Cuffelinks
Connecting investors with ideas

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This Week's Top Articles

Investing against the herd

Part 1, Resisting emotion

Ashley Owen

One of the most difficult aspects of investing is learning how to remove emotion from the decision-making process and just focus on the facts. Investors need to resist the temptation to get caught up in the hype of the daily news and noise, and to have the courage to go against the herd if that is what the facts dictate.

Investors who follow the herd invariably end up buying at or near the tops of booms when everybody else is buying and when the media and the so-called 'experts' are most euphoric. Then they often end up selling when everybody else is selling, when the media is most pessimistic at the bottom of the busts.

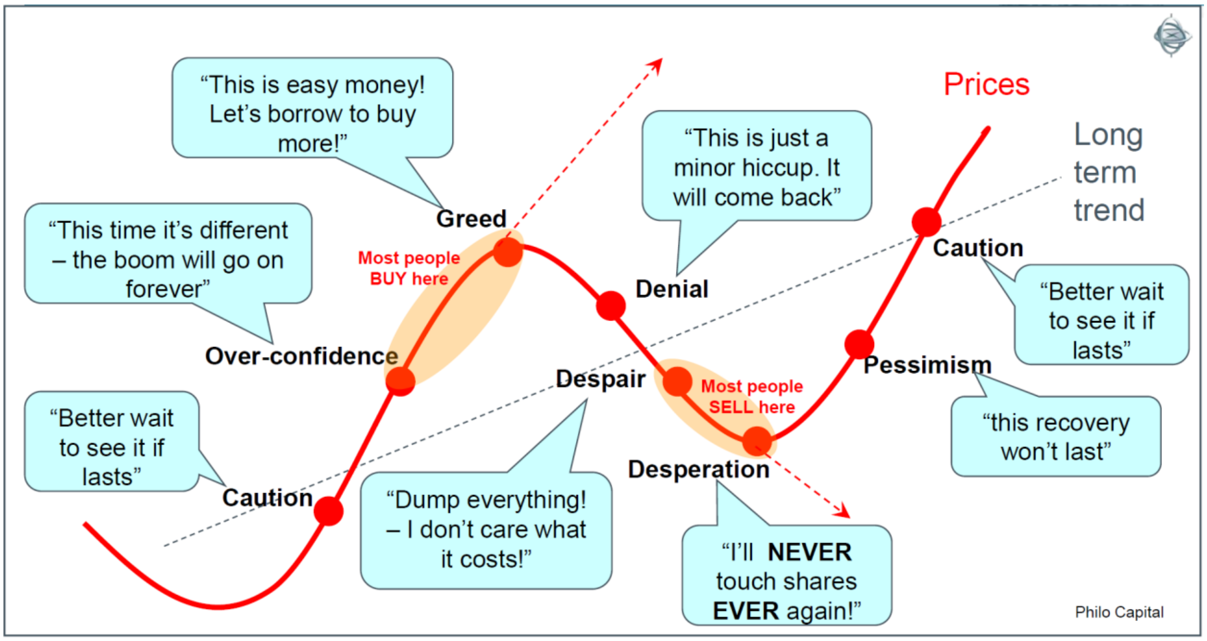
One of Warren Buffett's simplest but hardest to follow gems of wisdom is to be greedy when others are fearful and to be fearful when others are greedy. This is much easier said than done!

The first step is to learn to ignore the popular media, and especially the so-called financial media, and all the well-meaning advice or hot tips from friends, family and neighbours over the back fence. That is difficult enough, but it is even more difficult to go to the next to step and actually go against the herd and sell in booms and buy in busts. This goes completely against human nature. Humans are social animals who constantly seek reassurance from the herd, and are prone to follow the weight of popular opinion.

As a result, most investors (individuals and institutions) buy high and sell low - ie they are bullish and buy (or worse still, gear up and buy) at or near the tops of booms, and then they are bearish and sell (or worse still, are forced to sell by their margin lender) at or near the bottom of busts.

Two prime examples of this I saw first-hand were the crazy bursts of share buying and gearing up fuelled by the introduction of franking credits in 1987, and a similar crazy burst of share buying and gearing up in the months leading up to the closing of the $1 million super contributions window in June 2007. On both occasions, investors everywhere sold other assets (incurring tax on capital gains) and threw the money at the stock market in the media frenzy, only to see their money halve in value in the crashes that followed immediately after. If they used gearing they lost more than half and many thousands of people were wiped out completely. The extra flood of money and debt accelerated the market rises in 1987 and 2007, and so markets had further to fall when they collapsed.

I have used the following chart hundreds of times in presentations. It always gets a laugh, whether the audience is first time individual investors or experienced fund managers.



They laugh mostly because they know it is true but also because they know that humans are almost powerless to avoid the traps because it happens in every cycle.

Investors like to see prices (of shares or any other investment) rising. The longer prices keep rising, the more assurance they have that 'this time it's different' and that prices will keep on rising in the future. Often they sit cautiously on the sidelines waiting and watching the market rise for several years before they finally pluck up the courage to take the plunge - inevitably right at the top before the fall.

Conversely, when prices are falling it is very easy to succumb to the general market and media pessimism and start believing that prices will keep on falling in future. Investors who bought in the boom hang on grimly, watching the market keep falling, hoping it will miraculously bounce back. Then finally, after all hope is lost and when the media are most pessimistic, they sell out in despair - often right at the bottom just before the rebound.

Individuals follow this pattern because they're humans. Fund managers end up falling into the same trap because the majority of them are index-huggers. In the booms most of them know they shouldn't be buying shares when they are over-priced but they still grit their teeth and keep buying anyway, because they are terrified of falling too far behind the general market index. Likewise in the busts they know they shouldn't be selling shares cheaply but they have no choice but to sell because they have to meet fund redemptions as investors withdraw their funds in the panic. The end result is the same as for individuals - they buy high and sell low.

The above chart is a fun caricature and we should test the theory that people really are most bullish at the top of booms right before the busts, and they really are most bearish at the bottom of busts right before the market rebounds.

In Part 2 next week, we look at consumer sentiment measures in Australia as an indication of investor optimism. You may be surprised just how closely investors in the real world follow this simple pattern of behaviour in every stock market cycle.

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Persevering with your underperforming fund manager

Graham Hand

"Gifted, determined, ambitious professionals have come into investment management in such large numbers during the past 30 years that it may no longer be feasible for any of them to profit from the errors of all the others sufficiently often and by sufficient magnitude to beat the market."

Charles D Ellis, "The Loser's Game", *The Financial Analysts Journal*, July/August 1975.

Asset consultant, Mercer, recently released its fund manager performance survey for the year to 30 June 2013, and the Australian equity numbers showed extraordinary differences. In a year when the S&P/ASX300 Accumulation Index rose a healthy 21.9%, the top fund (Lazard Select Australian Equity) was up 41.8%, while the bottom (Independent Asset Management) was up only 2.8%. That's a 39% range in what is reported as the same asset class.

So much for asset class selection being far more important than manager selection in determining a portfolio's performance. It's not always the case if an investor is at extremes.

(In fact, the top Australian equity fund was the Colonial First State Geared Share Fund, up 73.9%, but that's really in another category, as explained in *Cuffelinks* of 7 March 2013).

There were two main reasons for the massive performance differences:

1. Managers who were underweight mining stocks (Australia's largest gold producer, Newcrest, was down over 50%) and overweight large banks (Westpac up 45%) did especially well.

2. Managers who bought large stocks and avoided small stocks also outperformed, with companies outside the ASX100 falling in value over the financial year.

In addition, last year was a particularly good one for active managers overall, with the average delivering a splendid 24.7% and outperforming the index by 2.8% (all numbers quoted are accumulation, not price).

But the past is just that, and the only thing that matters in investing is the future. There is a tendency by both professional asset allocators and eager self investors to extrapolate recent performance and jump into last year's winners – and out of last year's losers.

Let's take a quick look at the bottom five fund managers in the Mercer survey for 2012/2013:

Clime Australia Value Fund (+12.9%, or 11.8% below the average manager)

Clime's Chief Investment Officer is one of Australia's most prominent and respected fund managers, John Abernethy, and the Value Fund carries a five-star rating from Morningstar. A listing of Australian share fund performance over five years in *Money Management* in February 2013 ranked the fund first.

Northward Capital Australia Equity Income (+11.8%, 12.9% below average)

Northward is an independent boutique of eight investment professionals with average experience of 19 years. It is one of the boutiques part-owned by the National Bank subsidiary, nabInvest. Northward's fund is a good example of how an income fund can underperform in a strong market. It aims to have lower volatility with higher income by using some of its cash to buy index puts (giving it the right to sell if the market falls), plus selling calls over its stocks (giving others the right to buy). These protection measures take the top off performance in very strong markets.

SGH20 (+9.5%, 15.2% below average)

This fund is managed by SG Hiscock & Company, and in 2012, it was a finalist in the large cap category of the AFR Smart Investor Blue Ribbon Awards. The fund has a strong long term track record since its inception in 2004, but it was underweight banks, telcos and REITS in 2013, damaging recent performance. Prior to last year, it was a consistent top quartile fund.

Katana Australian Equities (+6.5%, 18.2% below average)

Katana was founded in 2003, although its Australian Equities Fund was only launched in 2011. Perhaps influenced by its Western Australia base, it had large exposures to resources stocks which have underperformed the general market. Katana's team was lauded for its stock-picking ability in the year to 30 June 2010 when one of its funds returned 24.3% and outperformed the market by over 10%.

Independent Asset Management (+2.8%, 21.9% below average)

In 2012, Morningstar ranked Independent as first among Australian fund managers based on a survey of institutional investors. Founded by the eccentric Greg Matthews, Independent had a formidable track record prior to the last year following its establishment in 2001. Matthews is a big believer in the China growth story, leading to value in resource stocks, as shown by his top six holdings: BHP, Woodside, Rio Tinto, Santos, Fortescue and Bluescope.

If you had been a member of an investment committee in June 2012, you would have found it extremely difficult to argue against the appointment of any of these managers faced by an eager Chief Investment Officer and his 20-page report. A trustee of a superannuation fund, legally obliged to act in the best interests of the fund's members, could justifiably have selected a manager who then delivered almost 40% less than the best and 20% less than the average active manager.

So what should retail investors do when their fund manager has just delivered 10-20% below the market average?

First, accept that there's a lot of luck in this business. These funds are run by smart people who live and breathe investing. They rise early each morning to hear the latest from overseas markets, and are at their desks analysing stocks while most other people are wiping the sleep from their eyes. They work late, attend company briefings, argue with their colleagues and analyse numbers. They trawl through annual reports and stare at screens looking for opportunities. They are the best educated people in the country, and if they were not fund managers, they would be doctors, lawyers and engineers. It only takes a couple of incorrect calls, or a market bias against their style, for a manager to have a poor year, or maybe several. I have been involved with talented managers who strongly believe in underperforming stocks like Fairfax and Qantas, and to date, their careers and funds have suffered for their beliefs. It is difficult to foresee a Fukushima and its effect on uranium prices, a product recall, a law suit or adverse legislative changes.

This is not to say all fund managers are created equally, or that all fund managers will survive over the longer term. Some are certainly more astute and insightful than others. I worked at a wealth management business where an underwhelming fund manager left, and a few months later he set up a boutique asset manager and obtained seed funding and capital under an alliance agreement with a major competitor. We would not have helped him to set up a corner fruit shop!

Second, ignore short-term numbers. Anyone who carefully selects a manager then sacks them after a year does not understand the nature of the business. In the recent past, journalists were writing stories about some of the above managers as if they were demi gods of the market with an uncanny ability to predict global trends and stock successes. Has their mojo suddenly gone?

Thirdly, investors should be satisfied the factors that made the manager attractive in the first place remain on track, such as their investment style, process, risk-taking ability and compliance.

Finally, if short-term underperformance is a major cause of heartache, it might be more appropriate to save the angst and take index performance. In most years, the average active manager does not outperform the index after fees. By definition, despite the considerable talent on the table, most managers will underperform after fees. Do you have some special talent in knowing which managers will be the winners? This is one reason why many industry funds are moving asset management in-house, and why retail investors do their own investing.

If you go down the active management route, consider it a long-term decision, barring a major change in personnel or style at the fund manager. Even a portfolio manager change may not be cause to act, as a succession of high profile fund managers leaving Perpetual (Anton Tagliaferro, John Murray, Peter Morgan, John Sevior) does not appear to have dented their ongoing impressive performance. You can almost guarantee that the manager you flee after one year will do well the next, assuming of course that they have not been forced to close up shop.

The issue is not that the people with solid track records who go through a poor year or two are suddenly bad managers, but more likely, they have misjudged some short-term event. As Charles Ellis says about his experience with investment managers:

"Their brilliance in extending logical extrapolation draws their own attention away from the sometime erroneous basic assumptions upon which their schemes are based. Major errors in reasoning and exposition are rarely found in the logical development of this analysis, but instead lie within the premise itself."

But next year, the basic premise might be right. If you're not prepared to select a manager and hang in there for at least three years and preferably five, index and save yourself some fees.

What's it worth?

Roger Montgomery

In this Part 3 of our Value Investing Series for Cuffelinks, we complete the circle and provide some insights into the final step required to overlay a value investing philosophy successfully upon your share portfolio.

Attend a dinner party and throw this question out above the chicken kiev and prawn cocktails, sorry, I mean the beef daube and chocolate fondante: What's any asset worth?

More than likely the answer proffered will be: What someone's willing to give you for it!

This is 100% wrong. What someone else will give you for something is the price. What it is really worth – its value – is something else entirely.

If you don't agree, consider the following example.

In mid-1999 in the United States there was a company previously known as Professional Recovery Systems Ltd that became NetBanx.com and was trading at less than 50c. Around the same time, a Securities and Exchange Commission filing read:

"*The company is not currently engaged in any substantial business activity of any description and has no plans to engage in any such activity in the foreseeable future … [and] It has no day to day operations at the present time. Its officers and directors devote only insubstantial time and attention to the affairs of this issuer at the present time, for the reason that only such attention is presently required*."

The company had no principal products or services, no patents, trademarks, licenses, franchises, concessions, royalty agreements or labour contracts and no employees. It has assets of less than one thousand dollars. That's right, its assets were just $989.

Had you purchased (gambled) shares in the company in July 1999 around the time of the addition of the '.com' to the company's name, you might soon have been smiling. At the peak of the internet bubble in March 2000, the share price would have brought tears of joy, as it traded at near enough to $9! The shares subsequently declined, along with everything else that ended in '.com', and eventually the shares were delisted. True to label, the company never conducted any business activity of any description.

But here's the point. If an asset is worth what someone else will give you for it, someone was willing to give you more than $8 for a share of this company. Was NetBanx.com – a company that did nothing and wasn't planning on doing anything – ever worth $8 or more? The answer is clearly no. The price was $8 but the intrinsic value was zero.

Price is what you pay for something, but value is what you will receive and the value will ultimately determine your return. Your job as an investor then, is to own shares that are worth more than you paid for them.

How do you know when a share is cheap?

Are a company's shares cheap after they fall 70%, or 50% or 30%, or decline by some other number? Taking a look at the salivating going on among investors towards mining stocks, you'd think their recent falls must surely mean they are cheap.

Are a company's shares cheap when the price-earnings (P/E) ratio is below 10, or the dividend yield rises to 12%? Isn't a low price-earnings ratio or a high dividend yield a sign that the shares are cheap? When your measure of value is derived from the price, you are mixing raisins with turds and as Charlie Munger (Warren Buffett's long-standing colleague) once observed, you can mix raisins with turds but they are still turds.

As you will see, it is important that we value the business independently of its price. Only when the price for a company's shares falls significantly below this estimate of what the business is really worth, does it become truly cheap. It doesn't matter what the price-earnings ratio, price-to-book ratio or dividend yield is. You can have a company on a price-earnings ratio of 25 times earnings or more and it may be a bargain. You can have a company's shares trading on a price-earnings ratio as low as five times, and it may still be extremely expensive.

There *is* a way to compare apples with apples, to put all businesses on a level playing field in terms of estimating their true worth.

Suppose I have a hypothetical bank account in the name of Roger's Valuations Pty Ltd, in which $10 million has been deposited. This bank account earns an after-tax return of 20% per annum, fixed for 30 years. The interest cannot be reinvested. Given current interest rates on bank accounts of 5% (and that's pre-tax!), my $10 million account looks very desirable. I bet there would be a few people willing to buy it!

Now suppose that I offer the account 'for sale' and I decide to auction it off. What should you be prepared to pay for it? Without any arithmetic, you know intuitively that it is worth more than the $10 million sitting in the account. If the money in the account represents my 'equity' or 'book value', then the intrinsic value of this account is higher than that equity or book value. Buffett said it took him a while to let go of his Ben Graham ways and work this out, but his purchase of See's Candy at three times book value demonstrated he did indeed let go.

How much higher than the equity is the true value of the bank account? At an auction I would discover what people are prepared to pay. But people can get pretty silly in an auction environment. If I pitched the auction with some marketing teasers such as, 'last account of its type in the world', or 'never to be repeated opportunity', then I may generate some irrational exuberance and someone could pay a really dumb price. But that dumb price is not necessarily what the account is worth either.

What would a dumb price be? Interest rates offered by some bank term deposits might be 5% and they offer the benefit of reinvestment and thus compounding. I would argue that someone would be paying a 'dumb' price for the Roger's Valuations Pty Ltd account if the interest coming off it amounted to less than 5%. That's not to say it wouldn't or couldn't happen, it's just that if it did, the buyer might be irrational and you'd be tempted to let them have it.

To calculate this dumb price, we simply divide the after-tax return being paid by the bank account (20%) by the return the investor would be content with – the dumb return (5%) adjusted for tax, say about 3.5% after tax. We then multiply this amount by the equity – the balance of the bank account. It would look something like:

20% ÷ 3.5% x $10 million = $57.1million

If someone paid $57.1 million for this bank account it would be very high and very dumb, because the return they would receive would be a low, non-cumulative 3.5% after tax.

You can check it: A $10 million account earning 20%, earns $2 million. Earning $2 million on the $57.1 million paid for the account, is equivalent to a 3.5%.

Using the same formula through which the dumb (high) price is derived, we can also arrive at the bargain (low) price. If you were to pay $10 million – the amount of equity actually in the bank account – this would be a bargain price because you would end up receiving a 20% annual return after tax (let's leave inflation out of the discussion). Applying the formula produces:

20% ÷ 20% x $10 million = $10 million

Therefore, paying anything lower than $10 million would be an even greater bargain. It occurs to me that you might be thinking, 'I could never buy this Roger's Valuations Pty Ltd account at an auction for $10 million – forget about buying it for less!'

In a rational trade sale environment, you would be right. With the vendor and purchaser in a locked room with only their lawyers and accountants attending, it is less likely that a real bargain could be obtained. But thanks to the continuous auction environment that is the stock market, with its enormous liquidity and every one focused on what the price will do next, irrational reactions to events unrelated to the bank account's earnings power frequently push prices to both dumb and bargain levels.

So what might be a reasonable price to pay? When rates of interest elsewhere are very low, it is probably unrealistic to adopt them as your own required return. With the going rate on a bank account that offers the opportunity to reinvest being 5%, it would be unrealistic to be satisfied with the same return from an account that doesn't offer compounding. An investor should require a higher return. In any case, eventually interest rates go back up. There is also inflation to think about.

In such a situation you should require a rate that better reflects a return that will compensate you for inflation and for the possibility that interest rates might rise. And if there's a risk that the bank paying the interest could default or fail, you would require some compensation for that too. Or, if that risk existed you may avoid bidding for the account altogether.

For now, let's say we want a 10% after-tax 'required return'. We can establish that if you are going to buy that $10 million bank account that earns 20%, you should be willing to pay no more than 20% ÷ 10% x $10 million = $20 million.

Again, at an auction, someone is willing to pay a lot more than you. As an investor, you should be willing to say good luck to them and pass.

You are now in the business of finding bargains, and if a bargain cannot be obtained today, the market will open again tomorrow offering you a fresh new opportunity and a new price.

Your job – now that you know how to identify great businesses and once you understand how to value them – is simply to ignore periods when dumb prices are being paid and wait for 'bank accounts' to be available at bargain prices. If that doesn't happen today or this week or this month, so be it. An opportunity will eventually present itself. It always has and it always will.

The bank account just described has the same characteristics as a company that generates a constant return on its equity and pays all of its earnings out as a dividend.

But what if the bank account allowed you to reinvest all of the interest each year and compound it? At the end of year one, there would be $12 million in the account, earning 20%; at the end of the second year, there would be $14.4 million in the account earning 20%, and so on. The value of such an account is clearly higher than the same account that does not allow the reinvestment of interest. A bank account that allows for the reinvestment of all the interest (earned and thus compounding) has the same characteristics as a company that generates a constant return on equity and retains all of its earnings.

The non-compounding account will only ever have $10 million in it and earn $2 million every year. It is still very attractive, but not as valuable as an account that earns $2 million the first year and then earns 20% more on the interest every year after that.

There is one little twist. In the above example, the account that retains its interest and therefore grows its earnings is considered to be worth more than the account that pays all of its interest out. This is because we have assumed that the 20% interest rate it earns is very attractive compared to everything else available. If, however, there were many other accounts available that earned more than 20%, it would be the account that paid all the interest out that would be worth more. Why? Because the account that retains all the interest and compounds it will 'only' earn 20%. If you can get a higher rate elsewhere, you are much better off owning the account that pays all the interest out, allowing you to reinvest it yourself elsewhere at a higher rate.

All this talk about bank accounts and interest income might seem misplaced when discussing investing in businesses listed on the stock market. It isn't, however, if you think of the bank account as a business, the balance of the bank account as the equity invested by the owners in that business, and the rate of interest as the rate of return on equity. Now you've got it.

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Paternalism is not a dirty word

David Bell

I've seen many articles, including in Cuffelinks, encouraging people to become more engaged with their superannuation and I feel obliged to provide a reality check. While it would be good if people became more aware of their superannuation and their retirement plans, it is simply an unrealistic expectation. And so defaults remain crucially important. A degree of paternalism is necessary in the design of defaults to make sensible decisions on behalf of the disengaged. This is the essence of the Super System (Cooper) Review and MySuper: defaults are here to stay and it is critical that they are well designed and managed.

Unfortunately I see many more articles on the importance of engagement than I do on the design of defaults. Indeed one of the disappointing aspects of the MySuper implementation, potentially because of the tight deadlines, has been the lack of robust public debate on default design.

In some cases a choice to become more engaged with super could actually be irrational. Two reasons explain lack of engagement: the first is competing pressures for people's limited time and the second is lack of financial literacy.

People only have so much time and most have hectic lifestyles. Have you ever written down all the areas you should be more engaged with?

- family and friends – direct family, extended family and friends. I wish I was a better husband, was more actively involved with my kids, kept in touch more with my extended family. I wish I caught up with my friends more often so I could be a better friend to them.

- health – this could be specific health issues, managing a healthy lifestyle including diet and fitness, or being aware of all the potential health issues we need to keep an eye on.

- career – job security, workplace enjoyment, long-term outlook, a job that will allow someone to work beyond 65. These issues take planning and implementation (perhaps more study for instance).

- sustainability – surely we want to leave the world in a healthy state for future generations. This can include environmental, financial (eg. government debt status) and social issues.

- finances – while super is important it is not the only important area of personal finance. Household debt, savings, investment, insurance and taxation management decisions are all important.

- interests – surely it is healthy to allocate some time to personal interests, be it sport (participant or spectator), travel, or a whole range of other possible interests? I'd love to be able to hit a top-spin backhand on the tennis court but unfortunately it's not going to happen any time soon!

Many of the above are likely more important areas to allocate our 'engagement time budget' than superannuation; it is a case of personal preferences. And so it is quite possible that, faced with competing choices for how to allocate limited time it may be rational not to engage with our super.

The potential payoff from engagement varies across the population. Low income earners who with high likelihood will rely predominantly on the age pension for their retirement income will receive less benefit from engaging with their super than higher income earners.

The second reason that all superannuants will never be engaged is that much of the population simply does not have the level of financial literacy to be able to comprehend what is a highly complex system. Understanding superannuation and retirement outcomes is extremely difficult. Investing and managing a portfolio is hard work. Understanding mortality outcomes is the domain of those scary actuaries. We have one of the most complex superannuation tax systems in the world. Full engagement by an individual with their superannuation is really only the domain of those in the industry and a relatively small group of financially literate people. And so we reach a common model where engagement is via an agent (financial adviser).

And yet basic levels of financial literacy in Australia, as in the rest of the world, are low. Some of the statistics used in the Cooper Review, based on The 2006 Adult Literacy and Life Skills Survey of Australians published by the Australian Bureau of Statistics (ABS) in January 2008 are alarming. The Survey found that 46% of 15-74-year-olds, or some seven million people, would struggle to understand documentation such as job applications, maps and payroll forms. A worrying 53% of surveyed Australians reached just the second of five levels in a practical numeracy test, while 70% (about 10.6 million people) managed only to progress to level 2 in a series of problem-solving exercises. Level 3 is regarded by the survey developers as the minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy.

The need for financial literacy programmes is clear. The outcomes of such programmes will result in economy-wide benefits far broader than simply greater engagement in super. Better engagement with super is a long term, multi-decade objective, which will hopefully be fertilised by financial literacy programmes at a school level.

It is also worth noting that while engagement with super is expected to have benefits, better outcomes are not guaranteed versus well-designed defaults. Well managed defaults are overseen by investment and industry experts but they struggle to take account of personal characteristics (though this is an emerging area of further development). Engaged investors step out of this model (to varying degrees) and may benefit from a solution more tailored to their personal characteristics. Undoubtedly there is large variation in the quality of implementation and so improved outcomes are far from guaranteed.

This brings me back to the importance of defaults. Default solutions take care of those who are not engaged – they may be vulnerable because they have low levels of financial literacy, or they may (in some cases quite rationally) not allocate the time to be engaged with their super. Paternalism seems to have become a dirty word in an age of choice but this is exactly what defaults are all about – taking care and ownership of superannuation for those who are not engaged (ironically, the people who will never read this article). There is a requirement to think and act on behalf of the member. Of course sensible levels of engagement (for example, what you may end up with, retirement intentions, the benefits of saving more etc) are worthwhile alongside financial literacy programmes, and have mass benefits, but this is different to the aspiration of full engagement. Ongoing commitment to best practice default solutions must remain at the top of the priority list of the superannuation industry.

A fixed interest guy's take on share market volatility

Warren Bird

What caused the share market's sharp pull-back during June? Much of the analysis that I read at the time struggled for an explanation, but to me the explanation seemed fairly obvious.

Typical commentaries about fluctuations in stock indices focus on earnings. When the market rises, it's attributed to something like a positive reporting season for earnings, or some other event that means expectations for the earnings outlook are optimistic. When the market falls, there's pessimism about earnings downgrades.

However, when the global share markets went into a tail spin from late May to late June, the standard commentary was more like: "How can this be? The US economy is improving and earnings growth is positive. Something is wrong." From professional equity fund managers and stock brokers to commentators in the popular press, the refrain was similar.

The trigger for the negative sentiment in world stock markets was Federal Reserve Chairman, Ben Bernanke's comments that the time may be approaching for the Fed to start reducing its purchases of US Treasury bonds. The economy was doing better and seemed to be getting onto a more solid footing, so the need for monetary policy to provide support could be becoming less than it has been.

The majority of equity commentators focussed on the positive outlook behind Bernanke's remarks. Surely the Fed Chairman was telling everyone to buy equities because the economy would support earnings growth! Why didn't everyone jump on board?

Those commentators miss something important about share prices. While it is true that they are based on company earnings – and vitally so - they aren't merely about earnings. They are also about the rate of return that those earnings are priced to deliver to the investor.

In technical terms, share prices are the discounted net present value of the expected future stream of earnings. Discount rates are largely determined in the bond market, and the Fed Chairman's comments had a significant impact on bond yields and therefore on the stock market discount rate.

As a fixed interest analyst and manager I've lived with this reality for decades. It's the only thing at play in fixed interest, where earnings don't change. When yields go up, the value of a fixed nominal cash flow goes down.

The same principle is at work in the way markets determine share prices. It's not as obvious because of the fact that the earnings outlook is constantly being reassessed as well, but it's there all the time. Let me explain.

> If someone offers you an investment that will pay you $100 in year one and grow by 1% a year forever, how much would you pay for it? The answer depends on the rate of return you want it to give you.
>
> Let's assume the asset is priced to return 5%. You'd pay $95.24 for the first year's payment, because you'd earn $4.76, which is exactly 5% of $95.24. In year 2 you will be paid $101, for which you would pay $91.61 to represent 5% per annum over the two years. Making the same calculation – compounded of course – for each other year generates a series of amounts that add up to $2,500.
>
> Now let's suppose that the earnings outlook improves and the promise is a payment of $100 that will grow by 1.5% a year. If still priced to return 5% then every payment is worth more and the total asset value would rise by 14% to $2,857. For example, the year 2 payment of $101.50 when discounted is worth $92.06.
>
> But what if the assumed rate of return – the discount rate - is also now higher? How does the outcome change? If, say, the discount rate goes up to 6.0%, then the year 2 payment of $101.50 is now only worth $90.33. Repeat the calculation for every year into the future and the total value of the asset comes to $2,222. This is 11% below the original $2,500 price despite the stronger earnings growth.

These are all large percentage changes because, in effect, equities are long duration assets. That is, the average time over which investors receive their cash flows is very long. This means that share prices are highly sensitive to changes in the assumptions about both earnings growth and the discount rate that is used to value the earnings outlook.

So, what I think happened to shares during June was this. The earnings outlook was positive, but that was already priced into the market after the strong run up in prices that had taken place in the first few months of 2013. (That rally saw the US and Australian markets up about 18%, implying about a 1% per annum average improvement in earnings growth had been priced in.) The bond market's reaction to Bernanke's remarks was that less buying by the Fed would mean higher bond yields. With the long bond rate as the key input to the discount rate, the equity market reacted exactly as a long duration asset should when there is a rise in its discount rate. The expected stream of earnings was now required to deliver a higher rate of return and thus the price for those earnings had to be reduced.

The duration of the stock market is in most cases a similar figure to the price-earnings ratio. That is, currently around 17 years. So, working backwards, I infer from a 10% fall in the Australian share indices that the discount rate was increased as a result of Ben Bernanke's policy signal by just over 0.5%. This lines up pretty well with the fact that the ten year bond rate in Australia rose from 3.2% to 3.8% over the late May to late June period.

I'm not suggesting that this was a conscious move by market participants, overtly thinking that the discount rate has gone up 0.6% so share prices have to be cut by 10% (0.6% x 17). But implicitly this is the dynamic at work as all the actions of all the buyers and sellers combine to determine the prices at which shares trade.

Therefore, the bear market in shares that followed Bernanke's statement was not, to me, the surprising, inexplicable thing that it seemed to be to so many commentators. It was logical, with the world's bond markets and stock markets moving in lock step with one another as investors and traders tried to understand the significance of what Bernanke was saying.

That doesn't mean that whenever bond yields go up, share prices always go down. If yields rise because there is another improvement in the economic and earnings outlook, then the rise in earnings growth expectations may well dominate the share markets. A 1% rise in earnings growth expectations combined with a 0.5% rise in the discount rate would still produce a positive valuation impact on share prices of about +8%.

These simple maths also help explain why the share market is so volatile. It's not that it's an irrational, casino-like beast that bucks and dives for no good reason. No, it's just a long duration market reacting to changes in earnings growth and discount rate assumptions.

Thinking about markets like this doesn't produce as many startling headlines for the press. But it does help you understand why your financial planner probably keeps trying to tell you not to worry about periods as short as a month. Shares are long term assets that should be looked at only over the long term. In the same way bonds are medium term assets that should be looked at over the medium term, not weeks or months. If your time horizon is a month, then the asset that aligns with your time horizon is cash.

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