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Herd-Like Behaviour – The Psychology of Market Bubbles

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Agenda

1. Overview
2. Examples of positive and negative herding behaviour
3. Case studies – including market bubbles
4. As source of systemic risk
5. Managing adverse behaviour
6. Q&A

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Overview

Definition of herd-like behaviour

- Herd-like behaviour arises when the group to which an individual(s) belongs to or is associated with has a disproportionate impact on their reasoning or their decisions.
- From another perspective, herd-like behaviour arises when there is an inadequate amount of individual thought to counteract the influence of the group in arriving at their decisions.

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Analogy

- The analogy of the Fish, the Shoal and the Trawler[1]
  - Somewhat helpful behaviour – protects fish from sharks
  - But also highly destructive – can result in near total loss of shoal
  - The behaviour of the group influences the choice of the prudent decision for the individual.

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[1]Credit to Tony Jeffery, FIA of Bank of England

Aim of the working party

- To investigate the underlying drivers of herd-like behaviour and how it manifests in financial service organisations
- To raise awareness of herd-like behaviour as a source of risk
- To recommend changes to mitigate adverse herd-like behaviour

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Drivers of herd-like behaviour

- **Selfish herding** – Hamilton's 'selfish herd' model[2] views HLB as a selfish act where each individual seeks to reduce their exposure to a perceived threat or predator at the periphery of the herd
- **Threats** – may take many forms in the insurance industry:
  - ***Organisational culture*** – fear of dominant senior leaders; fear of being perceived as uncooperative; or fear of voicing contentious opinion
  - ***Competition*** – fear of losing market share
  - ***Regulator*** – fear of a capital add-on, adverse ruling, or scrutiny
  - ***Auditors*** – fear of assumptions/methodology/results not being accepted by the auditor

[2]Hamilton, W.D. (1971). "Geometry for the Selfish Herd". Journal of Theoretical Biology

Model to assess herd like behaviour– Narrative risk[3]

"All things were together. Then thought came and arranged them." Anaxagoras

- Using the distinction between a narrative and an analysis
- What is a narrative?
- Example – stock market crash
  - Shallow narratives – superficial understanding
  - Deeper narratives – sufficient depth and breath to not only attain some understanding but to also facilitate progressive resolution of problems
- Why is it important?
  - People cast their own identity in some sort of narrative form
  - The 'narrative' dominates and limits the 'analysis'

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[3]Theory is based on the work of Greek Philosopher Anaxagoras and on Greek mythology.

Narrative risk

- Dangers from shallow narratives
  - Rhetoric can prevail over reason and logic
- Shallow narratives inhibit rather than facilitate progressive outcomes and inhibit resolution of conflicts
- Shallow narratives usually result in poor outcomes
- Shallow narratives create herd-like behaviour risks

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Examples – the good, the bad and the ugly

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- ✓ Herd-like behaviour can aid reaching optimum outcomes in the context of influence from a progressive group
  - ✓ e.g. being Fellow of IFoA, standing on the shoulders of giants, etc.
- ✓ A group or organisation acting as one to achieve a common goal – greater than the sum of parts
- ✓ An organisation or individual may have less information than the industry
- ✓ Reduces volatility of outcomes – can suppress reckless behaviour

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	Example	Driver	Outcome
1	Suppressing ideas and questions at meetings/committees	Fear of looking 'stupid' or appearing difficult – 'that annoying person'	Decisions made without full set of considerations and insufficient challenge **> sub-optimal outcome**
2	Too much reliance on industry when setting assumptions	Greater challenge & scrutiny from auditors/CBI if out of line with peers	Internal views & data suppressed **> Lower contribution to pool of knowledge**
3	Mis-pricing & poor product design	Competition and fear of missing out	Own information & analysis supressed **> Quick wins can turn into long term losses**

Financial market bubbles

(more on this later)

Unsustainable products

(more on this later)

Crashes or collapses

Scandals

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Potential higher risk areas of HLB now

Longevity assumptions	Product design	Working party reliance
Solvency II internal models	Benchmark reliance	Investment strategy
ESG	VaR measures	Insurance cycle

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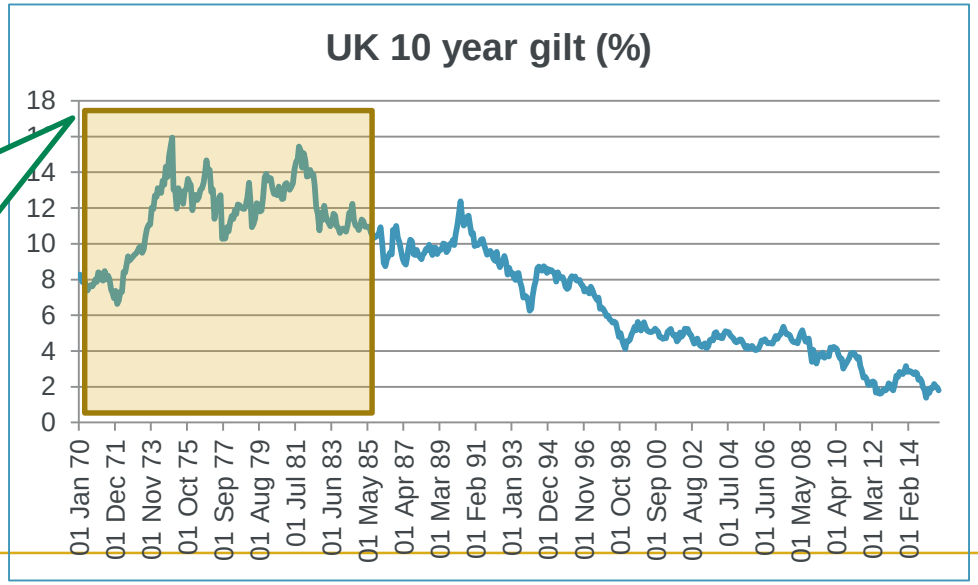
Case studies

Case study (1) – Guaranteed Annuity Options

- Guaranteed Annuity Options (GAOs) are a policy feature, that give policyholders an option to purchase an annuity at a guaranteed rate on retirement
  - GAOs were first launched by a mutual life insurer and were eventually offered by up to 40 companies over the 1970s to 1980s
  - Most options were written in a high inflationary and interest rate environment, where guarantees were not biting.

Most GAOs were written over the '70s-'80s



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Case study (1) – GAOs

- The cost:
  - Estimated collective losses of **£10bn**[4] across the industry
  - Reduced credibility of the insurance industry and the actuarial profession in the eyes of the public
- Underlying signs of HLB:
  - Companies perceived GAO offerings as key to maintaining competitive position
  - After a prolonged period of high interest rates, people started to believe this was the new normal – it was difficult for individuals to recognise the risk of rates reducing and voice caution
  - Complex risks involved over a long horizon, but modelling and risk mitigation instruments were limited

[4] 'Did anyone learn anything from the Equitable Life? Lessons and learnings from financial crises' Roberts, 2012

Case study (2) – banking crisis

- Banks are good – life blood and heartbeat of the economy – save them!
- Banks are bad – just parasites, taking money from some, keeping some and give the rest to others, not producing anything – let them die!
- Both shallow narratives – with bad outcomes.
- Deeper narrative…

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Case study (2) – banking crisis

- Deeper narrative – bad bacteria in the stomach of the capitalist economy – both good and bad – but the economy as a whole has a symbiotic relationship with them.

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Case study (3) – financial market bubbles

- Examples
  - Tulip bubble
  - South-sea bubble
  - 1929 Stock market crash
  - Dot com bubble
  - Financial crisis of 2008

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Case study (3) – financial market bubbles

- Could be argued to result from shallow narratives – extreme cases
  - Shoe-shine boy explaining how to make money in 1929
  - Internet stocks in 1999
  - Tulips in Holland
- Assessing the risk of a stock market bubble could be considered to be assessing the risk that the stock market narrative has become too shallow – either generally or in relation to a particular issue.
  - Bubble risk = could be considered the tail risk in any narrative risk

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Case study (3) – financial market bubbles

- Bubbles typically happen when something causes a shock to the group narrative, some big change, e.g. the internet, tulips and quantitative easing
  - The group mind does not think – so struggles to create a sensible narrative (Trotter and Bernais)
- Careful using shallow narratives to explain previous bubbles.

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Case study (3) – financial market bubbles

- Quantitative Easing
  - current ‘big change’
- Existing narrative
- Alternative narrative

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Case study (3) – financial market bubbles

- *"QE involves a central bank creating new money electronically and using this to buy assets, normally government bonds…. By buying these bonds from investors or banks the central bank is giving these parties more cash to lend out of invest elsewhere. QE is also designed to drive down interest rates, not only official rates, but also those charged to borrowers. It should also lower the value of the currency, helping exporters and pushing up import prices. QE is also designed to improve confidence in the future by consumers and investors, thus encouraging them to spend more."*
- Cliff Taylor (Irish Times)

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Case study (3) – financial market bubbles

- The US and the UK economies have outperformed the EU which remains in recession. The US and the UK have pursued QE policies in recent years. Their economies have recovered, albeit in an unequal way. Wage growth has been low, but corporate profits have been buoyant, aided by lower interest rates and wealth effects from rising asset prices.
- Despite money printing, inflation rates in the US and the UK are still low and QE does not seem to have increased inflationary expectations to any significant extent.

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Case study (3) – financial market bubbles

- The central bank prints money and uses it to buys bonds. This increases bond prices and makes profits for those who own bonds. Those who sold their bonds, typically buy other bonds to replace them. This increases the prices of other bonds, making profits for those who own them.
- Those who sold the other bonds, typically buy other assets to replace them. This increases the prices of other assets, such as equities and property, making profits for those who own other assets, such as property and equities.
- QE drives up the prices of assets making those with assets better off.

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Case study (3) – financial market bubbles

- The more assets that you have the more you will have gained from QE. Those with the most gain the most. However, relatively speaking, everybody becomes poorer than those who were richer than them in the first place. If you have no assets or very little assets, you have gained nothing or only very little - but will have become relatively much poorer.
- Banks only lend to those who they consider creditworthy. QE has made the rich proportionately more creditworthy and consequently improved their access to credit. Those who have little or no assets have not seen any significant improvement in their access to credit.

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Case study (3) – financial market bubbles

- Overfunded pension schemes (the better-off ones) have more assets than liabilities – so the value of the assets will increase by more than the liabilities – so they'll be better off.
- Underfunded pension schemes (the majority – the less well-off) have assets less than their liabilities – so the value of the liabilities will increase by more then the assets – so they'll be worse off. These schemes effectively have negative wealth. They are directly and indirectly worse off from QE.
- Has QE helped Japan?

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Case study (3) – financial market bubbles

- Money printing creates short term gains from '*money illusion*'. QE creates short term gains from '*wealth illusion*'.
- The higher asset prices result in the expected future returns being lower than otherwise so it's a temporary distortion – asset bubbles are likely. The wealthy don't typically spend their money on the goods in the CPI so inflation will not increase, the inflation is typically confined to asset prices.
- Money has been printed, your money is worth less than it was before QE started! The less well-off are working for relatively less, this stimulates economic growth as the better off take advantage

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Case study (3) – financial market bubbles

- Since QE started, economic growth and lending have increased but mainly for the relatively better off, with just crumbs from the rich man's table for the poor.
- QE has been unfair and unequal, but due to the complicated nature of QE, this unfairness has yet to come to the surface. The unfairness and inequity have been greatest for underfunded pension schemes.

- Implications for actuaries?

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Herding as a source of systemic risk

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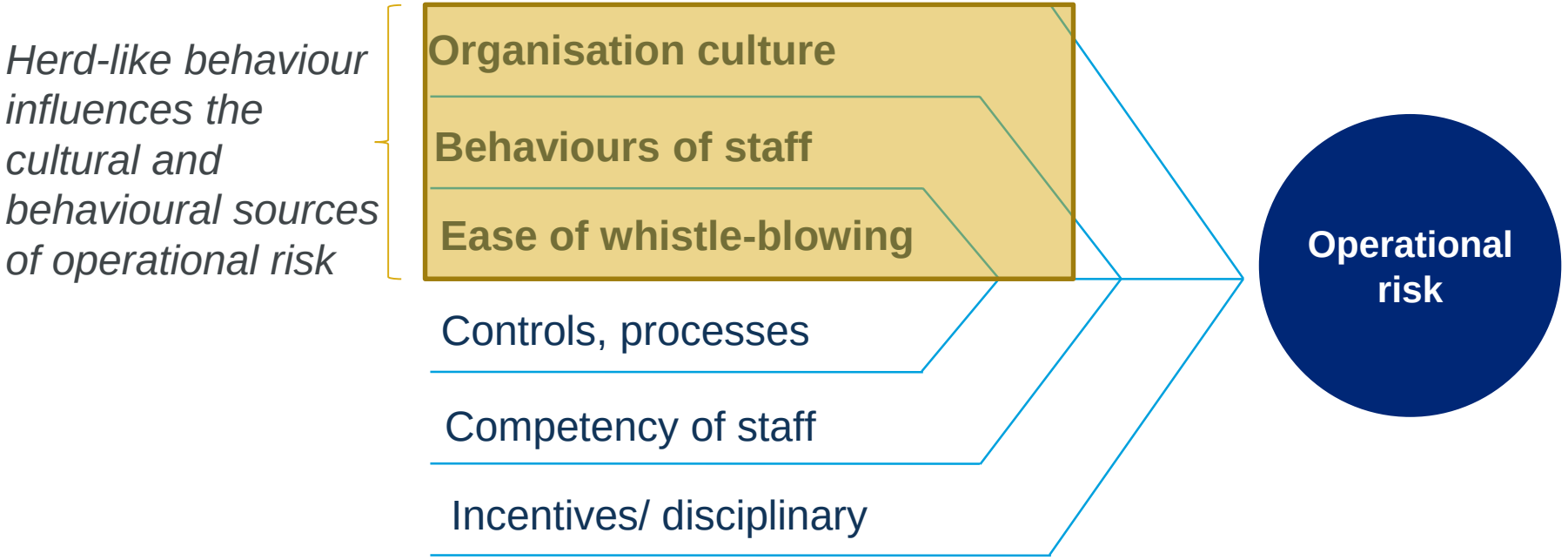
Source of risk

- Adverse herd-like behaviour is a driver of operational risk and should be considered as part of the ERM framework



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Managing adverse herd-like behaviour

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Approach

- Two approaches
  - **Macro** – investigate the narrative to discern if it is deep or shallow, take remedial action if a shallow narrative is discerned
  - **Micro** – investigate the extent to which individuals are thinking for themselves – SAI Risk Personality Questionnaire
- Challenges
  - Macro – difficult
  - Micro – new approach, necessity to step outside the herd to use it

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Cultural change

'No problem can be solved from the same level of consciousness that created it.' Albert Einstein

- HLB emerges from lack or suppression of creative and imaginative thought and challenge
- Problems
  - Dominant CEO / dominant boss => disobedience = can get fired
  - Whistleblowing => may be difficult initially for the individual, despite clear recent guidance on professional responsibilities
  - Organisational culture rarely encourages much curiosity
- Creative thought necessitates self-awareness

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Ideas

- Open forum events in organisational social calendars that provide a safe environment to submit ideas, challenge strategy and question leaders - and laugh[5]

- Regulatory requirements to demonstrate rigorous challenge from a diverse group and cultural support of such actions.
- Policies to encourage progressive curiosity.

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[5]Idea is based on the concept that if you cannot laugh at somebody, they have authority over you, and so you curtail your self-awareness. Linked to the comedy festivals in Ancient Athens – politicians were made to sit in the front row while they were being made fun of by the actors

Questions

Comments

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Appendix – Further reading

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Further reading

- Bernais - Propaganda
- Freud – Mass psychology
- Galbraith – A short history of financial euphoria
- Kindleberger & Aliber – Manias, panics and crashes
- LeBon – The crowd: a study of the popular mind
- Lippmann – Public opinion

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Further reading

- Mackay – Extraordinary popular delusions and the madness of crowds
- Reinhart & Rogoff - This time is different
- Surowiecki – The wisdom of crowds: why the many are smarter than the few
- Trotter – Instincts of the herd in peace and war

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