

Week 5: Behavioural Finance

- Sigmund Freud
- Emotions on Finance – Are they relevant?

How relevant are emotions in finance?

- “Our emotions shape nearly everything we do” – Winthrop Professor Colin MacLeod
 - whether share prices soar or the stock market crashes – emotional sentiment of international communities, more than their collective rationality that drives
- “Robots Invest money better than people”
 - if we can get rid of emotions, do we become better investors?
 - Being human behaving emotionally and haphazardly
- “Grattan Institute urges re-think how financial products are promoted”
 - people have biases and they help them make reasonably good decisions by playing to those biases
- “Why you may be blind to hybrid risks”
 - punters suffering from behavioural biases – more likely to accept sales pitches to invest in complex hybrid securities ??

Better decisions if we were emotionless?

- “Betting on the Blind Side” – Michael Lewis
 - My nature is not to have friends – happy in his own head
 - Discovered housing market was overvalued and it would crash
 - Suffers from Aspergers Syndrome – inability to relate to other people
 - Less vulnerable to other people’s investors
 - VALUE INVESTOR; focuses on numerator (net CF)
- $PRICE = NCF/E(R)$
- Value investors - Don’t care about ‘r’, which is influenced by market sentiment
- But change in ‘r’ can have a significant affect on price
- Most people are not as confident about their estimates of value as they like to think the are. They are influenced by others
- Need to have courage in our conviction

David Hume

Scottish Philosopher (1711-1776)

“Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them”



- We cannot divorce ourselves from our emotions; they are inextricably part of what make us distinctive and human
- Awareness and the right approach to emotions can help us navigate the world more effectively

Use of Models to Make Sense of the world

- In economics & finance, we have rational economic models and behavioural economic models
- Using 1 model; need to consider whether the model is appropriate for all purposes

Is Economics and Finance Simple Minded?

- “Truth that economics forgot – we’re human” – Ross Gittins

Different Models

Neo-Classical Finance	Behavioural Finance
-Investors maximise return whilst minimising risk	Uses psychology & economics to explain investor behaviour
Are rational and unbiased in evaluating and acting on information	Descriptively detailed model of investors

Competing Perspectives

- Eugene Fama
 - Champion of rational theory
 - “Behavioural economists haven’t really established anything in more than 20 yrs of research”
- Richard Thaler
 - Behavioural Finance guru
 - “What other kind of finance is there?”

Understanding the world

- World is complex – what kind of model do we need to understand it? Simple or complicated?
 - Paradox : simple models often work best for complex phenomena
- Models are not reality; success of a model in one context can lead us to over-estimate its usefulness in other contexts
 - Not easy to identify the limits to the domain of a model
 - ‘ideologue’; person who over-uses one kind of model
 - fixed idea of how the world works
 - EXAMPLE: ALAN GREENSPAN
- Need to:
 - 1) Distinguish between neo-classical and behavioural models of behaviour
 - 2) explain and illustrate aspects of behavioural models, and
 - 3) discuss the scope of behavioural model; what is the range of phenomena that behavioural models explain well

- Two models are different but we don't have to use one exclusively; effectiveness of each model depends on the context we apply it

Example:

- What would you prefer to receive money or a specific present?
 - An economist would most likely recommend money
- "Giving specific presents as holiday gifts is inefficient; because recipients could satisfy their preferences much better with cash"
- 39% disagreed = economists
- INDIAN WEDDING:
 - Cash is the most thoughtful gift for a couple just starting their lives together
 - Cultural issue, not just economic argument

Key learning objectives

- Understand principal elements of behavioral finance
- Identify circumstances when application of behavioral finance concepts can improve investment performance
 - Appreciate strengths & weaknesses of behavioral and classical finance approaches
 - Develop framework to critically evaluate claims made about both behavioral and classical finance

Behavioural Finance Principles

- Classical finance assumes investors exhibit consistent preferences and evaluate information without bias
- BEHAVIOURAL FINANCE DOES NOT
 - Brain uses HEURISTICS ('rules of thumb', mental short-cuts) to cope with limited capacity and information
 - In 'natural' settings, heuristics work effectively
 - In unusual contexts heuristics can mislead
 - Financial markets are one setting for which our brains have not been adapted. Potential for mistakes is large
- We rely on heuristics to process information efficiently but they can be misleading in certain situations

Framing:

- How we are influenced (misled) by context (i.e the way information is presented)
- Facts can be the same, but how you present it can give you different answers

IMPLICATIONS:

- If Heuristics are hard-wired in our brain -> mere awareness may be insufficient to counter-act their affects
- We may have to manipulate the context to ensure we are not misled

- How do we know the likely sources of heuristic biases

Exam: “Investor psychology and asset pricing”

- BY David Hirshleifer (2001) Journal of Finance
- People’s behaviour derives from 3 types of evolutionary adaption mechanisms
 - **HEURISTIC SIMPLIFICATION**
 - Use of short-cuts in using info (eg fuzzy edges = object further away)
 - **SELF-DECEPTION**
 - Inaccurate perceptions may increase the odd of survival (eg illusion of control)
 - **EMOTIONAL COMMITMENT**
 - Survival often requires commitment to a course of action regardless of expected consequences
 - Emotional loss of control over-rides reason and allows commitment

Heuristic Simplification – examples

- Limited attention, memory and processing capacity compel a focus on subsets of information: EXAMPLES
 - 1 Representative heuristic
 - 2 Preference for familiarity
 - 3 Anchoring and adjustment
 - 4 Illusion of truth
 - 5 Availability bias
 - 6 Illusion of control
 - 7 Mental accounting

(1 of 7) Representative Heuristic:

- Judge the probability or frequency of a hypothesis by considering how much the hypothesis resembles available data as opposed to using a Bayesian Calculation
- People often confuse a good company with a good investment
 - Investing on co’s with a history of consistent earnings, ignore the fact that few companies can sustain high levels of growth
 - Representativeness heuristic might account for the book-to-mkt anomaly

(2 of 7) Preference for familiarity

- People have more confidence in things with which they are familiar
- More information generates greater confidence even though the information may not be relevant
- Home-town fans routinely overestimate their team’s chances of success
- Managers from continental Europe routinely predict that their domestic stock returns will be higher than those of US, UK and Japan

(3 of 7) Anchoring & Adjustment Heuristic

- When forming estimates, people typically start with some limited (often arbitrary) value and then adjust away from it. The adjustment is often insufficient
- Potentially explains why the 52-week high price seems to be used by investors as a benchmark for assessing attractiveness of a takeover offer

- “investors are often influenced in their investment decisions by the recent price history of a particular security, even if this price history has no significance in the estimating of company’s net worth”

(4 of 7) Illusion of truth heuristic

- People are more inclined to believe a statement when it comes in the form of information that is easy to process
- Familiar easy combinations (yellow with banana) are easier to process than unfamiliar ones
- Doesn’t require a lot of explaining
- Simplicity convinces people

(5 of 7) Availability Heuristic

- When judging the probability of an event or being asked to assess outcomes, people will often reach back for the most recent examples and underweight earlier examples
- People from UWA picked stocks from WA
- People from MU picked stocks from Victoria (closer to them appeared less risky)
- INVESTOR RECOGNITION & STOCK RETURNS
 - Robert Merton – Investors only use securities that they know about in constructing their optimal portfolios
 - Findings by Lehavy & Sloan (2008):
 - A) contemporaneous stock returns are positively related to changes in investor recognition,
 - B) future stock returns are negatively related to changes in investor recognition

(6 of 7) Illusion of Control

- Illusion of control is the tendency for people to overestimate their ability to control
 - “Boys will boys: Gender, overconfidence, and common stock investment” by Brad Barber and Terrance Odean *Quarterly Journal of Economics* (2001)
 - “Investors’ trading behavior and performance: Online versus non-online equity trading in Korea” Natalie Y. Oh, Jerry T. Parwada & Terry S. Walter *Pacific-Basin Finance Journal* (2008)
- events
- Not the case: the more information gives them more control (some of the time, that information is irrelevant)

(7 of 7) Mental Accounting

- Mr & Mrs J have saved \$15,000 towards their dream vacation home. They hope to buy the home in five years. The money earns 10% in a money market account. They have just bought a new car which they financed with a three-year car loan at 15%
- If they think they are weak, they might think they are sensible

- Mr S admires a \$250 jacket in a store. He doesn't buy it because he feels it is too extravagant. Later than month, he receives the same sweater from his wife for a birthday present. He is very happy. Mr and Mrs S have only joint bank accounts.

Self-Deception Mechanisms

OVERCONFIDENCE: Extensive evidence shows that people are over-confident in their judgement. Two forms:

- A) confidence intervals assigned to estimates of quantities are too low. Their 98% confidence intervals includes the true quantity only about 60% of the time
- B) people calibrate poorly when estimating events; events they think are certain occur only around 80% of the time; events deemed impossible occur 20% of the time

OPTIMISM & WIHFUL THINKING

- People display unrealistically rosy views of their abilities and prospects
- Systematic planning fallacy: they predict tasks (such as writing assignments) will be completed much sooner than they are actually are

Beneficial Self-Deception

Beneficial Self-Deception

"... relative to depressives, "normals" show several characteristics.

"Normals" inflate others' view of them. They are more prone to illusions of control – that is, the perception that they can control objectively uncontrollable outcomes.

Nondepressives underestimate the amount of negative feedback they have received.

Nondepressives overestimate the predictability of and control they have over positive outcomes and underestimate the predictability of undesired outcomes"

(p. 1168, Shelly Taylor, "Adjustment to threatening events: a theory of cognitive adaptation" *American Psychologist* v38(11) 1983).

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Emotional Over-riding for reason

- Emotions that override cost/benefit calculations can, paradoxically, be beneficial by sending a credible signal of commitment
- **LOSS AVERSION:**
 - "the disutility of giving up an object is greater than the utility associated with acquiring it"
 - Investors will take on more risk to regain a loss than they will accept to win a smaller amount
 - Investors more likely to sell winning stocks and hang on to losing stocks (known as disposition effect)

Can we and should we control our biases? If so how?

- Research challenges assumption that biases are universal; many have environmental costs

Is knowledge of psychology useful in investing?

- Yes, but beware of the CASSANDRA LEARNING EFFECT
 - Where you are taught something true but you don't believe, or don't behave as though it applies to you
- Similar to CASSANDRA SYNDROME (See Greek Myth)
 - "applies to other people not me"

PART 3) Provide basis for identifying scope of behavioural and non-classical finance models

Scope of Behavioural and Neo-Classical Models

- Markets are driven significant by emotion and people generally invest too much with their hearts but not enough with their heads – Martin Conlon , 2011
- Dominic McCormick
 - Behavioural Finance = never seen as a coherent theory of how markets work
 - Collection of investors' behavioural tendencies that may have influenced how some prices are set in some markets
- "Economic Psychology of Stock Market Bubbles in China"
 - 3 factors:
 - greed, envy and speculation
 - And the burst of bubble to three contrasting factors
 - Fear, lack of confidence and disappointment
- Beware of empty explanations (i.e tautologies)

Markets, Emotions and Profits

Let's assume market prices are determined by investors acting on the basis of their emotions. How would this fact affect your investment approach?

Would it be easier to make profitable investments knowing that investor psychology determines share prices?

Are you so different from the rest of the crowd that you could outsmart it?

Neo-classical critique of behavioural finance

- 1) Neoclassical theory works well; "if it aint broke, don't fix it"
- 2) individual behaviour is irrelevant, in the aggregate markets are efficient

- behaviour driven by apparent bias or emotion is often rational when viewed in a wider context..the rationality of behaviour is often obscure (eg gift giving, preference for having boys or girls and choice of life partner)
- 3) Where is the unified theory of behavioural finance?
 - Biases revealed by BF research do not form a coherent theory that allows precise predictions
 - Much BF is “story telling” (i.e ad hoc explanations)

Behavioural Critique of neo-classical finance

- Market prices are often unbiased and efficient but, on occasion, prices can diverge from ‘fundamental value’ due to systematic investor biases
 - Behavioural finance explains these biases
 - Limits to arbitrage implies inefficiencies can persist
 - Further, we are interested in how individuals make investment decisions (ie our focus is not solely on the aggregate market)
- Neo-classical theory is not SCIENTIFIC, neo-classical theorists admit will never accept evidence that markets are inefficient but always make up a story to make facts consistent with efficiency (“JOINT HYPOTHESIS PROBLEM”)

Limits to Arbitrage

- NOISE INVESTORS = clueless (reacting to noise rather than information)
- Arbitrage argument for efficiency: if “noise investors” push prices too high (or too low), “smart” investors sell (or buy) until right price is reached.
- Noise investors lose money & don’t survive
 - ASSUMPTION: ‘smart’ investors have sufficient funds to outweigh noise investors and there is a way for them to profit from their better information
- Efficient market critics contend that in many cases “noise” investors can overwhelm “smart investors”
 - True even if transaction costs are low because low trading costs = easier for noise and smart investors to enter the market
- NOISE INVESTORS:
 - Trade on what they think is information but is really irrelevant or misleading data and assumptions
 - Can be hard to differentiate between Noise and smart investors
 - (i.e expert influences – relevant info? Or correct?)

Limits to Arbitrage: What is an arbitrageur to do?

Example: Australian housing market

- House prices enter danger zone
- Equal to 4.4 times disposable household income and on track to top valuation peaks in 2006 and 2010 – on both occasions, fell by 6% - AFR, 2014
- “House Prices enter Danger Zone” – AFR
 - average households ability to make mortgage repayments has remained steady for more than 12 years, despite affordability reaching record lows
 - 3-4 % overvalued at most

Professor Steve Keen, on when the Australian housing bubble began

1. "I date the Australian house price bubble from **1988**, when it was spiked by the reintroduction of the First Home Owners Scheme"

Steve Keen [House prices hit a debt ceiling](#) *Businessspectator* 10 Jan 2012

2. "Though I apportion most blame for the Australian house price bubble to the finance sector, there's little doubt that the fuse itself was lit by the government's interventions via the *First Home Owners Scheme*, which began in **1983**."

Steve Keen - [Our bubble is bigger than their bubble](#) *Businessspectator* 17 Feb 2011

3. "And the whole so-called Australian dream has been a nightmare. This bubble began right in the middle of **1964** and it's gone right through to now."

Steve Keen quoted on ABC's *7:30 Report*, 7 May 2008

Steve Keen admits he was wrong (but does he really and was he really?)

I was wrong on Australian house prices



STEVE KEEN | 29 FEB, 12:00 PM | 64
ECONOMY | POLITICS

"I was hopelessly wrong on house prices. Ask me how."

It's about time I answered that question, isn't it?

In a nutshell, I got the cause of the Aussie House Price Bubble right, but the direction of the cause wrong. The fundamental determinant of house prices is mortgage debt. I thought that -- as had happened in Japan after its bubble economy burst -- the Australian economy would start to de-lever after the GFC, and that this process would take house prices down with it. This is what happened in the USA and most of the First World.

Australian housing market

Let's say you believed ... truly believed ... the Australian housing market is overvalued. How could you profit from this knowledge?

Thinking of shorting Australian house price?

<http://contrarianinvestorsjournal.com/?p=1550#>

"It is no secret that Australian house price is heading for stagnation at best and a crash at worst. Even the most optimistic forecasts from the vested interests call for stagnation. Already, house prices in Perth have been falling for over a year already" (Date: 10th May 2011)

- House prices have in fact increased

Making use of behavioural finance theory

- Two contexts

- Decision making in relation to personal finance
- Exploiting market mispricing created by 'other people's mistakes'
- First context is where rewards for effort are more reliable, but many investors find the second context more fun (addictive>)
 - NOTE: if you find acting investing pleasurable, then its rational to indulge in it – even if you lose money, the fun part is of your return

Short-horizon Mispricing

- Identifiable & commonly agreed benchmarks of correct price
- Liquid markets
- Short end game when positions are paid off
- Doesn't persist

Long horizon mispricing (due to behavioural biases?)

- No commonly agreed benchmarks for correct price
- Long period "end game", pay offs occur at some indefinite time in the future
- Often, mispricing is in illiquid markets and so hard to exploit

Concluding Observations

- Common classical finance critique of anomalies:
 - 1) if mispricing is readily observable, an attractive opportunity to make profits exists
 - 2) investors immediately snap up attractive profit making opportunities, thereby eliminating mispricing
- Behaviouralist response:
 - Only 2 is true
 - 1 is not true, most of the time. Due to arbitrage constraints
 - implication: evidence of market inefficiency does not imply existence of riskless profit making opportunities