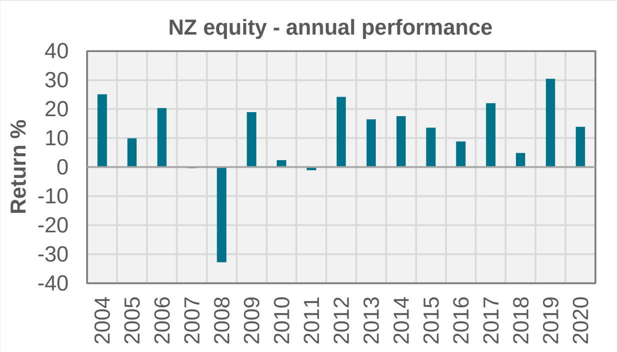
Volatility in 2020

Analysis of the New Zealand Equity Market

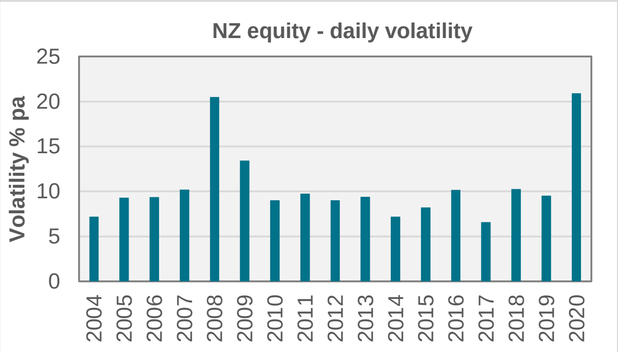
April 2021

Many investors watching the events of early 2020 in horror will have been surprised by how the rest of the year played out. After bottoming out in late March, share markets rebounded sharply in the weeks that followed and continued to climb throughout the remainder of the year. To illustrate how investors fared, the following chart shows the performance of the S&P/NZX 50 Index over complete calendar years since the index's inception.



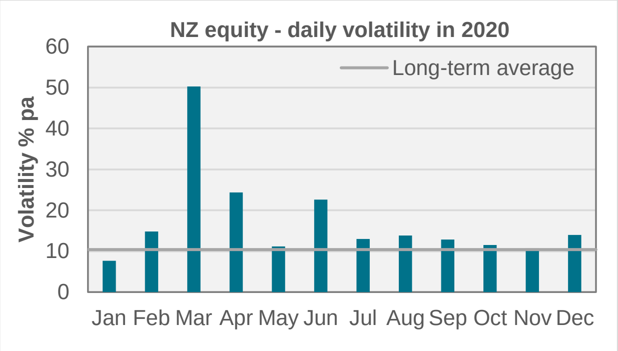
The average annual return over years prior to 2020 was 11.3%. The most recent year's return of 13.9% sits solidly in the middle of the pack and is, in fact, better than average.

Of course, this single result masks the turbulence and uncertainty that 2020 investors had to endure. Using the measure of standard deviation, we can compare how the day-by-day volatility of 2020 compares to other years.



Up until the end of 2019, the average volatility of this index was 10.4% per annum. 2020's volatility of 20.9% has clearly been extreme. The year's volatility was marginally above what was experienced during 2008, which includes the worst of the global financial crisis.

Our next chart breaks 2020 volatility into its component months.



As we would expect, volatility reached its peak in March and April of 2020. While volatility in the latter half of the year appears low, it was for the most part above the pre-2020 average. Only the month of January saw volatility which was below the previous average of 10.4% per annum.

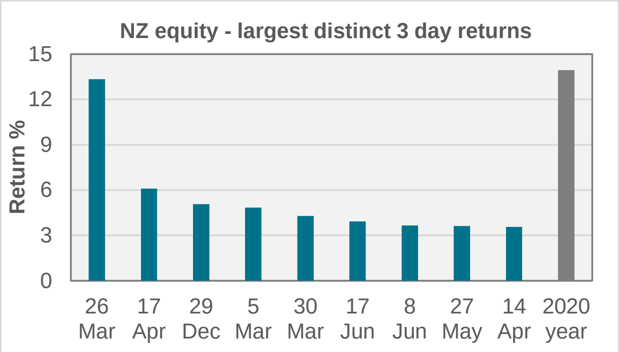
These higher measurements are understandable. COVID-19 has arguably been the most serious epidemic since the Spanish 'flu in the 1910s. The pace at which events developed meant that the uncertainty was a theme of 2020 as investors were forced to consider on a regular basis how governments, central banks, economies and markets would react.

Nevertheless, 2020 can act as a good case study for how daily volatility in markets can create dangers around market timing. In the analysis that follows, we have once again focussed on the S&P/NZX 50 for simplicity, but similar arguments can be made for global equities and other risky asset classes.

Time spent out of market

The virtual freefall throughout much of March may have caused many investors to question their current manager line-up or more generally reassess their risk profiles. However, strategy changes generally come with cost and risk. In particular, there is the risk of missing out on market returns while one is transitioning: "time out of market".

The following chart shows the largest upward spikes during 2020. We have selected three days as a length of time that investors might reasonably spend out of market during a transition. The grey bar on the right shows the total return for the full calendar year.



The largest three-day gain occurred during the March rebound and accounted for 96% of the total year's return. That is, missing out on these three days would have reduced one's total return from 13.9% to just 0.6%.

Circumstances over this time were undeniably exceptional, however we also saw dates in May, June and December which were significant. All of the movements shown on the chart contributed at least a quarter of the total year's return.

What this analysis illustrates is how even a very small amount of time spent in transition at an inopportune time can lead to major divergences compared to market results as well as peers.

Investors wanting to reposition their assets have options to mitigate these risks:

- Divide the transactions into separate tranches and execute them at different times. As the number of tranches increases, the likely losses due to a sudden spike in asset values will decrease. Of course, this option comes with more operational complexity; where only small amounts are involved, investors may decide that it is not worth the effort.
- Defer transactions at times where volatility is higher or where major economic news is scheduled. This is also an imperfect workaround since volatility cannot be reliably predicted. A period of calmness in markets is no guarantee that markets will remain so in the coming days.

Tactical asset allocation

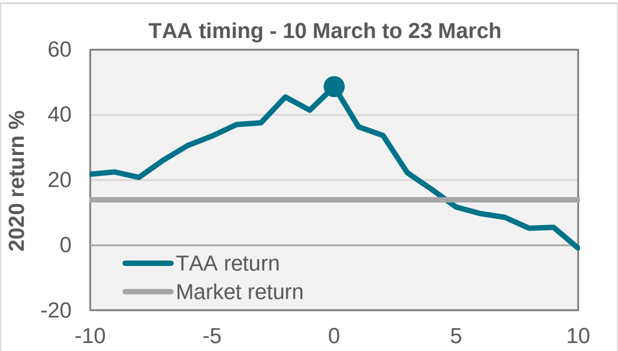
For diversified investors, the mix of assets will naturally change as asset prices rise and fall. The extent to which funds are transferred between asset classes will depend on one's rebalancing policy and these rebalances can also be impactful. For example, after the plunging equity prices in March 2020, investors who rebalanced promptly by shifting assets back into equities will have reaped significant rewards as markets rebounded.

Tactical asset allocation (TAA), by contrast is the process of deliberately modifying the allocation to shares, bonds and cash in order to improve returns. The potential upsides of tactical asset allocation have been significant over the year. This is due to both the higher day-to-day volatility and the larger gap in the returns available from equities relative to bonds and cash.

However, the same volatility that creates these opportunities can make TAA a dangerous strategy to employ.

While in practice TAA takes many forms, we have considered an extreme example of being able to fully exit an asset class (New Zealand equities) for a relatively short period of time (ten trading days). We have assumed no trading costs. This represents a very nimble TAA approach by the standards of a typical New Zealand institutional investor.

Using these parameters, the most decisive win could be experienced by exiting the New Zealand share market during the period of heavy losses from 10 March to 23 March. This would allow an impressive return from domestic equities of 48.7% for the year, compared to the actual return of 13.9%. The following chart shows the sensitivity of this win to timing.

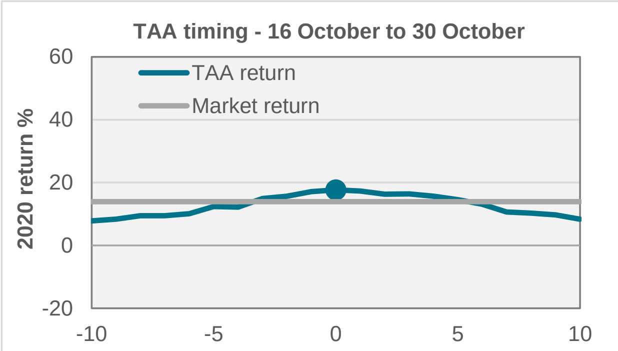


The blue line shows the total annual return given a ten-trading-day absence from the market. The timing of this move has been varied by ten trading days in each direction. The market return without any tactical asset allocation is shown in grey for comparison.

Should the move to exit equities be made too soon, the excess return is diminished. But moving ten days early still produces a return of 21.8%, which is above the market.

The impact of moving too late is more significant. An investor who exited the market just five days late will have a worse experience than the market return. Investors who exited the market ten days late would have seen a negative return for 2020, some 15 percentage points below the market return.

The next chart shows the same analysis over the next largest distinct drawdown period in 2020.



The most noticeable feature is that the upside is much smaller than in the previous example. However, another aspect of this time period is that the window available to capture this upside is much smaller. There were only nine days where excess return could be captured; any movement that was more than five days too early or too late resulted in a poorer return relative to the market. The worst outcome, if exiting ten days early, would have resulted in a return six percentage points below the market.

The conclusion that can be drawn here is that while volatile markets create opportunities for significant market timing victories, these opportunities can be fleeting and investors must be nimble as well as decisive to fully capture them. It is also worth noting that while approaches vary, TAA generally comes at additional cost to basic investment management services.

Concluding remarks

Despite the somewhat unremarkable overall return, 2020 was an exceptional year and the shock in the first quarter resulted in heightened day-to-day fluctuations that continued throughout the rest of the year.

From an institutional investor's perspective. 2020 has demonstrated shorter-term positioning has the ability to generate superior returns. However, the risks of repositioning are great, and this article highlights the benefits of retaining a disciplined approach; transacting during times of turbulence has the potential to lead to significant loss.

ABOUT MELVILLE JESSUP WEAVER

Melville Jessup Weaver is a New Zealand firm of consulting actuaries providing advice on investment consulting, superannuation, and insurance. The firm, established in 1992, has offices in Auckland and Wellington and is an alliance partner of Willis Towers Watson.

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