Things to consider when implementing an investment plan

After deciding on an asset allocation and which funds or ETFs to populate it, how best to put the plan into action? All at once or in stages? If in stages, how many and for how long? Looking out for portfolio "drift" and the options for rebalancing. These implementation decisions can have far greater impact on the value of investments than picking the "right" fund or portfolio.

In this series of articles, I look at some of the key topics explored in my book "How to Invest With Exchange Traded Funds" that also underpin the portfolio design work Elston does for discretionary managers and financial advisers.

Implementation is the process of putting an investment strategy plan into action. Implementation is key to investment outcomes whether transitioning an existing portfolio from one strategy to another, or whether investing fresh capital.

Implementing a new portfolio

Having decided on an amount to invest, the next hardest decision is when and how to start investing. Your entry level will be directly impacted by the immediate direction (sequence of returns) from the day you invest. You could think the market is too high and wait but it could climb higher. You could think you've bought the dip only to be catching a falling knife that marks the start of a steady and protracted decline. Deciding the "right time" to move assets from cash into risk assets can be tricky but staying out of the market is much more costly in the long run. So how best to invest: with a lump sum, or gradually phased over time?

Lump sum investing: in the very long run research suggests that investing with a lump sum delivers better returns in the long run (as capital is in the market for longer, despite near-term fluctuations). However in the short-run it can be a scary and stressful experience, particularly for new investors, if they see immediate paper losses. If the sight of those paper losses is likely to cause an investor to withdraw their capital from the market then real damage is done. So whilst from an academic perspective lump sum investing makes sense, for practitioners considering investor experience and behavioural risks, a phased approach may be less stressful.

Phased investing: Phased investing is a less stressful approach. By investing in regular intervals, short-term fluctuations smoothen out, and the investor achieves an entry price to risk assets that is the average over that implementation period.

The pace of phased investing consideration should be given to client needs, portfolio size and market conditions. If markets are upward trending, implementation should be rapid. If markets are uncertain or downward trending, implementation should be gradual. Timing the markets is impossible, hence the best approach is to make a plan and stick to it. This enables better acceptance of the outcome.

Implementing an existing portfolio where the asset allocation changes

Implementing an existing portfolio where there is a change in the asset allocation may also benefit from a phased approach to help smooth returns (ignoring any tax considerations). A rolling benchmark can be used to calibrate performance evaluation. An implementation window should

be agreed and any evaluation metric adjusted accordingly. Changes in tactical asset allocation should continue to be reflected immediately. By using a phased approach this can reduce portfolio sensitivity to short term market directional movements as it transitions to its new strategic posture.

Implementing an existing portfolio where there are only changes to underlying holdings

Implementing an existing portfolio where there is no change in asset allocation, but a material change in the underlying holdings (for example switching from active funds to ETFs) we recommend an immediate approach (assuming no tax considerations). This is because with no change in asset allocation, there is no change in the risk profile of the portfolio. Changes in tactical asset allocation should continue to be reflected immediately.

Drift and rebalancing

A key implementation decision is around portfolio rebalancing. Once a strategic allocation is set, investors need to decide what is an acceptable amount of drift, how frequently or infrequently to rebalance and on what basis to do so[1].

Allocation ranges

As the asset returns of each asset class in the allocation vary, the weight of each asset class will "drift" from its start weight. Left unchecked, or if rebalancing is too infrequent, the risk profile (expected risk-return) of the allocation may vary significantly from target weights. Investors should specify to what extent they will allow such "drift" by specifying the minimum and maximum asset allocation ranges for each asset class. This can be expressed arithmetically (e.g. a 50% strategic allocation to equities can drift between +/-2.5ppts from the target weight), or geometrically (e.g. a 50% strategic allocation to equities can drift between 0.95x and 1.05x of the target weight).

Rebalancing policy

After deciding on allowable ranges of drift, investors must consider the frequency of rebalancing.

The advantages of frequent rebalancing are:

- *Alignment to objectives:* the portfolio remains on track with its original objectives
- *Investment discipline:* by having a clearly articulated rebalancing process, investors are less swayed by short-run information overload which can lead to inertia[2].
- *Contrarian approach:* by rebalancing back to original weights, investors are forced to sell a portion of their outperforming asset classes and top up on their underperforming asset classes. This will appeal to contrarian investors[3].

The disadvantages of frequent rebalancing are:

- *Transaction costs:* the cost (dealing costs, bid-ask spread, and any tax considerations) of selling outperforming and buying underperforming securities to realign to original weights is a drag on performance.
- *Assumptions risk:* the capital market assumptions and relationships (asset class risk, return and correlation) for the original allocation may have changed.

[1] Dayanandan and Lam, "Portfolio Rebalancing–Hype or Hope?"
[2] O'Neill, "Overcoming Inertia"; Benartzi and Thaler, "Heuristics and Biases in Retirement Savings Behavior."
[3] Sharpe, "Adaptive Asset Allocation Policies."

- *Momentum approach:* by rebalancing back to original weights, investors are forced to sell a portion of their outperforming assets. This will not appeal to momentum investors.

In conclusion, for contrarian investors, regular rebalancing makes sense, but investors need to achieve a balance between frequency and trading and other frictional costs. Hence the more long-term your portfolio, the less frequently you need to rebalance. The more short-term your portfolio the more frequently you need to rebalance. A useful rule of thumb would be to consider quarterly rebalancing for medium-term portfolios (3-10 years), semi-annual rebalancing for long-term portfolios (10-20 years) and annual rebalancing for longer term portfolios (>20 years). It follows that the less frequent the rebalancing, the greater the range of allowable drift should be.

Bringing this together, the investment time horizon, rebalancing frequency, and allowable drift ranges will differ from mandate to mandate.

Rebalancing triggers

When selecting a rebalancing trigger, investors can select one of the following:

- *Time-based:* asset allocation is rebalanced on a particular calendar day, for example, the last day of each quarter, or the last day of each year, regardless of the degree of drift.
- *Weight-based:* asset allocation is rebalanced at any time when drift weights exceed the allowable range.
- *Time- and weight-based:* asset allocation is rebalanced on a particular calendar day only if drift weights exceed the allowable range

After deciding on frequency of review, drift ranges, and type of trigger investors need to decide on what weighting scheme to implement.

Types of rebalancing

When selecting a weighting scheme, investors can select one of the following:

- *Rebalancing to the original strategic allocation:* this is the simplest approach. However over the long run (e.g. 11-20 years) the assumptions that underpinned that original allocation may be out of date in which case the allocation may no longer be appropriate to the objectives
- *Rebalancing to a new strategic allocation:* all assumptions (e.g. asset class risk, return, and correlation together with optimisation process) regarding the original strategic allocation are reviewed and a new strategic allocation is created. This can be a laborious process, and given strategic allocations are meant to be long-term, this approach makes sense no more frequently than every 5 years.
- *Rebalancing to tactical allocation weights:* rather than rebalancing to strategic weights, the rebalancing process could be used to express a tactival view each time. This approach makes sense where there is a clear framework for implementing tactical asset allocation decisions and reviewing them frequently.

Rebalancing and cash flow

Finally there investors can use cashflows where available to mitigate trading costs. Where there is no new capital introduced, the rebalancing process will necessarily consists of sales and purchases of each asset class to realign to target weights. Where there is sufficient capital being introduced,

that opportunity can be used to make purchases only, to realign the portfolio to target weights. This reduces trading costs.

Rebalancing enforces investment discipline, but there is a balance to be struck between accuracy of target weights and trading costs. The degree to which a portfolio is traded (with associated transaction costs) is called portfolio turnover, and this is one of the technical considerations for portfolio implementation.

Technical considerations

Portfolio turnover

Decisions around rebalancing will directly impact portfolio turnover. Turnover is the measure of the extent to which a portfolio is changed. Annual turnover is calculated by taking the lesser of the value of securities purchased or sold during one year and dividing that by the average monthly value of the portfolio for that period. Lower portfolio turnover (e.g. 0-20%) is closer to a "buy-and-hold" strategy which has lower transaction costs. Higher portfolio turnover (e.g. 80% or more) is closer to a frequent trading strategy, which has higher transaction costs. The type of strategy and related turnover should be consistent with the investment objectives.

Taking the inverse of the annual turnover figure gives the average holding period. For example, for a portfolio with annual turnover of 20%, the average holding period for a security is 5 years, For 200% it is 0.5 years.

Whilst evidence suggests that lower turnover strategies tend to outperform higher turnover strategies[4], the main value of the turnover ratio is to ensure that the portfolio is being managed in alignment with the agreed mandate.

Regular investing with Pound Cost Averaging

For DIY investors who don't have large lump sums to invest one of the most effective ways to resolve implementation risk is to adopt a permanent phased investment approach known as a regular investment plan. The benefit of this approach is known as pound cost averaging. Pound-cost averaging is a popular investment strategy where the same dollar amount is invested sequentially over a number of time-periods.

Pound cost averaging[5] smooths the entry point for investments over each year. It means investors are topping up when markets are down and are buying less when markets are up. In this respect the approach is contrarian. The primary benefit of pound cost averaging is not necessarily that it improves returns, but it reduces the stress and anxiety associated with worrying about market levels. By breaking one large investment decision into a sequence of investments, the investor essentially diversifies their risk to obtain an entry price of an investment closer to the average price of an investment for the given time frame that was used to purchase it.

While the majority of academic research notes the inferior performance of pound-cost averaging relative to lump sum investing over the long run[6], there is evidence that pound-cost averaging

[4] Cremers and Pareek, "Patient Capital Outperformance."
[5] Agarwal, "Exploring the Benefits of Pound Cost Averaging"; Morningstar Equity Analysts, "The Benefits of Pound Cost Averaging."
[6] for example see http://www.morningstar.co.uk/uk/news/96177/is-pound-cost-averaging-overrated.aspx/

can lead to higher returns in the case of lower volatility funds or when there is a substantial chance of an investment losing value[7].

There is also the practical considerations ignored by academics that many DIY investors find it easier to allocate a certain portion of monthly income to their investments rather than a lump sum. For example, for most DIY investors it's easier from a cashflow perspective to invest £500 per month into an ISA than to make a lump-sum investment of £6,000.

Finally, evidence suggest that DIY investors tend to be their own worst enemy when attempting to time the market. Analysis of equity allocations for the period 1992-2002 for over a million accounts reveals that individuals frequently end up buying high and selling low[8] and there is also evidence that an average investor performs worse than the corresponding benchmark[9].

A disciplined investment approach of pound-cost averaging mitigates investors' temptation to time the market[10] and therefore protects against the cognitive errors that lead to suboptimal investment outcomes[11]. Furthermore, it nudges right decisions in a bear market, "buy low", precisely when investors' confidence in the stock market is weakened[12]. Studies in the UK market suggest that retail net fund flows are broadly influenced by the direction of the market with inflows chasing up-markets, and out-flows chasing down-markets. This contrary to the principles of value investing.

Pound cost averaging is therefore an antidote to many of the behavioural pitfalls that can catch investors out.

Summary

These are the main implementation considerations when setting up a new or transitioning an existing portfolio.

- Decide on takin either a lump sum or phased investment approach
- Remember how portfolios can drift from their target allocation
- Examine the different approaches for implementing a rebalancing policy to strategic or tactical weights.
- Budget for portfolio turnover
- Consider pound cost averaging of regular contributions as this helps design out some of the more common behavioural pitfalls associated with investing as well as creating an regular investing habit.

[7] Leggio and Lien, "An Empirical Examination of the Effectiveness of Dollar-Cost Averaging Using Downside Risk Performance Measures."
[8] Benartzi and Thaler, "Heuristics and Biases in Retirement Savings Behavior."
[9] Dalbar, Inc. & Lipper, "Quantitative Analysis of Investor Behavior."
[10] Kahneman and Tversky, "Prospect Theory."
[11] Statman, "A Behavioral Framework for Dollar-Cost Averaging"; Benartzi and Thaler, "Heuristics and Biases in Retirement Savings Behavior."
[12] Cohen, Zinbarg, and Zeikel, *Investment Analysis and Portfolio Management, Homewood, Illinois.*

