BEHAVIOURAL ASPECTS OF POLICY MAKING: LESSONS AND IMPLICATIONS FOR THE ISLE OF MAN BIOSPHERE

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PREFACE

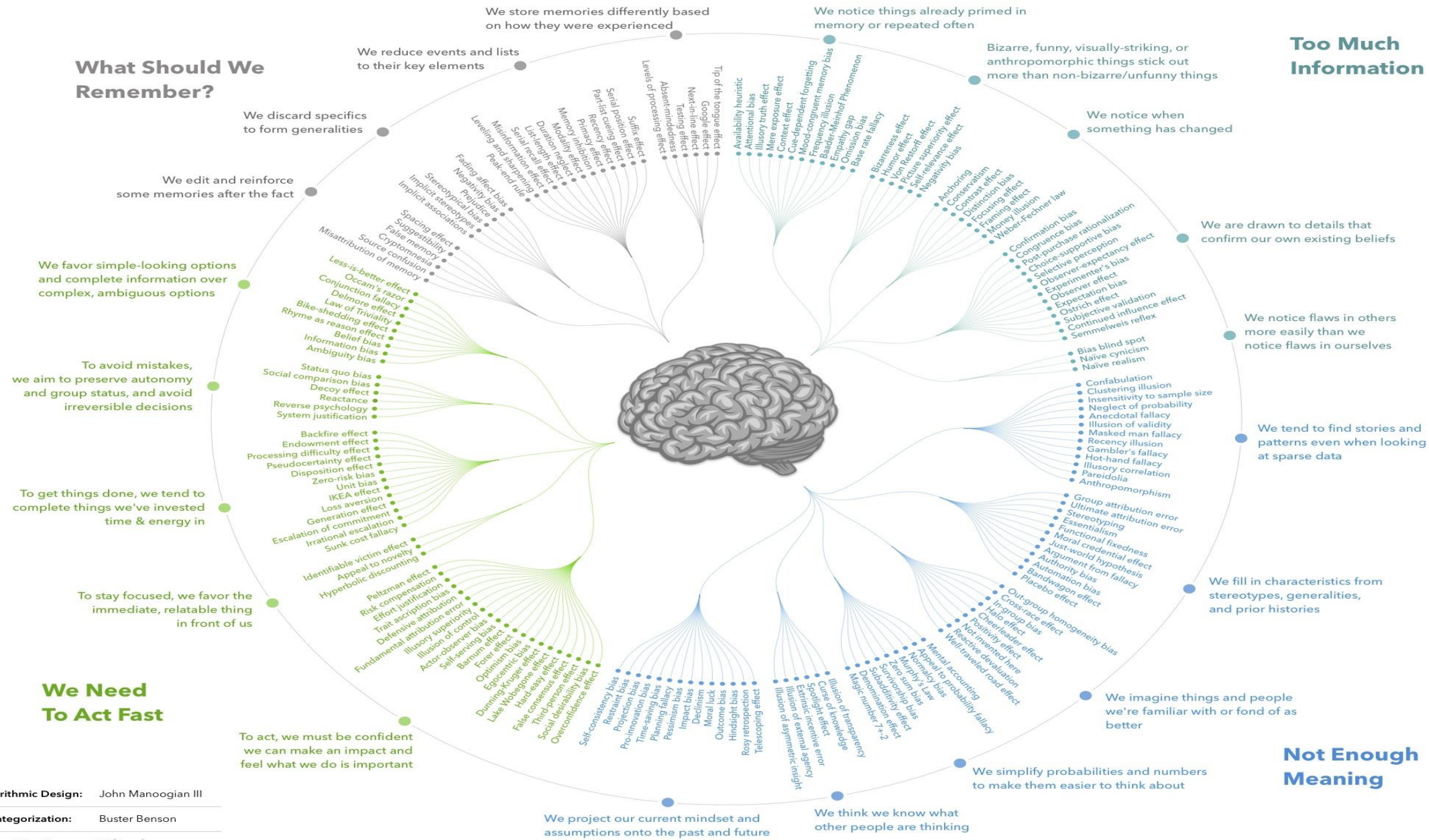
- Isle of Man has been designated a UNESCO Biosphere Reserve since 2016
- World's first whole jurisdiction designated as such
- Multiple stakeholders => resembles a Public Private Partnership of sorts…
- Biosphere encompasses several aspects of the island's life, including



PREFACE

- Much of the Biosphere's success depends on policy-making decisions adopted
- Policy-makers rely on expert information to formulate decisions
- However, they are also human!
- Being human, suggests they are prone to biases => judgement-errors
- A broad body of literature suggests just that!
  - Hirshleifer (2008); Thaler and Sunstein (2009)
  - E.g., bad regulatory/policy recommendations have been implemented even with the best of intentions in mind…
- As a result, it is important to raise awareness of the behavioural aspects relevant to the decision-making of regulators/policy-makers

COGNITIVE BIAS CODEX



Visual & Algorithmic Design:	John Manoogian III
Concept & Categorization:	Buster Benson
List of 188 Cognitive Biases:	Wikipedia

designhacks.co

NORMATIVE VERSUS POSITIVE APPROACHES TO REGULATION…

- Extant research has proven **normative** in nature
  - "Investors are naïve so they need protection" (Sunstein and Thaler, 2003)
- Regulatory outcomes: the results of interactions among political players (regulators, politicians, media, consumers, investors)
  - All of them are subject to biases
  - These biases can distort decision-making…
  - …they can also be exploited to attract leverage in decision-making!
  - Who will protect consumers/investors from biased regulators/policy-makers?

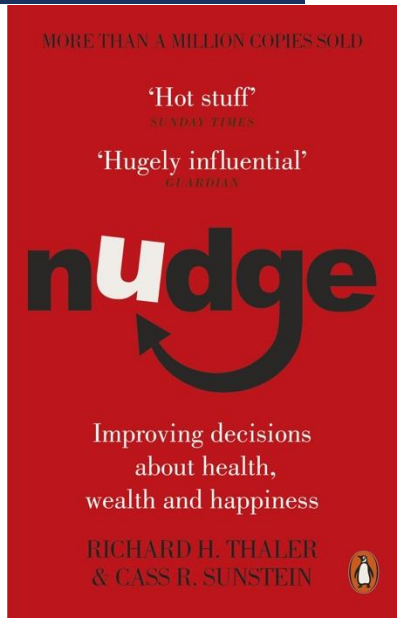
IN THIS PRESENTATION, WE WILL

- Discuss approaches incorporating behavioural aspects in regulation/policy-making
  - Choice architecture ("nudging")
  - Psychological attraction
- Show how specific biases can distort policy decisions
- Provide some examples of their possible implications
- Offer some de-biasing recommendations
- Discuss behavioural aspects of the Isle of Man's medical cannabis policy

NUDGING

MAKING PEOPLE DO WHAT YOU WANT THEM TO DO WITHOUT TELLING THEM WHAT TO DO…

CHOICE ARCHITECTURE (THALER AND SUNSTEIN, 2009)



- Nudging: the organization of the context in which people make decisions
  - Examples: food menus, restaurant layouts, healthcare plan selection etc
- Choice architecture is based on **framing**
  - Non-neutral:
    - Aims at **biasing the presentation of a decision towards a desirable direction**
  - Everything matters
    - If you want others to focus their choices on something specific, you need to capture their attention accordingly
    - E.g., place next to each dish its #calories to help customers benchmark the "healthiness" of their food choice
- This amounts to **behavioural manipulation** ("libertarian paternalism")
  - Influencing decision-making by manipulating the context within which choices are presented
  - Present the set of options in a way that prompts the individual to choose the one you want him to choose

WHEN IS "NUDGING" NECESSARY?

- When the **effects** of a choice are **delayed**
  - E.g. smoking may take time to produce visible effects over your health
- For choices that are **difficult**
  - E.g. investing in cryptocurrency hedging instruments
- For choices that are **infrequent**
  - E.g. which university to attend
- For choices that offer **poor feedback**
  - E.g. becoming overweight is a process which may have no warning signs until a heart condition kicks in
- For choices where the **relation between choice and experience is ambiguous**
  - How will investing in a money market fund change your life compared to a commodity ETF?


If you see someone
DROWNING
lol
CALL 911

PRINCIPLES OF GOOD CHOICE ARCHITECTURE

- **Default choices**
  - Triumph of inertia/status quo bias over action
  - The more complex an issue, the more useful the default option becomes
    - Default option functions as a heuristic
  - The case of organ donations
    - Explicit consent => consent is declared formally (on driver's license; donor card)
      - Though many people say they are willing donors, they fail to take proper action to formally declare themselves as such
    - Presumed consent => default = you are a willing donor
      - You have, however, the choice to register your unwillingness to be such
    - Presumed consent tends to generate more willing donors than explicit consent
      - Switching from explicit to presumed consent increases the donation rate in a country

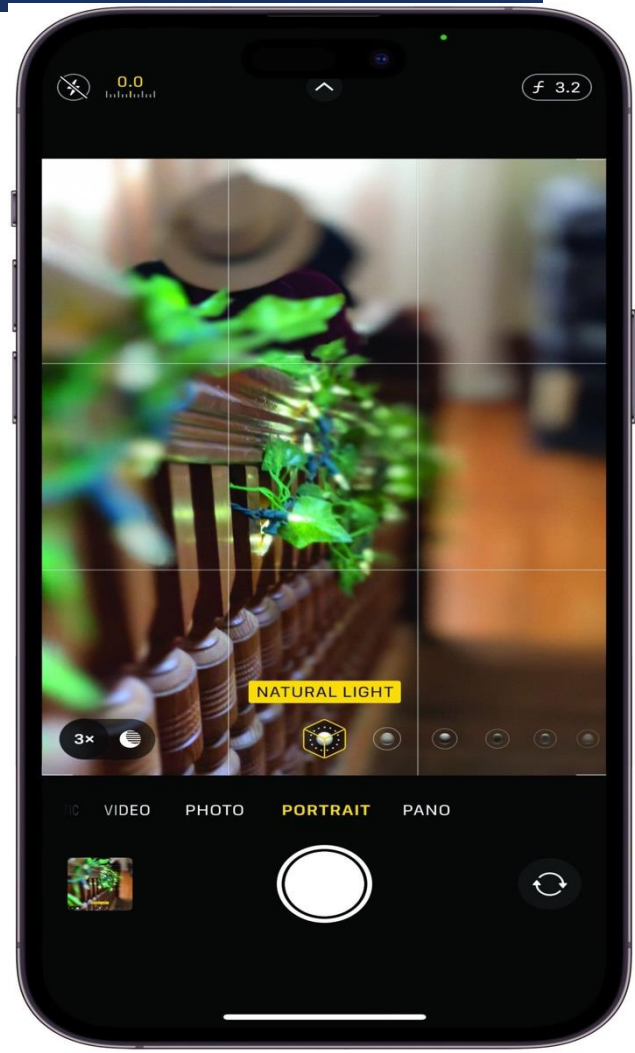
PRINCIPLES OF GOOD CHOICE ARCHITECTURE

- **Expect error**
  - The case when a system expects the user to make certain mistakes and modifies its design to accommodate these mistakes
    - Attachment-notifications in emails
    - "Look Right/Left" signs on pavements
    - Post-completion errors: in the past many people used to forget their card in the ATM slot once they had withdrawn money; modern ATMs use voice-messages for notification and allow you to take your money only once your card is removed
    - If you forget to buckle your seat belt, you get buzzed



PRINCIPLES OF GOOD CHOICE ARCHITECTURE

- **Feedback – to improve performance**
  - Word-processors contain signals in case of spelling errors
  - Print preview option in MS Word
  - When you click a snap with a digital camera or a smartphone/iPhone you can have a snap-preview to check that it is what you want(ed)



PRINCIPLES OF GOOD CHOICE ARCHITECTURE



- **Mappings**
  - Comparing three chocolates (one with cherry-cream; one with orange-cream; one with banana-cream) is easy
    - How about comparing three options for a medical treatment?
  - People need to be able to map their options in a comprehensible way
  - A chocolate costing £1 means that a person consuming a bar of that incurs a cost of £1
    - In the above case, the product (chocolate) has been **mapped into money** because the option (consuming one chocolate a day) involves **transparent and unambiguous monetary outcomes**
    - How about your credit card? Cell phone plans? Mortgages?

PRINCIPLES OF GOOD CHOICE ARCHITECTURE

- **Structure complex choices**
  - If the choice involves a few simple alternatives, you examine all of them and choose the one with the best trade-off
  - What if the alternatives are complex choices?
  - Relocating to the Isle of Man is one such
    - You need to choose a place to stay (where?)
    - Multifactor decision: price, location, distance from workplace etc
    - You have to establish some elimination thresholds
    - Price up to £X; no more than Y-min journey from/to work;
    - *Elimination by aspects* (Tversky, 1972)
  - Choice architects with complex product lines think along similar ways
    - See also how Amazon or other related companies design their websites to allow easier interaction with customers

PRINCIPLES OF GOOD CHOICE ARCHITECTURE



- **Build good incentives** => key questions:
  - Who uses?
  - Who chooses?
  - Who pays?
  - Who profits?
- Free markets are supposed to minimize incentive-conflicts
- What about the medical system though? A patient may require treatment A, the doctor seconds this, but the health service of his/her country may refuse to cover the costs (prescribing a cheaper option instead)
- Buying a car or using public transport?
- A phone device allowing you to see real-time the costs of your phone-calls makes it easier for you to cut down the duration of your phone conversations instead of relying on clockwatching

PSYCHOLOGICAL ATTRACTION THEORY

HOW JUDGEMENT-ERRORS SHAPE REGULATORY DECISIONS

PSYCHOLOGICAL ATTRACTION THEORY (HIRSHLEIFER, 2008)

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Psychological Bias as a Driver of Financial Regulation

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Abstract

I propose here the psychological attraction theory of financial regulation – that regulation is the result of psychological biases on the part of political participants – voters, politicians, bureaucrats, and media commentators; and of regulatory ideologies that exploit these biases. Some key elements of the psychological attraction approach are: salience and vividness, omission bias, scapegoating and xenophobia, fairness and reciprocity norms, overconfidence, and mood effects. This approach further emphasises emergent effects that arise from the interactions of individuals with psychological biases. For example, availability cascades and ideological replicators have powerful effects on regulatory outcomes.

Keywords: *Investor psychology, regulation, salience, omission bias, scapegoating, xenophobia, fairness, reciprocity, norms, mood, availability cascades, overconfidence, evolutionary psychology, memes, ideology, replicators*

JEL classification: *G0, G28, H0, H1, H10*

1. Introduction

At a delightful dinner not long ago, a former president of the American Finance Association mentioned to me that as a behavioural financial economist, I should be a keen advocate of regulation to protect investors from themselves. He was quite surprised by my reaction, that the behavioural approach in some ways *strengthens* the case for *laissez-faire*, and raises some new doubts about the value of regulation, because much regulation is driven by psychological bias – on the part of the *proponents*, not necessarily the regulated. As several authors have argued (Caplan, 2001, Daniel *et al.*, 2002),

Keynote address of the June 2007 European Financial Management Association Annual Meetings in Vienna, Austria. I thank Nick Barberis, Michael Brennan, James Choi, Stefano DellaVigna, John Doukas, Robin Keller, Antti Petajisto Andy Policano, Eric Rasmusen, Geert Rouwenhorst, Siew Hong Teoh, Sheridan Titman, and participants at the Yale University School of Management Finance Seminar and the Workshop on Psychology and Capital Markets at the Merage School of Business, UC Irvine for helpful discussion and comments.

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- *"[…] certain beliefs about regulation are especially good at exploiting psychological biases to attract attention and support."* (p. 857)
- *"[…] regulation is the result of psychological biases on the part of political participants and regulators, and the evolution of regulatory ideologies that exploit these biases."* (p. 869)

SALIENCE AND VIVIDNESS

- Messages communicated to the public by regulators/policy-makers must be of **minimum detail**, **succinct**, and encode their content in **as short a version as possible**
  - Information-processing capacity is limited in humans => limited attention
- Tell people something that will
  - be imprinted into their memory more as an **impression** (a stimulus) rather than a logical thought; something, that is **SALIENT** (noticeable) and **VIVID** (emotionally charged)
  - **appeal to their memory** (an event relevant to a situation in their lives) or **become part of it easily** (a narrative of an extreme event or a personal story)
    - E.g., personal experience with illness (one's own or their friends/relatives) increases awareness of these health issues - and sympathy toward the projects that solve these issues (Herzenstein M.A., 2011)
- However, salience and vividness effects can also backfire!
  - Emotionally charged events can lead to calls for more regulation!
  - Policy-makers can commit errors, if they ignore important things, just because they are not salient or vivid enough…

SALIENCE AND VIVIDNESS EFFECTS

- A famous example of such an error hails from military history
- Vietnam War: quantifiable measures of success demanded (e.g., enemy body-counts) by the US Secretary of Defence
- McNamara fallacy (Yankelovich, 1971)
  - You measure whatever can be easily measured
  - You ignore whatever cannot be easily measured
  - You presume that what cannot be measured easily, is less important
  - What cannot be easily measured does not exist
- Selective blindness?
- Paradigm works while things go well
  - Or (when many people have not realized they have) not gone bad enough…
  - Eventually, the effect of ignored factors will have to kick in somehow…



SALIENCE AND VIVIDNESS EFFECTS

- A famous example from financial history: ENRON and the SOX regulation
  - ENRON scandal => encouraged the advent of enhanced disclosure laws in US markets
  - Emphasis: legal compliance
  - Management time invested on compliance is hard to quantify
- Regulatory costs/side-effects that cannot easily be enumerated are not vivid/salient => can be ignored
  - If regulation's side effects bear costs that cannot be easily mapped, these costs can be underestimated
  - SOX contributed to a reduction of foreign firms' listings on US stock exchanges (Hirshleifer, 2008, p. 859)

SENTIMENT-DRIVEN DECISIONS

- "With public sentiment, nothing can fail; without it nothing can succeed. Consequently, he who moulds public sentiment, goes deeper than he who enacts statutes or pronounces decisions. He makes statutes and decisions possible or impossible to be executed."

  Abraham Lincoln from his debate against Senator Stephen A. Douglas in Ottawa, Illinois, on August 21, 1858.

- Regulators and policy-makers are very sentiment-sensitive…
- Regulation's procyclical nature => decreased (increased) enforceability during optimistic (pessimistic) periods (Gerding, 2007)
- Bullish markets => more people make money => more happy people => more happy voters
  - Political cost considerations deter governments from doing anything that would jeopardize the market rally
  - Euphoric periods: enhanced deregulation; ill-enforcement of incumbent regulation; reduced appetite for additional regulation

SENTIMENT-DRIVEN DECISIONS

- What happens when markets tank??
  - More people realize losses => more unhappy people => more unhappy voters
  - Amplified public calls for regulatory initiatives geared towards the public's protection or the punishment of those deemed as culprits for the crisis/crash
    - Scapegoating (e.g., of bank execs post GFC)
  - Policy-makers must be seen doing something – optics are important, when the electorate is angry…
  - See, e.g., the regulatory interventions following the Dot Com bubble's crash & the GFC (Gerding, 2007; Hirshleifer, 2008)
  - Role of loss salience
    - The pain of suffering a loss is a memory-event salient/vivid enough
    - Loss salience is motivated by loss aversion
    - Loss-inducing issues weigh more heavily in social discourse, because they are related to monitoring and protection of property

OMISSION BIAS

- The tendency to favour omissions over otherwise equivalent commissions
  - E.g., use derivatives for hedging ("commission"), or avoid using derivatives due to hedging risk ("omission")?
- Regulators often step in when the perception of risk arises in investments
- Regulators can "nudge" toward omission bias => perfect example: pension funds
  - Pension funds face minimum performance requirements & restrictions in the opportunity set of stocks they can invest into
  - Some asset classes (e.g. foreign equity) are treated as "risky" in isolation by regulators, without recourse to their role in a fund's wider portfolio diversification
  - When "risky" stocks are viewed in isolation, rather than as parts of a portfolio, this can lead pension funds to avoid them
    - Narrow framing leads to omission bias
    - Familiarity bias/recognition heuristic (in favour of domestic blue chips)
    - Limited cognition (easier to assess a stock in isolation, than assess its contribution to a portfolio)

OVERCONFIDENCE

- Deciding for yourself is not the same as deciding for populations
  - If you decide for yourself, your actions are related to your own exclusive preferences and information
  - If you decide for others, your actions will affect people whose preferences and information are diverse
- People can understand social interaction as **cause-versus-effect**
  - Understanding complex market institutions and their workings (e.g. capital markets) is not equally easy!
- Market institutions are not always successful: failure is possible
- Market failures lead people to believe that **solutions are necessary**
  - Regulatory intervention is the source of these solutions
  - So regulatory intervention lags behind the market
  - Since people cannot fully comprehend how the market works, regulation is appealing

OVERCONFIDENCE

- Regulators, however, are not bias-free!
- Regulators see themselves as being in an influential position to cure social ills
- However, things can get out of hand if they regulate excessively
  - **Excessive belief in the curing ability of regulation: overconfidence**
- There are many involved in regulation => many views are voiced => "many cooks in the kitchen"
  - Therefore, there are many remedies proposed => if one does not work, try another!
- Many of these remedies are politically/personally motivated, e.g., :
  - Regulating interest rates or money supply; overconfidence of regulators in their policies
  - Enhanced regulatory calls after market crashes; illusion of control leads regulators to think they can avert bubbles/crashes

AVAILABILITY CASCADES

- Mood as a vehicle for judgement => "gut feeling"
- Suppose a media celebrity goes public arguing in favour of regulatory intervention (e.g. to tackle market volatility)
  - The constant repetition of this implies that the commentator sees some good ground for intervention
  - A lot of people will start thinking likewise => conformity bias
    - Mood is contagious (Hatfield et al., 1994)
  - Few will be sure – if at all – what this intervention should include; but they are certain this is needed!
  - However, they keep talking about it, so this tends to grow in perceived importance
- Little else is available out there in the context of public debate aside that
- Kuran & Sunstein (1999): the more people talk about something, the more important it seems => **availability cascade**
  - "Individuals imitate others not only because they trust that the latter have reliable information that would be costly to reproduce, but also because they take the simple availability of information as an indication of its reliability" – Lemieux (2004)

AVAILABILITY CASCADES

- This can breed polarization
  - One-sided insistence => suspension of debate
  - People begin to seek evidence supporting their beliefs => congruity bias
- More so, when things are negative…
  - People overweigh the probability of a perceived threat/negative event, whose occurrence in the past is still vivid in their memory
  - Negative mood periods (e.g. after a market has crashed) lead to greater polarization (there are more unhappy people) in favour of more regulation (to punish the culprits)
  - Regulation of risky products or environmental risks is often driven by public opinion movements (Lemieux, 2004)

AVAILABILITY CASCADES

- Role of "availability entrepreneurs" => lobbyists; special interest groups
  - Activists who launch "availability campaigns," often on behalf of special interest groups
  - Generally small groups with large concentrated interests to defend - more efficiently organized
  - Availability campaigns can be useful to solve collective action problems by fostering cooperation practices and moral rules
  - Can award reputational advantages to their supporters and boycott/threaten their opponents
  - This can promote preference falsification to control public choices => manipulation of public opinion
    - "Dissidents" end up suppressing their private beliefs to avoid social sanctions
  - The interaction of public opinion with bureaucracies/special interest groups can lead to cascades
  - Examples:
    - Soft-drink manufacturers financially supported the drive for Prohibition
    - Nicotine patch manufacturers are involved in the anti-smoking cascade
    - Pharmaceuticals lobbying against cannabis legalization

IMPLICATIONS

REGULATORY POLICIES MAY HAVE BAD OUTCOMES…

- …even when none of its enforcers have bad intentions!
- Example #1: SOX Act post ENRON
  - Reduction in foreign listings from US markets…
- Example #2: pension funds' regulation
  - Minimum performance requirements & restrictions in the opportunity-set of investable stocks
  - Leads pension funds to maintain correlated holdings
  - It is inefficient for so many pension funds to exist when their portfolios are similar

OVERREGULATION

- Due to the universe of regulatory ideologies
  - Or, overconfidence in regulation's powers
  - "Polynomy" => too many laws!
  - A peculiar issue with regulation is that it tends to track, rather than lead, events
    - As events unfold, regulation evolves
    - The case e.g., of cryptocurrency regulation

REGULATION CAN BE HIJACKED…

- Regulation can be **politically hijacked** during positive AND negative times
  - Market rallies => less regulation/enforcement/oversight
  - Market crashes => over-regulation to appease public sentiment
- Majority public opinion can trigger cascades and impact state intervention
  - Risk of policies becoming **hijacked by social mood**
  - Special interest groups can contribute, too
  - See e.g., the case with cannabis' legalization attempts at the federal level in the US
    - Social mood shift prompting regulators/policy makers to consider decriminalization
    - Recent move toward reclassification

WHAT CAN WE DO ABOUT BIASED DECISIONS?

SOME HINTS ON DEBIASING…

BUILDING INERTIA INTO POLICY-MAKING DECISIONS IS IMPORTANT

- *"Building inertia into the political system constrains the effects of psychological biases on future policy decisions. This helps, because irrational pressure for a bad regulation is often transient, as is the case with availability cascades. Systemic inertia can be achieved through constitutional limitations such as* ***separation of powers***, ***irrevocable rights***, *and* ***supermajority rules***; ***sunset provisions*** *are also useful." – Hirshleifer (2008, pp. 870-1)*

BUILDING INERTIA INTO POLICY-MAKING DECISIONS IS IMPORTANT

- Have enough sophisticated information available for debate to prevail over the formation of cascades
- Policy-makers should encourage scientific evidence and debate, as counterweights to "populist firestorms."
  - Is it easy to prevent democratic states from responding to democratic pressures?
- When an issue is very controversial, it is better that there be as many informative individual actions as possible, so that everybody is not misled by authorities
  - Broaden the debate
- Reversing incorrect cascades requires credible individuals with the right private signals
  - These individuals capable of breaking a cascade will need to be not only credible, but also free-spirited and relatively independent of social pressures and government payouts

FOSTER A DE-BIASED CULTURE IN REGULATION/POLICY-MAKING

- Regulation/policy-makers should know enough about data science
- Groupthink should not be rewarded by senior decision-makers, who should
  - Avoid highlighting patterns in the data
  - Avoid default positions ("this is all the data we have") => correlated status quo bias
  - Encourage questions that highlight uncertainty or flaws – tackle cognitive inertia!
    - "what are we missing?"
    - "what can go wrong?"
    - "what is wrong here?"
  - Seek input from diverse stakeholders with varied backgrounds
    - Cross-functional analysis teams

FOSTER A DE-BIASED CULTURE IN REGULATION/POLICY-MAKING

- Senior decision-makers should
  - Identify the role of outliers, or flaws of averages…
  - Seek access to the full picture
    - Encourage the use of complete datasets, not just highlights
  - Encourage validation of data-sources, limitations, assumptions and methodologies
    - Full disclosure of data analysis' steps => allow reproducibility, foster accountability & peer review
    - "What assumptions were made?"
    - Include qualitative data – alongside quant data (avoid McNamara fallacy)
    - Let the data speak – without assumptions

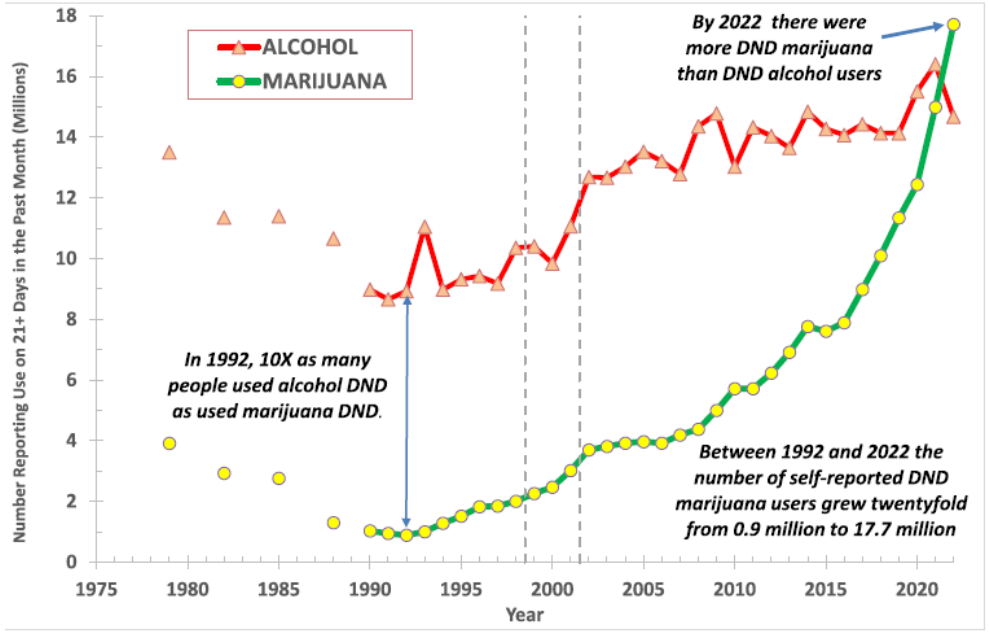
AN EXAMPLE OF BEHAVIOURAL ASPECTS OF A POLICY FROM THE ISLE OF MAN

MEDICAL CANNABIS & THE ISLE OF MAN

- In 2021 the Government of the Isle of Man, following a series of consultations (February/March 2019; October/November 2020), drafted a regulatory framework allowing commercial operators to grow, manufacture, distribute and export cannabis products under license from the Isle of Man
- Target: to attract cannabis-related businesses to the island primarily for:
  - Medicinal cannabis exports (i.e., for CBPMs)
  - R&D (e.g., for industrial and medical uses of hemp)
- Largely motivated by the shifting global sentiment in favour of cannabis' legalization
- Medical cannabis: a welcome innovation in the Isle of Man's economy-mix

SOME QUESTIONS

- Cannabis' legalization internationally is associated with political lobbying and generational shifts
  - It is very sentiment-driven
  - **Will social sentiment always remain as positive as generations shift?**
    - More people consume cannabis than tobacco - see Caulkins (2024)



Millions of survey respondents self-reporting 21+ days of use in the past month for both alcohol and marijuana (dashed lines jor survey redesigns).

SOME QUESTIONS

- The potential for addiction due to THC will not go away because the law makes cannabis legal
  - Medical cannabis can indirectly motivate addiction, by increasing cannabis use initiation in young adults, cannabis availability, and the potential for abuse by recreational users
  - Let us assume that the evidence on medical cannabis' legalization persists (i.e., that it increases the potential for addiction)
    - This will translate into more individuals with a condition (e.g., cannabis use disorder)
  - **What if some of those addicts decide to take the legal route and blame the medical cannabis companies for their addiction?**
    - The potential for class action suits can obviously have disastrous consequences
      - For the medical cannabis company sued (it can face financial squeeze…)
      - For the jurisdiction in which it is operating
    - This shift could assume political repercussions: lobbying could go in reverse…

SOME QUESTIONS

- **How will the IOM government deal with such a sentiment-/mood-shift?**
- **How will present/future IOM-based cannabis companies handle the legal risk & its implications?**
  - Cannabis users' numbers are rising => what about potential rising numbers of addicts suing cannabis firms in the future?
    - Jackpot compensations can be salient/vivid enough…
  - Litigation risk can be salient/vivid enough => several litigations against cannabis companies in the US
    - Event-driven securities litigation (EDSL) => following negative reports by short sellers & price-declines
    - Pretty quantifiable evidence
  - Reputational effects less easy to quantify – McNamara effect?

SOME QUESTIONS

- **Is there narrow framing in the medical cannabis policy on the Isle of Man?**
  - Focused primarily on cultivation/growth/manufacturing/exports
  - Given the aforementioned risks, perhaps the focus could be broadened
  - Perhaps diversify toward multiple-use initiatives in the engagement with medical cannabis
    - i.e., initiatives, which, should cannabis-sentiment go south in the future for whatever reason, can off-ramp their cannabis-involvement and be deployed towards new uses
    - These initiatives rest within the "periphery" of the cannabis industry (ancillary/support role)
      - Education/research initiatives (e.g., KTPs), specialized cannabis companies' accounting services, standardization services (e.g., in terms of ad hoc corporate governance codes, or ESG/SRI metrics for cannabis firms), AI-apps, etc.
  - The commission to medical cannabis need not lead to a sunk cost fallacy

SOME QUESTIONS

- **What informs policy-making on medical cannabis on the IOM?**
  - Role of social mood in the public debate & policy-making needs to be checked
  - Role of scientific evidence & its communication
  - Role of special interest groups?
  - Important to avoid availability cascades
  - Role of "nudging"?

It is important to ask questions…