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Behavioural Finance

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4. Behavioural Finance

Individual bias

Portfolio issues

Behavioural Finance

- Behavioural finance studies the **psychology** of financial decision-making.
- Most people know that **emotions** affect investment decisions.
- People in the industry commonly talk about *the role greed and fear play* in driving stock markets.
- Behavioural finance extends this analysis to the role of **biases** in decision making, such as **the use of simple rules of thumb** for making complex investment decisions.

OBS: In other words, behavioural finance takes the insights of psychological research and applies them to financial decision-making.

4.1 Individual Biases

- Learning objectives
- Overconfidence
- Loss Aversion
- Inertia
- (Mis)Using Information
- Questions
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Learning objectives

- understand the purpose of behavioural finance
- distinguish between cognitive errors and emotional biases
- explain how biases may lead to irrational behaviour and undesirable outcomes
- discuss commonly recognised behavioural biases and their implications for financial decision making
- identify and evaluate individual' behavioural biases
- identify and evaluate group biases
- propose solutions to overcome/control such biases

Individual Biases

- Research in psychology has documented a range of decision-making behaviours called **biases**.
- These biases can affect all types of decision-making.
- The biases relate to how we **process information** to reach decisions and the **preferences** we have.
- The biases may serve us well in certain circumstances, but in investment they may lead us to **unhelpful or even hurtful decisions**.
- As a fundamental part of human nature, these biases affect all types of investors, both professional and private.
- A variety of documented biases arise in particular circumstances, some of which contradict others.

***OBS:** If we understand them and their effects, we may be able to reduce their influence and learn to work around them.*

i) Overconfidence

- Psychology has found that humans tend to have unwarranted confidence in their decision making. In essence, this means having an inflated view of one's own abilities.
- This trait appears universal, affecting most aspects of our lives.

=> Researchers have asked people to rate their own abilities, for example in driving, relative to others and found that most people rate themselves in the top third of the population. Few people rate their own abilities as below average, although obviously, by definition of average, 50% of all drivers are below average!



Overconfidence and investing

Overconfident investors may:

- overestimate their ability to identify winning investments.
- suffer from **misguided conviction** and, “sure” of the good prospects of a given investment, may choose to build under-diversified portfolios.
- Overestimate their **control over investments**.
 - ⇒ Bondt (1998) shows wealthy investors reported that their own stock-picking skills were critical to portfolio performance. In reality, they were too optimistic about the performance of the shares they chose, and underestimated the effect of the overall market on their portfolio's performance. In this simple way, investors overestimate their own abilities and overlook broader factors influencing their investment.

Too much trading

- Investors with too much confidence in their trading skill often trade too much, with a negative effect on their returns.
 - ⇒ Barber and Odean (1999) found that more active traders earned the lowest returns.

	Mean monthly turnover	Average annual portfolio return
20% least active traders	0.19%	18.5%
20% most active traders	21.49%	11.4%

Source: Brad Barber and Terrence Odean (1999) 'The courage of misguided convictions' Financial Analysts Journal, November/December, p. 50.



Skill and Luck

Overconfidence may be fuelled by another characteristic known as **self-attribution bias**.

- individuals faced with a **good outcome** following a decision, will view that outcome as a reflection of their ability and skill.
- however, when faced with a **bad outcome**, this is attributed to bad luck or misfortune.

***OBS:** This bias gets in the way of the feedback process of learning, allowing to block out negative feedback and the resulting opportunity to improve future decisions.*

ii) Loss aversion

Behavioural finance suggests investors are more sensitive to loss than what can be explained by the usual risk-return trade-off.

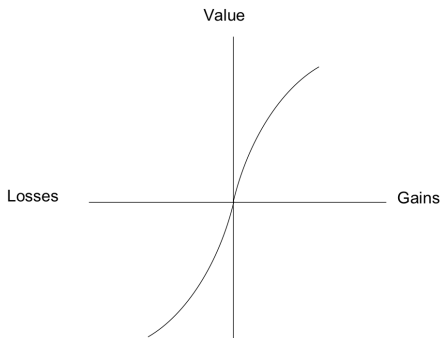
- Some estimates suggest people weigh **losses** more than twice as heavily as potential **gains**. For example,
 - most people require an even (50/50) chance of a gain of € 2 500 in a gamble;
 - to offset an even chance of a loss of € 1 000.
- The idea of loss aversion also includes the finding that people try to avoid locking in a loss.
 - Consider an investment bought for € 1 000, which rises quickly to 1 500. The investor would be tempted to sell it in order to lock-in the profit.
 - In contrast, if the investment dropped to € 500, the investor would tend to hold it to avoid locking in the loss.

***OBS:** The idea of a loss is so painful so people delay recognising it.*

Need to recover from Losses

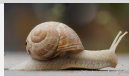
More generally, investors with losing positions show a strong **desire to get back to break even**.

- This means the investor shows highly **risk-averse** behaviour when facing a profit (selling and locking in the sure gain), and
- more risk tolerant or **risk seeking** behaviour when facing a loss (continuing to hold the investment and hoping its price rises again).



OBS: Investors tend to sell a winning position and to hold a losing one.

iii) Inertia and Regret avoidance



- **Inertia** means that people fail to get around to taking action, often even on things they want or have agreed to do.
- A related issue is a tendency to let emotions get you off from an agreed course of action - having second thoughts.
- The human desire to **avoid regret** drives these behaviours.
- Inertia can act as a barrier to effective financial planning, stopping people from saving and making necessary changes to their portfolios.
- A fundamental uncertainty or confusion about how to proceed lies at the heart of inertia.
 - ⇒ For example, if an investor is considering making a change to his/her portfolio, but lacks certainty about the merits of taking action, the investor may decide to choose the most convenient path – **wait and see**.

OBS: *As in many aspects of our lives, the tendency to **procrastinate** dominates financial decisions.*

Overcoming Inertia – autopilot

HOW PROCRASTINATION AFFECTS OUR FINANCES



“Never put off for tomorrow what you can do today.”

- In recent years behavioural researchers have designed “autopilot” systems to counteract inertia.
 - ⇒ For example, in the realm of retirement planning it has been observed that many individuals fail to join their company pension plan, possibly as a result of inertia. Changing the pension scheme so that employees are **automatically enrolled** in the scheme, while retaining a right to opt out, tends to boost take up rates considerably.
- The **automatic enrolment** approach puts inertia to positive use.

Autopilot approaches to investing

- **Autopilot approaches** can also have relevance in investing, such as:

- taking a disciplined approach to **portfolio rebalancing**,

⇒ In terms of rebalancing, using a regular schedule for guiding decisions can help investors to avoid being affected by current market conditions or recent performance of a “hot” investment.

- or a commitment to **regular monthly savings**.

⇒ Regular investing – the process of cost averaging –



- Such disciplined approaches – often called **commitment devices** – can help investors decrease biases like inertia and overconfidence and promote rational investor behaviour.

iv) (Mis)Using Information

- Researchers have documented a number of **biases** in the way in which we filter and use information when making decisions.
- In some cases, we use basic **mental shortcuts** to simplify decision making in complex situations.



Everything you look for and all that you perceive has a way of proving whatever you believe.

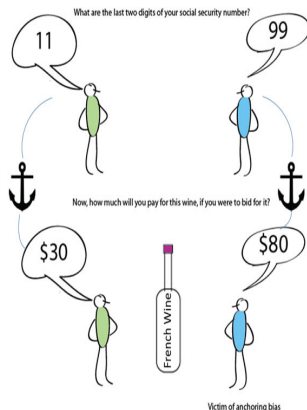
- anchoring
- availability bias
- representativeness bias
- conservatism bias

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Anchoring

Decisions can be **anchored** by the way information is presented.

- => In a non-financial examples: responses to questions with numerical answers, such as “How many countries are there in Africa?” were apparently affected by the value shown on a wheel of fortune that was spun in front of them prior to answering.
- => In the financial sphere, values such as market index levels can act as anchors. **Round numbers**, such as 5 000 points on the FTSE 100 Index, seem to attract disproportionate interest, despite them being numbers like any other.



Availability bias

- Some evidence suggests that recently observed or experienced events strongly influence decisions.
- Psychologists refer to this as the **availability bias**.
 - ⇒ Researchers found that individuals were likely to overestimate the chances of being in a car crash if they had seen a car crash on a recent journey.
- The recent memories are **more available** – and made us perceive them as **more likely**.
 - ⇒ To give a financial example, investors are more likely to be fearful of a stock market crash when one has occurred in the recent past.



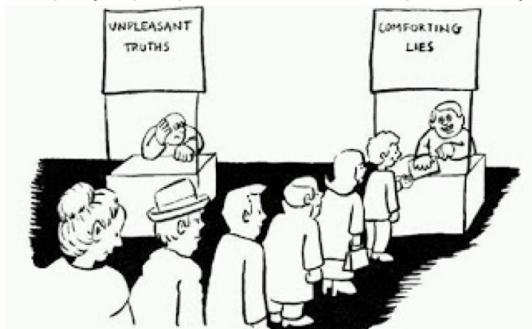
Representativeness bias

- The notion of **representativeness bias** reflects the case where decisions are made based on a situation's **superficial characteristics – what it looks like** – rather than a detailed evaluation of the reality.
- Another way of putting this would be saying that decisions are made based on **stereotypes**.
- **Financial examples:**
 - ⇒ investors assuming that shares in a **high-profile**, well-managed company will automatically be a good investment. This idea sounds reasonable, but ignores the possibility that the share price already reflects the quality of the company and thus future return prospects may be moderate.
 - ⇒ investors assuming that the **past performance** of an investment is an indication of its future performance.
 - ⇒ also suffer from representativeness bias when they **evaluate fund managers**. Investors are often drawn to a manager with a short track record of beating market averages over a few years.

Conservatism bias

- **Conservatism bias** describes the idea the decision maker clings to an initial judgement, despite new contradictory information.
- Or they only partially adjust their view in light of the new information.
- **Financial example:**
 - ⇒ investors who buy shares of **high profile** companies may be slow to adjust their view of the company's prospects, even after its profitability deteriorates.

Can result in stock momentum in stock market returns.



Theory questions

- Why individual behaviour biases exist?
- Name five well-known individual biases and explain why such behaviours are not rational.
- What is the impact of loss aversion to the classical EUT – expected utility theory?
- Explain the existence of too much trade in financial markets. Which puzzle may this help to explain?
- What is the purpose of autopilot schemes?

4.2 Portfolio Issues

- Learning objectives
- Framing
- Mental Accounting
- Behavioural Portfolio Theory
- Naive Diversification
- Managing Behavioural Biases
- Questions

Learning objectives

- identify the consequences – for portfolio construction and management – that may result from behavioural biases
- explain the concepts of framing and mental accounting
- understand the concept of layered pyramid for portfolio construction
- understand that there may be a rational (part of) explanation for naive diversification and home bias.
- suggest methods that may help to minimize the impact of behavioural biases in portfolios.

Framing



- Decisions seem to be affected by how choices are framed.
- An individual may reject a bet when framed in terms of risk but may accept the same bet when described in terms of potential even though the framing can be arbitrary.
- I.e riskaversion may depend on how the problem is framed. Ex
 - Get \$50 if coin toss ends with head.
 - Get a gift of \$50 that you keep if a coin toss ends up with head and that is lost if it ends up with tail.

Kaneman & Tversky (1979) studied framing using questions on number to save and number to let die in an Asian disease. They developed investor decision making under uncertainty - [the Prospect Theory](#).



- utility fcn is concave only above a reference point, otherwise convex. (slide 130)

Mental accounting

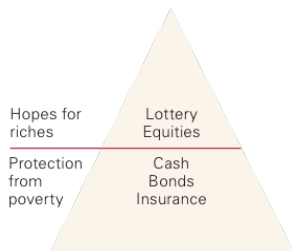
- Our psychological self thinks about money and risk through **mental accounts** – separating our wealth into various buckets or pools.
- We often base these pools on goals or time horizon (such as **retirement** or **school fees**).
- Accounts can also vary in risk tolerance, investing some in risky assets for gain, while treating others more conservatively.
- This natural tendency causes us to focus on the individual buckets rather than thinking broadly, in terms of our entire wealth position.



Behavioural portfolio theory

- Most investors seem to seek to balance **security** with the **small chance for big winnings**.
- Thus, portfolio allocations should be based on a combination of **insurance** (protection against losses) and **lotteries** (small odds of a large gain). Shefrin and Statman proposed to view portfolios as being formed of a **layered pyramid**:

- The base layers represent assets designed to provide **protection from poverty**, which results in conservative investments designed to avoid loss.
- Higher layers represent **hopes for riches** and are invested in risky assets in the hope of high returns.



Source: Adapted from Statman (1999) 'Foreign Stocks in Behavioural Portfolios' *Financial Analysts Journal*, March/April 1999, p14.

Naive Diversification

- **Advisers** understand the critical importance of portfolio diversification.
- However, research suggests **investors** sometimes struggle to apply the concept in practice.
 - ⇒ investors tend to use **naive' rules of thumb** for portfolio construction



OBS: Curiously, DeMiguel, Garlappi and Uppal (2009) show investors using naive "1/n" techniques can do better than those using sophisticated portfolio theories!

Investing in the familiar

- Investors have been documented to prefer investing in familiar assets. Investors associate **familiarity** with **low risk**.
 - This manifests itself in **home bias** – high portfolio weights in assets from an investor's own country.
 - Institutional and individual investors around the globe tend to bias portfolios towards familiar local markets and away from international markets.



***OBS:** Some bias towards assets denominated in domestic currency can, of course, be explained by exchange rate risk.*

Managing Behavioural Biases

Awareness

- The behavioural biases discussed are thought to be aspects of human decision making processes.
- Many of them serve us well when making day-to-day choices.
- But they may be unhelpful in achieving success when thinking about long-term financial decisions such as investing.
- We are **unlikely to find a cure for the biases**, but if we are aware of them and their effect, we can possibly avoid the major pitfalls.
- A clear understanding of **why** particular investment decisions have been taken can help mitigate the effects of behavioural biases.

Investment Policy Statements

- **Investment policy statements** can also act as **commitment device**.
 - As markets move and emotions take hold, this record can help prevent making snap judgements.
 - A more rational evaluation can take place about whether individual or market circumstances have changed warranting a change of strategy.



Framing, feedback and checklists

- **Framing** is also a valuable adviser tool.
 - Portfolio discussions should be framed in terms of long-term goals and the client's total wealth picture.
 - Such wide framing may help offset the natural tendency to be loss averse.
- Investors may be able to use **feedback** to mitigate behavioural biases.
 - Careful consideration of the outcomes of past decisions should help individuals learn to control and work around unhelpful decision-making biases.
- A **checklist** takes expert knowledge and distils it into a series of brief statements that guide actions.
 - Use of checklists could help in financial planning in an effort to avoid the behavioural pitfalls such as overconfidence, availability and representativeness biases, as well as anchoring and conservatism.

Devil's advocate

- Individuals tend to decide on a course of action and then look for evidence to confirm that course.
- This neglects the case against the action.
- It can be useful to build the **devil's advocate** into a decision-making process asking questions such as:
 - Why we should not do this?
 - What could go wrong?
 - What if ...?



Theory questions

- Is there a cure to behavioural biases?
- How can IPS be used as a tool to manage behavioural biases?
- What are checklist good for in portfolio management?
- Why is it important do provide feedback?
- Why being the devil's advocate to our own clients?