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Market timing. Why it's in our too-hard basket



INTRODUCTION

The appeal of market timing is its potential to both massively amplify returns and to protect investors from the pain of loss.

Equity investors of all types commonly seek to enhance their returns through changing their exposure to the stock market based on its perceived attractiveness at different points in time. Take some money 'off the table' when a market pullback or correction lies ahead, and invest more when abnormally good times are in store. This is known as 'market timing'.

The potential of market timing to amplify one's investment returns from equities is significant. Since 1950 through to 2018 the US equity market, as measured by the S&P500, generated a compound annual return of 11.1% p.a. including dividends. The difference between the S&P500's annual market high and low averaged almost 20% (we use monthly data throughout for simplicity). An investor who had been able to trim or sell-out of equities altogether at the top each year and buy back in at the bottom would have turned the market's 11.1% p.a. return into something quite spectacular. As well as being an added source of profits, market timing is often used to soften the blow of declines. Behavioural psychology tells us that the pleasure and pain that share markets induce is not felt by investors equally – it takes roughly a 2% increase to offset the unpleasantness of a 1% fall. No wonder investors want to 'zig but not zag'; who wouldn't want all of the market ups and none of the downs along the way?

In this feature we first look at three market-timing signals popularly used by investors seeking to sidestep an oncoming market sell-off, and what history tells us about how well these signals actually work. We then look at the other side of the market-timing trade, namely buying back in, and the challenges that entails. Lastly, we discuss how we at Aoris approach market timing, and how we reflect this in our portfolio.

PART 1 – IDENTIFYING AN ONCOMING EQUITY MARKET DECLINE

When equity investors think about adroitly dodging a market fall, they usually look to one or more of the following three early warning signs:

1. a recession
2. a high equity market valuation and
3. the duration of the current bull market.

Let's look at each of these in turn.

1. Recessions

DOES A RECESSION FORETELL A MARKET CORRECTION AND IF SO, HOW RELIABLY?

The association between economic recessions and equity market declines is strongly ingrained in investor psychology, and with good reason. Since 1950 there have been 10 recessions in the US and around each recession the US equity market declined by at least 10%, with an average fall of 23%. So, we could call the relationship between recessions and equity market corrections a strong one.

But in which direction does this relationship work? Does a recession happen first, *leading* to an equity market decline? If so, we can simply let the GDP numbers tell us when to sell. Unhelpfully, in every one of these 10 cases the onset of recession happened *after* the equity market decline. So, a recession doesn't flag a forthcoming correction; the equity market anticipates one.

SEEING AROUND CORNERS

The challenge, then, is to anticipate a recession. There is a great deal of information available to investors to help in this regard. In the US, The Conference Board, an independent non-profit group founded in 1916, publishes an official Leading Economic Indicators series; here in Australia we have the Westpac-Melbourne Institute Leading Index of Economic Activity; and all the major central banks publish economic projections. On top of this, there are all sorts of data taking the pulse of the economy in virtually real time, such as online job postings, real estate searches, auction clearance rates, new business formation, transactions on Amazon, and freight transport volumes.

The challenge for market timing is that in every case since 1950 in the US, the economic contraction happened after the equity market correction.

Over the last three decades, in the year preceding an economic decline, the IMF has correctly anticipated a recession just 3% of the time.

Despite the wealth of data available and amount of human capital devoted to the task (the US Federal Reserve alone employs over 400 PhD economists!), the record of professional economists in forecasting recessions is poor. Let's look first at a single forecasting body, the International Monetary Fund (IMF). The IMF publishes forecasts twice each year. Andrew Brigden, chief economist of London-based Fathom Consulting, found that of 469 recessions over the 30-year period 1988–2018 across 194 countries, the IMF correctly predicted less than one in four of them as at April of the *year in which the economies actually contracted*. If the economy went into recession on average in the middle of the calendar year, then a correct forecast in April gives us a lead of just two months. Equity markets peaked on average five months before the onset of the last 10 US recessions, with a range of one to 10 months. So, a two-month early warning signal doesn't really cut it. If we use their forecasts from October of the *year preceding* the recession, giving us a lead now of around nine months, the IMF correctly forecast less than one in every 30 recessions.

There may well be individual economists with a track record that sets them apart from their peers, but how are we to identify them? In a world where we can rate Uber drivers, restaurants and Amazon sellers, why do we fail to publicly rate economists on the accuracy of their forecasts?

The 'Great' recession wasn't even formally recognised as a recession until it had been going almost a year.

What about 'the big one', the GFC? If you could pick just one recession in the last few decades to correctly anticipate, this was the one, as over the period mid-2007 to early 2009 the equity market roughly halved in value. Perhaps a mild recession is hard to pick in advance but a severe one should be like the lights of an oncoming train in a tunnel. Not so. In October of 2008, a month after Lehman Brothers failed, the IMF forecast that the global economy would grow by 3% in 2009 and just seven economies would be in recession. In reality, the world contracted and 91 countries went into recession. The 2008–09 recession in fact began nine months before Lehman collapsed, yet it wasn't even formally identified as one until it had been going for almost a year. Prakash Loungani at the IMF said 'recessions are not rare. What is rare is a recession that is forecast in advance'.

The interrelationships of an economy are complex. We can rarely draw a straight line between cause and effect.

COMPOUNDING THE PROBLEM

It is human nature to simplify things, and investors tend to think in terms of ‘single variable’ cause-and-effect relationships when it comes to economic activity. They draw simplistic conclusions such as ‘I think the trade tension between the US and China will escalate, causing a recession’, or ‘interest rates will rise and therefore economic activity will decline’. The economy does not work via such linear, univariate, causal relationships. If there’s a trade war, how interest rates respond will impact economic activity. How consumers respond to a change in interest rates will affect retail spending and housing activity, which in turn will impact business spending, which in turn influences the value of the exchange rate and perhaps which party wins the next election. None of these responses are known in advance. This introduces the notion of compound probabilities.

Let’s imagine that an investor is an exceptionally good economist and can correctly forecast a key variable, such as major moves in the oil price, with a two-in-three success rate. Now, let’s imagine that this investor/economist can also correctly forecast the economic impact of a major move in the oil price, also with a two-in-three success rate. If this individual forms the view that oil prices will rise sharply, which in turn will cause an economic slowdown, one could easily fall into the trap of thinking that they have a two-thirds chance of being right. However, we need to recognise that there are two outcomes being forecast and to calculate the probability of getting both right we need to multiply the probability of each individual prediction being correct. Now, $2/3$ times $2/3 = 44.4\%$.

Predicting something correctly

44%

of the time

is worse than



The illustration shows a hand in a suit sleeve flipping a coin into the air. The coin is shown in mid-air with motion lines, and the hand is in a classic 'flipping' gesture.

Economies, of course, work nothing like this grossly simplified version of reality. They get very complex, very quickly. The interconnectedness of an economy is far more like a billiard table when a single ball strikes many others. Professor Michael Berry, a mathematical physicist from Bristol University, examined this, and was described by Nassim Nicholas Taleb in his 2007 book *The Black Swan* as follows:

If you know a set of basic parameters concerning the ball at rest, then it is rather easy to predict what would happen at the first hit. The second impact becomes more complicated, but possible; and more precision is called for. The problem is that to correctly compute the ninth impact, you need to take into account the gravitational pull of someone standing next to the table. And to compute the fifty-sixth impact, every single elementary particle in the universe needs to be present in your assumptions! An electron at the edge of the universe, separated from us by 10 billion light-years, must figure in the calculations, since it exerts a meaningful effect on the outcome.

In their quest for simplicity and mental shortcuts, investors all too often omit the complexity underlying the behaviour of economies and conveniently ignore the reality of compound probabilities.

Seven of the 17 market corrections since 1950 have not been associated with a recession.

HOW MUCH DOES BEING THE WORLD'S BEST ECONOMIST ACTUALLY HELP?

We've established that correctly anticipating recessions *repeatedly* is very, very hard. However, forecasting recessions, even with 100% accuracy, only goes so far in market timing. Of the 17 occasions in the last 70 years when the US equity market experienced a decline of 10% or more, seven were not associated with recessions, including the October 1987 crash.

In summary, at Aoris we believe that attempting to time the market and reduce exposure to equities based on an anticipated recession is unlikely to improve our investment returns. It's simply not something we believe we can do well on a repeatable basis, for several reasons. Firstly, only 10 of the 17 (less than 60%) of the equity market corrections in the US since 1950 have been associated with recessions. Secondly, rather than simple, one-to-one causal factors between a variable and a recession, economies comprise exceedingly complex interrelationships. The compound probabilities associated with 'if that happens then this will happen, and then this and then this' are routinely

underappreciated. As a result, recessions are rarely correctly forecast and we are confident that we can't do better than the pros. Thirdly, selling out of equities in anticipation of a recession that doesn't happen entails an opportunity cost that can easily erode the gains made from avoiding the ones that do eventuate.

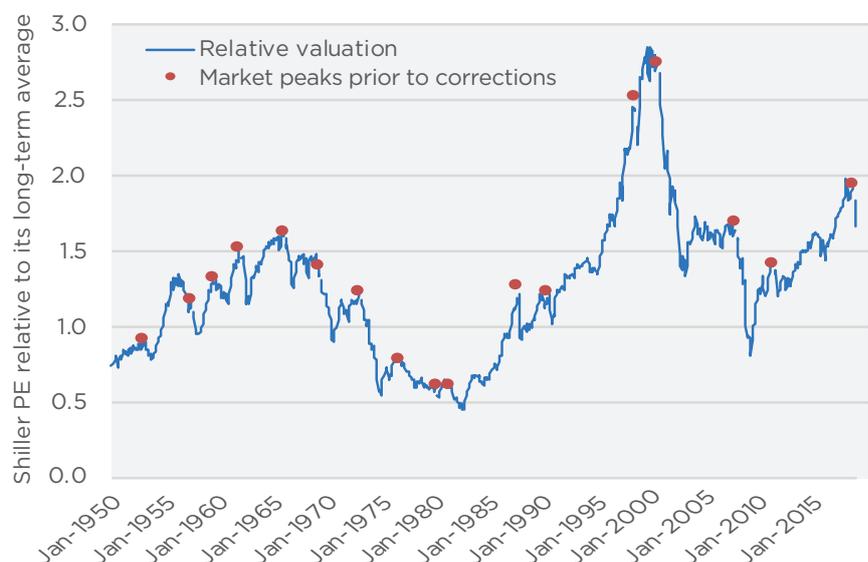
2. Aggregate market valuations

The second common signal used by investors to make a timing call on the market is valuation. It's natural enough to want less of something when it's expensive and more when it's cheap. The most commonly used valuation signal applied to the US equity market is known as the Shiller PE, created by Yale economist Professor Robert Shiller. This measure makes a sensible adjustment to smooth out the cyclical nature of corporate earnings and the data very helpfully goes all the way back to 1871.

In the following chart we show, for each month since 1950, the Shiller PE relative to its full history from 1871 up until that particular month. So, for example, in 1985 the US equity market, measured by the Shiller PE, traded on about 0.7x its average for the period 1871-1985, while in 2005 it was valued at about 1.6x its average of the period 1871-2005. Note that the Shiller PE relative to its long-term history has been greater than 1x for most years since 1950. The red dots indicate the 17 market peaks prior to declines of 10% or more.

Aggregate equity valuations have proved of no help in anticipating corrections. Market corrections have occurred at low, moderate and high valuation multiples.

US Shiller PE relative valuation versus history since 1871



Source: Shiller website

What this shows is that market valuations versus a long-term average have proved to be of no help in market timing. The three corrections between 1976 and 1981 occurred when the market was trading at abnormally low valuations relative to a long-term history. The GFC market crash happened after valuations had become significantly cheaper than the prior 10-year period. In 1992 an investor may have observed that since 1950 the Shiller PE had been above 1.3x its long-term history just 15% of the time. Using this knowledge, they may have decided to use a relative Shiller PE of 1.3x as a sell signal. Had they done so, they would have been out of the equity market for 23 of the next 26 years.

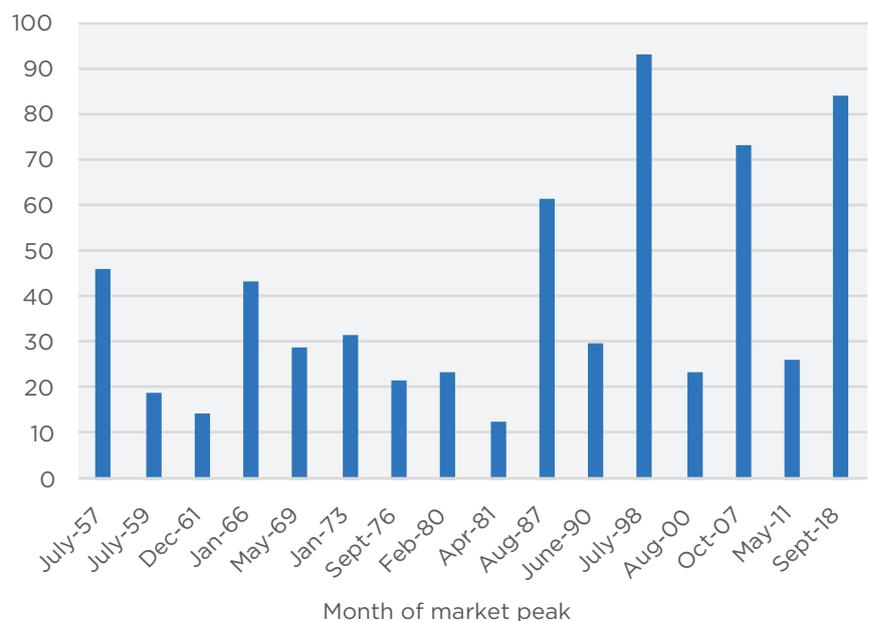
So, market valuations relative to a long-term average are not of any use in short-term market timing. Nor are they helpful as a long-term indicator of future returns.

3. Duration of bull market

A third pointer that investors often use when seeking to time an exit from the market is time itself, i.e., how long the market has been appreciating. Is the market cycle ‘long in the tooth’, or is there ‘plenty of runway left’?

The time that the market has been appreciating has been of no help in anticipating corrections. There is no discernible pattern in the duration of bull markets.

Months from market trough to next peak



Source: Shiller website; data is for S&P500 index

You can see from the graph on the prior page that time itself provides no reliable exit signal. The number of months between US equity market troughs and the next market peak has ranged from 12 to 93. After 1990, 30 months might have seemed like the point at which the equity hourglass had run out and was a good time to sell. Had an investor followed this rule, they would have sold more than five years before the market peak in 1998 and three-and-a-half years prior to the October 2007 peak. The investor would have sold in September 2011 after the market had already fallen 12%, and would have exited four-and-a-half years prior to the September 2018 sell-off, over which time the US equity index doubled.

The number of months that the equity market has been appreciating since it last troughed is not a useful market timing sell indicator.

Conclusion to part 1 – identifying an oncoming equity market decline

Of the three market timing sell indicators, neither the duration of a bull market nor aggregate equity market valuations are of any help. Recessions have been associated with only 10 of the 17 declines since 1950 and have proven fiendishly difficult to predict with the requisite degree of repeatability. As a result, at Aoris we don't attempt to time markets in anticipation of a decline.

PART 2 - BUYING BACK IN

The psychological challenge of buying into a correction

Buying into a declining market is hard. For each of the 10 US equity market corrections associated with economic recessions, the market bottomed before the economy in every case. This means that at the optimal time to buy, the economy is still declining and the investor is subject to a daily barrage of negative macro news.

Humans have a deep aversion to randomness, or events taking place without explanation. For the market sell-offs that have happened independently of a recession, the news media will emphasise negative economic or geopolitical news to satisfy the psychological craving of their readers for an explanation. The negative headlines, which may or may not have any rational linkage with declining equity markets, make it behaviourally difficult for investors to buy into the preponderance of gloom.

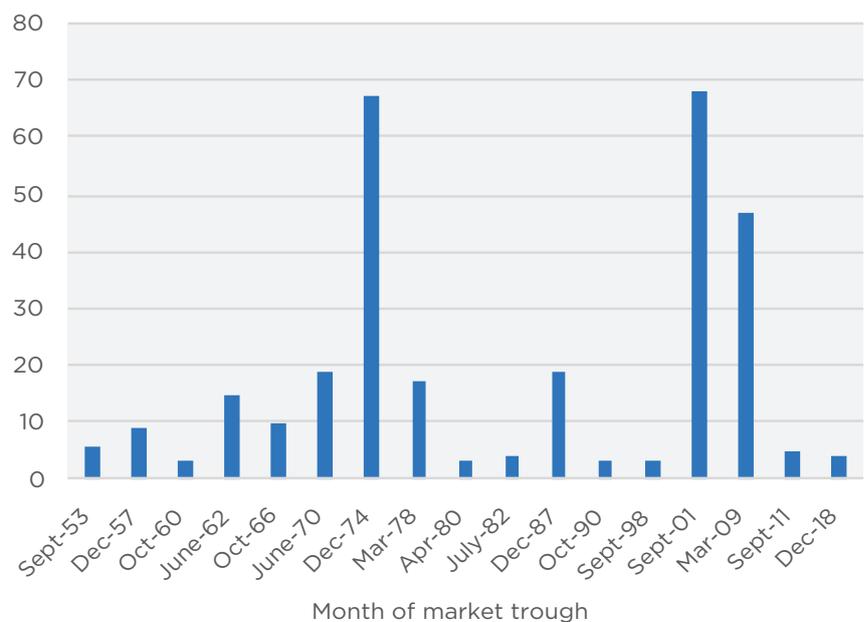
Regret aversion tells us that humans fear making a decision that may in hindsight look poor. So, rather than buying into a weak market and risking further declines, most people wait for signs that the market has stabilised or is improving before committing to purchase. Compare the number of people turning up at property auctions in Australia now versus earlier in 2019. Well, that has a cost. The US market has historically appreciated by about 13% on average in the three months after bottoming. Then, buying back gets psychologically harder. Now the market is 13% more expensive, so the investor will be tempted to wait for a pullback that perhaps doesn't come. A few more months and if stocks are even higher the regret of not having stepped back into the market earlier will be causing extreme anguish. It's psychology that makes timing so difficult.

Timing re-entry

On the majority of occasions, the market had already recovered its prior peak just six months after the trough.

The chart below shows the 17 occasions since 1950 when the US equity market declined by at least 10%; in eight of these corrections it took six months or less for the market to recover its prior peak. So, if an investor sold right at the top, once the market has bottomed they had two to three-quarters to buy back in. Any later than this and they'd be back in at a higher level than they sold out.

Months from market trough back to prior peak



Source: Shiller website; data is from S&P500 index

PART 3 – THE AORIS APPROACH

*At Aoris, we don't
time markets.
We protect rather
than predict.
In order to protect
capital, we avoid
fragile, cyclical
and highly geared
businesses all
of the time.*

At Aoris we don't time markets. We have a maximum cash position in our portfolio of 10% and cannot short stocks or indexes. We own businesses. There are various types of businesses that periods of economic weakness and market stress may entail permanent loss of capital rather than simply a temporary dip in the share price. These businesses include:

- Banks – banks lose money in most recessions. They may need to raise equity to recapitalise damaged balance sheets, diluting existing shareholders. In the aftermath, regulatory capital requirements are often raised.
- Highly indebted companies – even in environments of ultra-low interest rates, refinancing existing loans as they fall due can get much more difficult during periods of economic stress.
- Commodity businesses – when economic activity falls, commodity prices tend to move in an amplified fashion and commodity producers experience a collapse in profitability, often requiring dilutive equity capital raisings to repair balance sheets built for good times.
- Highly valued companies – periods of market and economic stress can act like a bucket of cold water over businesses where valuations embed grossly optimistic assumptions of future growth and profitability.

Rather than predict market peaks and troughs and attempt to time the market, at Aoris we prepare and protect – and we do this through *portfolio composition*. When we get into a car, we wear a seatbelt knowing that the vast majority of the time it will prove unnecessary but on occasions that can't be anticipated it will prove lifesaving. Rather than anticipating cycles, we protect capital through avoiding the above types of businesses at all times.

CONCLUSION

Timing equity markets is an appealing tool for many equity investors, but at Aoris it's one that we choose to leave in the toolbox. *Repeatability* is key. It's not enough to deploy a tool that works once in a while: we strive for an investment process that produces good decisions the vast majority of the time. We are confident that we can't time markets well, *repeatedly*. We are also confident that our simple approach of owning high-quality, wealth-creating, economically resilient businesses and avoiding fragile, fair-weather businesses, will help achieve our dual objective of creating wealth for investors and preserving capital.

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