

Edition 91, 5 December 2014

This Week's Top Articles

- **Rob Arnott seeks many happy returns** *Graham Hand*
- **Who wins? Australians investing in US shares** *Ashley Owen*
- **Australia's residential property boom** *Jonathan Hoyle*
- **Long term equity returns and mean reversion** *Robert Stewart*
- **Take no income from the best companies** *Roger Montgomery*
- **The growing trend towards thematic investing** *Andy Gardner*

Rob Arnott seeks many happy returns

Graham Hand

Rob Arnott is Chairman and CEO of Research Affiliates, LLC and a pioneer in asset allocation techniques and smart beta investing, especially fundamental indexing. He is a former Chairman of First Quadrant, and has published over 100 articles. He edited the Financial Analysts Journal from 2002 to 2006, and received the William F Sharpe Lifetime Achievement Award in 2013.

We first met in 2007 when I was responsible for alliances at Colonial First State, and we brought fundamental indexing to Australia with the establishment of Realindex Investments, which now manages about \$10 billion.

Smart beta and fundamental indexing

Smart beta investment strategies are now so common that it's hard to believe that only a decade ago, they were considered little more than a quirky idea. The first fund established in the US using fundamental indexing is about to celebrate its 10th anniversary, and after the first, other managed funds and ETFs were quickly rolled out across the world. So with all these 'many happy returns' coming up soon, it was a good time to ask where it all started.

"I'd long had a view that cap weighted investing was peculiar. The more expensive a company becomes, the bigger its weight in the index. It tends to put most money into companies that are popular, that have high multiples, that have a strong momentum. Why should we earn a stronger equity risk premium on those companies? I thought we needed an index based on sales or book value, but I never pursued it.

"Then in the aftermath of the tech boom in 2001, George Keane was sitting on the Board of the State of New York, and was horrified because they had a large chunk in an S&P500 index fund, which had 4% of its money in Cisco, a company priced at about \$25 million per employee, a stupendous valuation. Could a company with 25,000 employees be worth that? It has to achieve some remarkable things. He watched in horror as these stratospheric tech valuations came back down to earth, so he approached a few people

to talk about a better way to index. He was thinking something like a mid-cap value, but I thought, instead of looking for niche categories, maybe we ought to revisit the way we index. So we tested sales weighting, using the 500 largest companies with investment weighted by sales. I was stunned that going back 30 years, it beat the S&P500 by 2.5% a year. I realised we were on to something big.”

Arnott then tested using index weightings based on profits, book value, dividends, even the number of employees, and they all outperformed cap weighted indexing over long periods. He argues it is because they sever the link with price. If you weight by fundamentals you are achieving economic representation of the broad macro economy. He tested it for 23 countries and found it worked in all but two of them.

Arnott published the results, but initially, the antipathy of academics and the indexing community was palpable. The lack of academic curiosity in particular took him by surprise, and defending their turf, there was animosity from cap weighting businesses. He now believes the notion that it adds value relative to cap weighting is accepted in some circles as obvious, although critics say it’s just another form of active management and is not really indexing.

He is happy with that. “Absolutely they say that, and relative to cap weighting, it’s an active strategy. I like to turn it around. Relative to the macro economy, fundamental indexing is neutral, cap weighting is active. It depends how you see the world. The market is making all kinds of wild bets. It’s making a huge bet for Twitter and a huge bet against British Petroleum.”

Tactical asset allocation and mean reversion

Arnott is also portfolio manager for PIMCO’s All Asset Fund. In this role, he makes tactical allocation decisions across dozens of asset categories, but how does he allocate?

“The world has a lot of asset classes to choose from. The notion of picking market peaks and troughs is naïve, nobody can do it. In the long run, valuation matters tremendously, but in the short run, the flow of capital matters more. The flow of capital is profoundly difficult to anticipate, and central bank interventions create disruptions to market valuations. For those who are patient and contrarian and willing to do what’s uncomfortable, the rewards can be great.

“Suppose you have a company in your portfolio that is recognised as a market leader all over the world, no serious impediments to its growth, the third largest market capitalisation on the planet, which implies it will be the third largest source of profits in the world. It’s called Google. Then we suggest you should get rid of it and switch to a basket of Ukrainian bank stocks, some of which could go to zero. Is a fund manager who does that likely to be applauded or fired? But if you did 20 trades of that sort, collectively they’d probably do well. It’s uncomfortable, but markets don’t reward comfort.”

Arnott is highly systematic. The more valuations move away from historic norms, the more comfortable he is in taking a larger position. The portfolio is not switched straight into a large position but a process of averaging in commences based on valuation signals. Over time, the position is expected to benefit as prices revert to the mean.

“For example, the Schiller valuation of US stocks today is 26 times earnings, the Schiller for Emerging Markets is 15 times earnings. Well, people are scared of EM, and the US is a haven. There’s a flight to safety and the US\$ is strong, while there are many political problems in EM economies. OK, I get all of that. But the valuations are better in EM, and based on fundamentals, the earnings multiple is only 11.”

Demographic change

Arnott also writes and speaks widely on demographic change, especially the aging population and lack of tax revenues to pay for services such as health and pensions. He believes we are living in a fool’s paradise where governments overspend but are unwilling to raise the money to pay the bills.

“I think intergenerational conflict is inevitable. It will become politically explosive. The baby boomers will say they paid taxes into the system and are entitled to take money out, but it’s not like an insurance policy. These are transfer programmes, they are not a prepaid annuity programme. Our politicians have lied to us. I think the problems will happen in the next 10 years. Roughly six years from now, the majority of baby boomers will have retired. Baby boomers and our parents were no longer the majority of

the voting population as of 2009, and will be outnumbered 2 to 1 by 2020. Baby boomers will have less power at the ballot box. But there's also a fairness issue. We're expecting our grandchildren to take care of us when we have more money than them."

I pointed out that in Australia, the family home is exempt from asset tests for pensions, and a couple can have a million dollars plus an expensive home and still be eligible for a part-pension. He believes such thresholds must fall in coming years, and at some point, politicians will address the family home exclusion. It will be argued on fairness grounds and neither party will defend the baby boomers.

Perceptions of the wealth management industry

Following a Research Affiliates' conference earlier this year, [I wrote this report](#) on the criticisms of our industry from many of the speakers. Active managers are not worth the fees, we don't know how to value companies, asset consultants don't add value. Should we be disappointed with what our industry has achieved?

Arnott does not try to defend Wall Street. "As a business, we have asked where has our industry failed the end clients. Once in a while we ask what's going wrong. I'm not cynical enough to think our industry is deliberately nefarious but there are a lot of paths of least resistance, people trying to make money in convenient ways. Not necessarily what's the best way to help clients succeed. Our industry attracts a lot of people who ask what can I do that can be sold for a premium price, that hopefully make money for clients but hopefully more money for me. That's why Jack Bogle's insights on indexing were such a revelation."

I asked if part of the reason we are in this position is that our industry is dealing with human emotions, individual reactions and behavioural characteristics, and it's almost impossible to know how the market will react to events. Unlike a surgeon who cuts into a body and each one looks basically the same.

"A surgeon operates under the Hippocratic Oath of keeping clients from harm. If your customers die, you're not going to have a career very long. In investment management, a lot of people don't have the institutional equivalent of the Hippocratic Oath."

As our industry seeks to improve its professional standards and build trust with the public, it's worth looking at an extract from the Oath, here the Classical Version.

"I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice ... I will neither give a deadly drug to anybody who asked for it, nor will I make a suggestion to this effect ... Whatever houses I may visit, I will come for the benefit of the sick, remaining free of all intentional injustice ... If I fulfill this oath and do not violate it, may it be granted to me to enjoy life and art, being honored with fame among all men for all time to come; if I transgress it and swear falsely, may the opposite of all this be my lot."

There's something fundamentally good about that.

Graham Hand was General Manager, Capital Markets at Commonwealth Bank; Deputy Treasurer at State Bank of NSW; Managing Director Treasury at NatWest Markets and General Manager, Funding & Alliances at Colonial First State. The opinions in this article provide general information only and do not take account of the personal circumstances of any investor.

Who wins? Australians investing in US shares

Ashley Owen

In part 1, we compared real total returns from shares from the point of view of two different investors: an Australian investor in the broad Australian market in Australian dollars after Australian inflation, versus an American investor in the broad American market in American dollars after American inflation. The 'return on investment' (ROI) from both markets was around the same at 6.6% in real terms when averaged over 115 years. However, returns in the two countries did vary considerably along the way, with Australia and the US taking turns in having larger booms and bust cycles.

Australians investing in US shares

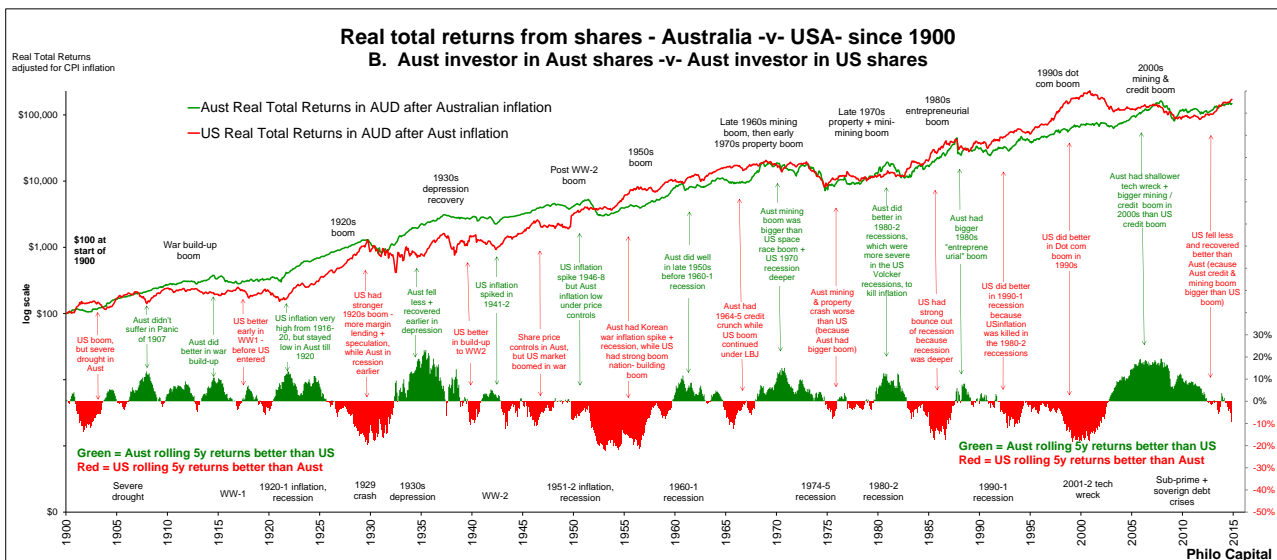
In part 2, we take the point of view of just the Australian investor and ask: "What would the returns from the American market have been to an Australian investor - ie converted back to Australian dollars and after Australian inflation?"

This question now involves two additional elements: changes in *exchange rates* between the currencies of Australia and the US (because the US returns are translated back into Australian dollars for the Australian investor to spend here), and also differences in *CPI inflation rates* (because the Australian investor's real spending power is determined by Australian inflation, not US inflation).

The answer to the question is: Returns from the broad US stock market to Australian investors was still *the same* as returns from the broad Australian stockmarket – even though the exchange rate changed over the period, and inflation rates were different in each country. Of course, returns will differ depending on the particular start and end dates to use and the choice of index, but the broad outcomes are similar."

Same outcome, different pattern

At first glance, this chart looks similar to the chart in part 1. The end points are virtually the same and the timing of booms and busts are more or less the same in both markets (click online to enlarge).



Where the charts differ is that the magnitude of each boom and bust cycle in each country is different due to changes in exchange rates and differences in inflation rates over time. Although both markets boom and bust together, the US portfolio (converted to AUD terms) does better during periods when the AUD was falling against the USD, for example:

- US market returns in AUD were better in the early 1930s depression, because Australia devalued earlier and further than the US
- US market returns in AUD were better in the late 1930s, as the Australian pound depreciated

- During the mid-1970s to mid-1980s, because the AUD fell steeply against the US dollar despite the USD weakness following Nixon's breaking of the gold standard
- During the 1990s dot com boom because the AUD fell with the commodities price slump.

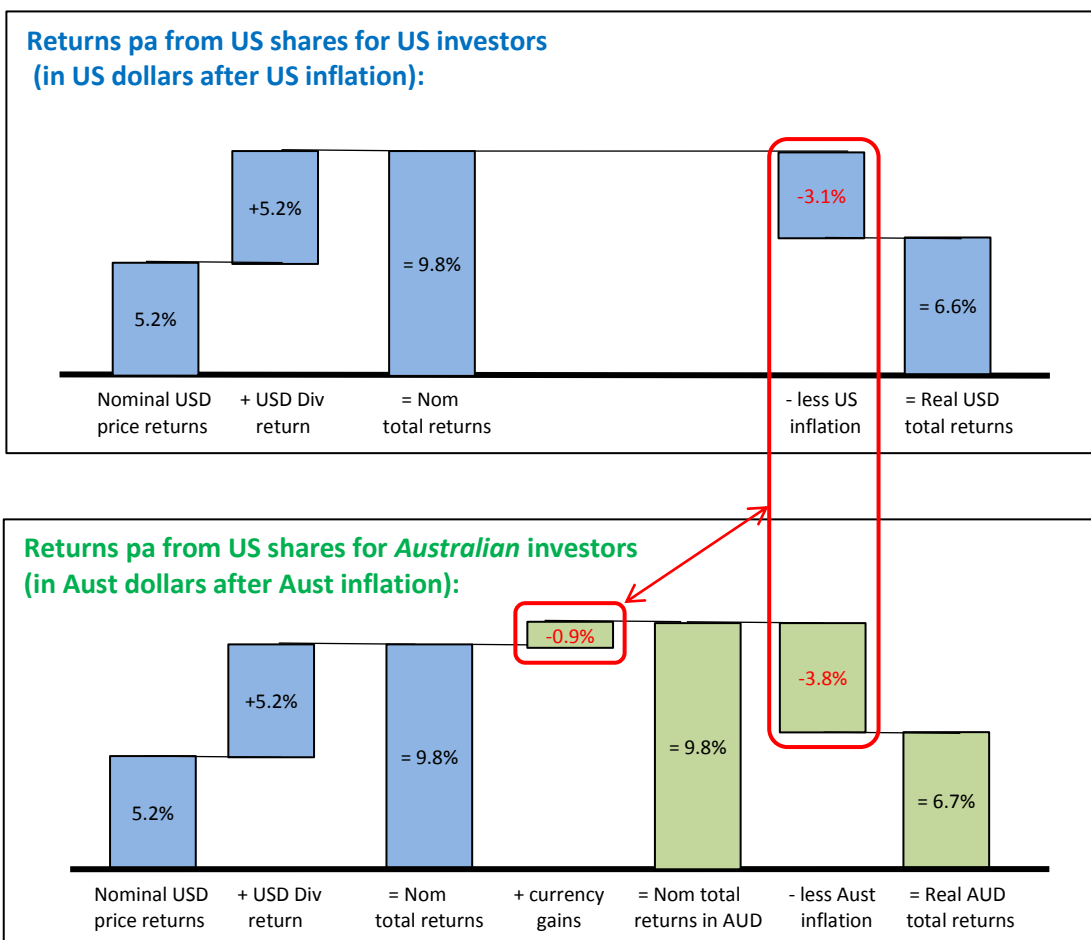
Currency gain

Astute readers will observe that since the Australian dollar has fallen by two thirds in value against the USD over this period, this would have generated a *currency gain* to Australian investors, and this should have nearly *trebled* their money on their US shares converted to Australian dollars. This means that Australian investors would have been much better off investing in US shares instead of Australian shares. Is this true?

The answer is 'yes and no'. Yes, the AUD did decline against the USD by 64%, from USD1.416 per AUD in 1900 (actually USD1.208 per £1 Australian pound), down to just USD0.88 at the end of October 2014, and that generated a currency gain of 174%, or 0.88% pa over the period.

But this currency gain to Australian investors was neutralised by the higher inflation rate in Australia. Australian investors must apply the higher Australian inflation rate to the nominal returns on the US portfolio, and Australian inflation was nearly 1% higher than US inflation. This neutralises the 1% pa gain on the currency.

The way changes in exchange rates and inflation rates impact returns to investors is shown below. The upper panel shows returns from US shares for US investors (in US dollars after US inflation), and the lower panel shows US returns translated into Australian dollars after Australian inflation.



Returns from both markets for Australian investors have been around the same at about 6.6% to 6.7%, not statistically significant.

Currency gain/loss is the same as differences in inflation over long periods

This is a neat real life illustration of one of the principles of international finance at work: that over very long periods of time, changes in exchange rates between two countries tend to reflect differences in inflation rates.

There is no magic in this, because exchange rates and inflation rates are simply two sides of the same coin. They are merely two different ways of expressing the same thing – the real buying power of a country's currency.

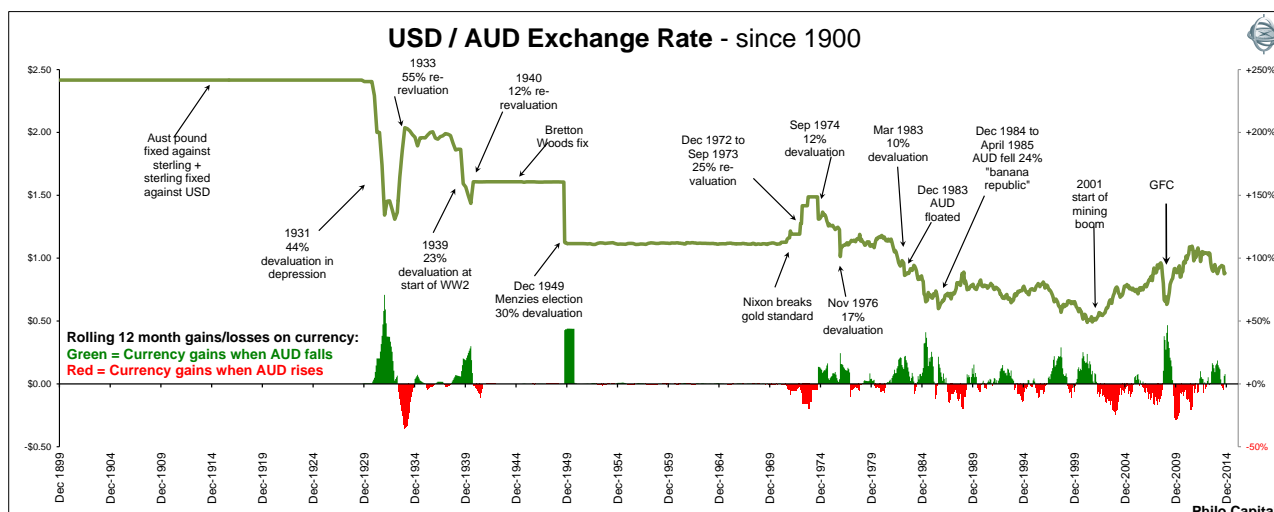
For example if the Australian government suddenly decided overnight to double the amount of money in the Australian economy, two things would occur tomorrow: first, the AUD price of everything in Australia would double (resulting in the CPI index doubling). In other words the real spending power of an Australian dollar would drop 50% in terms of what it could buy in Australia. It would take two new dollars to buy a banana that cost one old dollar yesterday because everybody has twice as much money to spend but the supply of bananas has not changed.

The second thing that would happen is the Australian dollar would drop by 50% against other currencies because it would now take two new Australian dollars to buy the currencies of other countries that one old dollar could buy yesterday.

This has actually been done by governments throughout history, with precisely those outcomes, as explained [here](#). The US, UK and Japanese central banks are currently furiously printing money with the specific aims of increasing their domestic inflation and lowering their exchange rates relative to other currencies. The European Central Bank is about to join in the party. (The currency depreciation effect is not working today of course because exchange rates are a relative game – it does not work if the other countries are all printing money at the same time.)

Long term decline of the Australian currency

The Australian currency has depreciated by nearly 1% per year against the US dollar over the past century, as Australia's inflation rate has been nearly 1% higher than US inflation. They are merely reflecting the declining real purchasing power of the Australian currency.



This relationship between exchange rates and relative inflation rates has also been the case with other countries as well. For example the UK pound /AUD exchange rate is still virtually the same as it was in 1900 (£0.50 GBP per AUD in 1900 and £0.54 GBP per AUD now), as average inflation rates have been virtually the same in both countries over the period.

The Japanese Yen has lost 95% of its value against the AUD (from 4.82 yen per AUD in 1900 to 100 yen per AUD now) which is an average fall of 2.6% pa. Correspondingly, Japanese inflation over the period averaged nearly 3% higher than Australian inflation over the century, including the hyperinflation in 1945-8 when Japanese prices inflated by 5,500% and the yen lost 99% of its value. So the relationship

between exchange rates and relative inflation rates still operates through massive economic upheavals, world wars, hyper-inflation, deflation, depressions and even almost total national destruction.

Hedged or unhedged?

Because over very long periods the exchange rates between two countries tends to mirror the differences in their inflation rates, for very long term investors the returns tend to be very similar whether the currencies are hedged or unhedged. All currency hedging does is release the currency gains or losses in the form of regular instalments (based on differences in short term interest rates in the two countries) rather than wait for the currency to fall (or rise) to deliver the currency gains (or losses) - and line the pockets of investment bankers!

However, because currencies can and often do remain overvalued or undervalued for many years at a time before snapping back, hedged returns can be significantly higher or lower than unhedged returns for periods of up to several years. For most short term or medium term investors, the decision of whether or not or when to hedge the currency can make a significant difference to returns. For example, for Australian investors in foreign shares:

- Hedged returns were much higher than unhedged returns during the 2003-7 mining boom as the AUD rose
- Unhedged returns were much higher than unhedged in the second half of 2008 as the AUD collapsed
- Hedged returns were much higher than unhedged in 2009 when the AUD rebounded.

Hedged and unhedged portfolios also generate significantly different volatilities, different correlations with other assets in portfolios, and different diversification benefits. The issue of whether or not to hedge is complex and will be covered in separate articles.

Ashley Owen is Joint CEO of Philo Capital Advisers and a director and adviser to the Third Link Growth Fund. This article is for general educational purposes and is not personal financial advice.

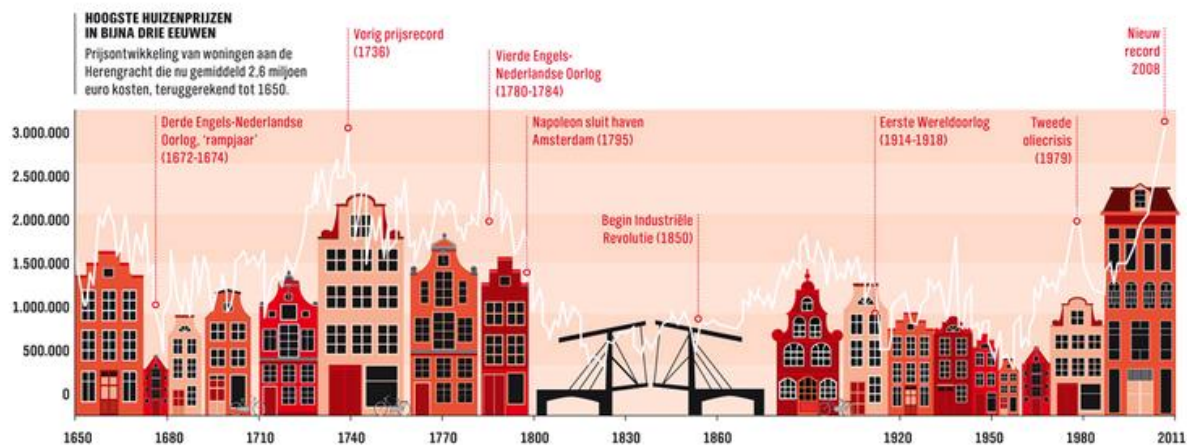
Australia's residential property boom

Jonathan Hoyle

This article asks three questions. Is Australian housing overpriced? If so, why? And, what can the Government and the RBA do to prevent a bubble from forming?

Is Australian housing overpriced?

In short, yes. We believe that in the long run valuations of all asset classes mean revert. House price data exists in Holland dating back to 1650 (see chart below), demonstrating this mean reversion of residential house prices. It also shows that property bull and bear cycles can last an awful long time. For example, the market peaked in 1740 and didn't start rising again until long after Napoleon had abandoned his attempts at world domination. A hundred year bear market? Ouch. The most recent housing bull market began in earnest in the 1960s and is now at stratospheric levels compared to the past. What goes up ...

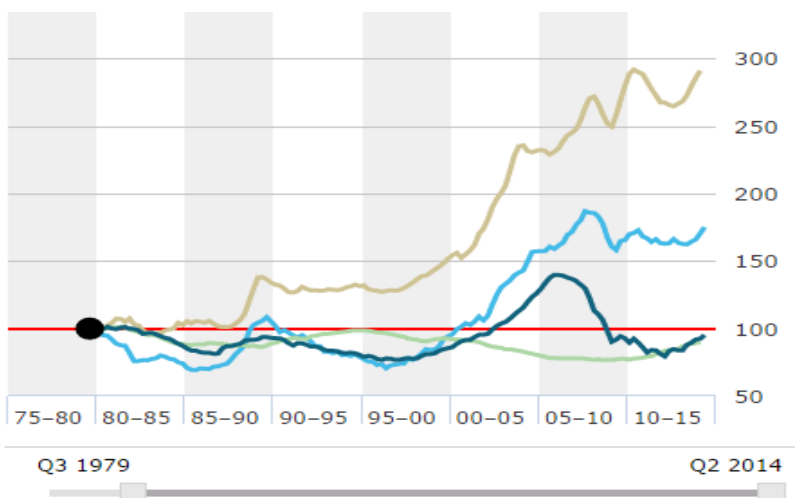


Source: [Loanz of The Netherlands](#).

What about Australian residential property today? There are three good guides to understanding whether houses are cheap or expensive: how prices have changed over time relative to inflation; relative to wages; and relative to rents.

Here we review **Australian home values (olive line)** going back to 1979 against all three measures, and compare them to prices in the **UK (light blue)**, the **USA (dark blue)** and **Germany (green)**. The data is collected from The Economist's excellent global house price online tool (*Sources: Australian Bureau of Statistics; BIS; Bundesbank; FHFA; Nationwide; OECD; Office for National Statistics; Standard & Poor's; Thomson Reuters; vdpResearch*).

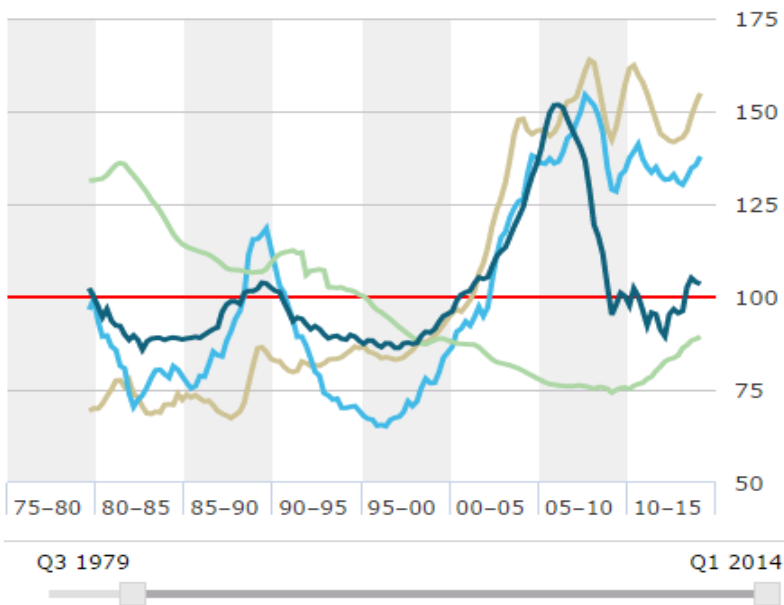
i) First, how have prices changed relative to inflation?



Whilst houses in the US and Germany are cheaper than in 1979, Australian homes are almost three times as expensive when adjusted for inflation. Most of the price rise happened between 1995 and 2005.

ii) What about house prices relative to the rents they produce?

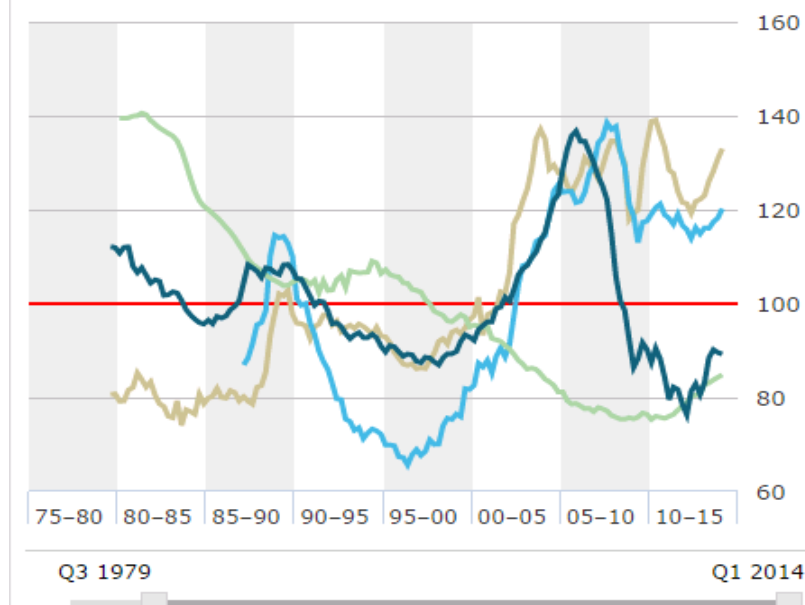
Long-term average=100



Whilst your friendly local real estate agent might try to convince you that 'there has never been a better time to buy', he is not strictly correct. The olive line above supports the case that 'there has never been a better time to rent!' Houses in the UK, the US and Australia rose rapidly compared to rents between the period 1995-2005. American home prices then crashed and rental yields have since returned to their long term average. However, rental yields are more than 50% lower than their long term average in Australia. In contrast, German rental yields rose for 30 years (prices fell relative to rents) and only started to decline in 2010.

iii) And house prices relative to wages?

Long-term average=100



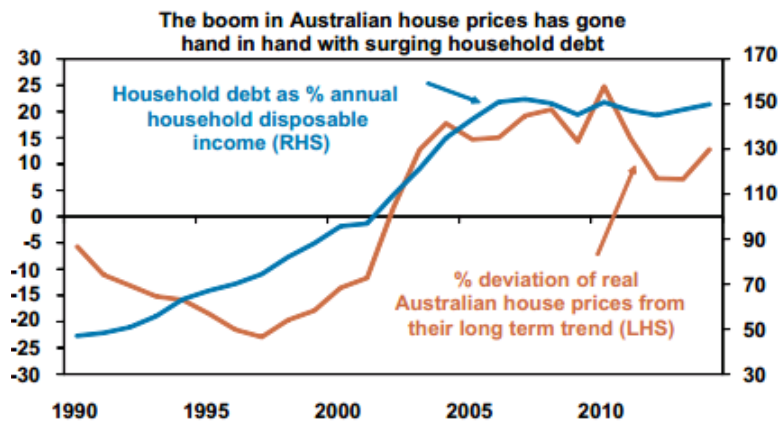
As the graph above shows, Australian house prices are about 30% above their long term average when compared to median wage income. This is our favoured long term measure of housing prices and the most significant of the three metrics.

So, yes, we can state the Australian residential home prices are high.

Why is housing so expensive?

In the long run, house values rise in line with incomes and standard of living (GDP). However, in the short term, there are two principal drivers of house prices; the availability of land, and the availability and price of credit.

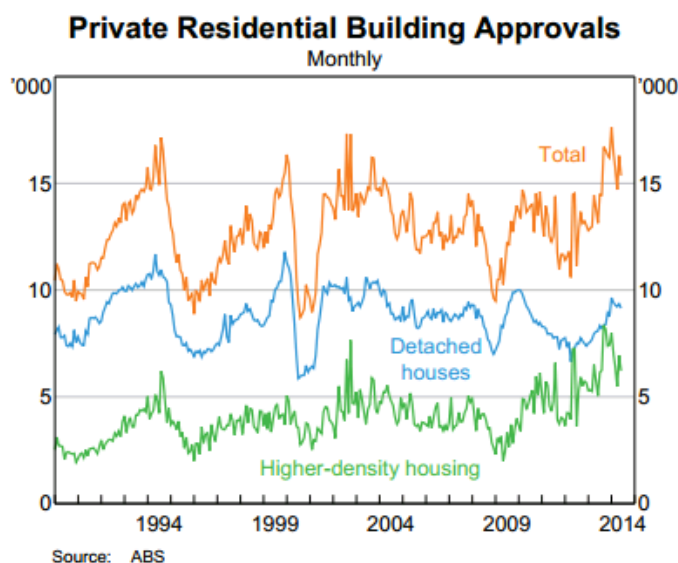
Lower mortgage rates enable Australians to borrow more for a given level of income. The shift to lower rates in the mid-1990s has exactly coincided with the sharp rise in prices and also with a massive increase in household debt (see below).



Source: ABS, RBA, AMP Capital

However, lower mortgage rates are only part of the story since low rates also exist in Germany and the US yet houses are much cheaper in both countries. What do the UK and Australian property markets have in common that have caused prices to remain so elevated? The answer is a lack of supply. Australia has restrictive land supply policies leading to an annual shortfall of some 200,000 houses. Very low vacancy levels and very high prices are the result.

A dearth of available housing can quickly become a glut as American homeowners in Florida and Nevada found to their horror in 2007, and Chinese apartment owners are now discovering. Here in Australia, higher home prices have resulted in a boom in building new homes. Will Melbourne be the new Las Vegas?



The media and populist politicians have also blamed Self-Managed Super Funds, negative gearing and that perennial whipping boy, foreigners. But these are mere sideshows.

What can the Government do to limit further price rises?

So far, the RBA has maintained that the residential housing market isn't in a bubble and that house price growth has been sustainable. Significantly, the RBA has recently changed its stance stating that it is now worried about the build-up in speculative investment activity in the housing market, and that it has been in talks with the bank regulator, APRA, to introduce 'speed limits' on credit creation.

So what can the government and its twin regulators, the RBA and APRA do to limit house price rises? Here we examine their options, how effective they may be and whether they are likely to be introduced.

1. **The RBA can raise interest rates.** A pre-emptive rate rise would seriously curb house price growth. But it would also damage confidence in the broader economy. We view this option as highly unlikely.
2. **The RBA introduces 'macro-prudential' measures specifically to target the housing market.** For example, limits on loan-to-valuation ratios; limits on debt repayments to borrower income or loan size to income; forcing lenders to lift the interest rate buffer test they use for loan serviceability; placing high risk weights on particular types of loans in particular geographical areas; or forcing banks to reduce the number of loans to certain individuals and to certain geographical areas. This has been introduced in New Zealand with mixed results. We see this as more likely.
3. **APRA forces banks to lift their capital requirements** – this is likely to emerge as part of the Financial System Inquiry. Given the increasing size of the banks' residential mortgage books and their all-time low provisioning for bad and doubtful debts, they may not be adequately capitalised in a severe housing market downturn. In this instance, they will have to be bailed out by the taxpayer.
4. **APRA forces the banks to increase home loan risk weightings** – extraordinarily, banks have been able to 'self-assess' the riskiness of each loan and assign to it their own risk weighting! Risk weights vary globally, but the global average is around 30% and is mandated by a regulator (ie. no self-assessment). The abolition of self-assessment will lead to lower share prices but more stable banks.
5. **Abolish negative gearing on property investment** – and additionally remove the 50% capital gains tax discount for investment properties held longer than 12 months. Politically unpopular. Very unlikely to happen.
6. **Introduce a levy on foreign purchases of Australian residential property** – press speculation is of a \$1,500 levy on foreign buyers of Australian residential property, which would raise some \$400 million. Whilst \$1,500 is likely insufficient to curb foreign buying demand, a percentage levy based on the purchase price (ie. 3% or 5% of the purchase price) may do the trick whilst raising much needed funds for the Australian economy.

In conclusion

House prices are high because of a combination of low mortgage rates, a healthy banking system and a lack of supply (for now). The RBA is becoming increasingly nervous about excessive speculation and may act to limit further price rises. We expect much noise but little action.

In the long run, property has been an excellent wealth creation vehicle for Australians. Whilst returns haven't quite matched equities (and the data is often of dubious quality as it invariably omits maintenance capex), they have been achieved with lower volatility. A diversified mix of property, bonds and shares has produced strong returns with reasonable volatility. The past, though, is no guarantee of the future. Whilst there will always be a place for property in investment portfolios, returns from this asset class are likely to be more subdued over the next 10 years.

Jonathan Hoyle is Chief Investment Officer at Stanford Brown. Any advice contained in this article is general advice only and does not take into consideration the reader's personal circumstances.

Long term equity returns and mean reversion

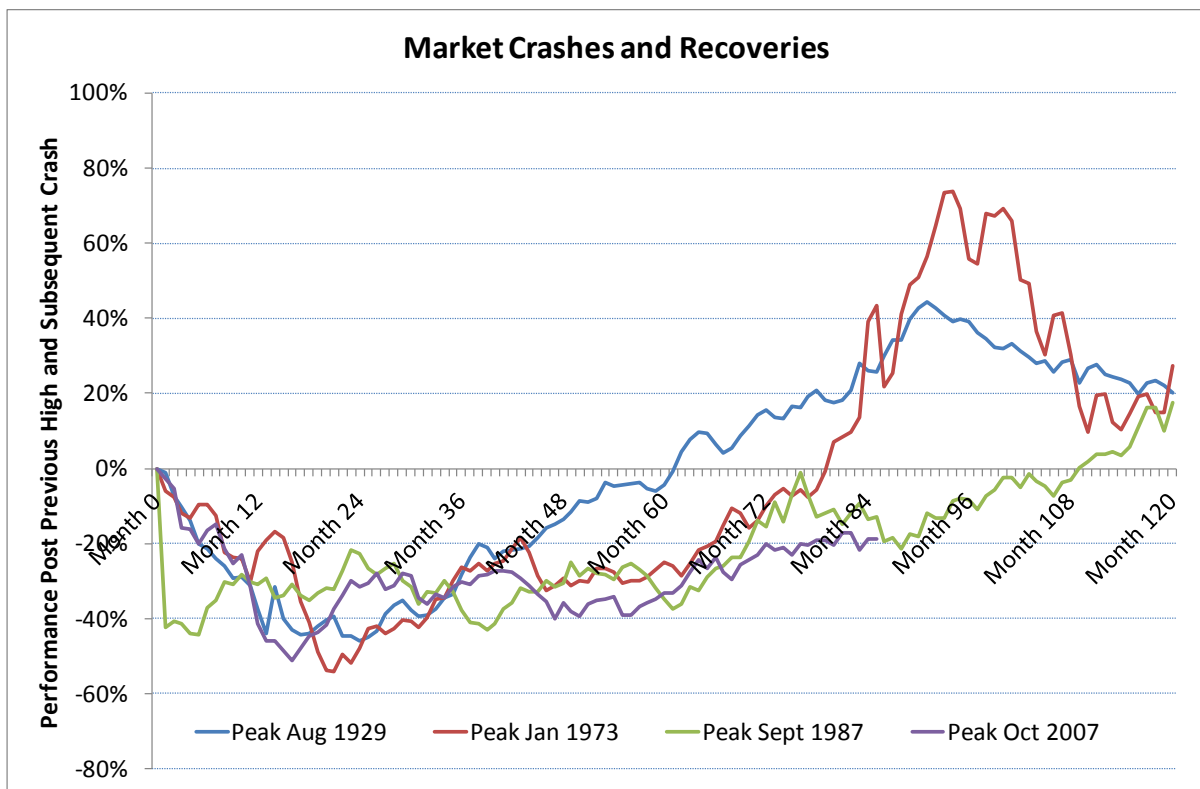
Robert Stewart

Baron Rothschild is credited with saying that "the time to buy is when there's blood in the streets." Implicit in this statement is that markets are mean reverting and periods of extreme negative returns are not likely to be sustained. Put simply, when everyone is selling it often represents an opportunity to achieve superior future returns.

Of course being a contrarian is not easy and goes against the natural bias of human behaviour. When returns are negative there is a natural bias to shy away from investing. But this is precisely the time to invest to achieve above average nominal returns. Conversely when markets are running hot everyone wants to be greedy.

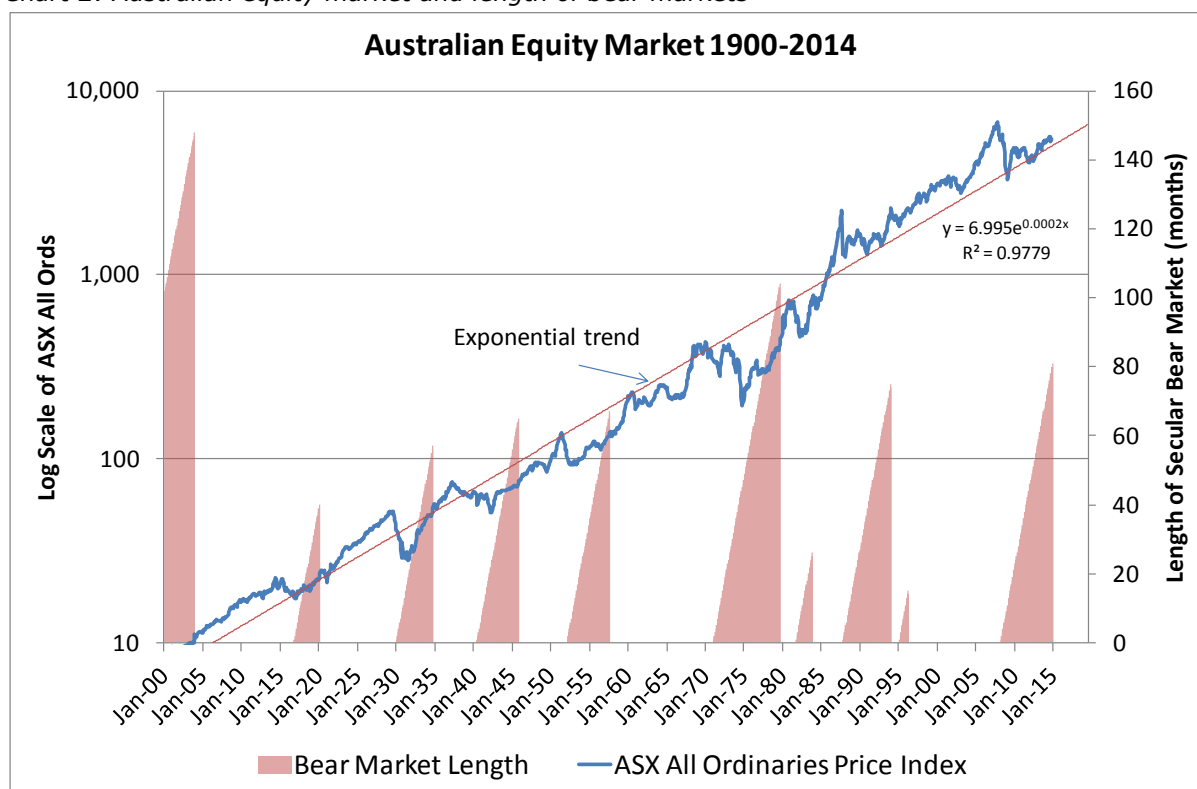
In early 2012 Alan Kohler on the ABC News commented that the current recovery was the worst on record, including the crash of 1929, the inflation-induced recession of 1973 and the bubble of 1987, and used Chart 1 to demonstrate (which has been updated to October 2014). But markets do not stay pessimistic indefinitely (with some exceptions such as the Japanese market). Nor do markets stay "irrationally exuberant", to quote Greenspan.

Chart 1: Market crashes and recoveries



Source: Historical records based on monthly time series of the combined price history of the Sydney Stock Exchange and the Melbourne Stock Exchange from 1900 to 1970 and the ASX All Ordinaries Price Index from Dec 1970 to Oct 2014.

Chart 2: Australian equity market and length of bear markets



Bear market is measured as a 20% decline from the market high and lasts until previous high is surpassed.

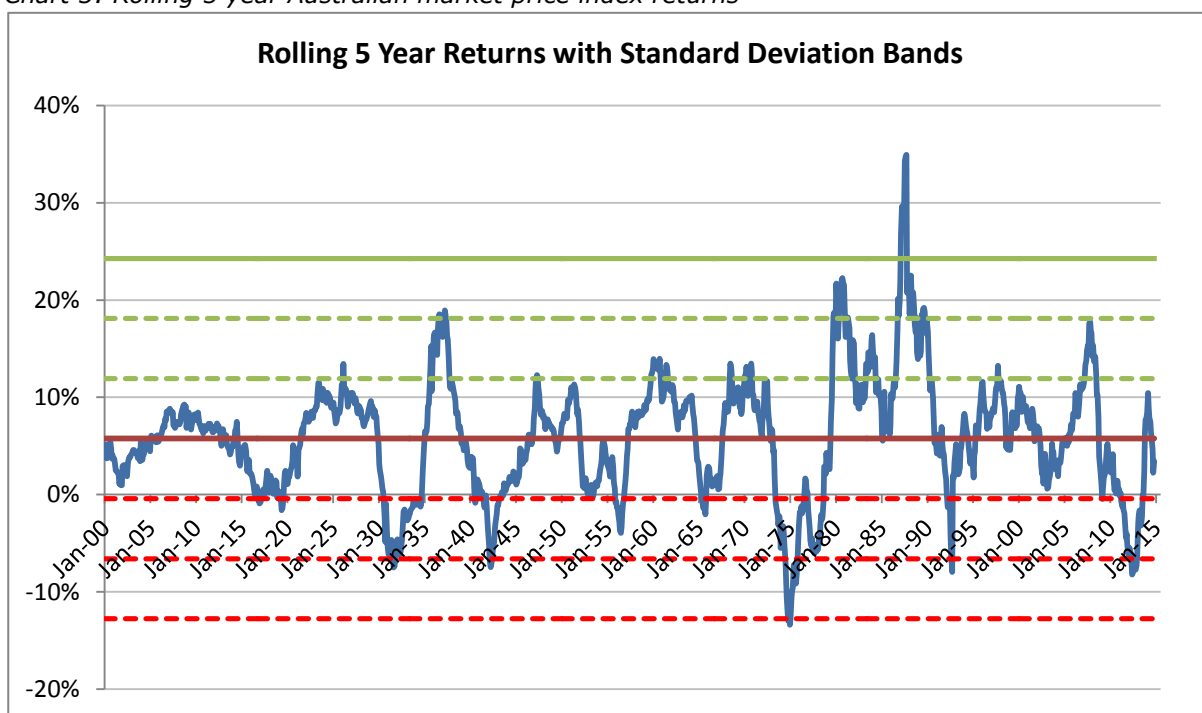
Since 1900 the Australian equity market has returned 5.76% pa (geometric average, excluding dividends and before inflation, to end of October 2014). In the short term markets are random, but over the long term markets mean revert to the long term average.

Table 1: Historical Returns 1900 to 2014

	1 Year	3 Years	5 Years	10 Years	20 Years
Average	7.0%	6.1%	6.0%	5.8%	5.6%
Median	6.8%	6.3%	6.5%	5.2%	5.4%
Min	-44.3%	-16.5%	-13.4%	-2.4%	1.7%
Max	80.7%	45.2%	34.9%	22.5%	12.5%
Std Dev	16.4%	8.7%	6.1%	3.4%	2.2%

The mean reversion of the Australian market can be illustrated by charting rolling five year returns (Chart 3). For simplicity standard deviation bands have been included around the long term mean of 5.76% pa. Some 68% of all returns will reside within a standard deviation of +1 and -1, and 95% of returns reside within a standard deviation of +2 and -2.

Chart 3: Rolling 5 year Australian market price index returns



Importantly, returns significantly above or below the long term average are simply unsustainable.

The peak of 1987 was more than 4 standard deviations away from the long term mean. Statistically the chance of this occurring is 0.02%. The returns into 2007 were two standard scores above the mean. The crash of 1929, World War Two and the 1992 recession saw five year returns more than two standard deviations away from the mean and the inflation led recession of 1973 saw returns more than 3 standard deviations from the mean. Even May of 2012 saw five year returns almost two standard deviations away from the mean.

Table 2: Historical 5 Year Standard Deviations greater than +2

Month	Standard Deviation	Historical Returns			Future Returns		
		1 Year	5 Years	20 Years	1 Year	5 Years	20 Years
Aug-1936	+2.1	9.1%	18.6%	6.3%	10.1%	-0.6%	2.9%
Mar-1937	+2.1	22.1%	18.9%	7.3%	-10.2%	-7.4%	2.7%
Jan-1980	+2.6	54.2%	21.7%	5.0%	12.1%	5.7%	8.7%
Sep-1987	+4.7	78.8%	34.9%	11.1%	-31.0%	-8.0%	5.5%
May-1989	+2.0	-2.4%	18.5%	6.7%	-1.2%	6.3%	4.7%
Oct-2007	+1.9	26.6%	17.7%	8.6%	-41.3%	-7.7%	
Average		32.4%	22.5%	7.3%	-4.0%	-0.8%	4.9%

Table 3: Historical 5 Year Standard Deviations less than -2

Month	Standard Deviation	Historical Returns			Future Returns		
		1 Year	5 Years	20 Years	1 Year	5 Years	20 Years
Jul-1931	-2.1	-19.4%	-6.8%	2.2%	20.2%	18.3%	8.1%
Mar-1932	-2.0	4.7%	-6.2%	2.7%	29.5%	18.9%	6.0%
Jan-1975	-3.0	-33.1%	-12.6%	3.3%	41.1%	21.7%	11.2%
Aug-1977	-1.9	-14.8%	-6.0%	3.8%	21.8%	10.5%	11.5%
Aug-1992	-2.0	0.4%	-6.4%	7.0%	26.8%	10.9%	5.3%
May-2012	-2.3	-13.7%	-8.2%	4.6%	18.9%		
Average		-12.4%	-7.6%	3.8%	27.9%	16.1%	8.4%

Tables 2 and 3 demonstrate that when historical returns reach positive/negative extremes, future returns have a high probability of being significantly less than/greater than the long term average. For example, in Table 2, where the market is more than two standard deviations above its long term mean, such that historical returns have been good, the future returns from that point have been poor. Conversely, in Table 3, where the market is below its long term mean, the future returns from that point have been good.

Of course, not all companies recover from tough times. This analysis focusses on the broad market, but not all individual companies revert to a mean. Some disappear forever!

If history is a guide one would expect future returns from the low of May 2012 to be above the long term average. This does not mean the markets won't be volatile as they never move in straight lines – and markets can remain subdued for periods much longer than expected (for example the Japanese stock market). But it can give one a glimpse of where the market may be headed.

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Take no income from the best companies

Roger Montgomery

Take Australia's largest generational cohort, the baby boomers - all desperate for income - and then feed them some of the lowest interest rates on their cash in history. Before doing that, engineer a stock market crash, just a few years earlier, ensuring they have a disproportionately large amount of their remaining wealth sitting in said cash.

Now you have the ingredients for a boom in the pursuit of yield and in any asset promising one, but it's important to take a step back from the noise to see the wood from the trees.

Unbridled pursuit of yield

Reading the share market tables last month, I realised that the plethora of PE ratios above 20 is not normal. A 20-year payback period at current earnings rates is a general reflection of hope and unbridled optimism, and while it can be explained, it's not normal. Nor is it permanent.

The pursuit of yields through dividend-paying shares is analogous to a mindless herd of bison stampeding towards a cliff. Wall Street will sell what Wall Street can sell. Right now selling yield and income is the easiest game in town. Investors are predisposed to hearing the siren song of income and advisers and product issuers are rushing to feed the hoards. There are only a few who are willing to question the conventional thinking about pursuing yield at all costs.

My belief is that the pendulum will swing back and this time is no different to other periods of unbridled optimism. But that is not the subject for discussion today.

Should companies pay high dividends?

Rather, let's look at a different view of dividends that suggests businesses, shareholders and even Australia as a whole are missing out by the grovelling to investors' demands for income.

At Montgomery we love income. Don't get me wrong; there's nothing quite as satisfying as receiving cash without having contributed any sweat or labour. But are dividends the best way for companies to reward their investors? We have always held the view that when a business is able to generate a high rate of return on incremental equity, it behooves management to retain profits and reinvest, rather than paying them out. And shareholders are better off financially because in the long run, the share price – at

constant PE ratios and assuming no capital raisings or borrowing increases - will rise by the return on equity multiplied by one minus the payout ratio. Buy shares in a company at a PE ratio of 10 times and if the company generates a return on equity of 20% per annum and you sell the shares years from now on a PE of 10 times, your return will be 20% per annum, matching the ROE of the company.

Of course a company can produce a similar result by paying all the earnings out as a dividend and issuing shares through a renounceable rights issue but if a company can generate high rates of return on equity it should be given the capital to do just that.

Assume you own a bank with equity on the balance sheet of \$5 million. We will assume this bank generates an attractive return on both existing and incremental equity of 15% - not unlike some of its bigger rivals. We will also assume that if the shares were to trade between willing participants, they would price those shares at two times the equity value - again not unlike the multiple applied to your bank's bigger competitors - giving your business market value of \$10 million. With your bank earning 15% return on \$5 million of equity, or \$750,000 in the first year, the multiple of earnings at which pieces of your bank would change hands would be an undemanding 13.3 times.

Like many Australian listed companies the board of your bank has acquiesced to baby boomer shareholder demands for more income. It maintains a very high 80 per cent payout ratio, meaning 80% of the company's annual return is received as dividends and only 20% is reinvested.

In year one the bank will earn a profit of \$750,000 and the dividend will be \$600,000 and \$150,000 will be reinvested to grow the future profits of the bank. These metrics will produce growth in both equity and dividends of about 3% per annum assuming no additional debt or equity.

After 10 years of these wonderful metrics, and with a bank still generating 15% returns on equity, the equity will have grown to \$6,719,582. Given the willingness of investors to buy banks for two times the equity, the market value of your bank would now be a little over \$13.4 million. But it is not just the asset value that has risen. Your dividends are rising too. After a decade, the dividend in the upcoming year would be \$806,350, having grown by 3% per annum.

Under the scenario just described both your net worth and your income has grown steadily at 3% per annum.

Sell shares instead of taking income

The above scenario however is not the only way to derive the desired outcome. The company is forcing you to take a dividend when in fact the return you can achieve is far less than 15%. Logic suggests that if the business can continue to generate 15% on all and any incremental equity, it should indeed do so. But what do the owners do for income if the company is retaining all the profits to redeploy at 15%?

The answer is they can sell some shares. Now, before you write off the proposal as sacrilege, follow through this example of selling-your-shares-along-the-way.

Under the alternative strategy, you leave all earnings in the company and instead sell 6% of your shares in the company annually. Since the shares would be sold at 200% of the equity on the balance sheet, this approach would produce the same \$600,000 of cash initially, and growing each year. As you will see shortly however the growth rate is about 8% per year.

Under this strategy, the equity of the company obviously rises faster - to \$20.2 million after a decade (\$5 million compounded at 15% per annum for a decade).

To receive income you sell shares each year. The perceived downside of this strategy is that as you sell more shares each year, your percentage stake in the business declines. In a decade's time, your stake would be 53.86%. But perhaps surprisingly, the market value of your stake is actually worth more than under the first scenario. The equity, you might recall has been growing at 15% and trades at two times the equity. It now has a market value of \$21.8 million. This compares favourably to the \$13.4 million market value of a 100% stake in the equity of the company in the 'take the dividend now' scenario.

Perhaps even more surprisingly, the cash receipts from selling shares have been higher every year since the second year began. In the tenth year, the cash from selling a 6% stake is almost 78% higher than the first strategy at just under \$1.4 million. Obviously, you would not have to sell as large a stake if you didn't need the additional cash.

Many advisors and investors however would point to the fact that capital gains might be taxed at a higher rate than franked dividends but they forget two things. The first is that many baby boomer investors pay no tax at all. Even after franking credits are added back, the second scenario is a whole lot more attractive. And second, for those investors that do pay tax, the capital gains are only paid on the difference between the purchase and sale price (and subject to CGT discounts), whereas tax is paid on 100% of the grossed-up value of the dividends received.

There are many real world examples

Moving away from hypotheticals to the real world, many attractive businesses generate rates of return on equity that are much higher than 15% and the market is also willing to pay much more than two times book. REA Group currently trades for 14 times its equity value and Domino's Pizza at nine times equity. Clearly, there is no need to sell as many shares to make up the income you might like annually.

It is reasonable to conclude that you would be much better off financially if the very best businesses – those that can retain profits and reinvest them at very high rates of return - paid no dividends at all and allowed shareholders to make up their own minds about how much income they needed.

Baby boomers demanding income are therefore stripping from companies the ability to generate even higher returns for them and therefore ripping themselves off. Perhaps 'generation now' is a more apt label for baby boomers after all.

Roger Montgomery is the Founder and Chief Investment Officer at The Montgomery Fund, and author of the bestseller 'Value.able'

The growing trend towards thematic investing

Andy Gardner

Many of the world's most serious challenges relate to secular forces such as population growth and productivity, and they are expected to grow rapidly in coming years. One approach to filtering investment opportunities may not be to choose a particular geography or sector but to identify stocks that are highly exposed to such secular investment themes. There is clear evidence to suggest investment themes transcend borders and sectors in the same way that they drive corporate strategy.

This realisation is supporting the growing trend towards thematic investing: an approach that identifies companies that are exposed to themes which offer solutions to the challenges of a rapidly-transforming world.

Thematic investing is perhaps best suited to investors with a longer-term investment horizon as well as those who are seeking exposure to an international portfolio of stocks. Thematic investing enables investors to take advantage of two opportunities:

- identifying secular growth themes that will compound at rates in excess of the average over the long-term
- identifying attractively-valued quality companies that use these growth themes and generate additional value on top by producing high returns above their cost of capital, and continuing to reinvest those returns for many years

We believe the following themes provide some of the best opportunities for investors over the long-term.

Education

Education is one of the most pressing socio-economic challenges today. It is a major component of well-being and a key measure of economic development and quality of life.

Education spending is already very large, accounting for around 5% of global GDP. Expenditure is expected to continue to grow by at least 7-8% per annum until 2017. Factors driving this growth include higher enrolment targets, demographic opportunities (for example the booming population of 5-17 year olds in emerging markets), more women in education, the rise of the middle class in emerging markets and increasing global mobility.

Already, education is Australia's third largest export after iron ore and coal but it is growing at a more consistent rate.

Energy revolution

Economic, environmental and political drivers are now combining to support rapid uptake in alternative energy. Renewable energy will constitute the vast majority of new capacity added during the coming decades as the likes of solar and wind are now cost competitive on an unsubsidised basis in many locations around world. Even Shell and BP project that renewables will dominate the global energy mix by the middle to end of the century.

Despite this, renewable companies account for less than 0.1% of global market capitalisation. As it will take some time for renewable technologies to achieve the necessary scale and infrastructure to challenge fossil fuel, the short to medium-term focus will be on solutions increasing the efficiency of existing uses (cars, batteries, lighting and buildings).

Ageing demographic

We are living through a period of rapid population ageing. Globally, the number of 'older persons' (aged 60 and above) is soon expected to exceed the number of children (aged under 5) for the first time ever.

Despite fears that obesity and global warming would reverse the trend, life expectancy in rich countries has grown steadily by about 2.5 years a decade or 15 minutes every hour. Falling birth rates mean some countries are heading towards a potentially catastrophic decline in population.

The spending habits of this cohort increases demand for a wide range of products and services, such as healthcare (drugs, hearing aids, orthopaedics, eye care, beauty products), aged care, and specialist travel. The US longevity sector alone is currently estimated at US\$7 trillion.

Obesity, health and wellness

The obesity epidemic may be the most pressing health challenge facing the world because of both its direct impacts and ripple effects on chronic diseases such as diabetes. More people across the world now die from overweight and obesity-related illness than from starvation. The annual cost of obesity-related illness in the US alone is estimated at US\$190 billion or nearly 21% of the country's annual medical spending.

Food and beverage companies are going to have to increasingly focus on the quality of their portfolios given the rising spectre of fat and sugar taxes. Mexico, which has the world's highest obesity rate at 33%, has become the standard bearer for sugar taxes, taxing sugary drinks at 10% per litre.

More broadly, the rapidly rising demand for and cost of providing healthcare is spawning innovation in areas such as DNA to use an individual's genetic makeup to better tailor medical treatment. Immunotherapy is likely to become the treatment backbone in the majority of cancers during the next 10 years.

Technological change

Technological development is accelerating at a rapid pace as academic research and commercial enterprise become increasingly intertwined. Themes such as mobile connectivity, cloud computing, 'smart

city' development and big data are just a few strands in a multiplying web of developments that have wide-ranging commercial benefits.

Technology is also revolutionising traditional production processes. 3D printing has the potential to rewrite the rules of localised manufacturing. Automation is driving a substitution from labour to machines given rising wages in emerging markets and the need for productivity gains and safety improvements.

Technological connectivity is enabling more companies to locate operations overseas. There is a growing focus on long-term solutions to the ever-growing and changing array of safety and security threats against people, governments, infrastructure and society, with terrorism, cyber security attacks and critical infrastructure breakdowns recognised among the top global risks today.

Urbanisation

Urbanisation has been a defining trend in economic development for millennia but the past two decades have witnessed urbanisation at an unprecedented scale and speed. In 2008, for the first time in history, the human race became predominantly urban. By 2025, there will be 37 cities with more than 10 million people in them and only seven of them will be in the developed world.

Increased urbanisation in emerging markets raises living standards and causes a shift in the consumption habits of the population, but it requires significant investment in core infrastructure. At the same time, much of the urban infrastructure in the developed world is many decades old and in need of upgrade. In both cases, innovation is required to handle environmental and social issues, like water and waste.

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