master Go, an ancient Chinese board game still played today, for another decade given the complexity of the game. There are apparently more possible moves in a game of Go than there are atoms in the universe. The breakthrough with AlphaGo is that it is a self-learning algorithm that learns from raw data. AlphaGo taught itself to play by playing itself 30 million times. Google DeepMind's website states:

"The algorithms we build are capable of learning for themselves directly from raw experience or data, and are general in that they can perform well across a wide variety of tasks straight out of the box."

An algorithm that learns for itself is a fundamental building block of developing AGI. The winners in the AGI arms race are likely to have access to the best intellectual capital, massive computing power and vast data across all areas (personal, written documents, image/video).

In our view, disruptive and profound changes to businesses, industries and economies from exponential advances in technology appear to be ever closer to our door step. As investors, we need to carefully weigh up nearer-term investment opportunities against the likelihood of exponential progress and be prepared and positioned for fundamental and disruptive change over the longer term. The risk is that we will fail as investors if we fail to see the future. This time it may well be different.

This is an extract from Magellan Asset Management's Annual Investor Report for June 2016. Read the full report [here](#).

Hamish Douglass is CEO, CIO and Lead Portfolio Manager at Magellan Asset Management. This material is for general information purposes only and must not be construed as investment advice. It does not take into account your investment objectives, financial situation or particular needs.

How angel investors give birth to disrupters

Graham Hand

Ben Heap is Founding Partner of H2 Ventures, the manager of the H2 Accelerator programme which helps to launch early stage fintech startups. Each programme runs for six months, with H2 choosing about 10 startups. Typically comprising two to three entrepreneurs per team, H2 looks for one technology expert, such as a coder or engineer, supported by a member with financial markets expertise. The aim is to have a minimum viable product within three to six months. H2 usually takes a 10% equity share in return for \$100,000, aiming to build a portfolio of 100 fintechs for \$10 million over three years.

Ben spoke to Graham Hand at the Sydney fintech hub, Stone & Chalk, on 29 July 2016.

"The point of an accelerator programme is taking raw talent, often with a nascent idea that they think is more advanced than it is, and refining the idea until they have a minimum viable product, which we really push them on. Entrepreneurs are great at convincing themselves that their idea will change the world. It's completely different making that into a viable business.

We are angel investors, we put a structure around the idea and give them proper mentoring. Angel money is often family and friends, while an accelerator is more professional. Angel money is often \$50K to \$250K, while seed money is \$500K to \$2 million, often from an outsider who wants to actually make some money. At the seed stage, the business moves from the two to four person founder team who are not being paid, to hiring employees, and paying the founders a bit of money.

Angel money does necessarily require that founders can't be paid from the money. Everything we do is about giving the founder as much flexibility as possible. We accept it is risk money, if the founder wants to pay themselves, we ask them to carefully consider if it is the best use of the money versus hiring someone. If they need the money, that's their call, but rarely is that the right thing for them to do.

The mistake an accelerator can make is to spoon-feed the founders, then at the end of the programme, they are in a world of pain because they have to work it out for themselves. We might help with the pros and cons but we let them make the important call. We want to set them up to pitch their business to see investors.

It's not all about the idea. It's more like 99% perspiration and 1% inspiration. In fact, we're not terribly fussed about the idea. Our focus is on the individuals and the team and whether they are capable of delivering the idea, or the idea they move to as they start to test it. The majority of teams we back, the idea evolves, or 'pivots' as we say. It can sometimes be 180 degrees. As investors, it's not only about the idea, it's mainly execution.

The entrepreneurs need to quickly articulate how they think they will monetise the idea, but they do not have to monetise on day 1. For example, they might think they can sell directly to the consumer, but if that does not work, then they can sell to an intermediary who has existing clients. We don't know the answers at the start.

I have described our business as talent identification, similar to a search firm. We look at a lot of applicants, and we have a structured process of screens and interviews. We expect people to read our website and self-select away if they don't like what we do. It's not always young people. In fintech, we find an older cohort than other VCs although it's mainly 25 to 35-years-old, with some older. We want people who have seen a few things, different roles in different places. We look for the ability to cope and apply a skill.

It's not dissimilar to fund managers. They are often a bit quirky, with an ability to focus 24/7, and a healthy level of self-confidence. It's important, since most of your smart friends will say, "That's never going to work" or "Nobody will buy that." You need enough confidence to push through that when others will stop. But that's why the opportunity exists. They also need to take onboard the right advice, and they must sift through it, while still owning the problem.

They must work full-time, and a leave of absence from a job is not good enough. We don't think the project can work without full commitment, they need to forget Plan B. Burn their bridges.

We have learned the dynamics of teams. When two to four people come into a startup, it's akin to a marriage. It's a long-term commitment. They depend on each other, and foibles will annoy each other. We have made mistakes in not anticipating these problems. In the past, we've picked teams with a couple of full-time and a couple of part-time founders who expect to work at night. This is a common structure, but that becomes an issue as not everyone is fully committed, especially if they all own the same share in the company. Or how do they deal with it if one wants to leave after a year. We are always improving our legal documents to help founders to protect themselves. Founder shares have become almost universal with a claw back of shares if someone leaves early. Of course, you can have advisers and board members who provide advice.

In financial services, regulation is often the biggest hurdle. Despite ASIC 'sandbox' approach, the time and complexity of the licencing process does not lend itself to the iteration process of a startup. ASIC needs flexibility to accept new approaches rather than retro-fixing businesses into existing regulations. By the end of the programme, the startups must be over regulatory hurdles.

Australian fintech is new and so we cannot identify an excellent business we have missed, although there are some terrific founders we have seen who will become incredible success stories at some stage. We meet most of them given our position in the market. Our accelerator may not be right for them, they may be past that stage.

What if the money runs out but the idea is still there? An accelerator model demands they go out and raise seed money. We expect 75% of the ventures in the programme to be successful enough to go out and raise money. We don't put more money in once in the programme.

We will move into the early seed money at some stage. We see an opportunity in future for retail investors in this space. We are well down the road to launching a product, a diversified listed Seed Series A fund, to invest in a global portfolio of ventures that have come out of accelerator programmes. We believe accelerator programmes are risky, too risky for retail, but once things are more proven at the seed stage, retail can invest into a portfolio. Retail might put \$10,000 into 30 investments."

Graham Hand is Editor at Cuffelinks.

Should much of our financial advice be outlawed?

David Bell

Recently, a person named David Blake implied that practically all financial advice given today should be outlawed.

You often hear outlandish claims from people less than fully informed on financial advice, but David Blake does not belong in this category. His views should be respected and a claim like this taken seriously by advisers, directors and executives of advice firms, and investors in considering what they are advised.

Who is David Blake?

David Blake's career straddles both academia and industry, and he's been highly successful in both. Completing his PhD in 1986, Blake is Professor of Pension Economics at Cass Business School, City University London, Director of the Pensions Institute (which he founded in 1996), and Chairman of Square Mile Consultants, a training and research consultancy. He is also: the co-founder with JPMorgan and Towers Watson of the LifeMetrics Indices; Senior Research Associate, Financial Markets Group, London School of Economics; Senior Consultant, UBS Pensions Research Centre, London School of Economics; and Research Associate, Centre for Risk & Insurance Studies, University of Nottingham Business School.

To say that he is well qualified to voice a strong opinion on this topic is an understatement.

What did he say?

Blake led the production of a report by the Independent Review of Retirement Income (IRRI) in the UK, released in March 2016. The report was far reaching, but his recommendations regarding financial advice were especially relevant:

"The use of deterministic projections of the returns on products should be banned."

(‘Deterministic’ effectively assumes the average outcome will be achieved and it is only this outcome that is communicated).

"They should be replaced with stochastic projections that take into account important real-world issues, such as sequence-of-returns risk, inflation, and transactions costs in dynamic investment strategies."

In short (on reading the full document) there are two important elements of this recommendation. The first is that advice needs to consider all of the key risks, most of which fall into two main groups: investment and mortality risk. The second is that the analysis of outcomes needs to be stochastic rather than deterministic. This simply means that the range and associated likelihood of outcomes are presented, something that can be quite hard to model in practice.

By suggesting that any advice that doesn’t meet these standards should be outlawed, Blake means that offering a deterministic prognosis represents dangerously misleading information.

How does this apply to the Australian advice industry?

This recommendation is produced in a UK environment and policy setting. However, Blake has shared his views at conferences in Australia and they appear to be universal.

Does the financial advice provided in Australia meet the standards recommended by Blake? The broad answer, unfortunately, is no. Most of it has similar failings to the advice provided in the UK: namely it doesn’t account for the major risks to financial outcomes, particularly mortality risk, and it tends to assume an average outcome such as 7% per annum over a defined period.

This is largely a failing of the advice industry rather than the advisers themselves (though they should push hard for the tools they need to deliver quality advice), and most of the major financial planning software fails to address the issues raised by Blake.

Additionally, the majority of roboadvice offerings appear to fail to meet the standards set by Blake. While many provide stochastic reporting it is largely based on one or two investment risk factors (which are relatively easy to model) while ignoring mortality risk. In this respect, roboadvice appears to be at a crossroads – will it represent high-quality online advice that takes full advantage of systems designed in a clean-sheet-of-paper environment, or will it simply consist of smart graphics wrapped around basic advice tools?

Regulators are not likely to rush to implement Blake’s recommendations in the near term. However, the advice industry has been called out by a universal claim from a highly respected thought leader. It remains to be seen if there’s sufficient motivation out there to significantly raise the bar regarding the standard of financial advice. It’s also unclear if leaders with appropriate skillsets can move the industry in the right direction going forward.

There is no denying that developing tools, and using, interpreting and communicating the output are challenging areas. In my view the primary management challenge is twofold: overseeing the technical issues while successfully communicating complex issues to clients.

Facing the challenge

I’ve been to industry conferences where I sometimes lose confidence that this challenge can be met. One such conference left me aghast, the spirit of the day evolving as follows: ‘Modelling needs to consider all risks and be stochastic’ and ‘It is challenging to communicate more complex modelling to people who are not financially trained’ to ‘This is too complex and we should stop talking about all this stochastic stuff’.

Many other industries develop complex products which are explained effectively to consumers; consider for example the technology in cars and medical treatments. Too hard to explain cannot be an excuse for not innovating.

If you consider the following alternative lines for inclusion in a statement of advice, the motivation for change becomes clearer:

1. In developing your financial plan we assume that you will die with 100% certainty at the age of X and that markets will perform exactly Y% each year.
Or
2. In developing your financial plan we have considered the possibility and likelihood of you dying at different ages and have considered a large range of possible scenarios for investment markets, which we all know are difficult to forecast.

It is obvious to me which approach represents superior advice. Dismiss this article if you like, because regulatory-led changes are unlikely, but you do so at your own risk. The poor quality of advice provided to individuals all around the world, including Australia, is a fundamental challenge to an important service industry. At some point it will become a strategic issue. Some people will see the opportunity to improve an important service currently being delivered at sub-standard quality. Others will see the opportunity to profit by innovating. Whatever the motivation, I look forward to seeing our advice industry meet David Blake's standards.

David Bell is Chief Investment Officer at [Mine Wealth + Wellbeing](#). He is working towards a PhD at University of New South Wales.

Deriving an effective retirement income

Alan Hartstein

Superannuation funds are becoming increasingly aware that what members really want is income certainty in their retirement as opposed to just aiming for wealth maximisation and a net worth figure.

The Federal Government wants to enshrine the objective of superannuation in law, as part of its response to the Financial System Inquiry. The Government accepts that the objective is to provide retirement income to substitute or supplement the age pension.

That means superannuation fund managers will need to change the way they currently think about risk management and the options they currently offer their members.

Nobel Laureate Robert Merton

American economist Robert Merton, who was in Australia recently to discuss retirement income strategies, is an acknowledged world leader on the subject. Currently the Resident Scientist at Dimensional Funds Advisers, he is also a Professor at both the MIT Sloan School of Management and Harvard University, and he was awarded the Noble Prize for Economic Sciences in 1997 for developing a method for determining derivatives values.

Merton's research has more recently focused on lifecycle investing, retirement finance and optimal portfolio selection. In an article written for the Harvard Business Review called '[The Crisis in Retirement Planning](#)', he argued that a good retirement investment portfolio had to prioritise income-generating ability over any supposed value. "Asset values and asset volatility are simply the wrong measures to use if you want to derive a sustainable income in your retirement," Merton said.

This means superannuation funds must be mindful when building their portfolios that members will need their money for income regardless of what happens to inflation, stock markets and interest rates, something they may not have prioritised in their investment thinking and planning before.

In Australia, the Federal Government has agreed to remove some impediments to retirement income products and for funds to publish income projections on members' statements. However, these projections can vary wildly and the information has to be meaningful for it to be of much use to investors.

This is where considerations of inflation and interest rates become essential, Merton argues. "Risk-free annuities need to be viewed from an income-generating perspective, and this needs to take inflation into account," he said. Inflation can have a huge impact on retirement lifestyle. If, for example, inflation is running at 2% per annum over the five years before retirement, the real value of the nest egg in wealth and income terms falls 9%.

Similarly, if a customer puts \$300,000 into a term deposit when interest rates were around 7% and five years later, rates have fallen to 2.5%, the interest from that deposit has been cut from \$21,000 to \$7,500 per annum, a massive 64% decline in income.

Super fund members should be able to see not only what they can potentially afford in retirement but what they can do to manage uncertainty. For example, if they are not on track to achieve their desired level of income, they may have to save more, work longer hours, or simply adjust their expectations if possible.

Communication and risk mitigation

Providing relevant information to investors alongside risk mitigation solutions is a powerful combination. An ideal solution, therefore, allows participants to invest toward retirement income over time while simultaneously protecting investments from market risks.

"Just about everyone who saves or invests does so to support some future consumption. We know that the key to any asset allocation is to identify the right hedging asset for a given liability," Graham Lennon, Head of Retirement Investment Strategies and Vice President of Dimensional said in a paper called '[Retirement: Making Income the Outcome](#)' in November last year.

If a fund member wants to reduce the volatility of their account balance, they can invest in assets that are stable in wealth terms. "How do we manage these risks? We can conceptualise our retirement liability as a series of equal inflation-adjusted payments from retirement to life expectancy," Lennon said.

This future liability looks a lot like a bond, with a series of payments and a duration. By investing in a portfolio of inflation-protected instruments that match the duration of those payments, it is possible to construct a strategy that hedges interest rate and inflation risk, Lennon argues.

This involves asset allocation that effectively manages the trade-off between assets for income-growth (increasing the balance available to draw income from) and assets for income risk management. Early in the lifecycle of a member's super fund, their focus should be on income-growth assets. Later, the focus should shift to income risk management, or what Merton describes as "duration-matched inflation-protected securities". This focus on managing income risk should then continue for the term of the retiree's natural life.

Alan Hartstein is Deputy Editor at Cuffelinks.

Chasing yields is paying dividends

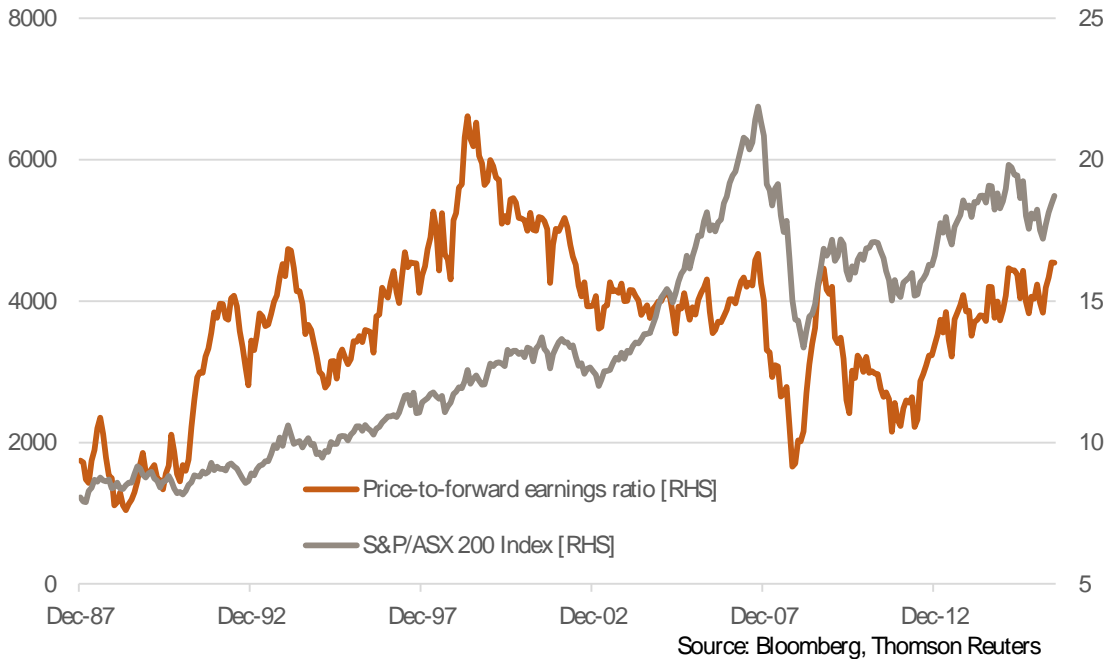
David Bassanese

The Australian equity market has performed well over the past few months, though it is once again facing valuations challenges. Irrespective of how the market deals with this challenge, however, one fact is indisputable: income returns from the market remain attractive relative to interest rates.

Market rebounds amid valuation concerns

The S&P/ASX 200 has staged a feisty comeback (see chart below) and is now over the 5500 barrier. However, this rise has come amid continued weakness in forward earnings. The market's price-to-forward earnings ratio has again increased to the peak of just over 16 times we saw in early-2015 when the market last ran out of steam. In fact, market prices remain lower now than in early 2015, despite similar PE valuations, due to a decline in forward earnings expectations over this period.

S&P/ASX 200 Index



By other measures, however, the market is less overvalued, and potentially cheap. For example, the market's gross dividend yield (GDY) as of late July 2016 was 6%, which is still significantly above the approximately 2% rate available on 10-year government bond yields and 2.4% on 1-year bank term deposits.

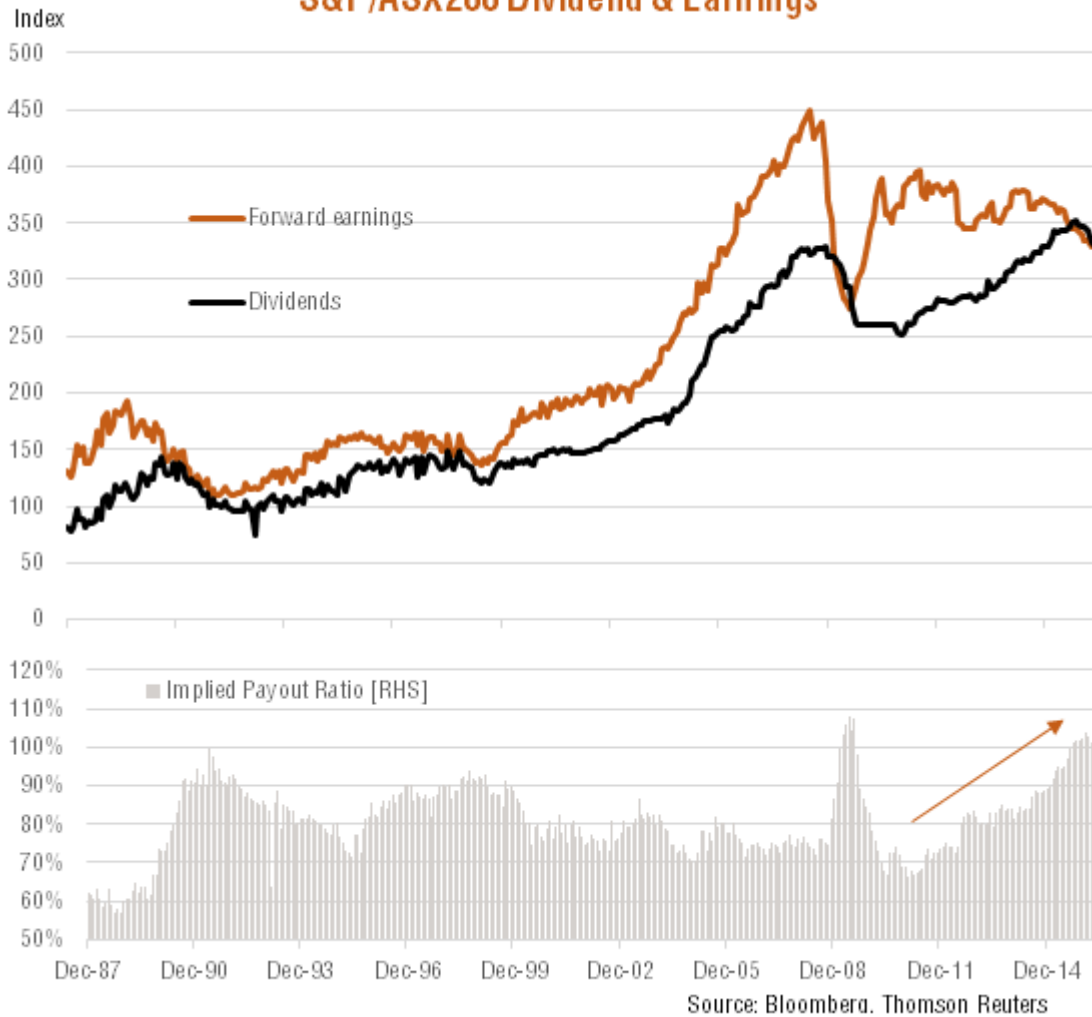
The margin between the GDY and these interest rates is currently around 3.75-4%, which is considerably higher than the (relatively stable) average margin of around 0.75% p.a. between 2003 and 2013. At today's interest rate levels, retention of this previous average margin would justify a gross dividend yield of only 3.25%, or almost half the current rate.

Does this mean that the market is cheap and should simply surge to reduce the dividend yield? Not necessarily. One complication is the fact that earnings have been relatively weak in recent years, and maintaining a stable dividend yield in the face of rising equity prices has required a rising payout ratio.

Stretched payout ratios

Indeed, the implied payout ratio – or the ratio of the GDY to the forward-earnings yield (inverse of the forward PE ratio) – has risen to about 100% in recent months, compared with a long-run average of around 75-80%. Relative to earnings, the current level of dividends appears unsustainable. Earnings will rise and/or dividends will fall to restore a more normal payout ratio.

S&P/ASX200 Dividend & Earnings



Given that dividend yields remain so high relative to interest rates, they are likely to remain attractive even if they do fall to some extent. Let's assume two scenarios, for example, that earnings hold around current levels for some time, but dividends are eventually cut by 20%, restoring the payout ratio to 80%.

That would imply a decline in the GDY to 4.9%, which is still a substantial 2.4% p.a margin over current 10-year bond yields and 1-year term deposits, while keeping the price-to-forward earnings ratio at its present relatively elevated level of 16.3.

But if interest rates were to hold at current levels, however, there's even some chance that equity market valuations could be 'rerated'. This is explored in the table below.

Again, let's assume that the sustainable margin between the GDY and interest rates referred to above declines to around 1.5% p.a. (which is still twice that averaged between 2003 and 2013), then the gross dividend yield could decline to 4% p.a. Assuming an 80% payout ratio, that in turn would imply a sustainable price-to-forward earnings ratio of 20x!

If we allow for a moderate 1.5% rise in interest rates (to 3.5% p.a.), then keeping all else constant the GDY could still fall to 5%, implying a sustainable price-to-forward earnings ratio of 16x – or not far from current levels.

Dividend Yield Scenarios

	10-year Bond yield	Gross Dividend Yield margin	Gross Dividend Yield	Payout ratio	Earnings Yield	Forward PE Ratio
2003-2013	5.1	0.7	5.8	79%	7.3	13.7
20-July	2.0	4.0	6.0	98%	6.1	16.4
Scenario 1	2.5	1.5	4.00	80%	5.0	20
Scenario 2	3.5	1.5	5.00	80%	6.25	16

Assumptions in Bold

Official interest rates could fall even further in coming months, suggesting the high-yield equity theme is likely to continue. There's even a chance the equity market could be rerated higher if interest rates remain below historic average levels.

David Bassanese is Chief Economist at [BetaShares](#), whose range of Exchange Traded Funds include high-yield Australian equity investments with ASX codes QFN (aims to track the S&P/ASX200 Financial-x-A-REIT index), HVST (aims to provide investors with a strong income stream from dividends and franking) and YMAX (aims to provide exposure to the S&P/ASX20 index while cushioning returns in weak markets). BetaShares is a sponsor of Cuffelinks. This article is general information and does not consider the circumstances of any individual.

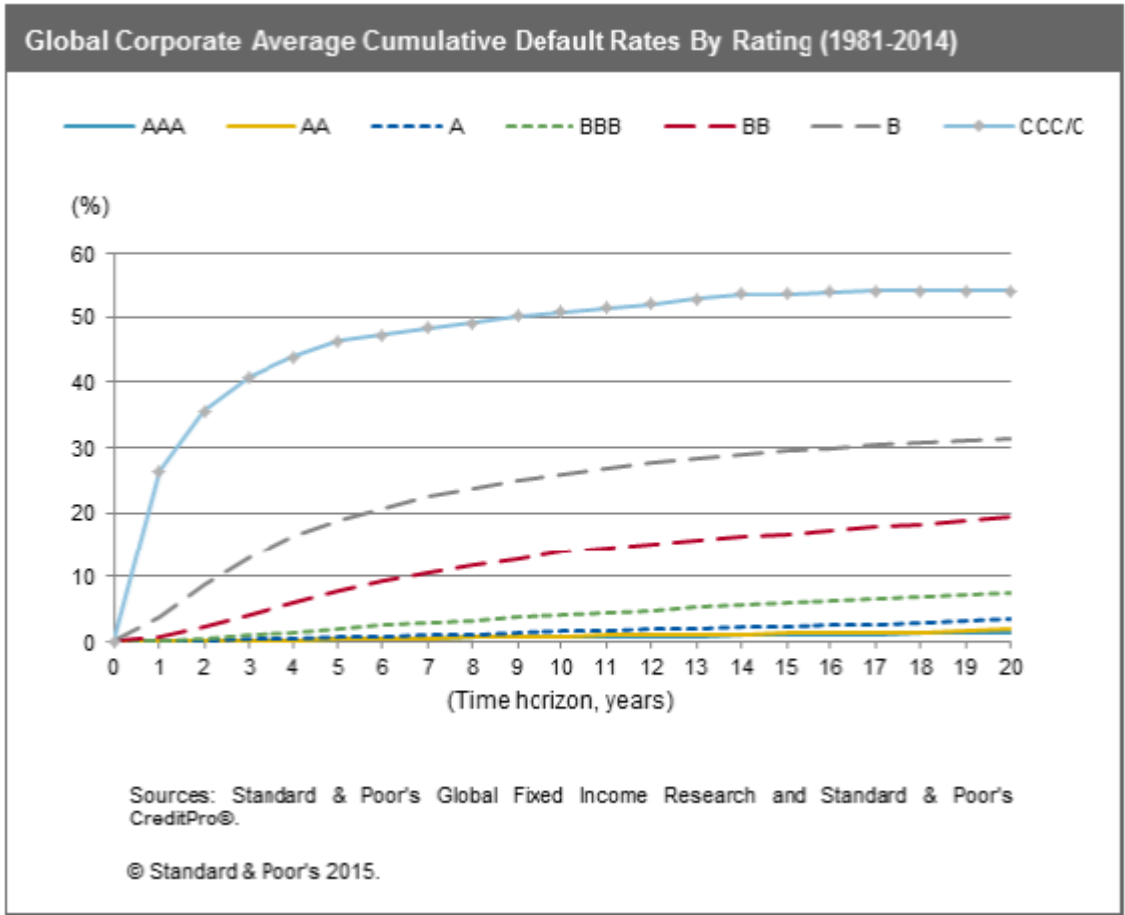
Are the opinions of credit rating agencies worthwhile?

Jonathan Rochford

There's been a spike in interest in ratings agencies recently, due to the recent downgrade in the UK's rating and the possibility that Australia could follow suit. Yet few people understand what goes into a credit rating and what it's really worth, if anything. So should investors pay any attention to these agencies, particularly after their poor performance during the financial crisis?

Credit ratings are a mix of qualitative and quantitative factors. The primary driver of a rating is a combination of financial ratios such as debt/EBITDA for corporates or debt/GDP for governments. Analysts overlay a qualitative adjustment to the ratios that can result in a slightly higher or lower outcome than the ratios alone would indicate. The entire process is subjective; what ratios are used, and in what proportion they are weighted. Additionally, the qualitative adjustments are all components that issuers argue about.

Investors still value agency's opinions; a lower rating indicates a higher risk of principal and interest not being paid in full. The chart below shows how companies with lower ratings have an exponentially higher probability of defaulting on their debts. As a result, debt issuers with lower ratings must pay a higher interest rate to attract buyers for their debt.



Criticisms of credit agencies

1. Conflicts of interest

Governments, regulators and investors have criticised the big three rating agencies (Standard & Poor's, Moody's and Fitch) for charging both issuers and investors for their services. Issuers pay the agencies to prepare a report and provide an opinion on their risk profile. This creates tension as the issuer can threaten not to pay if they don't like the opinion. Investors pay rating agencies to access detailed reports, though the agencies make the ratings publicly available for free. As a result of this conflict of interest, independent credit research firms such as CreditSights and Egan-Jones have emerged where only investors pay for their analysis.

2. Ratings are not equivalent

One of the biggest misgivings with agency credit ratings is that they apply the same risk rating for different types of debt (e.g. corporate, sovereign, financial institution), meaning they believe that they have equal likelihood of defaulting. As history has shown many times, different types of debt have very different risk profiles. It is reasonable to compare ratings within the same debt type, but erroneous to compare ratings between debt types.

3. Ratings changes are delayed

Investors have long complained that agencies fail to downgrade ratings in a timely fashion. Many prefer credit default swaps as a better measure of the real time probability of default, although these have a tendency to overshoot when negative information comes to light. Rating agencies often give the benefit of the doubt to debt issuers as downgrading a rating is typically a controversial step that the issuer may publicly disagree with.

4. Performance in the financial crisis

Very poor performances during the financial crisis means the big three aren't trusted anywhere near as much as they used to be. Lehman Brothers had "A" ratings when it defaulted and many other failing banks were similarly rated. Thousands of ratings and trillions of dollars of debt were downgraded across mortgage backed securities and collateralised debt obligations from 2007 onwards. In the worst examples, [securities went from AAA to defaulting within a year](#). Investors who failed to do their own due diligence suffered substantial losses and many took legal action as a result.

Merits of ratings for different debt types

1. Corporate debt

Ratings on corporate debt are the bread and butter of rating agencies and it is where they do their best work. Thousands of companies have been publicly rated with Moody's data set stretching back to 1920. Annual reports from the agencies confirm that lower-rated corporates are far more likely to default than higher-rated ones. On the whole, there are few examples of highly rated corporates defaulting, with Enron and Parmalat arguably the worst in recent decades. Both of these involved financial deception by management. The main criticism of corporate debt ratings is the slowness of downgrades as companies deteriorate. Investors can generally expect corporate credit ratings to be an approximately fair reflection of default risk.

2. Sovereign debt

Rating agencies are almost always too optimistic in regards to their ratings for developed nations. The standout example is Japan, with the big three all seeing it in the "A" category. Most independent analysis of Japan has it unable to repay its debt without printing money. If the average interest rate on its debt was to rise by 3% all government revenues would be consumed by interest payments with nothing left for healthcare, education or defence spending. Many governments in Europe and the US continue to receive high ratings even though they are running substantial budget deficits year after year and have sizeable unfunded pension obligations. Ratings for developing nations tend to be a fairer reflection of their risk of defaulting. Investors should treat sovereign debt ratings with great caution.

3. Financial institutions debt

Rating agencies tend to be way too optimistic in rating large banks and somewhat less optimistic in their opinions of smaller banks. For large banks, credit ratings have a substantial impact on their ability to attract institutional funding and to trade with their counterparts. A downgrade below investment grade (below BBB-) is effectively a death knell. AIG and Lehman Brothers were examples of hugely optimistic ratings during 2008. Comparisons are now being made between Lehman Brothers and Deutsche Bank, which could see its funding and trading opportunities rapidly disappear if it suffers further downgrades. Several Italian banks are being talked about as needing government bailouts yet still have credit ratings in the "B" and "BB" categories. Investors should also treat credit ratings of financial institutions with great caution.

4. Securitised debt

Rating agencies were rightly excoriated for their ratings of securitised debt such as mortgage-backed securities and collateralised debt obligations in the lead-up to the financial crisis. As highlighted in the movie *The Big Short*, rating agencies gave inflated ratings to securitised debt to protect their market share and maximise revenues. However, since the financial crisis, rating agencies have dramatically increased their analysis of securitised debt to the point where the ratings are generally pessimistic. In a reverse of the situation for other types of debt, agencies are now being criticised for failing to upgrade ratings in a timely fashion when securitised transactions perform in line or better than expected. Investors can generally expect securitised debt credit ratings to be an approximately fair reflection of default risk, but need to bear in mind the diversity within securitised debt and the range of complex assumptions required to produce a rating.

Conclusion

Credit ratings play an important part in the functioning of capital markets, but should always be treated as an opinion not a definitive judgement. Investors should always conduct their own financial analysis and form their own judgement before investing.

Jonathan Rochford is Portfolio Manager at [Narrow Road Capital](#) and this article expresses the personal views of the author at a point in time. It is for educational purposes and is not a substitute for professional financial advice. Narrow Road Capital advises on and invests in a wide range of securities.

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