Vanguard®

Asset allocation report

June quarter 2020

Contents

Investing in a recession

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As the Australian sharemarket and super funds inch towards neutral to positive territory after a rugged quarter, investors should think about whether strategies that got them through the past three decades still hold true particularly as the new financial year begins.

It's official: if we're not in a recession today, we will be by the time the next GDP figures roll in. For some, this almost inevitable recession will be the first in their lifetime, given the 29 consecutive years of growth in Australia.

As the technical definition of a recession is two consecutive quarters of negative economic growth, the 0.3 per cent decline in the three months to March did not quite get us there.

But with full impact of the COVID-19 lockdown being felt in the June quarter, it seems inevitable that this technical definition will be met.

Regardless, it feels like the recession is already here.

Recessions are characterised by a reduction in business activity and workers facing reduced hours or the loss of their jobs.

This causes households to rein in spending to cope with the reduced income which leads to further falls in business sales. Lower revenue means employers cut back further. Businesses cut back investing for the future.

It becomes a difficult cycle to get out of and is usually ended by governments lifting spending or reducing taxes and central banks reducing interest rates or injecting money into the economy to revive growth. Of course this type of activity is already underway in anticipation of slowing conditions.

Given that we are also on the brink of a new financial year it is a sensible time for investor to think about what they should do during a recession. At this time of year retirees, who are living off their super savings, will probably review their investment strategy and asset allocation as part of the year-end tax return work. So a clear understanding of how recessions have affected savings in the past is a useful exercise right now.

Globally, records from the International Monetary Fund show there have been 122 recessions in 21 advanced economies between 1960 and the global financial crisis. Recessions are usually short, lasting about a year, and in total countries were in recession for about one in ten quarters.

Typically during the recession, the total output of an economy—the gross domestic product—declines about 2 per cent, with household consumption falling a little less than GDP and industrial production and investment falling much more.

Unemployment almost always jumps, and inflation falls.

However, the reduction in business activity during a recession does not necessarily mean poor returns for investors.

A 2011 Vanguard study into the effect of recession on investors found that returns for balanced portfolios were not drastically different in recessionary periods than in expansionary periods.

The study considered a theoretical 50-50 equity and bond portfolio of US assets since 1926.

The key insight was not the one that most people expect—that holding bonds protects an equity investor during recession.

Rather the result was the opposite: equities actually do better during a recession than the conventional wisdom would have us believe.

That record holds true here. Australia has not suffered a recession since 1990-91, but during the four quarters that the country was in recession, the ASX All Ordinaries Index rose nearly 13 per cent.

This counter-intuitive outcome is because equities markets tend to price in the future rather effectively.

When a recession is looming, equities underperform as investors switch to the perceived safety of bond investments. Indeed, across calendar year 1990, the All Ords fell 23 per cent as the recession threatened.

But during the recession itself, share prices start to rise.

The Vanguard study says this should not be surprising. In fact, the equity risk premium during the depths of a recession should rise to compensate investors for the higher risk of uncertain economic conditions.

The problem for investors is that by the time a recession is called and they are considering changing their portfolios to a more defensive stance, it is usually too late.

Investors that sell shares at the early stages of a recession to go to cash tend to miss out on the recovery.

Timing is made even more difficult by the fact that some of the market's best days are found in years with negative returns.

Even if this was not the case, historically investors are famously bad at timing their re-entry to the market and inflation slowly eats away at the purchasing power of cash, so staying out of the market actually guarantees losses.

So what's the right move?

One of the most powerful levers available to ride out a recession has nothing to do with asset allocation.

People who are able to reduce their spending slightly in bad market years have dramatically higher chances of riding out a recession and having enough money to last their entire retirement.

The reductions in spending do not have to be big and a little belt tightening is a pretty natural reaction to a recession. Reducing spending by as little as 2.5 per cent during a poor market year is enough to ensure that a typical retiree using the safe withdrawal limit retirement spending rule will not run out of cash. It is even OK to then lift spending by up to 5 per cent in a subsequent good year.

For people saving for retirement, a market downturn is often a good thing as it allows them to pick up more assets for the same dollar amount of savings.

But recessions can also mean job losses. And a lost job means concessional contributions to super can become difficult as compulsory contributions stop and expenditure like repaying the mortgage and caring for family takes priority.

The message here is that these missed contributions can be made up later when things return to normal.

Recent changes to superannuation laws make this possible. From the 2020-2021 financial year, so long as your super balance is below $500,000 you can carry forward the unused $25,000 concessional contribution cap. Unused caps are available for five years.

Another move within the control of the regular investor is to do a fee check and make sure you are not paying too much for your investments. Low fees are a useful predictor of future higher investment returns—the lower the management fee on a fund, the better it performs—so using the market downturn to switch to lower fee managers is an effective strategy.

So as the recession bites, successful investors need to hold their nerve, stay invested, avoid succumbing to the temptation of market timing and focus on the things within their control. There are no guarantees, but based on the analysis of previous recessions, this approach holds the best chance of long-term success.

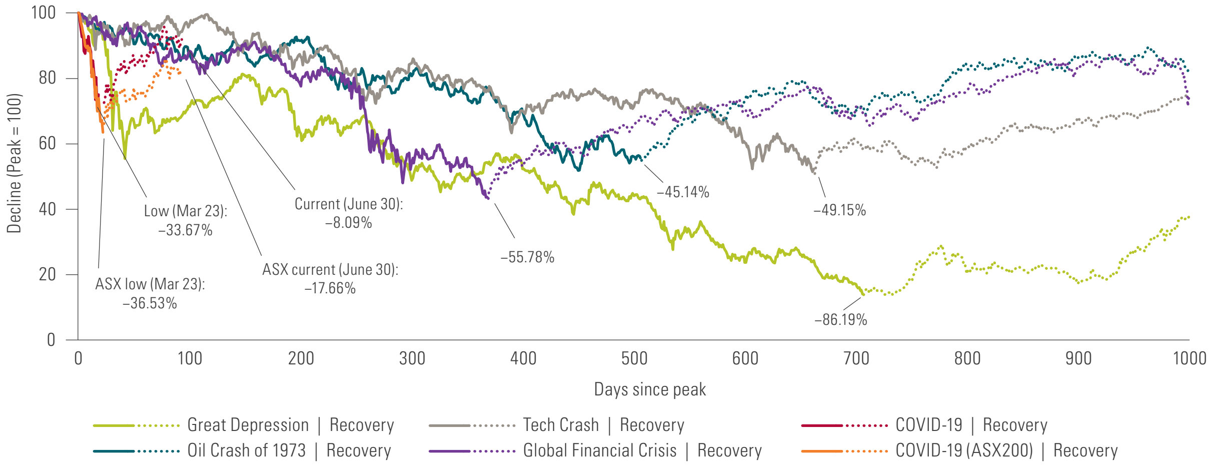
An iteration of this article was first published in *The Australian Financial Review* on 1 July 2020.

Quarter in review

Following the sharp fall in markets at the start of the year, Q2 saw strong rallies across global equity markets as investors shed their bear skins for bull horns. Despite the continual spread of COVID-19 across the globe, the backdrop of ultra-loose policy and expectations that economic lockdowns could soon ease restored some positive sentiment in markets, fostering conditions for a "V-shaped" recovery in risk assets (Figure 1). However, there is validity in questioning the speed and magnitude of the rebound given much of the real economy is only slowly emerging from hibernation. Indeed, towards the latter part of Q2, markets started showing signs of "slight fatigue" after retracing much of their losses in April and May. We interpret this as a suggestion that investors have begun incorporating some caution into their outlooks, especially when assessing the loss of output, profits and employment that can be recouped in 2020.

Figure 1. From bear to bull: "Lightning speed" in markets

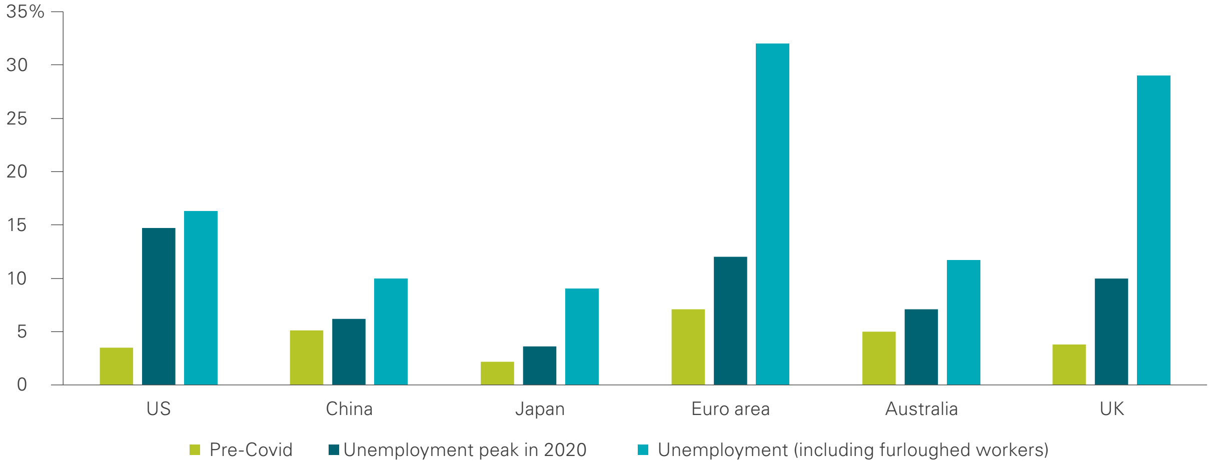
S&P 500 performance in five bad bear markets



Source: Vanguard, using data from Factset.

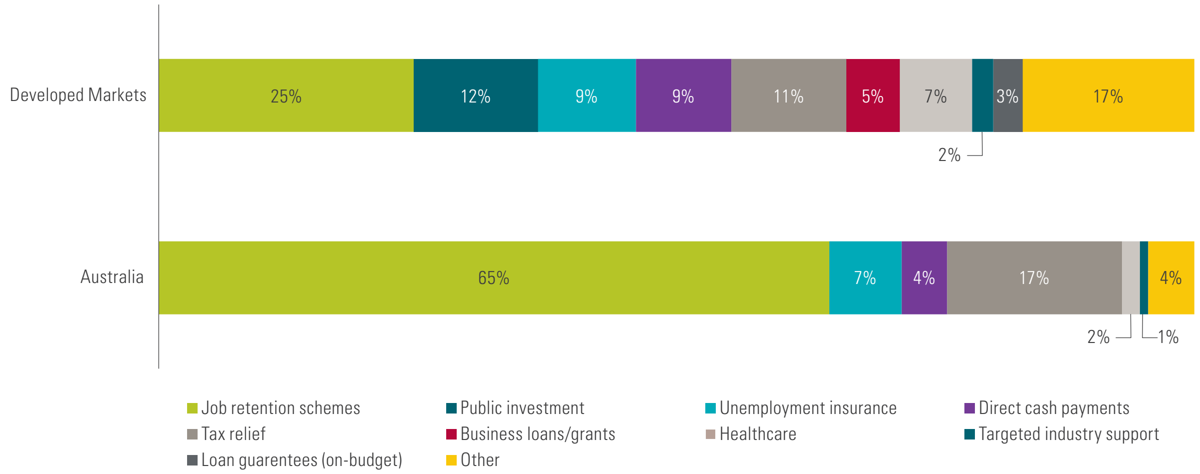
A closer look at Q2's macro data highlights the uncertainty that lies ahead. In the labour market, for instance, the impact of the lockdowns on unemployment has remained substantial, even considering the huge fiscal interventions designed to mitigate the impact on the real economy. Vanguard estimates the global economy lost over 300 million full-time jobs in Q2 alone, with official measures of unemployment rates rising by historically unprecedented amounts in a short time. In fact, our calculations suggest that the 'true' unemployment picture is even worse once furloughed workers are taken into account, that is, people who have been given a temporary leave of absence from work (**Figure 2**). The 'true' levels of unemployment paint a much bleaker picture, with the US unemployment rate exceeding 15%, while a rate higher than 30% is observed in Europe. The employment situation is slightly more sanguine for Australia, owing to expansive fiscal programs dedicated to job retention schemes (**Figure 3**). With the consideration that these programs will eventually be wound down, compounded by the possibility of further localised restrictions, it remains to be seen whether job losses can be reversed since reinstating many jobs will be time-consuming and difficult as some businesses struggle to re-open. This will, in turn, have implications for the sustainability of the consumer recovery, which to date has been supported by federal income support.

Figure 2. Impact of the pandemic on unemployment



Source: Vanguard

Figure 3. Fiscal responses have varied throughout developed markets

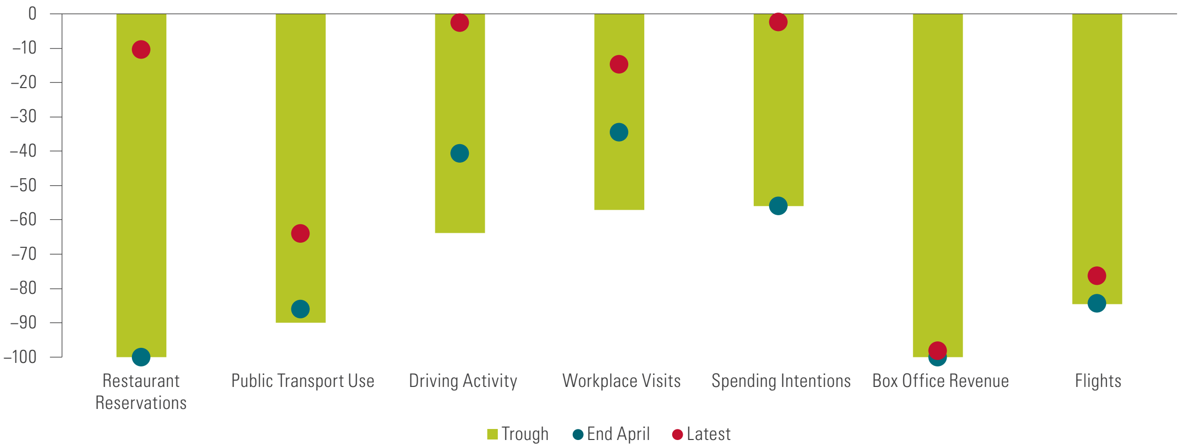


Sources: Department of the Treasury (Australia), U.S. Department of the Treasury, Department of Finance Canada, European Commission, United Kingdom HM Treasury, Federal Department of Finance (Switzerland), Ministry of Finance (Czech Republic), Ministry of Economy, Trade and Industry and Ministry of Finance (Japan), Ministry of Economy and Finance (South Korea), The Treasury (New Zealand), Ministry of Finance (Singapore) and The Government of the HKSAR.

Economic outlook

As developed markets begin easing lockdown measures, many have begun focussing their attention on the shape of the recovery. Will the recovery be a more aggressive "V-shape", as priced in by the equity markets, or will it be a more conservative "U-shape" as reflected in the bond market? Vanguard expects it will be a little of both. The sharp downturn experienced in a V-shaped recovery is so severe that it is unlikely to continue for extended periods of time. In technical terms, a recession is over once GDP rebounds from pandemic-induced lows and unemployment starts to decline, both of which we expect has already started to happen as reflected in our high frequency indicators (**Figure 4**).

Figure 4. High frequency indicators show a quick rebound from the trough, though certain face-to-face intensive sectors remain lacklustre



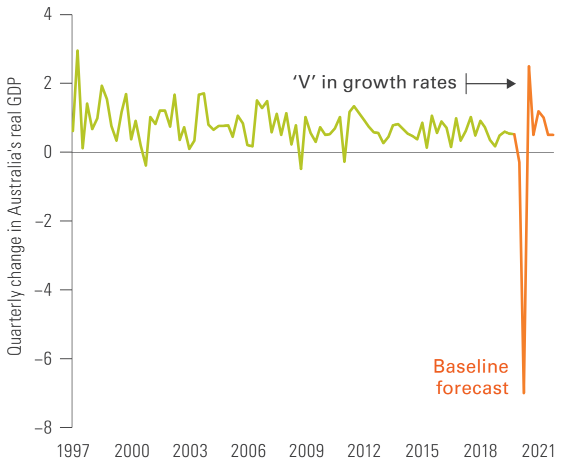
Source: Vanguard, based on data from OpenTable, CityMapper, Apple, Google, Box Office Mojo, OAG and Westpac.

But initial signs of positivity doesn't mean the road to recovery will be easy going. Getting business activity back to pre-COVID levels could take more than a year in a scenario more closely resembling a U-shaped recovery (**Figure 5**). This outcome is built upon shocks to both supply (stemming from containment measures) and demand (stemming from consumers' likely reluctance to resume face-to-face activities such as dining out, traveling, or attending large events). The confluence of these two shocks leads us to expect a "two-phased" path to recovery. Phase one would likely exhibit stronger growth rates as restrictions on the ability to transact and produce are eased, such as when factories can begin operations and restaurants can receive customers once again. However, the second phase will take a longer time to unfold, as growth bottlenecks shift from supply shocks to demand drags. Industries that have a higher direct exposure to consumer demand will likely be the most vulnerable in this stage, given their dependence on face-to-face activities (**Figure 6**). This lagging factor leads us to believe overall economic recovery will involve a slow, uneven return to normalisation, and that labour markets will unlikely be as tight as they had been in the next year or so.

With a large degree of uncertainty weighing on the outlook, the U.S. Federal Reserve and the Reserve Bank of Australia may choose to hold interest rates near 0% for the foreseeable future. On the fiscal front, while most unemployment benefits are slated to end by Q3, we expect governments around the world to recognise the fragility of the recovery and continue to provide targeted and tapered support, particularly to those industries less able to restart fully. Given the importance of policy support to the recovery, we expect this to be a key focus for investors over the coming months.

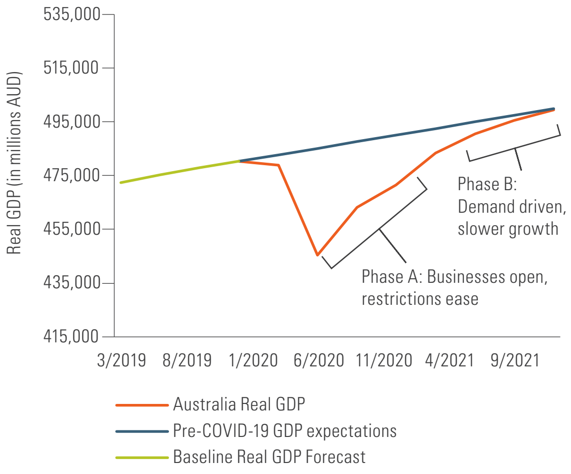
Figure 5. The recovery: Both a "V" and a "U"

Australian GDP levels



Source: Thomson Reuters Datastream and Vanguard forecasts

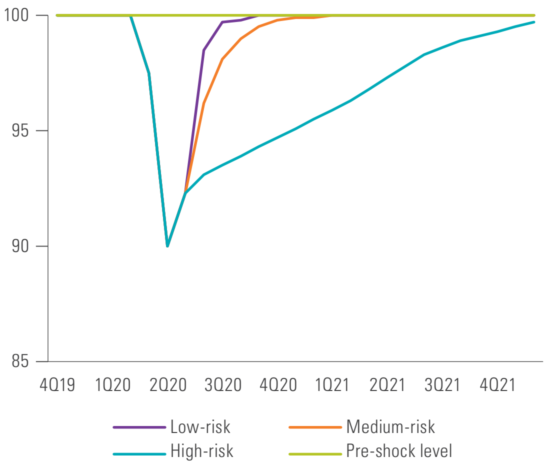
Quarterly Australian GDP growth rate



Source: Thomson Reuters Datastream and Vanguard forecasts

Figure 6. Certain industries could normalize at a slower pace than others

Example: Potential output shock persistence assuming 10% initial shock



Source: Vanguard

Methodology

- Low risk – Construction, wholesale trade, IT, professional services, education, other services
  - Lower supply shock persistence due to teleworking abilities and/or ability to produce while limiting virus spread at work through social distancing
- Medium risk – Manufacturing
  - No teleworking ability and sometimes crowded working conditions but limited interaction with consumer
- High risk – Retail trade, transportation, real estate, healthcare, arts & entertainment
  - No teleworking ability and supply of product necessitates face-to-face contact with consumers

Market outlook

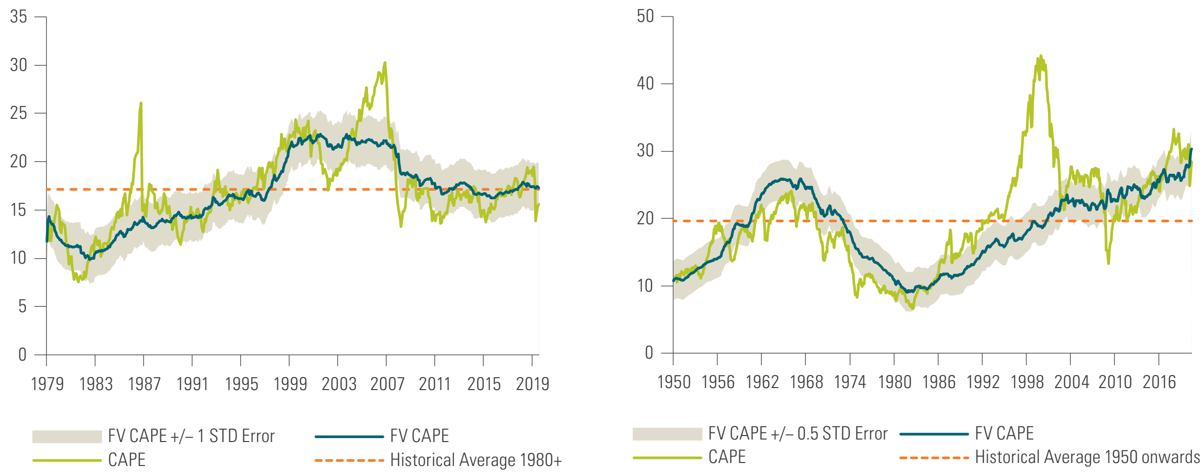
In our Q1 report, we suggested that a silver lining came from equity valuations, which were at the lower range of our fair value estimate as a result of the sharp contraction experienced in March. **Figure 7** shows that while recent rallies within equity markets have pushed valuations upward, they still fall within fair value range, as the fair value range itself has been supported by historically low interest rates.

The recovery of equity markets gives rise to a prudent opportunity to praise the disciplined investor, who having held fast and rebalanced during the March downturn, has experienced much higher returns with the market rebound.

Figure 7. Despite a recent rally, equities remain in fair value range

AUS Fair Value CAPE

US Fair Value CAPE

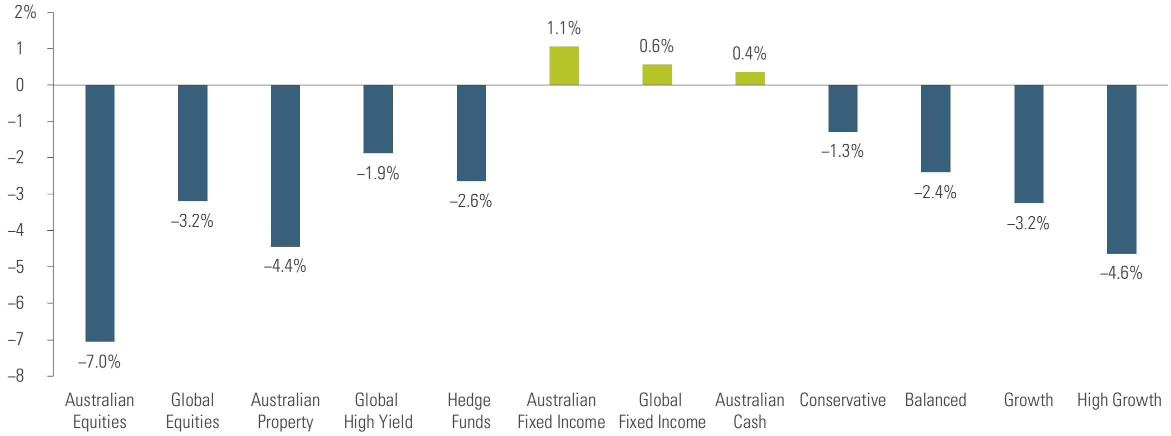


Notes: "Fair-value CAPE" is based on a statistical model that corrects CAPE measures for the level of inflation expectations and for lower interest rates. The statistical model specification is a vector error correction (VEC), including equity-earnings yields, ten-year trailing inflation, and ten-year Treasury yields. The U.S. FV CAPE uses ten-year U.S. Treasury yields and is estimated over the period January 1940–June 2020. The Australian FV CAPE uses ten-year Govt. bond yields and also includes ten-year trailing equity and bond volatility, estimated over the period January 1970–June 2020.
Source: Vanguard calculations, based on data from the Reserve Bank of Australia, Robert Shiller's website, at aida.wss.yale.edu/~shiller/data.htm., U.S. Bureau of Labor Statistics, the Federal Reserve Board and Thomson Reuters Datastream.

On the fixed income front, while falling yields have led many investors to question the value of maintaining an allocation to bonds, **Figure 8** illustrates how the diversification properties of bonds are enduring regardless of the level of yields. Moving away from a broadly diversified, high-quality bond allocation to "reach for yield", whether in equities or particular segments of the fixed income market, will change the risk profile of an investment. For this reason, despite low yields, we encourage all investors to consider maintaining an allocation to a broadly diversified bond investment in their balanced portfolios.

Figure 8. In a sell off, few assets diversify as effectively as bonds

Median asset returns during the worst Australian equity months



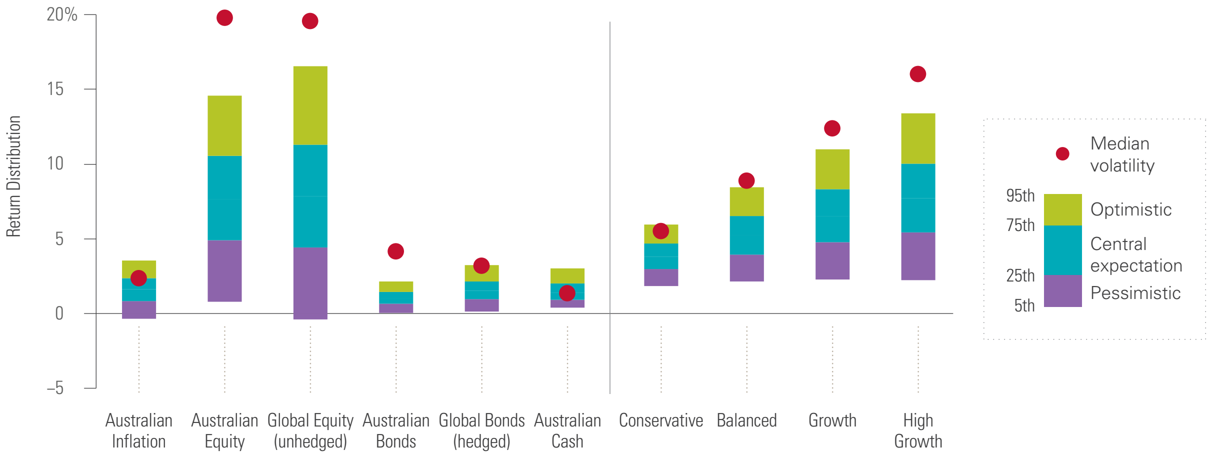
Notes: Median asset returns during the worst decile of Australian equity monthly returns for the period January 2007 – June 2020. Australian equities – S&P/ASX300 Accumulation Index, Global Equities – MSCI World ex Australia Index, Australian Property – S&P/ASX 300 A-REIT Index, Global High Yield Debt – Bloomberg Barclays USD Hedged, Hedge Funds – HFRI Fund weighted Index, Australian Fixed Income – Bloomberg Ausbond Composite Index, Global Fixed Income – Bloomberg Barclays Global Aggregate Index Hedged (AUD), Australian Cash – Bloomberg Ausbond Bank Bill Index.

Source: Vanguard calculations, using data from Factset.

Long-term market outlook

The chart below shows the Vanguard Capital Markets Model (VCMM) return forecasts over the next 10 years for a range of asset classes and Vanguard's Diversified Funds.

Figure 9. Projected 10-year nominal return outlook



Source: Vanguard, 31 March 2020 VCMM Simulation

It shows two concepts: the range of annualised 10-year nominal returns and the median volatility experienced.

The bars show the range of return outcomes over a 10-year period. The central return expectations for the asset class or portfolio are shown in the middle of the bars. Observations in the optimistic or pessimistic regions should not come as a surprise though; goals and portfolios should always be positioned with these possibilities in mind.

The red circles show the median volatility forecasts. This represents the volatility of the asset classes that can be expected over the 10-year period. The chart shows that equities are expected to produce a higher return over a 10-year period than bonds, however the trade-off is that an investor can expect a more volatile experience and greater uncertainty over the end point, which could be a much wider range of outcomes.

An important point to remember is that asset returns are not perfectly correlated, which means that if an Australian equity return over 10 years is in the optimistic range, this does not necessarily mean that Australian bond returns will also be in the optimistic range. Combining assets can therefore present strong diversification benefits.

The next two charts show the trade-off between targeting a CPI+ return target and the risk of a loss along the way.

Figure 10. Probability of achieving real return target

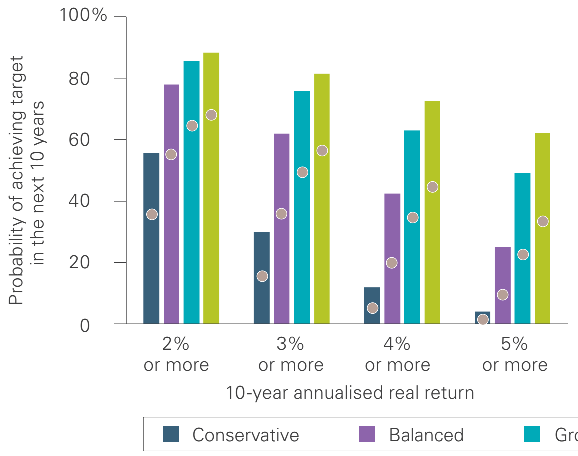
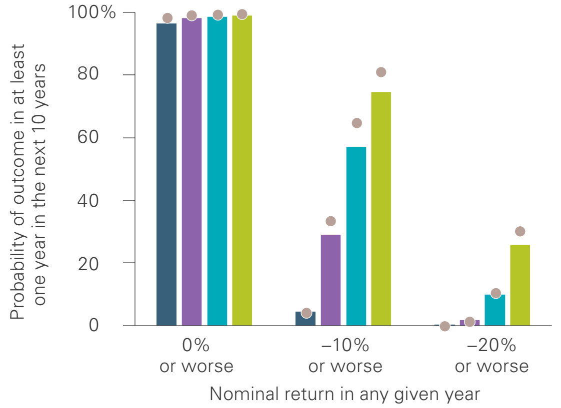


Figure 11. Downside risks



Note: The projections or other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for each modelled asset class in AUD. Results from the model may vary with each use and over time.

Source: Vanguard, 31 March 2020 and 31 December 2019 VCMM Simulations.

Taking more risk means that an investor increases the probability that they will achieve their target over 10 years.

Highlighting the importance of managing expectations, it also means there is the increased probability of experiencing a negative return or a large annual loss in at least one year over the 10 year period.

About Vanguard's Investment Strategy Group

Vanguard's Investment Strategy Group is a global team of economists and investment and portfolio construction strategists with a wide variety of specialties, ranging from monetary policy to index construction to market trends. Their research serves as the basis for Vanguard's investment principles and methodology, guides Vanguard's global leadership and influences decisions about our investment offerings and portfolio construction.

Research-based investment approach

As part of Vanguard's broader Investment Management Group, ISG plays an essential role in developing Vanguard's investment methodology, which is carried through in the implicit and explicit advice solutions available to our clients. Our global chief economist and head of ISG reports directly to Vanguard's global chief investment officer. We work closely with Vanguard's in-house portfolio managers. Notably, our global chief economist is integrated into Vanguard Fixed Income Group through our portfolio management process. Through that process, ISG advises our fixed income investment managers on the macroeconomic outlook, expected monetary policy and other factors to support day-today portfolio management. Vanguard's investors around the world benefit from our collaborative approach to investment management, research and thought leadership.

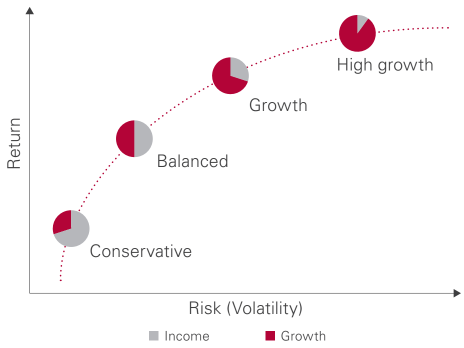
Vanguard Capital Markets Model

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based. The Vanguard Capital Markets Model® (VCMM) is a proprietary financial simulator developed and maintained by Vanguard's Investment Strategy Group. It is a long term tool that takes into account current macroeconomic conditions and equity and bond valuations to forecasts distributions of future returns for a wide range of asset classes and portfolios. The primary value of the VCMM is in its application to analysing potential client portfolios. VCMM asset-class forecasts – comprising distributions of expected returns, volatilities, and correlations — are key to the evaluation of potential downside risks, various risk-return trade-offs, and diversification benefits of various asset classes.

Asset allocation

Vanguard's approach to asset allocation is to provide long-term returns that match investors' desired level of risk. The broad allocations to defensive (fixed income) and growth (equities) are the main factors influencing the risk/return profiles of our asset allocation strategies.

Our asset allocation approach is designed with a medium to long-term investor in mind (a time horizon of at least five years), reflecting the reality that the majority of Australian investors need to accept some market risk in order to reach their investment goals.



Why diversification matters

We believe that a successful investment strategy starts with an asset allocation suitable for its objective. In practice, diversification is a rigorously tested application of common sense: Markets will often behave differently from each other—sometimes marginally, sometimes greatly—at any given time.

Owning a portfolio with at least some exposure to many or all key market components ensures the investor of some participation in stronger areas while also mitigating the impact of weaker areas.

Many investors lack the time, interest, or skills, and can become overwhelmed by the choice of investment options, asset classes, and other implementation hurdles such as choosing between index and active management. Investors also face behavioural risks in adhering to their investment plan over time due to the temptation of performance chasing or overreacting to market events.

Vanguard Diversified Funds provide professionally managed portfolio solutions designed to help medium to long-term investors achieve their goals and overcome these challenges.

Understanding Vanguard's SAA process

For multi-asset funds, such as Vanguard Australia's Diversified Funds, Vanguard's Investment Strategy Group (ISG) conducts an annual review of the strategic asset allocation (SAA) of the funds. The team considers new asset classes, currency exposure, home bias, regulatory and tax impact, investment costs, investor behaviours, and implementation factors amongst others. The ISG team presents a recommendation to maintain or change the SAA to Vanguard's global Strategic Asset Allocation Committee (SAAC), which oversees all of Vanguard's multi-asset funds. The SAAC is comprised of senior leaders from the Investment Management Group and Vanguard's advice businesses and is co-chaired by Vanguard's global Chief Investment Officer and global chief economist. Upon approval of a change to the SAA, Vanguard assesses the feasibility, tax impact, and costs of the recommended changes and presents to the Board of Vanguard Australia for approval prior to implementing the changes.

Risk and return overview

Vanguard Diversified Funds peer group comparison

30 June 2020

The shaded boxes display the total return percentile rank of the Vanguard Fund within its peer group*, as shown by the colour code, with the number reflecting the Vanguard Fund return in excess of the peer group median return (%). The numbers below the shaded boxes indicate the number of funds in the peer groups across each time period.

Vanguard Fund Asset weighted peer group MER (% p.a.)	3 mths	6 mths	1 yr	3 yrs	5 yrs	7 yrs	10 yrs
Conservative	1.02	2.35	3.21	2.23	1.97	1.92	1.49
0.66	55	55	54	52	47	45	42
Balanced	0.78	2.36	3.31	2.51	1.79	1.87	1.35
0.80	61	61	60	55	49	44	36
Growth	1.15	2.30	3.46	2.57	1.81	1.80	1.46
0.79	81	80	79	75	70	68	59
High Growth	1.23	2.07	3.11	2.44	1.67	1.62	1.24
0.84	72	72	71	66	59	54	47

Peer group percentile
Top 5%
1st quartile
2nd quartile
3rd quartile
4th quartile

Sources: Vanguard calculations using data from Morningstar Inc. Past performance is not an indication of future performance. All returns are net of fees and assume reinvestment of income distributions. Returns greater than 12 months are annualised. There has been no adjustment for survivorship bias.
* The peer groups were constructed by first sourcing a universe of funds from Morningstar having the same category as the Vanguard Funds, but excluding Vanguard strategies.
An automated filter was then applied to these original peer groups with the aim of removing identified duplicate investment strategies and retain unique strategies.

Figure 11. Vanguard Diversified Funds return contributions for the quarter

30 June 2020

Fund	3 Month Gross Return (%)	3 Month Return Contribution (%)			
		VCIF	VBIF	VGIF	VHIF
Vanguard Cash Plus Fund	0.49	0.0	0.0	0.0	0.0
Vanguard Australian Fixed Interest Index Fund	0.46	0.1	0.1	0.0	0.0
Vanguard Australian Shares Index Fund	16.96	2.0	3.3	4.7	6.0
Vanguard International Shares Index Fund	5.99	0.5	0.9	1.2	1.6
Vanguard International Small Companies Index Fund	10.13	0.2	0.4	0.5	0.7
Vanguard Emerging Markets Shares Index Fund	5.06	0.1	0.2	0.2	0.3
Vanguard International Shares Index Fund (Hedged) – AU Class	17.93	1.0	1.6	2.3	2.8
Vanguard Global Aggregate Bond Index Fund (Hedged)	2.61	1.1	0.9	0.5	0.2
Total Return Contribution (%)		**5.0**	**7.3**	**9.5**	**11.5**

*Figures in the return contribution table are calculated as the product of the monthly gross return and the corresponding actual asset allocation.

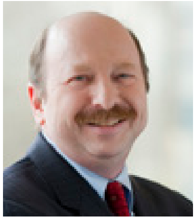
Underlying fund asset allocation

The strategic asset allocation (SAA) is provided in the table below. The Diversified Funds leverage Vanguard's international expertise in investment research and utilise a global investment methodology. This approach starts with market capitalisation weightings and from this local market factors are then also considered.

Figure 12. Target asset allocations effective from July 2017

	Asset Allocation (%)			
Fund	Conservative	Balanced	Growth	High Growth
Asset Classes				
Vanguard Cash Plus Fund	10.0	0.0	0.0	0.0
Vanguard Australian Fixed Interest Index Fund	18.0	15.0	9.0	3.0
Vanguard Global Aggregate Bond Index Fund (Hedged)	42.0	35.0	21.0	7.0
Total Income	**70.0**	**50.0**	**30.0**	**10.0**
Asset Classes				
Vanguard Australian Shares Index Fund	12.0	20.0	28.0	36.0
Vanguard International Shares Index Fund	8.5	14.5	20.5	26.5
Vanguard International Shares Index Fund (Hedged)	5.5	9.0	12.0	16.0
Vanguard International Small Companies Index Fund	2.0	3.5	5.0	6.5
Vanguard Emerging Markets Shares Index Fund	2.0	3.0	4.0	5.0
Total Growth	**30.0**	**50.0**	**70.0**	**90.0**

A challenging time for emerging markets



Jonathan Lemco

Senior Investment Strategist, Vanguard Group

The COVID-19 pandemic presents emerging markets with a colossal challenge. This challenge is not of their own making, and the way out won't be easy. The International Monetary Fund (IMF) said as much in late June, lowering its forecast for growth in emerging and developing economies for both 2020 and 2021, even as it raised its 2021 forecast for advanced economies.

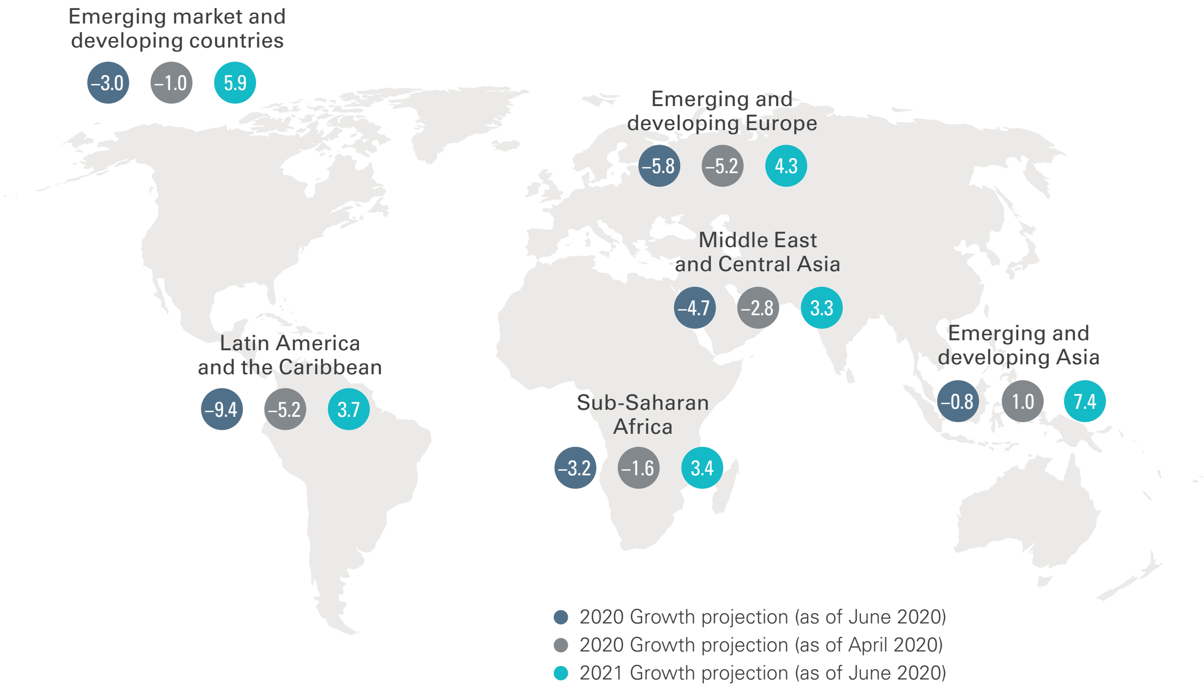
Of course, individual emerging markets are more different than they are alike, and the pace and trajectory of recovery are likely to vary, perhaps significantly, from region to region and country to country. The progression of COVID-19, more than anything else, will dictate the terms. But all is not lost for emerging markets, or for patient investors who embrace the greater risk/reward trade-offs that these markets can provide.

A disease-progression story first

Any economic forecast these days is fraught with uncertainty, dependent on the degree to which the pandemic spreads and countries curtail activity to keep it from doing so. The IMF's especially pessimistic near-term view for Latin America and the Caribbean is telling, and reflects the disease's spread there.

As recently as April, the IMF had foreseen the region's economy contracting by –5.2% in 2020. In its June forecast, the IMF sees the region contracting by –9.4%. That's a difference of more than 4 percentage points, compared with a reduction of less than 2 percentage points in the outlook for all other emerging and developing regions—and for advanced economies—in the same timeframe.

Figure 13. 2020 and 2021 emerging markets growth outlooks



Note: Numbers reflect full-year GDP growth or contraction percentage compared with the previous year.
Sources: Vanguard, using data as of June 24, 2020, from the International Monetary Fund.

Brazil, Latin America's largest economy, trails only the United States in confirmed cases, with more than 1.3 million, and deaths, with more than 58,000. Mexico, the region's second-largest economy, is second among emerging market nations in COVID-19 deaths—ahead of India, Russia, and China. Peru and Chile rank in the top ten among confirmed cases globally.[1]

So much about virus progression and economic recovery depends on the difficult decisions governments make. Early containment measures in many countries in Asia, with cultures accustomed to compliance, appear to be paying off in reduced disease incidence.

Lingering challenges

Beyond efforts to contain the virus, policy-makers in most of the world's largest economies adopted a "whatever it takes" fiscal approach to prop up vulnerable businesses and individuals. Central banks' liquidity provisions helped stabilise financial markets. Where emerging markets lack the capacity, if not the desire, to respond at a similar scale, they benefit from the spillover effects of functioning markets.

In fact, portfolio flows to emerging markets that had collapsed in recent months have begun to return. New bond issues are increasingly being met with more demand than there is supply, an indication that international investors are hungrily chasing yield. They acknowledge that emerging economies face serious challenges but are nonetheless attractive when the best-yielding developed markets—the United States, Canada, and Australia—are barely positive and most others have negative yields.

Many emerging markets depend on commodities exports, particularly oil, and would welcome a rebound in prices. Oil has bounced back in the last two months from prices that had briefly turned negative when broad virus-induced market disruptions were at their greatest. But they're not back to where emerging markets need them to be amid diminished demand and a supply dispute between Russia and Saudi Arabia that has subsided but not disappeared.

Another challenge for emerging markets—the U.S.-China trade dispute—predates the coronavirus. Some emerging markets, such as Vietnam, Indonesia, and Mexico, may benefit as supply chains are reconfigured. But the lack of a stable economic relationship between the world's two largest economies carries widespread lost opportunity costs.

Implications for investors

In the years since the 1997–1998 Asian financial crisis and Russia's 1998 debt default punished them in currency and other financial markets, many emerging-market countries have learned some valuable lessons. They've acknowledged the economic hazards of corruption, patronage, and unconstrained infrastructure development, and embraced the importance of low debt loads, sufficient reserves, adequate growth, low inflation, flexible exchange rates, and political stability. Some have done better than others.

The pandemic aside, the attributes that have attracted investors to emerging markets, such as their growth potential amid favourable demographics, remain intact.

To the extent investors believe that an active approach is best positioned to capitalise on the differences within emerging markets, we espouse low-cost active as a way to remove headwinds. Whether investors choose actively managed or index funds, Vanguard remains steadfast in our belief in global diversification, including a portion of portfolios in emerging markets, and investing for the long term.

1 Johns Hopkins Coronavirus Resource Center as of June 30, 2020.

Notes:

- All investing is subject to risk, including the possible loss of the money you invest.
- In a diversified portfolio, gains from some investments may help offset losses from others. However, diversification does not ensure a profit or protect against a loss.
- Investments in bonds are subject to interest rate, credit, and inflation risk.
- Emerging markets securities are subject to national and regional political and economic risks and to the risk of currency fluctuations. These risks are especially high in emerging markets.

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Vanguard Capital Markets Model

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The Vanguard Capital Markets Model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include Australian and international equity markets, several maturities of the Australian Treasury and corporate fixed income markets, international fixed income markets, money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

Although central tendencies are generated in any return distribution, Vanguard stresses that focusing on the full range of potential outcomes for the assets considered, such as the data presented in this paper, is the most effective way to use VCMM output.

The VCMM seeks to represent the uncertainty in the forecast by generating a wide range of potential outcomes. It is important to recognise that the VCMM does not impose "normality" on the return distributions, but rather is influenced by the so-called fat tails and skewness in the empirical distribution of modelled asset class returns. Within the range of outcomes, individual experiences can be quite different, underscoring the varied nature of potential future paths. Indeed, this is a key reason why we approach asset-return outlooks in a distributional framework.

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