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Editorial

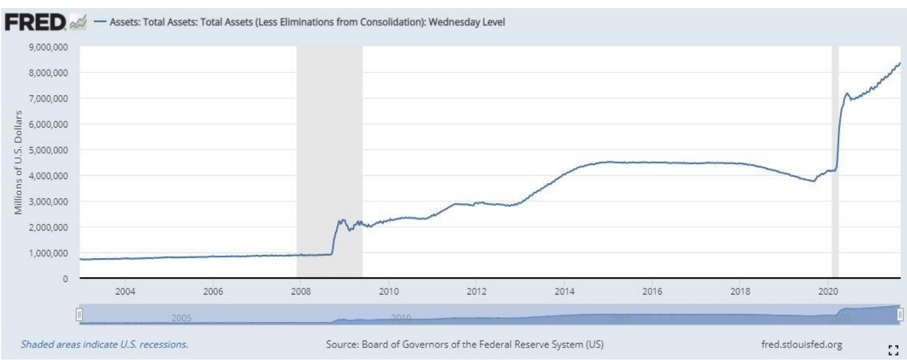
The most powerful person in the financial world is not the US President **Joe Biden**, portfolio managers such as **Warren Buffett**, bankers like **Jamie Dimon**, investors like **George Soros** or politicians such as German Chancellor **Angela Merkel**. It's not the heads of the biggest asset managers at **BlackRock, Vanguard and Fidelity**. No, the person who captures the attention of professionals whenever he speaks is the **US Federal Reserve Chair, Jerome Powell**. He sets the tone for all asset prices and influences the wealth of billions.

As so it was last Saturday, AEST. Each year, the **Federal Reserve Bank of Kansas City** hosts a conference of the most influential bankers and policymakers, and the main speaker is usually the US Fed Chair. Asset managers with trillions under their control listen for the slightest hint of a policy change.

It's more important than ever. Powell and his central bank colleagues, backed by their governments, have rescued economies from a COVID-inspired collapse, and in so doing, boosted asset prices to all-time highs and made the wealthiest people in the world far wealthier. There is irony that the bastions of capitalism and free enterprise are so dependent on a central banker to hold the system together with unlimited monetary accommodation, desperately hoping he will not utter a suggestion about rising interest rates or anything more than a steady withdrawal of asset purchase programmes.

If you have never read a Fed Chair speech, check it here. It's worth five minutes as it sums up everything about central banks supporting financial assets. While nobody can foresee a black swan event, there is much in there to give confidence that the Fed will rescue the market if necessary. But as **IFM Investors CEO, David Neal**, told the **AIST Conference** this week:

"The permanent put option in the market is building in future risk ... I'm a proponent of Stein's law - if something cannot go on forever, it will stop."



As Powell keeps coming to the rescue, the Fed is buying US$120 billion of bonds every month, not only US Treasuries but mortgage-backed securities. Look at the Fed balance sheet rising to US$7 trillion and the continuing growth over 2021. Next time you read about the billionaire fund managers and their amazing achievements, check if there is any acknowledgement that it is the public balance sheet keeping them there.

Last weekend, Powell did not disappoint. Not only was it 'steady as she goes', but there were so many qualifications on the widely-expected easing of bond purchases that interest rate rises seem years away. Stockmarkets rallied strongly after his speech. He said:

"If the economy evolved broadly as anticipated, it could be appropriate to start reducing the pace of asset purchases this year ... The timing and pace of the coming reduction in asset purchases will not be intended to carry a direct signal regarding the timing of interest rate liftoff, for which we have articulated a different and substantially more stringent test."

That tough test is the Fed's target of "*maximum employment*" which is indeed challenging and there is "*much ground to cover*".

At least Powell realises his actions have increased inequality while saving the world. He added:

"The economic downturn has not fallen equally on all Americans, and those least able to shoulder the burden have been hardest hit. In particular, despite progress, joblessness continues to fall disproportionately on lower-wage workers in the service sector and on African Americans and Hispanics.

Powell is patiently aiming for a point where he can signal a gentle reduction in the bond-buying programme, selling it to a nervous market as no longer necessary. As he hopes and expects, inflationary fears will subside and he can ease buying further as the US grows employment, then when things look so good, he might even find a moment for a tiny increase in interest rates. But that sounds a long ay off.

This policy of holding down interest rates is sometimes called financial repression (and certainly savers feel repressed), and we explore it further in an interview with **Christian Baylis of Fortlake Asset Management**, including how he manages his funds in this environment. He also makes the case for the benefits of smaller portfolios. Christian is also a guest on this week's podcast so listen in.

A focus on asset allocations ...

As far back as 1598 when *The Merchant of Venice* was written, Antonio said:

"My ventures are not in one bottom trusted, nor to one place; nor is my whole estate, upon the fortune of this present year."

Shakespeare knew about diversification.

And so at this time of year, when we find out more about the asset allocation decisions of our major institutions such as the **Future Fund**, we look at Jerome Powell's own investments. Unlike Australia's leaders, he has plenty of exposure to equities, not that we are suggesting this influences his policy positions in any way.

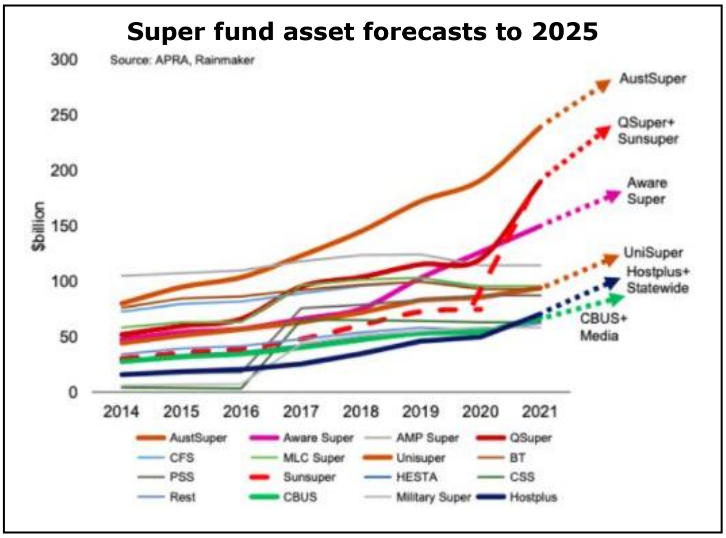
To celebrate his 94th birthday, we revisit our fascinating interviews with **Harry Markowitz,** the 1990 Nobel Laureate and Pensions & Investments Magazine's 'Man of the Century'. He explains a magic 'aha' moment on risks and returns and how he arrived at his Modern Portfolio Theory and Efficient Frontier.

One amusing vignette from the conference where I interviewed Markowitz shows how competitive and bright the then 85-year-old Markowitz is. The 2011 Nobel Prize winner, **Chris Sims**, had just finished a highly technical presentation on how fiscal policy affects inflation. As he paused for questions, Harry was first in. "*Now we know how you got your Nobel Prize, let me show you how I got mine."* And he gave his critique of the presentation as if lecturing at a university.

It is a massive week for large superannuation funds and trustees with APRA releasing its performance list under the Your Future, Your Super legislation. **David Carruthers** checks the calculations and warns of the unwelcome and unintended consequences.

A few industry funds made the underperformers list, and despite their explanations of specific mitigating circumstances, they are now in APRA's sights. These funds will no longer be able to use the 'cupped hands' branding and 'compare the pair' advertising of Industry Super Australia. The latest Rainmaker forecast says that if current trends continue, only 10 super funds will administer 80% of APRA-regulated funds under management by 2025. Here are their expected winners.

Still on asset allocation, what about gold? There are plenty of portfolios hedging their bets some exposure to precious metals. While gold prices have generally lagged the impressive bond and equity returns in the last decade, what about the next 10 years? **Jordan Eliseo** expects [more even investment conditions](#).



Contrary to the expectations driving the current rush to buy houses and predictions of further rises over 2021 and 2022, **Tim Toohey** argues the [risk of lower house prices](#) over the next two years is high. As our biggest asset class, there are widespread implications for banks and the economy.

In our latest **Wealth of Experience** [podcast](#), **Peter Warnes** finds the winners and losers from the August reporting season, and we discuss the main point critics of franking credits are missing miss and how the NSW stamp duty reforms pick winners. Plus we each have a bit of a grump.

Interesting to read what the rest of the world thinks about Australia's efforts during COVID-19. This is **The Economist** on 28 Aug 2021:

"Early in the pandemic, Australia appeared a shining success story. By closing its borders, tracing contacts and rigidly enforcing quarantine restrictions, its "covid zero" strategy seemed to be working. (Geography helped, too: it is easier to keep a virus at bay on a remote island than in a country with long land borders.) The Delta variant has ended that strategy. As one doctor in Melbourne noted, even if contact tracers find an infected person within 30 hours, that person's contacts would already have passed the virus down several chains of transmission. The country is now putting its hopes in vaccines, and will allow cases to rise as long as hospitals can cope."

A fair summary as we fall behind many countries with a locked up economy and a gradual acceptance that we will need to live with the virus, rising case loads and deaths.

Finally, the [franking credit article last week](#) drew some fantastic comments in a high-quality debate with almost 100 comments. I really believe some of the explanations in the comments are the best and clearest anywhere, so it's worth another look. The **Comment of the Week** comes from Kevin is typical:

"I earn $100K in franked income outside of super, as I planned. They take $30K tax off that. I net $70K. I do my tax at the end of the year. The tax on $100K is $25K.They give me a $5K rebate, great. Exactly as if I was working. Fully self funded, I also draw $36K out of super, tax free, great. On a gross income of $136K, they take the pension off me ($36K), they also take $25K franking credits.

In the world of hypotheticals, look over there, what about etc, this $61K that they take off me doesn't exist. The $61K they take off me isn't called 'tax' so it isn't real. I really do laugh at people as they say I rort the system, I cheat. I am very happy I contribute that $61K to society (plus Medicare levy) I can afford to do it. They complain 100% of the time. If they spent 1% of that time working out how this very simple system works, they would be much better off."

This week's [White Paper](#) from **UBS** continues the asset allocation theme where they look at equities and bonds in different conditions (especially adjusting for inflation) and forecast returns from a typical 60/40 portfolio. Don't expect the riches of last year to be repeated.

Investing like Jerome Powell or the Future Fund

Graham Hand

When I interviewed the father of Modern Portfolio Theory, Nobel Laureate Harry Markowitz, in 2013, [he told me](#), "*Nobody seems to be very good at picking the market.*"

Elsewhere, Warren Buffett also said (referring to his colleague, Charlie Munger):

"Charlie and I spend no time thinking or talking about what the stock market is going to do, because we don't know. We are not operating on the basis of any kind of macro forecast about stocks. There's always a list of reasons why the country will have problems tomorrow."

And Ray Dalio, Founder of Bridgewater Associates, advised:

"You should have a strategic asset allocation mix that assumes that you don't know what the future is going to hold."

If it's good enough for Harry, Warren and Ray, it's good enough for me ...

And yet most of us try some version of tactical asset allocation, especially in a year when major stockmarkets delivered 20% plus returns and cash paid zero. For portfolio returns, asset allocation was never more important, and gains like this will be difficult to repeat in the low-return markets of the future.

APRA turning up the heat on our super funds

There is now an extra factor in play on asset allocation at large super funds, with APRA releasing the first results under the Your Future, Your Super Performance Test regime. It has started with 76 MySuper funds and 13 products failed to meet their benchmark. It's a fearsome 'name and shame' exercise that is causing agony among suffering funds and their trustees. The so-called 'failing products' include funds from Asgard, Christian Super, Colonial First State, Commonwealth Bank, Energy Industries, Maritime Super and BT Super.

APRA does not downplay the severity of the consequences:

"Trustees of the 13 products that failed the test now face an important choice: they can urgently make the improvements needed to ensure they pass next year's test or start planning to transfer their members to a fund that can deliver better outcomes for them ... Trustees of failed products are required to write to members by 27 September 2021 advising them of their Performance Test outcome and providing the details of the ATO's YourSuper comparison tool."

Many trustees claim the process is unfair, because it benchmarks their funds against the wrong asset mix. It is especially cruel when equity markets have performed strongly and a fund is compared with a more growth-oriented benchmark. For example, Maritime Super CEO Peter Robertson argues it was benchmarked against a risker exposure:

"The benchmark we are being measured against was 66% growth assets. At times we had as low as 21% growth assets, so we are being measured against a benchmark which is going to be hard to achieve."

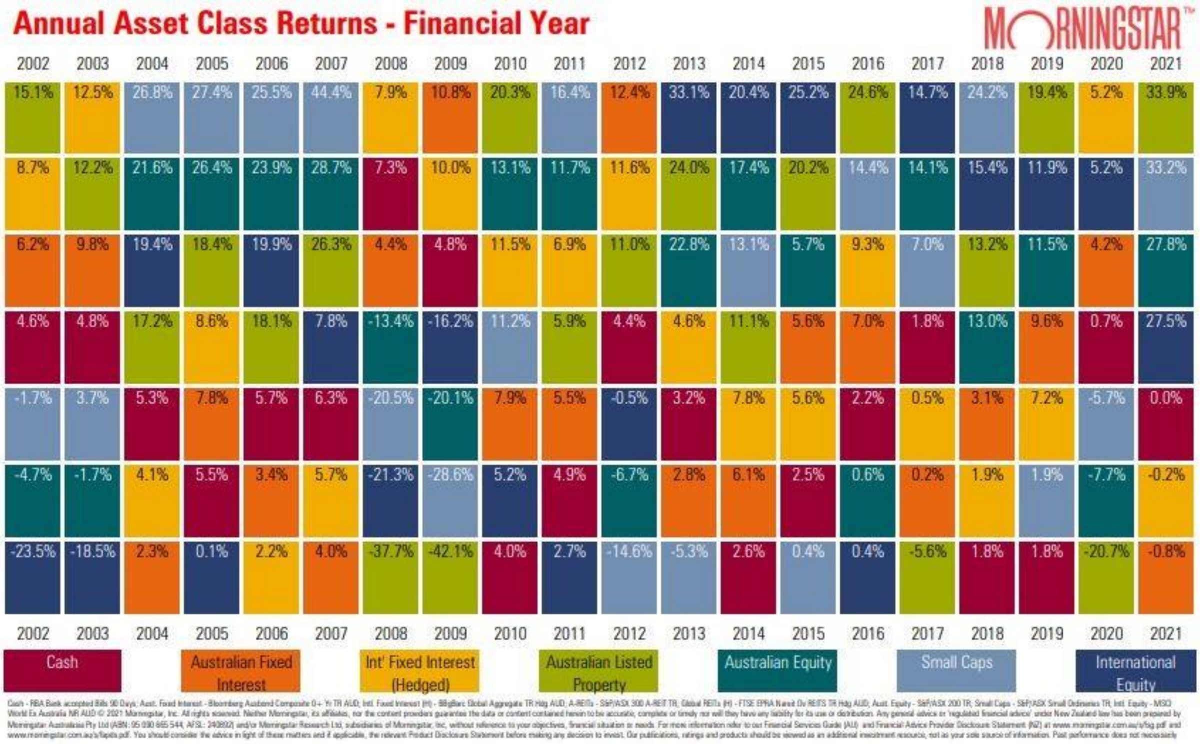
Maritime Super says it employed a dynamic asset allocation process to reduce its exposure to equity markets, which was appropriate at the height of COVID, but it missed some of the 2020/21 bounce. Like it or not, the future viability of 'failed funds' depends on performance relative to the benchmark chosen by APRA, even if the action of the fund's trustees and the asset allocation was appropriately determined and right for their own members. We cover this debate in more detail here.

How important is asset allocation for returns?

It's obvious that deciding between cash, bonds, equities and the rich range of asset types has considerable impact on returns, although the often-stated claim that 90% of investment returns can be attributed to asset allocation is disputed. This number comes from famous research called *The Determinants of Portfolio Performance* by Brinson, Hood and Beebower in 1986 and updated in 1991. In this context, selecting stocks is barely worth the effort.

But even if 90% is correct, it is not overly helpful, because as Harry, Warren and Ray said, it is difficult to make the best asset allocations in advance. Returns from each asset class fluctuate so much every year that nobody can time the portfolio changes accurately. We all wish we had invested 100% in equities a year ago but the only investment decisions that matters now must be made today and in the future. One look at the Morningstar Gameboard below shows the winners and losers change every year.

The Brinson study also looked at only equities versus cash and bonds and there are far more choices available now offering greater opportunities and mixtures of factors that determine returns.



With continuous switching of asset allocations a fraught process bound to fail, and it's better to understand long-term goals and risk tolerances and look decades ahead rather than selecting short-term swings.

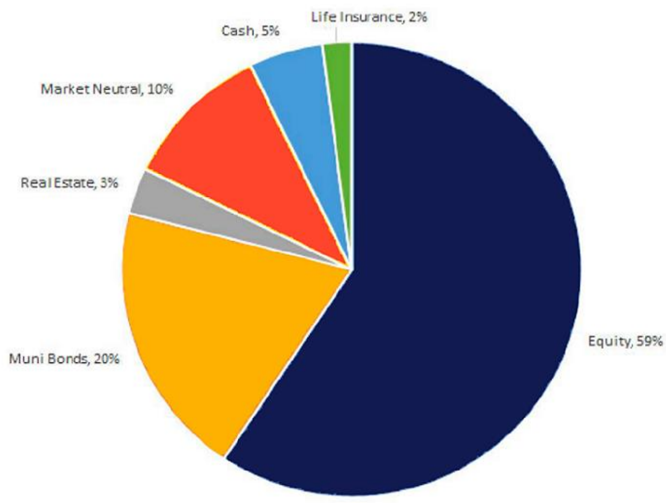
Asset allocations of major players

Let's consider how some major asset allocations are set up, starting with the most powerful person in the financial world, the head of the US central bank, Jerome Powell.

Powell is obviously investing for his own personal circumstances, but as someone who controls the destiny of markets in every announcement he makes, perhaps there is some comfort for growth investors in his high allocation to equities. It's not fair to think his US policy decisions are influences by the composition of his own portfolio, and he also manages to keep fixed interest and market neutral supporters happy with a decent allocation to market neutral assets and bonds.

For a point of comparison, Powell is 68 years old, his annual salary as Chair of the Fed is US$203,500 and his net worth is estimated at US$55 million. The assets below are based on his 278e filings to the US Office of Government Ethics disclosing the source of all income and assets in broad ranges.

Jerome Powell's Estimated Asset Allocation, 2019



Source: Calderwood Capital Research

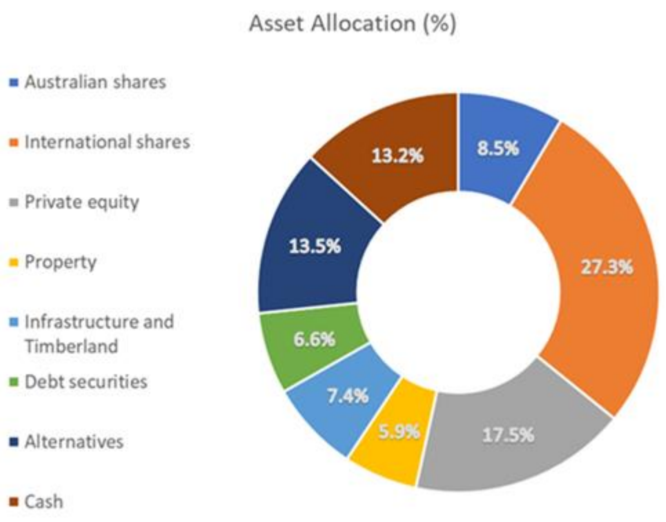
What about the biggest asset allocators in Australia, the Future Fund and the sum of our large superannuation funds? Although they are all long-term investors, there are significant differences.

We have explained the way the Future Fund works previously such as here and here, so we will not repeat these points, other than to note that its allocations to private equity at 17.5%, infrastructure and timberland at 7.4% and alternatives at 13.5% are much higher than by typical superannuation investors. It also splits its international shares between global and emerging market.

The extent of this variation is best illustrated by comparing the Future Fund with large super institutions, who place far more in Australian equities and debt securities.

Asset Class	Future Fund %	Large Super Fund %
Australian shares	8.5	22.9
International shares	27.3	27.0
Private equity	17.5	4.3
Property	5.9	7.8
Infrastructure and Timberland	7.4	5.8
Debt securities	6.6	19.5
Alternatives	13.5	2.6
Cash	13.2	10.1
	100.0	**100.0**

Data as at 30 June 2021 for Future Fund, and 31 March 2021 for large funds.



As a long-term investor, private equity may help maximise returns by capturing an illiquidity premium and giving exposure to themes not available in liquid markets. Investments in infrastructure and timberland provide inflation protection and portfolio diversification. The Future Fund has historically employed a 'barbell' strategy, meaning there is a considerable allocation to cash but also a sizeable exposure to riskier strategies. Holding cash allows the Fund to be opportunistic and buy cheaper assets in times of market corrections.

Can a retail investor replicate the Future Fund?

In the year to 30 June 2021, the Future Fund delivered a return of 22.2%, similar to the best-performing super funds but above the average fund with larger exposure to listed equities. Its 'private' assets are judged to be less volatile in price so the risk-adjusted returns are impressive (although simply because an airport is listed does not mean it is a more volatile asset than an unlisted airport, even if its value changes more often).

The biggest difficulty for retail investors replicating the portfolio like the Future Fund is the access to the world of private equity, debt and infrastructure, as the Fund's latest update reports:

"Listed equity markets performed strongly while our significant exposure to private equity has delivered excellent returns. During the year we committed to additional opportunities in Australian infrastructure, notably through a further investment into Powering Australian Renewables (PowAR), and a new partnership with Telstra InfraCo Towers."

Until recent years, it was difficult for retail investors to access 'alternative' and private assets such as private equity, infrastructure, corporate bonds, securitisations and long/short funds. However, while not rivalling the Future Fund in range and access, the available assets have expanded including dozens of funds listed on the ASX and Chi-X, accessible in the same way as any listed share.

Another factor for a retail investor with a large SMSF that does not concern the Future Fund is the need to ensure enough liquidity to pay personal pensions.

As articles have appeared in the media this week saying it is not possible for a retail investor to replicate the Future Fund, here are some examples of what is possible, predominantly in the listed space to illustrate ease of access (these are not recommendations although the author own investments in many of these funds).

- Pengana Private Equity (ASX:PE1)
- WAM Alternative Assets (ASX: WMA)
- Partners Group (unlisted private equity)
- Argo Global Listed Infrastructure (ASX:ALI)
- Magellan Core Infrastructure Fund (CHX:MCSI)
- Thorney Opportunities (ASX:TOP)
- Bailador Technology (ASX:BTI)
- Gryphon Capital Income Trust (ASX:GCI)
- Metrics Income Opportunities (ASX:MOT)
- Metrics Master Income Fund (ASX:MXT)
- Qualitas Real Estate Income Fund (ASX:QRI)
- NB Global Corporate Income Trust (ASX:NBI)
- Perpetual Credit Income Trust (ASX:PCI)
- Coolabah Active Composite Bond (CHX:FIXD)
- Janus Henderson Tactical Income (CHX:TACT)
- Absolute Equities Performance Fund (ASX:AEG)

And of course a vast range of thematic or sector specific ETFs and unlisted funds accessible via platforms or directly with managers.

This does not replicate the number of direct opportunities available to the $200 billion Future Fund or the large super funds, but moving beyond equities and bonds into non-traditional asset classes is easy for anyone.

What about expected returns?

The wonderful returns achieved in recent decades from a traditional 60/40 or 70/30 growth-defensive fund will not be replicated in coming decades. Those portfolios benefited from a 30-year interest rate rally and rerating of equity P/Es. For an analysis of the expected future returns from these balanced portfolios, see the White Paper from UBS in this week's newsletter, linked here.

To quote the conclusion from UBS from that paper:

"The run-up of equities in the last few months continues to pull some future returns into the present. Our expected returns for equities - especially US equities - are the lowest in years. Pockets of equities outside the US offer more compelling expected returns.

When it comes to asset returns and inflation, we see that the market is little prepared for a sustained breakout of price pressures. A disruptive repricing of inflation risks will affect all markets - in the short-run there is no place to hide from negative real returns.

We expect alternatives to suffer the least as commodities, gold and real estate gain relative to other asset classes. Again, the nature of inflation will be important. Inflation tied to a more robust growth backdrop should benefit real estate, while a Stagflation would probably be very positive for gold. Commodities would probably be one of the drivers in inflation and clearly should do better in an inflationary growth environment.

In short, we believe that the market opportunities to truly profit from inflation are few."

Graham Hand is Managing Editor of Firstlinks. This article is general information and does not consider the circumstances of any investor.

Christian Baylis on financial repression in fixed income

Graham Hand

Dr. Christian Baylis is Chief Investment Officer at fixed income manager, Fortlake Asset Management, which was established in 2020. For 10 years before founding Fortlake, Christian was Executive Director and Portfolio Manager at UBS.

Financial repression includes policies which deliver negative real rates of return to savers to allow commercial banks and central banks to provide cheap loans to reduce servicing costs for companies and governments. It is called 'repression' because savers are not compensated adequately and there is greater government influence in the economy.

GH: How do you expect to generate returns in fixed interest?

CB: We're taking a different approach to the asset class. Fixed income can be simplified into risk and return, so we've structured our funds into one strategy and three different risk profiles, with commensurate return objectives. So in our short history, the lowest vol (*volatility*) fund has returned 7% with volatility of 1.7%. Keep that in the context of equity markets with about 15% volatility. In our medium vol fund, the return has been 10.5% with 2.4% volatility, and then the higher vol fund, it's been 15% return with 3.3% volatility.

GH: Those returns have benefitted from some tailwinds, where have the returns come from?

CB: The main point about where we generate our returns is through the financial repression thematic. Real interest rates can go deeply negative, they're not limited by the zero lower bound like nominal interest rates. Over the 1940s and 1950s, we had deeply negative real rates, such as negative 10% and negative 7% (*Ed note: these are nominal interest rates adjusted for high inflation to give real rates*). And this time around, central banks have tried to stoke inflation and keep interest rates low.

This opens up a big sea of opportunity between the nominal interest rate environment and the real yield environment, and moves into returns along the yield curve, duration, and also corporate structures. We can also play the capital side of this real interest rate thematic. We focus on the integration of these risk silos, so we have a broader opportunity set.

GH: In your previous role at UBS, you managed multi-billion-dollar portfolios. What are your current funds under management and how does it contrast with managing such a large portfolio?

CB: We've tipped over $500 million in the first seven or eight months. The comparison (*on fund size*) is that it's a lot easier. Your movement around the market can be done in an orderly way without gaining too much attention, whereas at the larger managers, the size of their strategic movements has huge impacts on the market. When a large flow goes through the market, it's very easy and well telegraphed by the brokers who tell other buy-side managers and other brokers what's happening. That affects pricing and the bigger institutions can actually have higher transaction costs, not lower transaction costs because the impact on the market is much larger.

The simple economics are that when we sell our bonds, brokers know there isn't another $200 million order behind it. They know that when we sell, we're probably done, and we don't need to sell to a range of brokers. They know our risk is reasonably limited compared to say someone with $50 or $60 billion under management. A broker doesn't want to be lumped with risk knowing that another broker is about to be lumped with it as well. That really starts to impact the market so that huge size can be a detriment to returns, particularly in a low-yield environment where transaction costs are so important.

Whenever I hear of managers talking about all the trading they're doing, I squirm a bit. It's bad for the end investor because they are chewing up returns with frictional costs. And that's really hard to get back, transaction costs are fixed and certain whereas the return side of the ledger is highly uncertain. To trade away a certain negative for an uncertain positive, one needs to be reasonably assured of the pricing of that risk. because we all operate in a world of uncertainty and there's always an element of risk in what we do.

GH: I noticed in your Real Income Fund's last report, you had 260 issues in the portfolio. So is there another side to being a smaller player? Are you able to command institutional prices when you're dealing in relatively small parcels?

CB: It's really about having minimal impact on the market. You're trying to be light on your feet and not being overexposed to one single part or point at the market or one particular issue. With large single-name investments, you're exposed to idiosyncratic risk. For example, who would have thought the Brisbane and Sydney Airports and stable names such as universities, would be under financial pressure? But we've had a pandemic, a one-in-100-year event. So spreading yourself across a range of different names is the better way to approach fixed income. There are much greater asymmetries in our asset class.

It's different with equities. You live and die by the upside. Fixed income lives and dies by the downside. An upside surprise for us might add a handful of basis points to performance but when you have a downside surprise, that can rip a hole in your return profile. If you have a 1% allocation to an issue that defaults and you lose 100% of that name in a low-yield environment, that can lead to 80 to 90% of the excess performance gone. You need to know what you're doing in each single exposure.

GH: And another fund, the Sigma Fund, has 68% of its exposure to Australian issues. Is the local market deep enough to find the best opportunities?

CB: You need a strong rationale to go offshore and buy bonds in a foreign currency. In crisis periods, currency hedges have large, outsized effects on portfolios when there are huge amounts of currency volatility. So our belief is that the core of the portfolio should be set up in very high quality AUD or domestic names, and that only special opportunities in offshore markets should be added into the portfolio.

GH: But is the range of issuers and types of bonds and liquidity good enough in the Australian market?

CB: Let's say about 40% of the domestic market is financial institutions and ADIs which are all repo eligible so the liquidity is good, and it's dominated by the major banks anyway. So we think the better way of structuring portfolios is to have a very clean liquid core. And then for our higher returning portfolio we can reach out for the higher-octane type of maturity or issuer. So you'll find that 70% of the fund is very stable but the other 30% swings around with the degrees of risk and opportunities that are out there in the global market.

GH: You wrote recently about how economies will be less resilient to shocks in future due to the massive spending we've seen in the last 18 months. It's notable that the market hasn't really delivered any adverse consequences yet, we still see the US 10-year bond around 1.3%, near the Australian level. The signs of inflation are not translating significantly into bond markets and we have equity markets at all-time high. Why are markets relatively complacent and do you see the threats and the weaknesses in the future?

CB: Again, this goes to the heart of the financial repression thematic, the magic that we're experiencing worldwide. Low nominal interest rates help to reduce debt servicing costs, obviously. A high incidence of negative real interest rates effectively liquidates or restructures existing debt. And so the simple arithmetic is that if you have $100 of debt, you've got 5% of inflation, effectively, you've been given a free restructuring of 5% of the debt, that's been wiped out just by inflation.

So that's what we call liquidation of debt or financial repression, that's inflation solving our debt problems if we keep real interest rates very low for a long period of time. And so, financial repression is the most successful format, in terms of liquidating debts, and that's really what Japan's been doing or at least trying to do. That's where we're all going. We can run these high debt loads on the basis that inflation is going to pick up at some future point and solve our problems via an inflation led restructure.

So throughout history when you look at it, the debt to GDP ratios have been reduced by **one**, economic growth, **two**, a substantive fiscal adjustment or some type of austerity, **three**, explicit defaults restructuring private and public sector debt. And **four**, a sudden burst of inflation and **five**, a steady dosage of financial repression. The high-yield market has basically had no defaults since January 2021, so this repression is really working in bringing zombie companies back to life. Spreads have come a long way as well. Those markets, typically priced for 20% probability of default, are experiencing one-tenth of that.

And central banks are buying risk assets, buying high-yield bonds, buying state government debt, all this sort of stuff and it's creating this displacement effect where people like us sell those bonds to the government or the RBA or the Federal Reserve, and then we move down the risk curve and buy things like hybrids and Tier 1 debt, so everyone's just constantly ratcheting down into these high-risk parts of the market.

I think it's a time for being very conservative in the way we approach risk assets because we don't know what this will look like once central banks step away from these types of assets.

GH: And do you think that this is building in some vulnerability in the future?

CB: Without a doubt because we're too used to the medication that's been given to us. And the risk for us is that, once the stabilising beams are taken away, we have lost our market coordination, so to speak. There's been no psychological scarring and it's very easy to forget this ever happened. Who would have thought that with the biggest fall in GDP it would also be the briefest and condensed into such a short time frame? Moreover it is now accompanied by record highs in the equity market. This is the scale of the official sector involvement in our assets and that masks over what's been ultimately a horrific real experience in the economy. So there's a huge disconnect and it's all artificial and inorganic and we really need to see how this plays out.

GH: Yes, and one result is governments have been spending money to make wealthy people wealthier, so there's an inequity about all this as well.

CB: Yes, the savings rate that has gone up to 20%+ in the US and similar here and it is correlated and equivalent to the amount of debt that's been taken on by the public sector. It's been a huge fiscal transfer from government balance sheet across to the private sector and directly into those savings accounts. The consumer is bound up and ready to spend. They've got huge capacity on the saving side to come out and do what they need to do, and this goes to the unintended consequences on the inflation side when that gets unleashed. They are heavily incentivized to spend quickly as inflation exposed savings accounts are losing around 2-3% per annum. The real side of the economy doesn't have the capacity to respond to it due to the latency in scaling up supply chains, you may actually get disorderly inflation outcomes or at the very least the probability of this is far higher coming out of a one-in-100 year event. You need to be prepared and you need to be hedged for it.

GH: Finally, tell me about the access point to your funds. You don't have any listed funds yet, any plans in that direction.

CB: Yes, we do have plans to offer all our funds through an ETF format with Chi-X. We have the scale for a listed fund now and that's where the market is going.

Graham Hand is Managing Editor of Firstlinks. Dr. Christian Baylis is Chief Investment Officer at [Fortlake Asset Management](), a boutique fixed income manager affiliated with Income Asset Management (ASX:INY), formerly Cashwerkz (ASX:CWZ), a sponsor of Firstlinks.

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Is this really the best way to remove the super underperformers?

David Carruthers

Past performance is not a reliable indicator of future performance. Unless it relates to superannuation funds it seems. The release of the Your Future, Your Super (YFYS) performance test results shines a bright light on underperformance.

MySuper funds, which account for $900 billion in assets, around a third of all superannuation savings, are the default options for employees who don't select their own fund. Greater transparency and increased member engagement will benefit both members and the industry. The long-term returns these funds achieve will determine how comfortable members will be in retirement.

Funds which are persistently underperforming, particularly those that charge high fees, have no place in a compulsory industry. Frontier supports increased scrutiny for the benefit of improving all member outcomes.

However, predicting future performance from past performance is difficult, even for professionals. ASIC reviewed over 100 academic papers from the last 40 years and concluded:

"Good past performance seems to be, at best, a weak and unreliable predictor of future good performance over the medium to long term."

In addition, ASIC concluded performance comparisons can be quite misleading if not done properly. Importantly, returns are only meaningful if adjusted for risk/volatility or comparing "like with like".

Member outcomes

Maximising net returns (after fees and taxes) over the long term is the most important way in which the superannuation system contributes to adequate and sustainable retirement incomes.

Understanding the risks associated with investment is important for assessing the relative investment performance of funds and products, both retrospectively and into the future.

However, the YFYS annual performance test neither measures the return members achieve, nor adequately measures the risks a fund took in achieving the returns. The performance test compares each fund's returns over the last seven years with its strategic asset allocation.

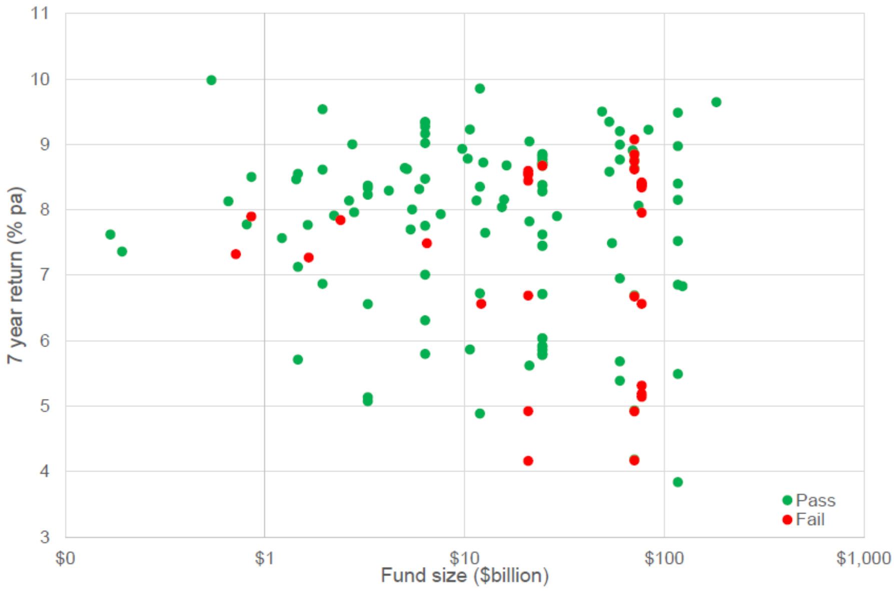
The performance test only assesses a small part of member outcomes:

- The test assesses how well a fund has implemented its chosen strategy, not whether it is a good strategy.
- It ignores actual returns and the CPI+ objectives of funds that reflect long term member outcomes.
- It does not incorporate most risk adjusted improvements from more diversified exposures.
- It is not a peer relative assessment of underperformance (unlike the YourSuper comparison website and some heatmap measures).

The test also assumes a common approach to establishing portfolios - namely a traditional approach of setting a strategic asset allocation and implementation around a goal to outperform the strategy. In practice portfolios are built in a variety of ways. In the current challenging market environment, a total portfolio approach that considers these two elements together may well provide better outcomes to members over the long term. Unfortunately, such an approach could see a fund fail the YFYS performance test and so may now be less likely to be adopted by funds.

A fund with an investment strategy which will deliver poor long-term member outcomes, but is well implemented, will be judged better than a fund with a good long-term investment strategy but its implementation has been poor in the short term.

The chart (right) compares the actual performance for each fund with its performance test result. The chart also shows the asset size of each fund.



Funds with a lifecycle approach have more than one fail or pass point plotted and are counted at the total asset level.

The chart highlights it is not just poor performing funds which have failed the test. In part, this reflects lifecycle funds, where the overall fund can fail the test despite some of the underlying options producing good returns.

Observing that some funds which have returned highly for their members have failed the test, while other lower returning funds have passed the test is intuitively hard to reconcile and could lead to consumer confusion and disengagement – the opposite of the desired outcome.

In addition, while a number of small funds failed the test, size isn't a key indicator of the test result. Large funds also failed, showing increased scale isn't the panacea to good member outcomes.

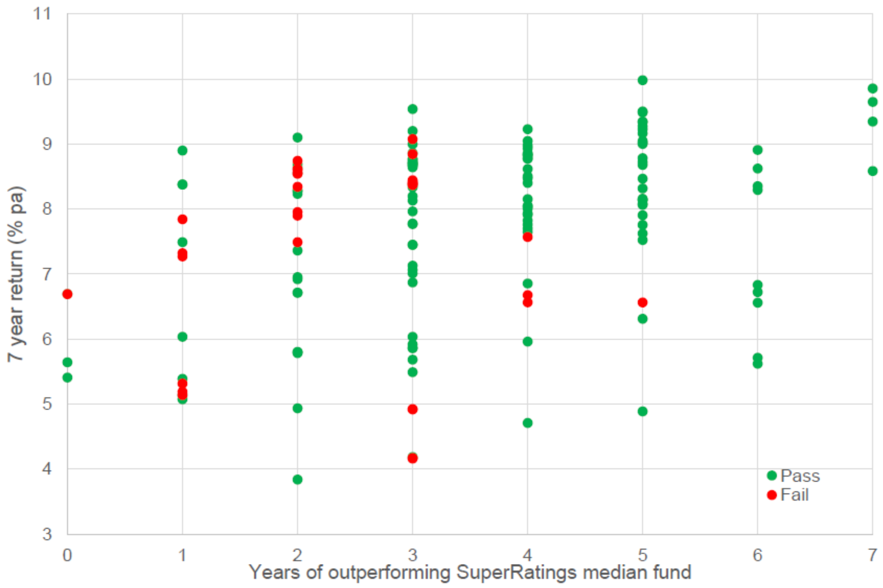
Indeed, the distribution of 'failed funds' appears to be quite random when viewed by return and size – two factors many would assume to be indicators of success.

Persistent performers

The Government and the regulator continue to reference addressing 'persistent underperformance'. This reflects that superannuation is a long-term investment and that even good funds will suffer from periods of underperformance.

The performance test measures funds returns over seven years (eight next year), reflecting the period since the introduction of MySuper. However, the test doesn't differentiate between funds which have had one or two years of poor recent performance from those funds which have persistently underperformed in each, or even most, of those years.

The next chart examines the number of years each fund has outperformed the relevant Super Ratings median fund in each of the last seven years.



Funds with a lifecycle approach have more than one fail or pass point plotted and are counted at the total asset level.

Funds which have outperformed the median fund in only one or two years in the past seven, and so underperformed in the rest, could be considered 'persistent' underperformers. However, the majority of these funds have not failed the performance test. Indeed, there are some funds which have never outperformed the median in any single year but have still passed the performance test.

The test does not allow much leeway for funds who have made improvements to their approach and performance in recent years and therefore are on a good trajectory to become a higher performing fund in the near future. Such a transition would generally take longer than the one year allowed post the initial test failure notification.

Adjusting for risk

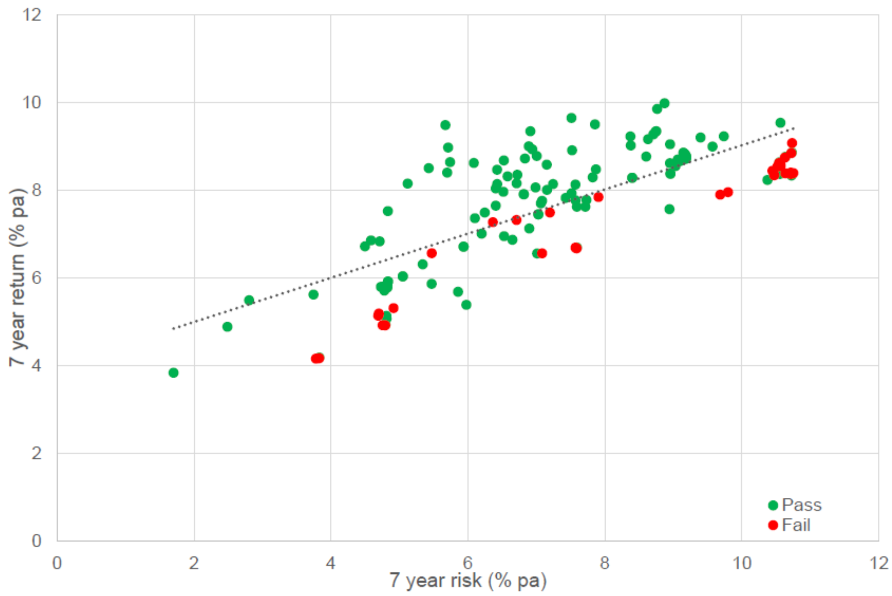
When comparing funds on performance, it is important to make sure you are comparing 'like with like'. Super funds offer a range of different super products. These products have different levels of risk and thus different levels of expected reward.

A high-growth product would be expected to return more over the long run but might experience higher highs and lower lows in the short term than a balanced product. In turn, a balanced product would be expected to return more in the long term, but with increased volatility in the short term than a conservative or cash-based product.

The chart (right) plots the performance of each MySuper fund over the last seven years against the level of risk (measured by the volatility of return). As expected, funds which have a higher return have typically also had higher risk.

Several funds that have failed the test are very close to the trend line of the overall population. This highlights the binary nature of a pass or fail and means there are several funds passing 'close to the line', while others have missed out by very thin margins.

Additionally, a number of funds with higher risk strategies have failed the seven-year test. Many of these represent very long term 'lifecycle fund' stages developed purposefully for their youngest members.



Funds with a lifecycle approach have more than one fail or pass point plotted and are counted at the total asset level.

Engaged members

Great member engagement is beneficial to the superannuation system if it leads to better decision making. However, attempts at better engagement which only lead to member confusion or poor decision making should be avoided.

Funds who 'fail the test' will be required to send their members a letter informing them of this result and setting out, in standard terms, a range of information for members to consider. What should a member do if they receive a 'fail' notification from their fund?

1. Visit the YourSuper comparison tool and compare your fund's performance and fees with other funds. Be more concerned if your fund has poor performance compared to other similar funds.
2. Use the 'compare' functionality of the comparison tool to investigate the performance of your fund over three and five years as well.
3. Do your homework on your fund's performance – check out the fund's website, read the annual report and attend the annual member meeting.
4. Understand the other services offered by your fund, especially the insurance coverage. Switching funds can have a significant impact on your insurance benefits.
5. If you are thinking of switching to another fund with better performance, make sure you understand its risk level. If it's a higher risk fund, are you comfortable with the possibility of more volatile returns?

David Carruthers is a Principal Consultant and Head of Member Solutions at [Frontier Advisors](). A full copy of this report can be [accessed here](). This article is general information and does not consider the circumstances of any investor. Investors should seek individual advice prior to taking any action on any issues raised in this article.

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The looming excess of housing and why prices will fall

Tim Toohey

In an apparent suspension of collective logic, it appears few people have asked what happens when you provide massive incentives to bring forward an unprecedented spike in house construction while simultaneously choking off future demand by halting net migration.

Away from the fog of COVID, unless the starting position was a massive undersupply of housing, then this combination of policy settings would soon generate a large excess of housing. In this note we summarise how large this excess in housing is likely to be and the investment conclusions.

What happens when a Government programme is too successful in inducing supply?

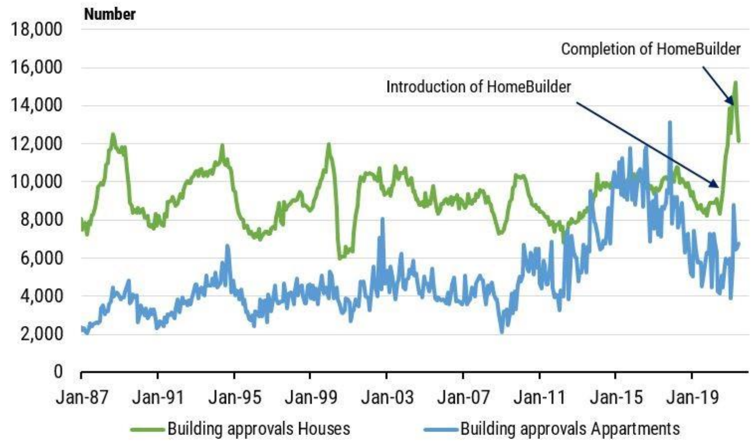
The Homebuilder programme, in concert with generous incentives from state governments and mortgage rate reductions, has proven successful in bringing forward construction. But have they been too successful?

Recall that upon the introduction of the Homebuilder scheme, the Treasury estimated that COVID-19 would see cancellations of housing projects of ~30%, compared with ~17% during the GFC. This reduced the Treasury's pre-COVID housing starts estimate of 171,000 to just 111,000. The HomeBuilder scheme was explicitly designed to offset half of the expected decline in starts, with the aim of backfilling 30,000 starts in 2020-21. That is, the Treasury was hoping to achieve ~140,000 housing starts once HomeBuilder was fully implemented.

Instead, approvals for houses have exploded to the upside.

By the March quarter of 2021 dwelling approvals were annualising at 278,000 (refer Chart 1), and even though approvals have declined from that peak, by the end of the 2020-21 financial year some 200,400 dwelling were approved. Single home approvals were even more spectacular, with a record 136,600 approved during the year, to be 31% above the prior financial year. Of course, this also excludes the surge in approvals for renovations over the same period.

Chart 1: Australian Building Approvals (monthly)



Source: YarraCM.

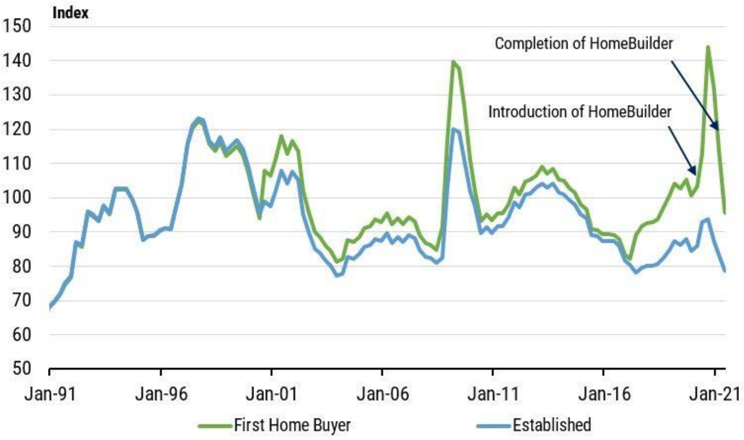
In the end, 99,300 Homebuilder applications were received by the Government to build a new home and a further 22,100 applications were received for a 'substantial renovation'. Which means the HomeBuilder program exceeded Treasury's objectives for new dwelling construction by 330%.

The clear lesson being never stand between an Australian household and an uncapped government program! Taxpayers have effectively handed out almost $3bn in 'free money' to people to build or renovate their home.

Such Federal government largess was obviously well received. However, what is less well understood is that state governments were also busily providing their own incentives, especially via stamp duty exemptions for first home buyers.

To put the incentives in context, we have created separate housing affordability indices for established and first home buyers. This captures all the incentives and taxes by state

Chart 2: Australian Housing Affordability



Source: YarraCM.

and Federally in addition to all the standard factors that influence affordability – house prices, mortgage rates, loan to deposit ratio and household income.

Chart 2 shows the enormous boost to housing affordability for first home buyers that was provided principally by shifting government incentives. The subsequent decline in affordability is mostly due to the lapsing of the Homebuilder incentive, although 15%yoy growth in house prices by mid-2021 has also weighed heavily on affordability.

These seismic shifts, however, do not create new demand for housing. Rather they merely bring forward housing construction that would otherwise have been demanded at a later stage. The bigger the pull forward, the bigger the decline once affordability declines back to its pre-incentive levels.

What happens when a pandemic eradicates future demand?

Housing can only be demanded by those who have placed themselves in a situation to form a household. The demographic structure of the population and future housing demand incorporates factors as diverse as; the relationship type and number of dependents of each household, the type of structural dwelling, the vacancy rate of established dwellings, demolitions, and trends towards second or lifestyle homes.

The census data is an important input for the historical analysis, however, the forward projections rely heavily upon the accuracy of the ABS's population projections. Although the ABS provides three main scenarios for future population growth, their projections have been rendered useless by the de facto ban on net migration from travel restrictions.

We have recast the population projections by looking at the age characteristics of migrants and assumed that net migration doesn't return to pre-COVID type levels until 2023.

By modelling the future supply of new housing as a function of the change in affordability and comparing that demographic demand for housing adjusted for the unprecedented reduction in net migration, we can solve for the likely future oversupply of Australian houses.

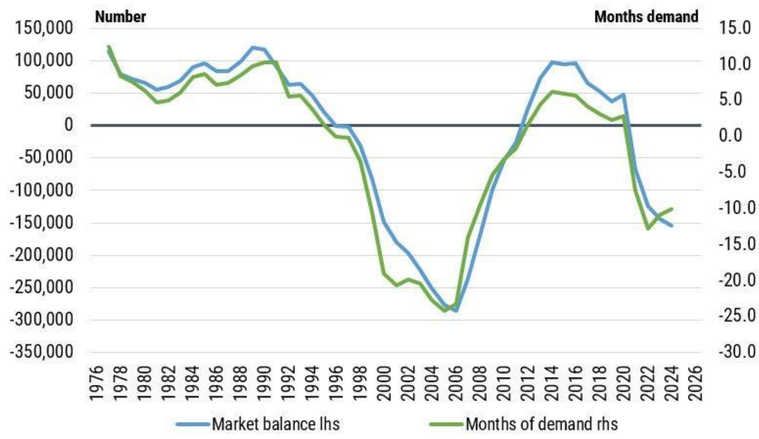
We define 'market balance' for housing as the most recent year that demographic demand and completions were equal in number. As such the accumulation of the difference between demographic demand for housing and completions of housing from the year of market balance determines the excess or undersupply of housing through time.

We estimate that by the end of 2023 Australia will have 150,000 dwellings in excess of demographic demand (refer Chart 3). This would be the largest excess of housing since 2008, and this rather sombre forecast embeds as a base case of a 30% decline in dwelling approvals by the end of 2022.

What happens to the excess of established homes if the immigration recovery is delayed or if building approvals remain elevated?

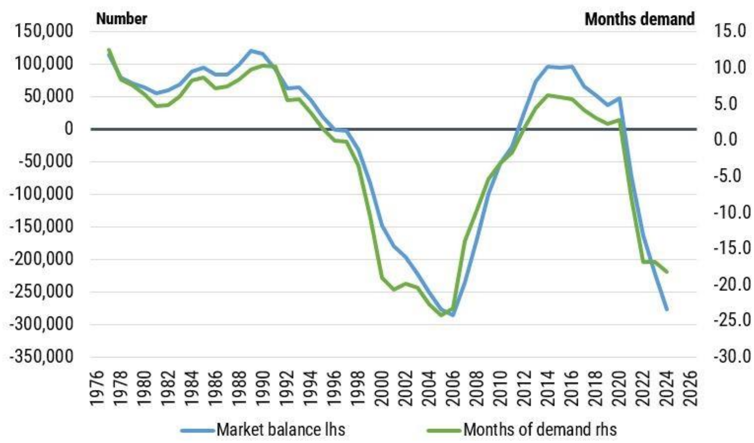
What if housing approvals don't fall as sharply as our base case? Demand for housing is ultimately determined by demographic demand, but participants in the housing market typically operate with a more limited information set. And what happens if

Chart 3: Australian Housing – Market Balance



Source: YarraCM.

Chart 4: Resilient Approvals – Market Balance



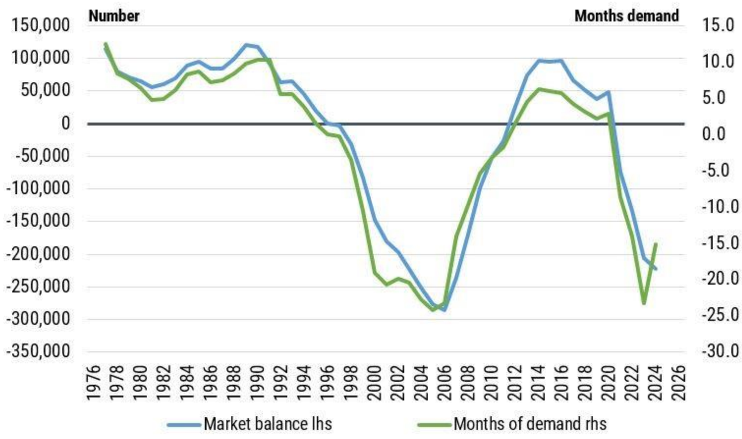
Source: YarraCM.

Australians become so enamoured with recent house price gains that Australia continues to build at an excess rate?

If we assume only a 10% decline in approvals is recorded by the end of 2022, then the excess of housing will equal the peak excess of 2006 (refer Chart 4) which on our calculations was greatest excess of housing since our calculations commenced in 1976.

Alternatively, what happens if net migration doesn't bounce back to 200,000 by 2023? How would that affect the base case? If we assume net migration of +20,000 in 2021 and +75,000 in 2022 (instead of +200,000 under our base case) the oversupply of housing will increase from 150,000 to some 200,000 by the end of 2023 (refer Chart 5).

Chart 5: Delayed Recovery in Net Migration – Market Balance



Source: YarraCM.

What are the investment conclusions?

Just under 70% of all households either own their own home outright or are in the process of paying off a mortgage. Housing remains the largest financial asset that most households own and we estimate that by mid-2021 the value of the housing stock is $11.6 trillion. For context, that's 4.8 times the market capitalisation of the ASX200 and 5.8 times the size of the Australian economy.

Moving into a large oversupply of housing does not necessarily mean that house prices are at risk of significant decline. The prime example is that the peak excess of housing in 2006 did not unleash a sharp fall in prices. Price growth did slow significantly during the 2003-06 period, but two important things happened that avoided the housing excess translate into falling prices.

Firstly, the combination of stronger household formation rates of the local population and a mining-related boom in immigration transformed the demographic demand for housing. In the 10 years to 1996, we estimate the demand for housing averaged 140,000 per year. In the 10 years to 2006, housing demand had slipped to just 118,000 per year. However, in the period since 2007 Australia's annual housing demand has averaged 199,000, with a large step change occurring in 2006 due to more Australians moving into key household formation age brackets and the surge in net migration associated with the mining boom. This step change was crucial in gradually absorbing the excess of housing that had previously accumulated.

Secondly, the GFC and the subsequent slow economic recovery saw the RBA cash rate decline from 7.25% in August 2008 to 0.75% pre-COVID and just 0.10% post-COVID. Capitalising low interest rates into house prices has become something of a national sport ever since.

The problem facing Australia today is two-fold: (i) interest rates are today at the lower bound, and (ii) housing demand is now hostage to the evolution of the pandemic and how fast we choose to ramp up immigration in the post-vaccination phase.

In our view, repeating the good fortune of the post-2006 period seems highly unlikely. Contrary to the current fervour of house buying, the risk of lower house prices over the next two years is high. As in most financial markets confidence is always highest at the peak in prices.

The first investment conclusion is that banks should be thinking in terms of building provisions against the risk of weaker prices, rather than continuing to release provisions as seen over the past 12 months. The failure to do so would risk P/E multiples de-rating once the oversupply of housing become clear to financial markets.

The second investment conclusion is that there is really only one way to avoid a large oversupply of housing, and that is to stop building so many of them. Our base case has a significantly larger decline embedded than the consensus view and is well below that of the RBA which is currently forecasting of dwelling investment declining just 0.5% in 2022, before rising again.

The only way Australia avoids a significant excess of housing by 2023 is if approvals fall <u>far more</u> than anyone expects. With full knowledge that building material company earnings will remain robust as the backlog of homes and renovations to be built remains large, it is the trajectory of housing approvals that has historically governed the share prices of these companies.

It has been a great ride up for the building material companies, but we are past the peak, and the outlook today looks increasingly gloomy.

Tim Toohey is Head of Macro and Strategy at [Yarra Capital Management](). To the extent that this article discusses general market activity, industry or sector trends, or other broad based economic or political conditions, it should be construed as general advice only. References to 'consensus' throughout relate to Bloomberg consensus unless otherwise stated.

Harry Markowitz's 'aha moment' in asset allocation

Graham Hand

I interviewed Harry Markowitz in 2013 and 2014, and to celebrate his 94th birthday, we have edited three previous articles into one piece on asset allocation and portfolio selection.

Harry is the 1990 Nobel Laureate and Pensions & Investments Magazine's 'Man of the Century'. In these interviews, he explains his views on risks and returns and how he arrived at his Modern Portfolio Theory and Efficient Frontier.

His 1952 seminal paper *Portfolio Selection* pioneered our understanding of risk, return and correlation in investment portfolios. His Efficient Frontier and Modern Portfolio Theory ideas are still taught in universities and business schools.

Harry Markowitz was born on August 24, 1927 in Chicago. He studied economics at the University of Chicago under important economists, including Milton Friedman. While still a student, he was invited to become a member of the prestigious Cowles Commission for Research in Economics, leading to his 1952 breakthrough work.

Markowitz now divides his time between teaching (he is an adjunct professor at the Rady School of Management at the University of California at San Diego) and consulting (out of his Harry Markowitz Company offices). He is co-founder and Chief Architect of GuidedChoice, a managed accounts provider and investment adviser.

Harry Markowitz on investing until 100

This discussion with Harry Markowitz took place at the Research Affiliates Advisory Panel Conference, Laguna Beach, California, 30 May 2014.

Markowitz identifies the development of databases and ability to model expected outcomes as the major recent improvements in his portfolio construction work. Given a set of investments with forward-looking returns and defined risks, portfolio theory will show an efficient frontier for the investor. This principle has guided asset allocation and diversification for the 64 years since his original ideas. Says Markowitz, "I lit a small match to the kindling, then came the forest fire."

Long-term asset allocation

Markowitz tells me he has a wall in his office dominated by a cork board, and on it, a large graph shows returns over time from various asset classes. It shows $1 placed in small cap stocks in 1900 growing to $12,000, while the bond line has reached $150. I asked whether this shows that for anyone with a long-term investment horizon, their portfolio should be heavily dominated by equities, maybe even 100%.

He said he is asked this asset allocation question all the time. His advice is different to a waitress in a coffee shop versus a well-informed investor with good professional advice. He tells the waitress to go 50/50, a mix of growth from a broad stock fund and security from bank deposits, because she cannot tolerate the volatility of a 100% equity portfolio. But an educated investor with good advice should take their current portfolio mix, find the most efficient frontier, then simulate possible future outcomes focusing on income expectations. The investor can then better judge whether the portfolio is the right mix to achieve the end goals.

Markowitz believes active stock selection is for a few highly skilled people who usually find returns not from stock-picking on the market, but by participation in private placements. He cites Warren Buffett and David Swensen (of Yale University) as consistently delivering excess returns but mainly because of the private deals they are offered and their ability to value them. Otherwise, outperformance is not worth chasing.

His own portfolio is currently equally weighted municipal bonds and equities, the latter with an emphasis on small caps and emerging markets, but with a stable core of blue chips. This is because he feels so many stocks are overvalued at the moment, and his portfolio is also influenced by his age. "I want enough bonds that if I die, and the equity market goes to zero, my wife will have enough capital and income to live well." His current objective is to reach 100 without appearing on the right-hand column of *The Wall Street Journal*, with the heading "Harry Markowitz f*cked up".

He is a great believer in rebalancing, and this is one reason why a cash reserve is always required. As equity markets rise, shares should be sold to retain the same proportional asset allocation mix. This provides a natural protection from overvalued stocks. He recalled working with a major Fortune 500 client in November 2008, after the rapid stock market fall, allocating more to equities in a rebalancing exercise. This has subsequently paid off handsomely. But it was scary at the time, and as the market continued to fall, he thought if he keeps allocating more to equities at this rate, the whole place will be owned by him and Buffett. He likes the expression 'volatility capture' for this process, which is why there is a role for bonds as part of the reallocation mix.

I was still curious why a person with good savings at age of say 40, and strong income flows, would not invest 100% in equities, given their long-term outperformance versus cash or banks. He said,

"They may think their income is assured, but then may hit a rough patch and need to sell equities at the worst moment."

He highlighted that many people have jobs which are also heavily exposed to the strength of the economy, and that they should also "diversify their own job and other income sources". He suggests investors should not become too smart, using leverage and unusual investments, and not try to become rich overnight.

He is also keen on using simulation to determine possible future outcomes. In his financial advice business, GuidedChoice, and especially in their new work on GuidedSpending, they ask clients to define an upper band of future income requirements, which might be say $50,000. Clients then define a 'scrape through' amount, such as $30,000. Simulations are done based on variables such as living longer and market returns "to capture the essence of the spending problem". Clients can vary scenarios to see the outcomes. The most common consequence of the process is that people save more, often dramatically and commonly 50% or more.

What else would he do all day?

While the technology behind the scenes is complex in this modelling, it is presented in ways the client can easily understand. But he dislikes mechanical rules such as taking 4% from the portfolio each year. "Why should someone who is 90 only take 4% if they want to spend more?" he says.

I ask him how a fund with investors aged from 16 to 90 should allocate its assets. "It's like a family," he responds. "There is a trade off in a family structure between paying for the education of the children, versus the future retirement of the parents. All families make these 'social choices', and so must the fund. Their decisions may not be ideal for the 16 year old or the 90 year old but everyone makes these choices in life".

And one of Markowitz's choices is to keep working as hard as ever. "*I enjoy this, and what else would I do all day?*" He now dedicates every Friday to writing to ensure he meets his deadlines, spends every Thursday afternoon at GuidedChoice where he consults to their institutional clients, and he maintains a heavy teaching and advising schedule. If his health allows it, he'll still be doing it when he's 100, and that right hand column of *The Wall Street Journal* will be singing his praises.

Harry Markowitz on portfolio selection

I interviewed Harry at the 2013 Research Affiliates Advisory Panel meeting in San Diego.

GH: I'd like to start by going back to 1952 and your seminal paper, *Portfolio Selection*. Did the idea of mean variance and efficient frontier and risk reward come to you while you were having a shower, or was it more systematic that that?

HM: There was a moment of truth, a 'ah ha' moment. Let me give you some background. I was a PhD candidate at the University of Chicago and the reading list included Graham and Dodd, Weisenberg and John Burr Williams, *The Theory of Investment Value,* from 1939.

So I'm in the Business School Library, and Williams says the value of a stock should be the present value of its future dividends. I thought to myself, dividends are uncertain, so he must mean the expected value. So I thought if we're only interested in the expected value of a stock, we must be only interested in the expected value of a portfolio, but to maximise the expected value of the portfolio, you must put all your money into the one stock with the highest expected return.

But that can't be right, everyone knows you should not put all your eggs in one basket, Weisenberg had shown people are willing to pay for diversification. So people diversify to reduce risk and volatility, and standard deviation is a measure of risk.

GH: So you knew statistical theory, you had that background?

HM: Yes, I had the usual courses you'd expect from an economics major in the leading econometrics school. So I visualised the returns on the securities as random variables, so that means the return on the portfolio is the weighted sum of the returns on those random variables. I know what the expected value of a weighted sum is, but I don't know off hand what the variance of a weighted sum is. So I get a book off the library shelf, *Introduction to Mathematical Probability*. I look up the formula for the variance of a weighted sum and there it is, covariance. Not only does the volatility of the portfolio depend on volatility of the individual securities, but the extent to which they go up and down together.

GH: That was the magic moment.

HM: That was the moment. So now I have two quantities, risk and return, and I know economics so I draw a trade-off curve. I'd heard of efficient and inefficient allocation of resources, Pareto optimums and so on. So I now had efficient and inefficient portfolios. In that flash, in that moment, much of Markowitz 1952 came together.

GH. So although there was this moment, there was a massive body of knowledge already built up.

HM. Sir Isaac Newton said, "I saw so far because I stood on the shoulders of giants."

GH: Also in your career, you are credited with running one of the first hedge funds, doing arbitrage.

HM. No, a long way from the first. A bit of history. My first job out of college was with the Rand Corporation, where I developed a programming language called SIMSCRIPT, for simulation. The guy who wrote the manual was an entrepreneurial-type, he said, "Harry, let's form a company." We founded CACI in 1962, it still exists, it's a big company now. Then UCLA invited me to be a full professor, full tenure, and another entrepreneur decided to form a hedge fund called Arbitrage Management, based on Thorp and Kassouf's book, *Beat the Market*, doing all sorts of arbitrages. I was a consultant, then the portfolio manager. We made a decent return for clients but not really for us, we were generating a lot of brokerage, so we became a wholly owned subsidiary of a brokerage house before I left.

GH: Given it's now 60 years since *Portfolio Selection was published, d*o you feel any sense of disappointment about our profession, we haven't really had any major breakthrough theory of investing since the 1950's.

HM: A lot has happened. We have a lot of data now. In 1952, we hired a student to collect data on securities. But between the top down view, knowledge of data, and our experience, we are better now. When I was at Rand in 1950, I just did 50/50. That's all I knew then, it's not what I would do now and it's not what I would recommend to a 25-year-old. My profession and I have learned a lot.

GH: I don't like how so many investment discussions end up talking in generalisations.

HM: It's a good point. There's a big difference between my article of 1952 and book of 1959. In chapter 13, I talk about the division of labour between the computational part and the intuitive part. Computational part can show probability distributions of returns you can have at your disposal, we can tilt them so they're correlated with inflation or whatever. But which particular probability distribution you want to have at this time of your life, for this year – you know, your kids go to college, you're not feeling well, people might be dying in your family, etc - is beyond any model. We don't understand all that goes on. If we could understand it, we couldn't model it. If we could model it, we couldn't estimate it. This year is different from next year.

Harry Markowitz on financial advice

A continuation of the 2013 interview in San Diego.

GH: Can we talk about you do with GuidedChoice? I'm especially interested in how you advise people, how you manage asset allocation and issues such as longevity risk.

HM: What we do is Monte Carlo analysis to get a probability distribution of how well you will do if you invest in a certain way, and save a certain amount of money. You're familiar with Gary Brinson's writings on asset allocation?

GH: Where 90% of your returns come from asset allocation, not manager selection.

HM: Yes. The important thing about Gary Brinson's work, which has persuaded trillions of dollars of funds to do this top down analysis, is where you first decide to be on an efficient frontier at the asset price level. Then you figure out where you should invest, you might consider the managers to use or ETFs. The beauty of that is that people who have no ability to pick stocks can still get good advice.

We do this top down analysis, for all our clients, we do forward-looking estimates of variances and covariances. We don't reestimate values very often because we use long-dated series. A few years back we said we've got to reduce our forward-looking estimates on fixed income because we're obviously in a low rate environment, but we don't change equity estimates very often. We are doing principal component analysis of the factors, but it's not completely mechanical. When it's finished, we take all the asset classes with estimated expected return on one axis and estimated standard deviation on the other axis.

For everybody, we generate an efficient frontier at the asset class level, and we pick off 7 portfolios, number 7 being the riskiest, 1 being the most cautious. Then for specific plans, which have allowed investments, we have a separate optimisation which tries to figure out what are the real investible securities permitted by particular plans in order to match these asset classes. We take into account tracking error, expense ratio, historical alphas. For each participant, we receive a lot of data from their company, and we ask questions like, "When do you plan to retire?"

GH: So there's a type of online questionnaire that the individual fills in? I'm wondering how you work out the client's risk appetite.

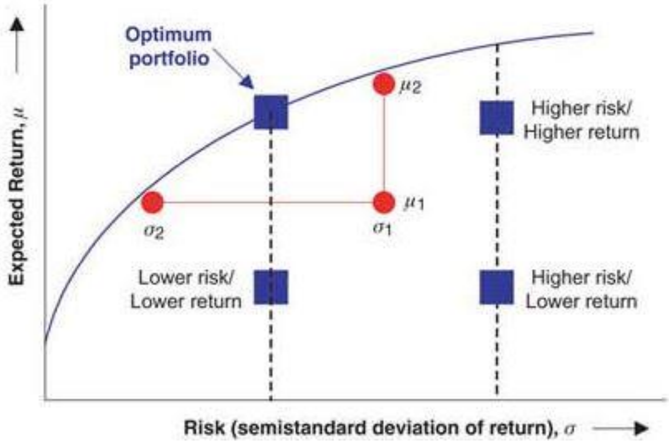
HM: Yes, it's interactive online, but we do not ask whether you sky dive. We look at what you already have in your portfolio, assess your current risk level, and we propose to you a portfolio. Then we show you the consequences of changing from your current one to a proposed portfolio. We show you three points on the probability distribution of how much you can spend in current dollars when you retire – in a weak market, an average market and a strong market. You can fiddle with it, you can go up the frontier, or you can save more.

GH: You have these seven asset class portfolios with different risks, how does someone decide?

HM: You're a client, you've told us when you want to retire, you've said at what rate you are willing to save, told us whether you have a spouse, we can see your existing portfolio. We show you a portfolio which has a similar risk level but maybe a bit more return, and we show you three points off the probability distribution showing the rate you can spend when you retire. You might not want Risk Class 4, so they try 5, and we go back and forth.

As an aside, you should read a paper I wrote called *The Early History of Portfolio Theory 1600-1960*. I chose 1960 because that was when Bill Sharpe knocked at my door and asked what he should do his dissertation on. And 1600 is when *The Merchant of Venice* was written and Antonio said, *"My ventures are not in one bottom trusted, nor to one place; nor is my whole estate, upon the fortune of this present year."* Shakespeare knew about diversification.

GH: So portfolio diversification had already happened by 1600. How far have we come since then?



Source: *GuidedChoice website*.

HM: Well, now we know how to measure covariance. We know diversification will eliminate risks if they're uncorrelated, but not if they're correlated.

Another thing I should say is that GuidedChoice now has another product, GuidedSpending, which has to do with how fast you can spend in retirement. We assume your spending rate will depend how well you do in the market, and we ask you for two consumption levels: upper level where you can put away any surplus for a rainy day, and a lower level where you have to see if you can hold out for a while. Depending on how you set your levels, plus all the other factors, we assign a probability distribution on the rate at which you can spend when you retire. For any time pattern of consumption, we assign a utility based on the average consumption you can achieve.

GH: But how do you plan for how long a person is going to live?

HM: Currently, we assume you will drop dead precisely 10 years after your actuarial time, but I have been promised some day we will have a stochastic model.

GH: So you use actuarial life tables. What do you think about the basic default savings plans, such as the 60/40 model or lifecycle funds with more allocated to the defensive asset over time?

HM: The problem with 60/40, it's a little chicken for people early on, it's not right for everybody. 90/10 might be best for a young person. The problem with lifecycle is I'm 85 and I have more in equities than I've ever had, but I have a wealth level that means I am many standard deviations away from not being able to eat.

GH: So you need to consider your income-earning ability and other factors, not just your age.

HM: You need to look at the probability distribution of what they can spend, what they can earn, how long they will be employed. Our models will always be grossly inadequate because there are more things on heaven and earth than we can ever capture in our models. We have to do the best we can but we get a lot closer than 60/40 for everybody.

GH: What do you think of the merits of Tactical Asset Allocation where someone takes a view on the market and changes the asset allocation?

HM: There's my official view and my unofficial view. My official view is that nobody seems to be very good at picking the market. But it does seem plausible that when price earnings ratios are historically high, we should lean towards less to equities. In my own funds in 2007, I sold my ETFs, I didn't get out of equities completely, and I went back in in December 2008 expecting a January effect. Which came in March. On some occasions, it has merit.

But if someone reads a weekly newsletter about whether you should be betting up or down this time, going in and out, you'll lose money on average over the long run. There's a wonderful behavioural finance guy, Terrance Odean, who studies the track records of individual investors, and he finds both active and passive investors gross roughly what the market makes, the active do worst due to brokerage.

Graham Hand is Managing Editor of Firstlinks.

Gold over the next decade as other assets lose their shine

Jordan Eliseo

Gold prices have been in a corrective pattern for the past 12 months, having fallen by approximately 12% in US dollar terms since hitting all-time highs in August last year.

This pullback was not unexpected given how fast gold had run up in recent times, with the precious metal rallying by almost 75% in the two years leading into its August 2020 peak. Bullish momentum had clearly run its course, while other factors contributing to the correction include:

- A strong rally in equities, with the S&P 500 now having doubled from its Q1 2020 lows.
- Confidence in vaccine rollout across most of the developed world.
- Stabilisation in real yields.
- The market's belief that the current spike in inflation will prove transitory.

History may come to judge the last year's gold price pullback as the culmination of a tough decade for precious metal bulls, seen in the table below highlighting the performance of gold and more traditional asset classes over the short, medium and long-term.

Asset class returns (% per annum) to end December 2020

Time period	Gold (USD)	Equities	Cash	US Treasuries
5 years	12.2	15.0	1.0	4.8
10 years	3.0	13.8	0.5	4.4
20 years	10.1	7.4	1.3	4.9
30 years	5.1	10.6	2.4	6.1
40 years	3.0	11.4	3.9	7.8
50 years	8.3	10.8	4.5	6.9

Source: The Perth Mint, World Gold Council, NYU Stern historical market returns

We explore the primary factors that drove gold's underperformance in the last 10 years and why the next decade may be profoundly different.

What has driven gold's relative underperformance in the past decade?

It is now almost exactly 10 years since gold peaked in its last cycle, with the US dollar gold price still below the levels seen for that short period in Q3 2011. This period of underperformance was driven by:

1. Extreme outperformance leading into 2011

In the 10 years to August 2011, the gold price in US dollar terms rose by more than 550%, while the S&P 500 price index was essentially flat. Outside of the huge gold market rally seen at the end of the 1970s, the precious metal had never had a longer, or stronger run relative to equities.

2. Excess froth

By the start of the last decade, the macro case for gold was obvious. Volatile markets, an uncertain economic outlook, a blow out in budget deficits and fears over higher inflation as the US Federal Reserve crossed the Rubicon into money printing, meant that gold had returned to the mainstream.

There are multiple indicators from that period that highlight this, including a Gallup poll from August 2011 that found 34% of Americans thought gold was the best long-term investment.

3. Low inflation

CPI increases averaged barely 2% per annum in the 10 years to the end of 2020, the lowest figure for any decade going back 70 years. Whether the low inflation seen in the last 10 years 'should' have happened given the monetary environment we have been in is beside the point. It did, and it was a key factor holding gold back.

4. Commodity bear market

As we highlighted in an early 2021 research report for institutional investors, the past decade has been particularly unkind for commodity markets as a whole. This can be seen in the chart below, which tracks movements in the Bloomberg Commodity Index since the early 1990s. It fell by 60% in the nine years to April 2020.

Source: Bloomberg

While gold has historically delivered a range of portfolio benefits that a broader basket of commodities can't replicate, a profound bear market in commodities still represents a headwind for the precious metal.

The decade ahead

While gold has been in a corrective pattern for the last year, a solid case can be made that the coming decade will be more favourable to the precious metal.

Factors supporting this conclusion include:

1. Sentiment toward gold has shifted

In a complete reversal of the situation gold found itself in as it was heading towards USD 1,900 per troy ounce in 2011, the precious metal is now largely unloved by investors, who are far more convinced that stocks and real estate are the safer long-term bet. This can be seen in the table below, which is drawn from Gallup poll data from 2011 to 2021.

Table: Which asset do Americans think is the best long-term investment (%)?

Year	Gold	S&P 500	Real Estate	Differential (Gold v Stocks)	Differential (Gold v Real Estate)
2011	34	17	19	17	15
2012	28	20	20	8	8
2013	22	22	25	0	-3
2014	24	24	30	0	-6
2015	19	25	31	-6	-12
2016	17	22	35	-5	-18
2017	19	26	34	-7	-15
2018	17	26	34	-9	-17
2019	15	27	35	-12	-20
2020	16	21	35	-5	-19
2021	18	26	41	-8	-23

Source: Gallup polls

On a relative basis, gold is as unloved as it has ever been compared to real estate, while it is still far less popular than equities are today.

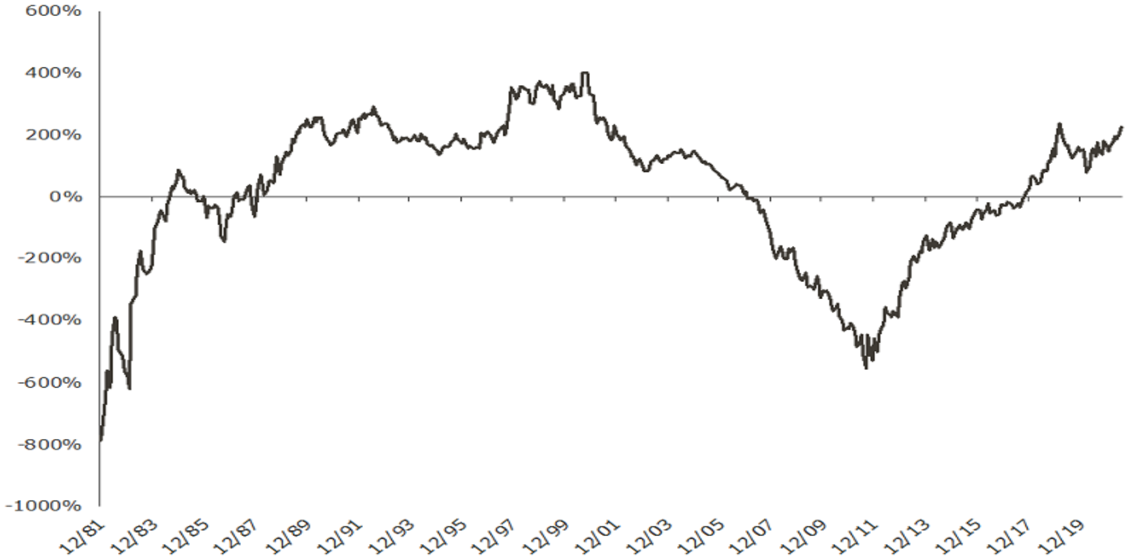
Data like this doesn't prove anything per se, but these are the kind of signals one would expect to see when a market is close to bottoming. By way of reference, gold today is essentially as popular as equities were back in 2011. The S&P 500 has rallied by more than 230% since then.

2. Extreme equity market outperformance

The relative performance of equities versus gold is the complete opposite today as compared to late 2011, when gold hit its last peak. Back then, gold had outperformed the S&P 500 by more than 500% on a 10-year basis.

By the end of July 2021, gold was underperforming the S&P 500 by more than 225%, with the rolling 10-year performance differential between the two seen in the chart below.

Chart: Rolling 10-year performance – S&P 500 (price index) minus US dollar gold



Source: The Perth Mint, World Gold Council

Good things happen to cheap assets, as the saying goes. Relative to equities, gold is about as cheap as it's ever been on a rolling 10-year basis.

3. Traditional asset returns are likely to be constrained

The coming decade is unlikely to be anywhere near as rewarding for investors with portfolios concentrated in equities and fixed income assets.

This is something that institutional asset managers have openly acknowledged. The table below, which highlights a range of US financial market and economic indicators, illustrates how different the situation is today relative to Q3 2011.

Note that some data is taken from the date closest to Q3 in either 2011 or 2021 - for example, federal debt to GDP ratios are from end 2011 and the forecast for end 2021 from the Office of Management and Budget.

Table: US financial market and economic indicators

Indicator	Q3 2011	Q3 2021
S&P 500	1,292.3	4,395.3
S&P 500 CAPE	22.6	38.0
S&P 500 price to sales ratio	1.1	3.2
US 10 year yield	2.82	1.24
US 10 year real yield	0.38	(1.16)
US Debt to GDP (%)	95.8	137.2
Federal Reserve Balance Sheet - USD $Tn	2.9	8.2
Federal Reserve Balance Sheet - % of GDP	18%	36%

Source: US Office of Management and Budget, US Federal Reserve, Yardeni Research, Robert Shiller Online Data, Standard and Poor's, United States Treasury.

Investors are now paying almost double the amount of money to purchase a dollar of company earnings and almost triple the amount of money to purchase a dollar of company sales relative to a decade ago. Meanwhile, zero credit risk US Treasury bonds are now guaranteed wealth destroyers if held to maturity.

At a macro level, debt to GDP ratios are now far higher, as indeed they are all over the developed world, while the Federal Reserve balance sheet, both in dollar terms and as a share of the economy, has doubled relative to a decade ago.

Given these factors, gold is positioned to outperform or at least match the return delivered by equities in the decade to come, despite the fact sentiment toward the precious metal remains lukewarm at best today.

Jordan Eliseo is Manager of Listed Products and Investment Research at The Perth Mint, a sponsor of Firstlinks. The information in this article is general information only and should not be taken as constituting professional advice from The Perth Mint. You should consider seeking independent financial advice to check how the information in this article relates to your unique circumstances.

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Graham Hand, Peter Warnes

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