A Behavioural Finance Toolkit
Six Steps to Better Investment Decision Making

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Our Thinking:
Thought Leadership

Our thought leadership papers deliver thought-provoking analysis of key investment themes. Through focused and unique insights into topical issues, we aim to provide investors with a deeper understanding of the challenges and opportunities within global investment markets.
Introduction

What is behavioural finance? What behaviours prevent us from making the right investment choices? How can we improve our investment decision making?

The study of behavioural economics allows us to better understand the decisions we make. We show how behavioural finance can lead to better investment decision making. We explore the inherent biases we must overcome to achieve our long-term investment goals. And we provide six tips to improve investment decision making.

Digging deeper, we look at ‘noise’, the random and irrelevant variables that affect our decisions. And we provide lessons from four books that changed the way we think about thinking.

“We show how behavioural finance can lead to better investment decision making.”
Executive summary

Behavioural finance aims to influence – and hopefully improve – our financial decisions. It helps us understand the gap between how we should invest and what we actually do. This ‘behavioural gap’ can come with a significant cost - sub-optimal investment performance.

An understanding of our own behaviour should be at the forefront of every decision we make. We exhibit a number of biases in our decision making. While we cannot remove these biases, we can seek to better understand them. We can build more systematic processes that prevent these biases adversely influencing the decisions we make.

Investors should focus on those biases that are most likely to impact their investment decisions – and those supported by robust evidence. We have developed a checklist to reduce errors from the key behaviours that affect our investment decisions - ‘MIRRORS’.

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Our decisions are affected by noise; random fluctuations in irrelevant factors. This leads to inconsistent judgement. Investors can reduce the effects of noise and bias through the consistent application of simple rules.

We offer six simple steps to improve decision making; three dos and three don'ts.

| 1 | Do have a long-term investment plan. |
| 4 | Don’t check your portfolio too frequently. |
| 2 | Do automate your saving. |
| 5 | Don’t make emotional decisions. |
| 3 | Do rebalance your portfolio. |
| 6 | Don’t trade! Make doing nothing the default. |

These six steps seem simple but are not easy. We cannot remove our biases, or ignore the noise. Instead, we must build an investment process that helps us overcome them.
“An understanding of our own behaviour should be at the forefront of every decision we make.”
What is behavioural finance?

Behavioural finance aims to influence – and hopefully improve – our financial decisions.

Behavioural finance is the branch of behavioural economics that focuses on finance and investment. Behavioural economics is a common feature of our lives today. It has changed the wording of our tax request letters and the food options in our canteens, usually without us even noticing. There is a growing drive to better understand how we behave - and how this affects the decisions we make.

Behavioural economics is still in its infancy. It encompasses elements of psychology, economics, sociology, anthropology and other fields.

This combination is both a blessing and a curse. The attempt to marry lessons from different areas is refreshing, but can make the subject appear complex and difficult to apply in everyday situations. Yet the essence of behavioural economics is simple. It can be narrowed down to five questions.

1. What is the problem or issue?
2. What is our rational or optimal decision?
3. How do we actually behave?
4. What is causing this difference between what we should do and what we actually do?
5. How can we alter behaviour to deliver better outcomes?

Case study: “Save More Tomorrow”

One successful application of behavioural finance is the “Save More Tomorrow” scheme for US defined contribution pension plans.

1. What is the problem or issue?
   The movement from Defined Benefit to Defined Contribution pensions puts a greater onus on individuals to save for their retirement. However, people tend to either make minimal or no contributions to their pensions. This causes financial problems in retirement.

2. What would be considered rational behaviour?
   Individuals should build a pension pot that can provide an acceptable standard of living in retirement. To achieve this aim, they should start saving early. This allows the power of compounding of long-term returns. And they should increase their savings rate as rising wages increase their disposable income.

3. How do we actually behave?
   Shlomo Benartzi and Richard Thaler, the architects of the scheme, talk of a global “Retirement Savings Crisis”. Inadequate saving means many workers will have an inadequate pension income.

4. What is causing this difference?
   There is a range of behavioural biases contributing to the problem, including:
   - our tendency to think that the present is more important than the future
   - limits to our self-control and
   - our dislike of reducing our disposable income (or loss aversion).

5. How can we alter behaviour to deliver better outcomes?
   Individuals who enrol in the “Save More Tomorrow” scheme agree to increase pension contributions every time their wages rise (up to a pre-defined maximum). This removes a number of the hurdles to achieving higher savings. By pre-approving future increases, individuals no longer sacrifice current spending. And by linking growth in contributions to rising pay, they never experience a loss in take-home pay through pension contributions.

A lengthy time period will be required to assess the long-term effectiveness of the scheme. However, early signs are encouraging. Initial participants saw their saving rate increase from 3.5% to 13.6% across four pay rises. It has proved particularly effective when used alongside auto-enrolment. This boosts participation because of our inclination to stick with the default option.

Simple steps can have a profound impact on long term outcomes.

Closing the behaviour gap

An understanding of our own behaviour should be at the forefront of every decision we make. As Charlie Munger, Warren Buffett’s business partner, put it: “How could economics not be behavioural? If it isn’t behavioural, what the hell is it?”

Failure to consider our behaviour can come with a significant cost – or ‘behaviour gap’. This gap is the difference between the returns on an underlying investment and the returns actually received by the investor. It can occur if investors succumb to behavioural biases and make poor decisions.

Closing this gap is difficult. Logic points in one direction and the human mind in another. We often struggle to believe the biases that lead to sub-optimal behaviour apply to us. Possible solutions are often counter to received wisdom. The unpredictable nature of financial markets seems designed to lure us into errors of judgement.

Schemes such as “Save More Tomorrow” show us the potential benefits of better managing our own behaviour.

1 Compound interest has been called the eighth wonder of the world. A study by CLSA research (featured in the Telegraph, Richard Evans, 7 April 2014) found that an investor who starts saving at the age of 21 and stops at age 30 will end up with a bigger pension pot than a saver who starts at 30 and continues to save until retiring at 70. The investment returns themselves generate future gains. The research assumes investment growth of 7% per annum.
“The human mind is fundamentally not a logic engine, but an analogy engine, a learning engine, a guessing engine, an aesthetics-driven engine, a self-correcting engine.”

Douglas Hofstadter, foreword to Godel’s Proof by Nagel & Newman
Part II

Understanding our biases

Behavioural economics moved into the mainstream when psychologist Daniel Kahneman was awarded the Nobel Prize for economics. Ironically, his work was critical of classical economics. He focused on how human behaviour differs from what economists would expect, from their theoretical viewpoint.

Kahneman is best known for identifying a range of cognitive biases in his work with the late Amos Tversky. These are our consistent deviations from rational behaviour. For example, the 'endowment effect' is our tendency to value things more highly when we own them. A research study found that participants willing to buy a lottery ticket for $1.28 would only sell a ticket they already owned for $5.18. This is clearly not rational, economically consistent behaviour. The odds of winning are the same for both tickets. And why would we have an emotional attachment to a piece of paper?

But it also feels intuitively correct. Imagine you won tickets to the Wimbledon final. There is a good chance that your selling price for the tickets would be far higher than the price you would have been willing to pay. This example may seem trivial. Yet we find this behaviour across a range of different scenarios.

“We are all susceptible to a formidable array of decision biases. There are more of them than we realize and they come to visit us more often than we like to admit.” (Ariely & Jones, 2013)

The number of cognitive biases identified has exploded. Wikipedia lists hundreds, from the ‘ambiguity effect’ to the ‘Zeigarnik effect’. The growing awareness of our behavioural foibles is undoubtedly positive. However, the vast list of biases – real or perceived – can be unhelpful. We want to better understand our behaviour, but there is a danger that we become lost in a sea of biases.

Investors should focus on those biases that are most likely to impact their investment decisions – and those supported by robust evidence. We have developed a checklist to reduce errors from the key behaviours that affect our investment decisions - ‘MIRRORS’. It provides key questions to ask yourself before making an investment decision.

**MIRRORS: a checklist of our main behavioural biases**

Atul Gawande is a US surgeon who developed a simple safe surgery checklist for the World Health Organisation. They applied it around the world with staggering success. In The Checklist Manifesto, he explains how checklists encourage consistent behaviour in order to limit mistakes.

A checklist for investors cannot be as specific as in surgery, where questions such as: ‘Have you washed your hands?’ or ‘Are you operating on the correct leg?’ can be definitively answered. In investment, very few issues are as clear cut. However, we can ensure that we integrate the consideration of behavioural issues into our decision making.

The ‘MIRRORS’ checklist addresses the major impediments to effective investment decision-making; the behaviours that create the ‘behaviour gap’. These are the behaviours.

| M | Myopic Loss Aversion | We are more sensitive to losses than gains, and overly influenced by short-term considerations. |
| I | Integration | We seek to conform to group behaviour and prevailing norms. |
| R | Recency | We overweight the importance of recent events. |
| R | Risk Perception | We are poor at assessing risks and gauging probabilities. |
| O | Overconfidence | We overestimate our own abilities. |
| R | Results | We focus on outcomes - the results of our decisions - when assessing their quality. |
| S | Stories | We are often persuaded by captivating stories. |

**Myopic Loss Aversion** – We are more sensitive to losses than gains and overly influenced by short-term considerations.

Myopic loss aversion is stimulated by focusing on short-term performance. We check our portfolios frequently, even if we have a long-term investment horizon. Investors who received the most frequent feedback took the least risk according to one study. And made the least money. Making frequent investment decisions worsens the decisions made.

Technological developments have improved our ability to monitor our investments. But this increases the difficulty of sticking with the appropriate long-term investment strategy.

We often struggle to cope with short-term losses. This happens even if the losses are irrelevant in the context of our long-term goals. This can lead investors to take insufficient risk in their portfolios.

Loss aversion is the best-known finding from behavioural economics. Yet investors underestimate the importance role of reference points. We experience losses relative to a particular reference point – a starting level, value or benchmark. The choice of reference point changes how we think about investment performance – and the decisions we subsequently make.
Reference points can vary between individuals, even with the same investment. How we compare our investments and set expectations can alter our decision making. We need to make comparisons when we assess performance. But it is crucial that these comparisons are sensible, relevant and applied consistently.

**Integration** – We seek to conform to group behaviour and prevailing norms.

Social proof is our propensity to base our decisions on the behaviour of others. This is one of the six principles of persuasion outlined by psychologist Robert Cialdini in his landmark work, *Influence*. There is no better setting to help us understand herd mentality than financial markets. Our desire to follow what others are doing is a strong driver of behaviour. The more we see other people doing something, the more we believe that it is the right thing to do.

Charles Mackay documented the damaging impact of crowd psychology in *Extraordinary Popular Delusions and the Madness of Crowds*, published in 1841. The lessons learned in studying events such as Tulipomania (1636 – 1637) and The South-Sea Bubble (1720) remain relevant today. Our desire to conform plays a key role in fuelling financial bubbles and crashes. It is also a crucial element of successful financial frauds.

“Our desire to follow what others are doing is a strong driver of behaviour. It plays a key role in fuelling financial bubbles and crashes.”

**Recency** – We overweight the importance of recent events.

Recency bias is our inclination to focus on events that have occurred in the recent past – and overstate their importance in determining future outcomes. As investors, we tend to assume that future performance will be a continuation of the recent trend. We feel positive about stock prices close to the market peak and reticent to invest at the bottom. Our decisions are swayed by the most recent news headline, even when making long-term decisions.

When asked what would be learnt from the Global Financial Crisis, veteran fund manager Jeremy Grantham observed: “We will learn an enormous amount in a very short time, quite a bit in the medium term and absolutely nothing in the long term.”

**Risk Perception** – We are poor at assessing risks and gauging probabilities.

We are poor at judging the risk of low-probability events. We overestimate the odds of winning the lottery. When betting on horse racing, the longshot is ‘overbet’ and the favourite is ‘underbet’. Yet we also disregard certain low-probability risks, such as failing to insure ourselves against catastrophes like floods and earthquakes.

We exhibit ‘probability neglect’. Our decisions are affected by how readily an example comes to mind. We let emotions override analysis when we assess the likelihood of an event.

This behaviour is evident after severe market declines. Investors become more risk averse, despite cheaper valuations improving expected long-term returns. The emotional toll of losses – and the recent experience of severe losses – overwhelms rational, long-term thinking. Similarly, strong markets lead investors to underestimate or ignore the probability of significant market losses.

**Overconfidence** – We overestimate our own abilities.

Overconfidence is readily observed. The vast majority of individuals believe that they are an above average driver. Digging deeper, it has been argued that there are three distinct types of overconfidence.

1. We overestimate our own performance level.
2. We believe we are better than others.
3. We believe we know the right answer.

Overconfidence can create costly problems for investors, such as insufficient portfolio diversification and overtrading. We make decisions based on forecasts of economic data, politics and markets despite the difficulty of predicting the future. Our confidence can tempt us into short-term trading, despite the challenges of anticipating the moves in volatile and often random markets. It is important to be humble in our investment decision making.

**Results** – We focus on final results and outcomes when assessing the quality of a decision.

Outcome bias is our propensity to judge a decision by its eventual result instead of the quality of the decision.

If I bet my life savings on a game of poker, you would think this was a poor decision, irrespective of the outcome. Yet the result alters our view. If I am financially ruined, it was a foolhardy decision. If I make my fortune, I may be lauded for my skills at the poker table.

This focus on results is problematic for investors because financial markets are inherently random (at least over short time periods). Astute decisions can lead to bad outcomes. Increasing allocations to equities after a period of weakness is likely to be a sensible decision. Valuations will be lower and therefore long-term expected returns higher, all other things being equal. Yet the most recent outcome means we tend to focus on the fact that they may continue to fall. This can make a sensible decision to increase equities appear unjustly imprudent.
Stories – We are persuaded by compelling stories.

Stories are fundamental to how we understand the world. This is true across cultures and generations. Compelling narratives are particularly important in areas of high complexity such as financial markets.

We use stories to try to explain and simplify the randomness of markets. They are also the hallmark of manias and panics. No investment bubble has occurred without the tailwind of a captivating story. Even professional investors rely on stories to make investment decisions.

Even investors using computer-driven decision making to manage their portfolios are susceptible to the power of stories. Their models incorporate underlying assumptions about how markets work. They assume that the future will closely resemble the past. Investors need to realise that their models are a model, not the model.

Our susceptibility to narratives leaves us vulnerable to poor investment decisions. We are drawn to simple stories that allow us to make sense of highly complex issues. But this can draw us away from evidence-based decision making. Today’s headline reads “Stocks Rally in Europe and Asia Ahead of Trade Talks” but a more accurate description might be “Stocks Fluctuate due to Normal Random Movements”. These changing narratives lead investors to trade too frequently.

How to Use the Checklist

Using a checklist is no panacea. We cannot overcome our ingrained biases simply by ticking boxes. However, by asking ourselves some key questions before we make a decision, we can aim to reduce errors of judgement and deliver better investment outcomes.

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<th>Myopic Loss Aversion</th>
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<td>Am I reacting to short-term losses?</td>
<td>YES</td>
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<td>Am I joining the crowd or participating in a ‘flavour of the month’ trade?</td>
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<td>Am I being overly influenced by recent, prominent news?</td>
<td>YES</td>
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<th>Risk Perception</th>
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<td>Have I considered best and worst case scenarios for my decision?</td>
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<td>Am I being over-confident in my ability to forecast the future – and the range of possible outcomes?</td>
<td>YES</td>
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<td>Would I still make the same decision if historic performance had been different?</td>
<td>YES</td>
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<td>Is there a captivating narrative influencing my investment?</td>
<td>YES</td>
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Digging deeper:

Turning Down the Noise

‘Noise’ refers to the random variables that affect our decisions. Our judgements are guided by informal experience and general principles rather than by rigid rules. Where there is judgement, there is noise. Our choices are influenced by irrelevant factors. This leads to inconsistent judgements. Investors can reduce the effects of noise through the consistent application of simple rules.

Daniel Kahneman is mostly associated with behavioural biases, but he has recently focused on a different phenomenon – ‘noise’. Our biases are our behaviours that are consistently sub-optimal - at least in direction, if not magnitude. By contrast, noise is defined by the absence of consistency. A watch that loses time each day is biased. A watch that can either gain or lose time during any given day is noisy. The image below illustrates the distinction.

Our judgements are guided by informal experience and general principles rather than by rigid rules. This leads to inconsistent judgements. Kahneman cites the example of software developers asked to estimate the completion time for a given task. On two separate days, the hours they projected differed by 71%.

Individual choice is “strongly influenced by irrelevant factors”xxv. However, it is hard to identify, isolate and anticipate these irrelevant factors. (By contrast, our MIRRORS framework helps to define, understand and cope with some of our biases.)

Noise can stem from entirely spurious factors. We are influenced by variables that we perceive to be meaningful but are in fact meaningless. Notably, our decisions change with how we feel at the time of a decisionxxvi.

In investment, we are often uncertain about the issues that are genuinely relevant to a decision. When making investment decisions, we can define two separate forms of noise:

- Unconscious noise. Irrelevant factors will influence our judgement. Given the same information, we are unlikely to make the same decision at a different time.
- Conscious noise. Information that we believe is relevant, but actually should have no bearing on our judgements, influences our decision making.

With unconscious noise, there are many factors that impact our decision making over which we have no awareness. Indeed, if asked, we might well be reticent to acknowledge that many had any influence over us (such as the fact that we were hungry at the time).

With conscious noise, the issue is uncertainty about what constitutes relevant information and what is noise. We are bombarded on a daily basis by information on companies and economies. Yet a tiny fraction of this information is relevant to our long-term investment strategy.

Noise is an inescapable feature of human judgement. In investment markets, where daily price moves are random and the future uncertain, its influence is profound. It is impossible to eradicate it. Instead, investors should acknowledge its presence.

What steps can investors take to counteract noise? A more systematic approach to decision making can reduce its influence. And this does not have to mean handing over the decision making to a computer algorithm. Human judgement can be a useful input. The key is to adopt procedures that promote consistent decision making. Algorithms do better in the role of final decision maker in many situations. “Unlike humans, a formula will always return the same output for any given input.”

Nor does a process have to be complicated. “You can reap most of the benefits by using common sense to select variables and the simplest possible rules to combine them.”

The consistent application of simple rules is an effective way of mitigating the negative impact of noise.

How Noise and Bias Affect Accuracy

A. Accurate

B. Noise

C. Biased

D. Noisy and biased

Source: Daniel Kahneman, Andrew M Rosenfield, Linnea Gandhi and Tom Blaser from “Noise” October 2016 @hbr.org
“Where there is judgement, there is noise – and usually more of it than you think.”

Daniel Kahneman
Part III

A behavioural finance toolkit for investors

Making sensible investment decisions is difficult. We are subject to a range of behavioural biases. We have to cope with incessant noise around financial markets. We behave in ways that are inconsistent with our long-term investment objectives. So what can we do about it?

Six Tips for Better Investment Decision Making

The first step is to understand that we cannot rid ourselves of bias. Nor can we hope to ignore all the noise. However, we can take six simple steps to achieve better outcomes; three dos and three don’ts.

1. Do have a long-term investment plan.
2. Do automate your saving.
3. Do rebalance your portfolio.
4. Don’t check your portfolio too frequently.
5. Don’t make emotional decisions.
6. Don’t trade! Make doing nothing the default.

1. Have a long-term investment plan. Writing down the answers to a set of obvious questions about your investments can help you focus on long-term strategy. The answers can help you make considered, consistent decisions.

Questions include:

• why am I investing?
• what is my time horizon?
• why have I chosen this particular portfolio / investment / manager?
• am I comfortable with the temporary losses that could result in difficult market conditions? and
• what would I do in such a situation?

This approach helps you ensure that your investment decisions are prudent and realistic. Revisiting your strategy can help during times of market stress. How you think you will act during a sustained stock market decline can be different from what you actually do. In a cool, rational state you may plan to add money at more attractive prices. Without a clear plan, amid the stress of losses and negative news stories, you might instead sell.

There are no guarantees that referring back to a long-term plan will prevent you making poor decision. But rehearsing future scenarios can have a significant impact on future behaviour.

2. Automate your saving. Learn the lessons of the “Save More Tomorrow” scheme and save according to predetermined rules. Committing to regular saving removes the emotional effect of market moves on your investment decisions. You will reduce your loss aversion. If the market falls sharply, you will be buying more at lower levels. If it rises, your existing holdings will have benefitted.

By agreeing to increase your contribution every time your wages rise, you will never experience a loss in take-home pay through your pension saving.

3. Rebalance your portfolio. One simple and effective decision rule is portfolio rebalancing. A structured and consistent approach to rebalancing a portfolio back to target weights removes the need for human judgement. It cancels out market noise. (Indeed, rebalancing can become a source of return when noise temporarily takes prices further away from fair value.) It ensures that your portfolio does not stray too far from its desired allocation. You will consistently sell assets that have outperformed and reinvest in those that have lagged.

4. Don’t check your portfolio too frequently. The more frequently we check our portfolios, the more short-term we become. This can make us too risk averse.

Today’s investors enjoy increased transparency and control over their portfolios. This brings many advantages. Unfortunately it can also bring with it a range of behavioural problems for the long-term investor. Viewing our portfolios on a daily basis creates the urge to trade, often at the worst possible times.

Investors should focus on setting a sensible investment plan. Once this is in place, we should try to restrict our observations to an appropriate frequency. Once a month, once a quarter or even once a year is usually sufficient in the author’s view.

There are a number of gentle nudges that investors can use on themselves. For example, set a password for your investment account that is difficult to remember. Or store the password somewhere it takes a modicum of effort to retrieve. By making something more difficult to do, we can change our behaviour.

5. Don’t make emotional decisions. How we ‘feel’ at any given point in time can influence how we perceive risks and assess opportunities. Making an investment decision in an emotional state – excitement or fear – is fraught with problems. If emotion is overwhelming your thinking, postpone the decision. If the idea is a good one today, it is still likely to be tomorrow.

6. Don’t trade! Make doing nothing the default. The more we are bombarded with news, information and opinion the greater the temptation to react. This can lead to costly overtrading, and investments being whipsawed between the latest fad or fashion. For a variety of reasons, doing nothing is the hardest decision to make for an investor. But it is often the correct one.

To be clear, ‘doing nothing’ does NOT mean sitting in cash. ‘Doing nothing’ means doing nothing that takes you away from your long-term investment plan.
“Time is your friend; impulse is your enemy.”

“We can take six simple steps to achieve better outcomes; three dos and three don’ts.”
Digging deeper:

Four thinkers on thinking

Four books changed the way we think about thinking. *Thinking, Fast and Slow* by Nobel Prize winner Daniel Kahneman condenses a lifetime’s work into a highly readable book. He introduces us to our most important behavioural biases. *Influence* by Robert Cialdini sets out the six shortcuts that people use to get us to say “yes”. *The Checklist Manifesto* by surgeon Atul Gawande explains why checklists are a powerful tool to help us achieve consistency. *Expert Political Judgement* by Philip Tetlock identifies four obstacles to good judgements.

**Thinking, Fast and Slow**

If you are only going to read one book on behavioural economics, this is the one. Psychologist and Nobel Prize winner Daniel Kahneman condenses a lifetime’s work into a highly readable book. While there have been challenges to the replicability of some of the studies cited, the book remains the one ‘must-read’.

Kahneman contends we think in two ways. System one is fast and intuitive. System two is slow and rational. Using system one is effort free, while system two requires work. Most of the decisions we make in life are made by system one. Our intuitions are right most of the time. But they are the source of our many thinking errors – or biases.

Understanding our biases does not allow us to overcome them. Instead, better decision making happens when we design processes that cope with these biases. Khaneman helps us understand when we can rely on our instincts and how we can counteract our biases.

**Influence: The Psychology of Persuasion**

Psychology professor Robert Cialdini’s influential book sets out the six shortcuts that people use to get us to say “yes”.

1. **Reciprocity.** “People are obliged to give back to others the form of a behaviour, gift or service that they have first received.”
2. **Scarcity.** “People want more of the things they can have less of.”
3. **Authority.** “People follow the lead of credible, knowledgeable experts.”
4. **Consistency.** “People like to be consistent with the things they have previously said or done.”
5. **Liking.** “People prefer to say yes to those that they like.”
6. **Consensus.** “People will look to the actions and behaviours of others to determine their own.”

These six principles can help you influence others. Understanding them will help alert you to the tactics people use to influence you.

**The Checklist Manifesto: How to Get Things Right**

Atul Gawande is a professor of surgery at the Harvard Medical School. He and his team have developed a simple to-do list that led to dramatic improvements in infection rates.

Gawande demonstrates that many errors come from ineptitude rather than ignorance. We know what we should do. But we do not apply this knowledge consistently and correctly. A checklist is a powerful tool to help us achieve consistency. It forces us to actively acknowledge that we have carried out every step of an agreed process.

A checklist is particularly powerful in situations where there is one right way of doing things. An airline pilot will follow the same procedure every flight. But they can still be useful in fields like fund management where decisions are less clear cut. They also force us to revisit previous errors.

Culture plays an important role in the effective use of checklists. The nurse must be empowered to point out the error of the surgeon, the co-pilot the error of the pilot. We must be willing to learn from our mistakes.

**Expert Political Judgement**

Psychologist Philip Tetlock identifies four obstacles to making good judgements.

1. **We prefer simplicity.** This means we make poor judgements in complex situations.
2. **We have an aversion to ambiguity.** This leads us to poor decisions in inherently ambiguous situations.
3. **We have “a deep-rooted need to believe we live in an orderly world”.** We see the shapes of animals in clouds. And find patterns in financial data that are equally short-lived.
4. **We are unable to accurately judge the role of chance.** Many of our errors of judgement are due to our inability to intuitively calculate the true odds of potential outcomes.
We cannot control markets, but we can learn to control our own behaviour. We can close the gap between what we plan to do and what we actually do. This ‘behaviour gap’ has a cost. When we fall victim to our own biases, we lower the expected return on our portfolio.

The first step to making better decisions is to better understand the biases that influence those decisions. We need to understand these biases in order to overcome them.

We have too many biases to capture them all in this paper – or in our decision-making process. We identify the seven major impediments to effective investment decision making and provide the ‘MIRRORS’ checklist to address them.

We need to turn down the volume on noise. Resisting the urge to check our portfolio on a daily basis – or to trade on the latest news story – will make it easier to stick with our long-term investment strategy.

We offer six simple steps to improve decision making; three dos and three don’ts.

1. Do have a long-term investment plan.
2. Do automate your saving.
3. Do rebalance your portfolio.
4. Don’t check your portfolio too frequently.
5. Don’t make emotional decisions.
6. Don’t trade! Make doing nothing the default.

These six steps seem simple but are not easy. We cannot remove our biases. Instead, we must build an investment process that helps us overcome them. This process will – and should - inevitably incorporate human judgment, but it must be included in a systematic way.

We hope this paper helps you understand your own biases. And helps you achieve better long-term investment results.

### References

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