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The Cost of Delay

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How much can prompt implementation save you?

By James Freeman, CFA

Delays are costly. Costly in daily life and investing. But as with most things investing related, we like to test intuition with data and quantify effects so we can act prudently. In this paper we share the results of our research answering just how costly various levels of delay are to an active asset allocation program.

80% of active excess return is lost with a 3-month delay.

The implementation delay generated by commonly used financial advice processes is ***material, detrimental and avoidable***. Our modelling shows the effect to be:

- **Material** – an average of 50% of excess returns are lost in the first 4-weeks of delay.
- **Detrimental** – while some delays may, by chance, result in little/no effect, the average and vast majority of impacts were decidedly negative.
- **Avoidable** – the most common cause of delay is the time needed to prepare, send and return a record of advice ('ROA'). It is common for a portfolio change to take up to 3 months before all clients respond and have their portfolios updated.
  Advice firms using discretionary management structures, such as managed accounts, implement model changes in a matter of days, avoiding the costs quantified in this paper.

Active asset allocation is incompatible with a lengthy advice process.

Historic Simulation

We took a balanced portfolio and modelled the effect of a successful active asset allocation program under various levels of delay.

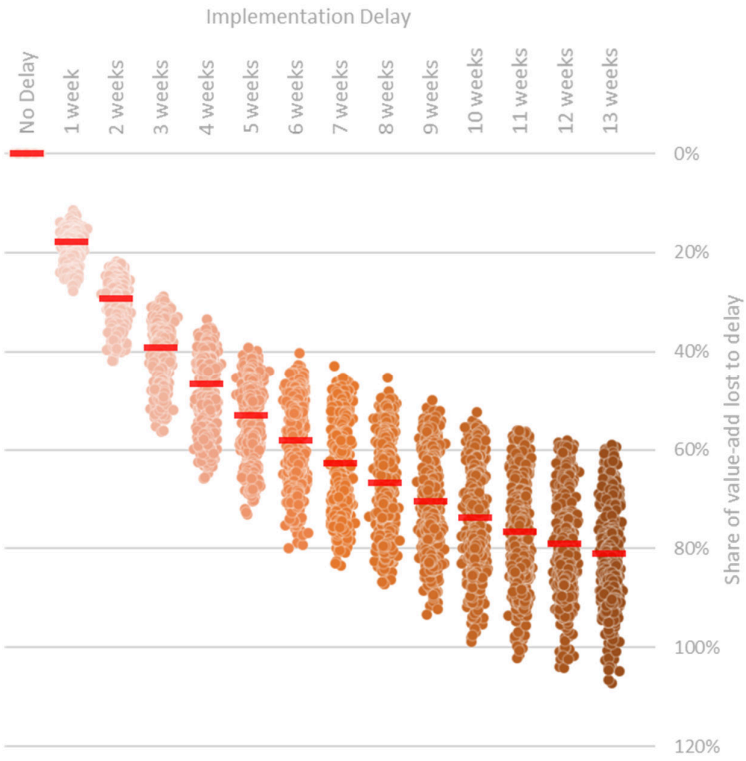
No delay: with immediate implementation the active program averaged 1.1%pa excess return over a rolling 3-year period, and no losses to delay.

4-week delay: with the implementation of active asset allocation decisions delayed by 4 weeks, the average excess return was lower. Approximately 50% lower.

3-month delay: a 3-month delay saw 80% of excess return lost.

Chart: each dot represents the share of excess return lost due to delay for a rolling 3-year period. There are 834 such periods with weekly starting points since 2000. Every dot represents the average of 1,000 different active asset allocation simulations.

Chart 1. Share of excess return lost to delay



Value Add

To calculate the cost of delayed implementation, we first need to model the excess return available without delay. Instead of choosing the track record of an individual portfolio manager, we decided to model a generic active asset allocation program. This allowed us to control the variables and avoid generating results applicable to only one-track record. We generated 1,000 individual track records of active asset allocation decisions spanning 20 years with defined parameters.

Our simulated active asset allocation program was based on a balanced portfolio (50:50 growth/defensive split) with 7 asset classes, invested in passive index exposures and no fees. Each track record had 6 changes to asset allocation per year, each being a 5% shift in allocation weights. The rule was simple, 56% of the allocation changes were successful, meaning: 5% was shifted into the best performing of the 7 asset classes for the period until the next allocation change.

This active asset allocation program generated excess returns of 1.10%pa on average, using rolling 3-year figures (Chart 2).

Observing the data in date order (Chart 3), we can see that average excess return varied over time. Higher excess returns were generated over the period of the GFC and subsequent recovery.

The opportunity to add value from asset allocation is significant at times of market dislocation. One possible explanation is that market dislocation magnifies the difference between best and worst performing asset classes, more so than during halcyon times.

Chart 2. Range of excess returns modelled

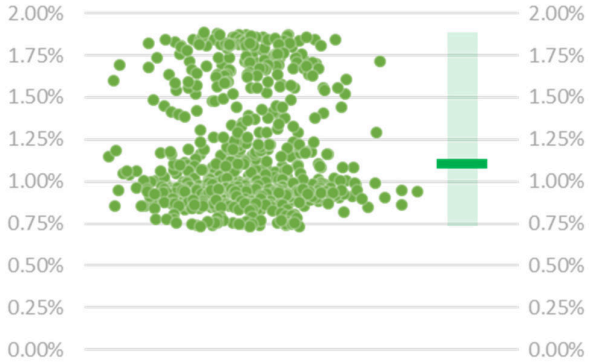
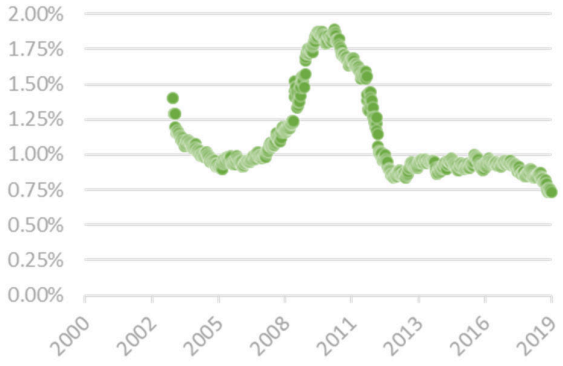


Chart 3. Excess returns over time



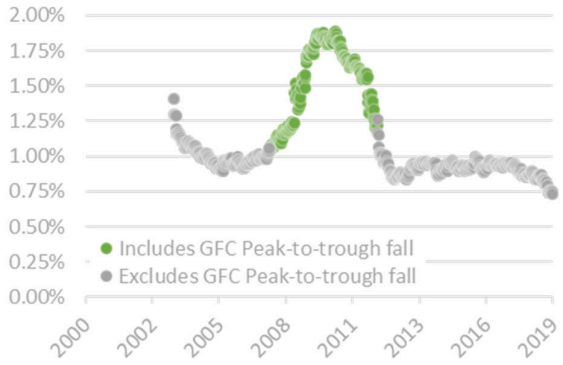
Promptly implemented active asset allocation adds the most value during market dislocations.

We set the level of active asset allocation success at 56%, which is consistent with a skilled investment manager. Finding a portfolio manager capable of persistently adding 1.1%pa from asset allocation requires careful due diligence and a thorough search.

While higher success rates are possible, and we did model them, it is increasingly difficult to find such portfolio managers. Caution should be applied in setting your expectations for the value that can be added through asset allocation.

While varying the success rate changed the level of value add available, the share lost to delay was consistent.

Chart 4. Higher excess return in dislocated markets



Cost of Delay

To assess the cost, we delayed each allocation change by one week. We then measured the difference in excess return between the no-delay program (green line) and the one-week delay program, (orange line).

Chart 5. Excess return one-week delay

Chart 6. Excess return with multiple lengths of delay

The first thing to notice is that the difference in the average excess return for a one-week delay is persistently negative i.e. delay costs returns for every rolling 3-year period.

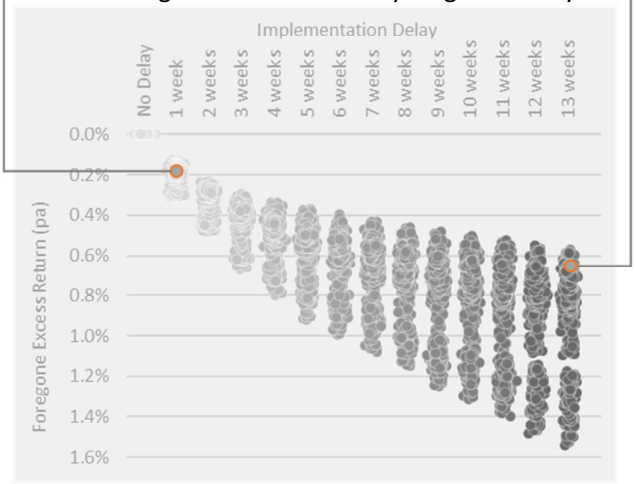
More substantial levels of delay were also modelled, from one to 13 weeks (Chart 6).

Looking at the variation of cost over time in Chart 7, we can see that for a one-week delay the cost was:

- Minimum of 0.13%pa
- Average of 0.19%pa
- Maximum of 0.31%pa

The average cost of a 13-week delay was 0.90%pa.

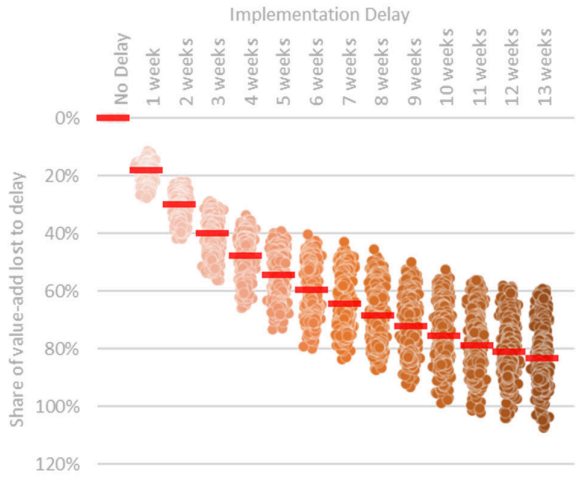
Chart 7. Foregone excess return by length of delay



A second notable outcome is that the cost varied through time. Over the GFC the cost was higher (Chart 6). The GFC and recovery magnified the disparity between immediate and delayed implementation.

Looking at cost in terms of the share of excess return lost due to delay (Chart 8), we see that 50% of excess return is lost in the first 4 weeks of delay, while 80% is lost in a three-month delay.

Chart 8. Share of excess return lost to delay



80% of active excess return is lost with a 3-month delay.

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Avoiding Delay

Saving 80% of your excess return is only part of the benefit

Prompt implementation preserves the full value of an active asset allocation program. However, speed depends on the advice model being used. Implementing a model change via the ROA process can take up to 3-months or more to be completed for all clients, at the same time eroding up to 80% of any active excess return in that time.

Moving to a managed discretionary account model empowers advice firms to reduce the cost of delay for their clients – preserving the full value of active portfolio management. There are further benefits, including:

- The efficiency brought to advice practices. There is no requirement for a financial adviser to issue a Record of Advice when portfolio changes are made for a client with a managed discretionary account.
- Reducing the administrative burden on client and adviser alike, the financial adviser no longer spends time chasing clients for signatures. This frees up more time to focus on the individual needs of clients.
- The average managed account user estimated a time savings of 12.4 hours per week on portfolio management tasks according to the 2018 NAB Investment Trends Managed Account Report.
- Fairness - all clients are treated fairly when portfolio changes are made. Treating clients fairly is a requirement of an Adviser under the FASEA Code of Ethics.
- Investment committees can benefit from the clarity of considering a portfolio change that will be implemented across their entire client base at the same time. Under an MDA structure they do not have to consider how the behavioural and timing uncertainty of a ROA structure may impact the efficacy of their investment decisions.

About Philo

Philo is a specialist third party Managed Discretionary Account (MDA) Provider, established in 2011 to enable wealth management practices to offer a better investing experience to their clients. We are a privately owned firm, with investment from Class Limited, an ASX listed supplier of technology and data services to the accounting profession and their clients.

Philo is *not* a fund manager, an asset consultant, a platform provider or a stockbroker. We are a specialist in the design and operation of managed accounts. We partner with other specialists as required for each Managed Account service that we create.

Like to know more?

Given the importance of getting the right managed account strategy for your business, and given the differentiated nature of Philo's offering, we strongly recommend you meet with us to explore how a Philo MDA service would benefit your business. Please contact us to arrange a time that suits you.

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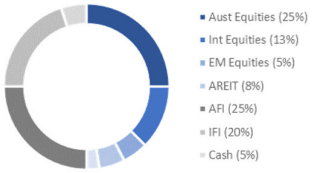
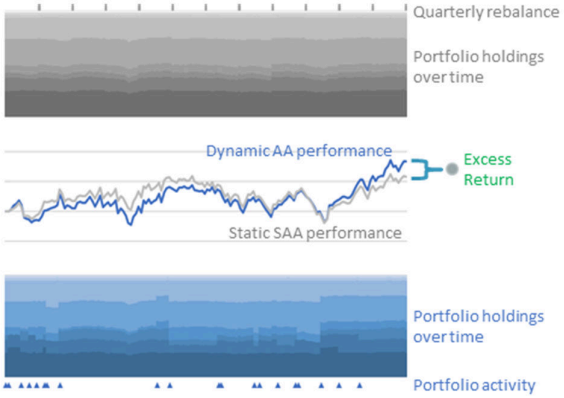
Modelling Assumptions

We modelled a successful asset allocation program using weekly index returns since 2000 assessing the value added, and value foregone through varying levels of delay. The following section expands on each element of that analysis.

Portfolio	
Risk Profile	The portfolio is intended to be broadly representative of an Australian retail balanced portfolio. Risk profile is of a balanced portfolio, with 7 traditional asset classes. Alternatives have been excluded. 50:50 growth/defensive spit, with a home country bias. The adjacent chart represents the neutral allocation from which portfolio changes will diverge. 
Investments	Index performance data is used meaning this is an actively allocated, passive portfolio with no fees or taxes applied. Active value add from manager selection is not being analysed and is therefore excluded from the portfolio via the use of indices.
Rebalancing	An automatic rebalance to neutral allocation is applied on a quarterly basis.
Asset Allocation Decision Simulation	
Purpose	The model simulates the outcome of an asset allocation decision process in order to engage the mechanics of allocation changes through time and provide a series of actions to which varying degrees of delayed implementation could be applied.
Approach	We compare a static asset allocation with rebalancing (in grey) to a portfolio with the same neutral allocations and active asset allocation changes (in blue). The active program is stylised wherein: • the timing of a decision to change allocation are randomly distributed over time; and • the success of the program is defined (i.e. 56% success), and the distribution of individual successful or unsuccessful changes is also randomised. The excess return between the active (blue) and static (grey) portfolios is then measured. This represents one excess return for one track-record. 

We then iterate 1,000 track-records, generating 1,000 excess return observations for a given 3-yr period.

We then take the average of each 1,000 excess returns and roll forward the analysis by one week to generate another 3-yr period.

We look at all rolling 3-yr periods since 2000, being 834 at the time of this analysis.

This set of average excessreturns is then stressed with 1-13weeks of delay to see the erosion of return due to delay.

Modelling Assumptions

Asset Allocation Decision Simulation	
Number of changes p.a.	Six changes per year are assumed. This is intended to be a realistic approximation of a tactical or dynamic asset allocation level of activity. It also affords the program enough changes over a three-year window to assign the desired success rate.
Size of change	The portfolio change is a move of 5% in the asset allocation. This size does not change. We considered and tested larger moves, with predictable magnification in the value-add and opportunity cost.
Success definition	A successful change is a 5% allocation increase to the top performing asset class of the 7 in the portfolio. This is funded from the worst performing asset class. The performance period used is the forward-looking period that this change lasts before being replaced by a new portfolio change. This model depends on controlling the share of successful changes achieved by the program.
Non-success definition	Unsuccessful changes are a 50:50 mix of ineffectual changes (no value-add) and costly changes (value detracting). Costly changes are calculated as a 5% allocation increase to the worst performing asset class of the 7 in the portfolio, funded from the best performing asset class. An ineffectual change has no value add or detract impact. This is done to moderate the impact of the highly punitive definition of a costly change.
Level of Success	The success rate is the percentage of winning portfolio changes. In practice, the 56% success rate translates to 10 successful changes and 8 non-successful changes in a 3-year period. This level is intended to be a realistic level of success for an active asset allocation program. Higher and lower rates are available. We considered and tested higher success rates, with predictable magnification in the value-add and opportunity cost. One's ability to select a significantly more successful manager ahead of time is highly uncertain.
Success Observation period	The success rate is enforced over a 3-year period. With 6 portfolio changes in a year, it is simply not possible to achieve a 55% success rate i.e. 3.3 changes would need to be successful and fractional changes are not modellable.
Timing of change	The selected number of portfolio changes (6) are distributed across the 52 weeks of a 1-year window with a randomised process. A random number is assigned to each week, with the top ranked weeks receiving a portfolio change indicator. This achieves a consistent number (6) of portfolio changes per year, the timing of which is randomly assigned among the 52 weeks of the selected year. Every year is independently assigned to avoid generating repeated patterns in the data.
Timing of success	The defined number of successful and unsuccessful portfolio changes are assigned to the randomly timed portfolio changes. These are assigned using the same method as above but with a 3-year observation window. This achieves the consistent and defined number of successful changes in a 3-year period. This is intended to be a realistic period over which an active asset allocation strategy can achieve it long run success rate.
Runs	Randomly distributing the timing of successful and unsuccessful allocation changes makes any individual return series highly unrealistic. 1,000 different randomly distributed allocation change decision series were created and used in calculating the excess return averages as well as the cost of delay.
Delay	A weekly data set was used allowing delay to be modelled in weekly increments. Modelling delay involved implementing allocation decisions after the requisite time had passed. If a new allocation change was triggered while an old one was in delayed state, then the old change was replaced, and the delay timer restarted. A maximum of 13 weeks (3 months) was modelled as this is considered the outer range of time taken by advice firms seeking to implement changes to client portfolios.
Measure	Rolling 3-year figures are used to capture the effect of compounding in the value-add as well as the cost of delay. It is also intended to be a reasonable period over which active programs are assessed. Encompassing different market conditions, without being overly defined by a specific start and end points.