# Reflections on Financial Regulation and *possibly* better ways forward…

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# Overview

- Introductory remarks
- What are financial regulators trying to do, and is the science required already on hand?
- Big picture issues mostly affecting retail markets
- Big picture issues mostly affecting wholesale markets
- Other issues
- Throughout: possibly better ways forward

# Introductory remarks

- I am expressing personal not corporate views
- I am very grateful to Jean-Pierre, Jon and Nicholas for giving me this platform
- And to the UK's financial regulators for giving me 25 years of fascinating work
- This lecture would be a lot longer if I talked about things the regulator is probably doing right
- But I hope to add value by focusing on areas where there is a chance of improvement
- Finally, I have great faith in my ex-colleagues who, with very few exceptions, were well-motivated, smart and hard-working

# Using other science to get an independent perspective

- As a long time insider in regulatory economics, I know I might accept things that don't really make sense
- To avoid this, I've tried to adopt an historical perspective
- Financial regulation and modern economics are over a century old
- So they might seem mature and highly reliable
- But ornithology and astronomy suggest otherwise
- Ornithology had huge classification errors and half its species missing from Aristotle to Willughby in 1650: 2000 years of error by assumption!
- Pre-Copernican astronomy was plain wrong for centuries
- Even after Copernicus it took another 50 years for Galileo to generate evidence that started to change beliefs about the right model
- And the long list of exceptions arising in pre-Copernican astronomy may be like lists of behavioural exceptions in economics today

# What fundamental assumptions in financial regulation might we suspend?

- Stability and competition are simply in conflict.
- Regulation for stability means measurement and analysis of risks in banks' balance sheets and rational incentives for prudence.
- The goal of regulating wholesale financial markets is market integrity.
- The way to regulate wholesale financial markets is timely and accurate information about instruments and counterparties.
- Providing information or nudges to enable competition to function is preferable to intrusive remedies.
- The approach to retail conduct regulation should be to ensure that products purchased are suitable for the purchaser.
- The disciplines needed by financial regulators are public policy, law (Public and Enforcement), auditing (Supervisory), policing/intelligence for Authorisation and Crime), economics and industry expertise.

# So what?

- The point of the list was to free me to look anew at financial regulation
- I don't though have time to talk about all the implications of suspending the assumptions I have just listed
- By offering the list, I hope to spawn a few private thought experiments on the part of others
- I will, though, try to say something about assumptions that touch on each of what one might call the three 'Cs' of financial regulation:
  - Capital
  - Conduct
  - Competition

# What are financial regulators really trying to do?

- Governments introduce regulation when they don't like the outcomes of unregulated markets
- But not in extreme cases, where legislative bans or nationalisation are the preferred tools
- Regulation is for cases where markets are corrigible rather than incorrigible
- The expectation is that markets will continue to function but the outcomes will be different
- It follows that what regulators are really trying to do is to change in particular directions some of the decisions made by suppliers and/or consumers in the relevant markets
- This is a hard job because decisions made under uncertainty are difficult to understand

# What science do regulators then need?

- Regulators are trying to change one set of market outcomes to another by altering the decisions made by some or all market participants
- It follows that the science regulators most need is economics
- This is because economics is the science that explores the decisions of suppliers and consumers encountering each other in markets, and the equilibria that result from these interactions
- Behavioural economics is a major step forward because it is more realistic about these interactions than traditional economics was
- But if economics is truly to fulfil its role for regulators it needs to draw on all science relevant to decision making under uncertainty (DMUU)

# How good a job is economics doing for regulators?

- Financial regulators fell upon Behavioural Economics with some enthusiasm because the results of non-behavioural analysis and remedies seemed not entirely satisfactory (e.g. repeated incidents of systematic mis-selling)
- The results of most behavioural remedies in financial regulation have been weak, however, as shown in FCA OP23
- But this is entirely to be expected - see the similar weak results in the Stirling Database of Top 100 Nudges (defaults excepted)
- So, based on results, one could say that economics might do more for the regulator

# What can we learn from experience so far?

- Given remedies could be more effective, what can we learn from experience so far that might lead to better remedies in the future?
- Proponents of traditional economics might say that insufficient use has been made of the Becker crime model and that the probability and size of punishment need to be increased to make powerful incentives
- Bubb et al, though, argue that incentives don't matter when emotions are in play and FCA OPs 24 and 25 suggested how complementary supply-side behavioural initiatives might prompt better, more compliant behaviour
- Why not try some of these ideas and find out whether they work?

# And what can we learn from experience so far of Behavioural Economics?

- Behavioural Economics is very attractive to a pro-competition regulator because it offers the prospect of well-working markets without intrusive intervention
- In principle, it might provide the benefits of efficient competition at low cost
- I am therefore going to focus on why it has not yet been very successful – see for example work by Bubb and Pildes - to look at what might be done to enable it to work better and realise its considerable potential
- My underlying assumption is that what really matters in regulation is remedy design since it determines the benefits of regulation

# Let’s take stock

- I have argued that what regulators want to do is to change decisions made by market participants
- And that this makes economics the science at the centre of regulatory tool kits
- But that results are not yet as impressive as they could be
- I am now going to focus on big picture issues mostly affecting retail markets
- Specifically, why Behavioural Economics has not been as transformative as hoped and what can be done to improve it

# What so far is the problem with Behavioural Economics?

- Some of the problem is local to the FCA
- Behavioural work has focused on the demand side when many or most problems may be due to supply-side non-compliance - see FCA OPs 24 and 25 mentioned just now – and consumers may be incorrigible
- It's surprising that regulators are replicating academic experiments with limited results when they don't need to publish in academic journals but do need to find remedies with big effects
- Little weight has been put on the limitations of behavioural models which may attribute deviations from rational decisions to just one psychological bias, despite the analysis of DMUU by Tuckett, et al
- Little weight has been put on the limitations in the evidence provided by randomised controlled trials (RCTs) despite the analysis of Cartwright and Hardie; Deaton et al: when to trial needs careful analysis

# Moreover, on RCTs

- RCTs are critical for behavioural remedy design because Behavioural Economics is atheoretic in significant ways
- But RCTs cannot deal with market responses to regulation so are uninformative about the most important thing in regulatory economics – the market equilibrium
- RCTs usually cannot deal with longer run effects, which is also the case in medicine where, following Ioannidis (2005) it is now estimated that up to 90% of published research findings are false

# And the problem is not just local

- The supposed maximising decisions of Homo Economicus are normative (ideals) rather than positive (observations)
- Behavioural Economics typically operates through a narrow though highly populated set of exceptions to these ideals, which is not the best basis for science
- It is also often blind to other major drivers of exceptions such as sociology, anthropology, emotions, internal narrative (in Akerlof and Shiller sense), etc, though it need not be and is not always
- Scientists of decision making typically give great weight to these drivers

# Also, there is a fundamental issue awaiting resolution

- If we look back to the key developments in our yardstick sciences, ornithology and astronomy, we can see two critical enablers
- One was that assumptions were challenged
- Economists are of course well able to challenge assumptions
- The other was that it became possible to observe directly the items of interest
- But the item of interest in the case of regulatory economics is human decision making
- And we cannot observe this in a very meaningful way at the current frontier of neuroscience

# Neuroscience in fact provides cause for concern about economic models in general

- Rangel, Camerer and Read Montague in Neuroeconomics: the neurobiology of value-based decision making (2015) find the neural data on how the brain deals with risk and ambiguity in decision making puzzling, with no clear support for one economic approach over another

‘Currently, two main competing views are being tested. The first view, which is widely used in financial economics and behavioral ecology, asserts that the brain assigns value to prospects by first computing its statistical moments (such as expected value, variance or coefficient of variation, and skewness) and then aggregating them into a value signal. The second view, which is widely used in other areas of economics and in psychology, asserts that the value is computed using either expected utility theory or prospect theory’ (the foundation of BE)

- A clear answer to this issue could be very helpful in remedy design!

# Should Gigerenzer's critique of BE matter to regulators?

- Gigerenzer argues that BE focuses on biases and fallacies to the extent that people are treated as unduly dumb
- He says that we aren't so dumb because our brains and the heuristic (experience-based) rules of thumb we use are highly evolved aspects of a highly successful species
- Thus often when we rely on Kahneman's somewhat erratic System 1 decision making it's for the very sensible reason that we know we cannot do the probability calculations required by System 2
- As it happens, I think they both have a point
- We are a successful species: if we were dumb we would have starved
- But it's also true that today's environment, especially ecommerce, is strongly at odds with the environment in which we evolved
- I'll consider what all this implies for remedies in due course

# Why do behavioural remedies fail?

- This is an important question, given my focus on remedies
- In ‘Nudges that fail’, Sunstein lists seven main reasons why behavioural remedies often don’t work:
  - Conflict with strong antecedent preferences of decision makers
  - Susceptible to counternudges
  - Liable to confuse the targets
  - May have only short-term effects
  - May produce ‘reactance’ (negative reaction due to sense that freedom is being reduced)
  - May be based on mistaken analysis of impact of choice architecture
  - May produce compensating behaviour with no net effect
- Gulp!

# What should all these issues mean for the approach to regulation?

- Given the issues just described, and the results of most behavioural remedies, it's impossible rationally to see Behavioural Economics *as it stands* as the answer to the regulator's problems
- It is, though, in many markets an improvement on traditional economics and may yet reveal more on changing decisions of market participants
- The issues listed above strongly suggest that, in Business School language, we are in the realms of 'wicked problems'
- There is no tractable model that can be developed to handle the complexity and uncertainty of DMUU and how to influence it
- Implying that it will be necessary to proceed step-by-step, learning en route what works and what does not, just as NASA apparently did
- Let's then consider influencing actual decision making through 'Behavioural Economics Plus'…

# So what could it mean in practice…

- Here are some suggestions for ways forward, of two types
  - Ideas for new research to fill knowledge gaps and build a better strategic approach to remedies
  - Specific points

- I am going to assume – because it's common sense – that any drivers of deviations from the decisions of Homo Economicus in traditional economics ought to be considered in practical 'Behavioural Economics'

- For regulators' evidential and other purposes, it doesn't matter whether they can be incorporated in mathematical proofs

- In any case, regulators' use of RCT results suggests evidence standards are too low rather than too high

# Suggestions

- As Gigerenzer observed, problems are often addressed through given specific disciplines rather than through the disciplines they require
- So, if it's true that regulators are trying to change decisions and decisions depend upon anthropological, sociological, occupational-psychological and other drivers, doesn't the regulator need expertise in these topics?

- When a regulator faces a poorly functioning market, a fundamental choice is whether to try to change it through the supply side, the demand side or both
- This is a question of 'What Works', so there is a case for researching impacts of interventions by market failure type, consumer type, firm type etc; i.e. strategic ex post CBA; and see generally the WW Centres

# More suggestions

- A further output of much needed ex post CBA and/or of careful analysis of relevant literature and other regulators' outputs could be a strategic guide on the circumstances in which behavioural remedies are likely to work and when intrusive interventions are needed
- This could also have a theory element, for example based on Stucke's paper 'Is competition always good?'

- Given the weak results of nudges based on standard psychological biases, it is worth investigating diversity in decision making
- Then, assuming diversity, design cocktails of behavioural/ and ?other remedies, whose different parts will appeal to different decision makers
- This seems feasible because a virtue of most behavioural remedies is that they are cheap

# Even more suggestions

- There should of course be a theory-based policy on when to use RCTs i.e. when the remedy proposed is susceptible to trialling AND the results of the trial pass rational tests of being relevant and reliable evidence, which is not a low hurdle
- Connected with this, there could usefully be a core curriculum for at least new policy makers that covers the issues dealt with in 'Evidence-Based Policy: A Practical Guide to Doing It Better'
- I strongly suspect that this would lead to fewer, better policies – see earlier comments about standards of evidence
- But it's important not to forget the political economy of regulation, a very powerful fact of life: dangerous dogs live…
- And PE can work both ways: FSA's OP6 (2000) says billions of pounds of rents have been transferred from consumers to AMs in past 18 years

# Yet more…

- If defaults are used (they do change decisions without high compliance costs), the public policy difficulty at their heart/with nudges/'benevolent paternalism' generally needs to be considered and a policy developed
- Hansen and Jespersen: 'Nudge and the manipulation of choice'
  - The nudge is justified by appeal to a theory of human agency in which policy makers cannot rely on humans making choices in line with their true preferences AND by the notion that citizens are still free to make choices that differ from the one set by the nudge
  - Thus proponents of nudge discard 'the world where citizens act as hyper-rational beings as a relevant baseline in real world public policy-making' but still 'appeal to what hyper-rational agents would be capable of, for instance, easily rejecting a given nudge'
- H+J's answer to the ethical issue is a complex system of transparency

# Moreover…technology

- It is time for further strategic and practical consideration of Big Data and Data Science so that these are harnessed to help the regulator
- Firms are using them to, for example, tailor individual communications
- It should therefore be possible to use them to tailor individual products, for example based on banks of standard contract terms
- This raises questions about the regulator's 'suitability' standard
- And about the regulator's apparent preference for intermediation
- Similarly 'intelligent agents', online models and MiData provide scope for testing Gigerenzer's idea that with tools people can use System 2
- Also, the FCA learned from the SEC as long ago as 2012 about the 'Accounting Quality Model', aka Robocop, a powerful DS discriminant for Supervision based on accounting & economics, and had a working model: it should use such tools in practice

# Also on technology…

- Product firms' rational responses to search software and regulatory requirements for intermediation that in practice will be provided by third parties could be to create search frictions through product proliferation or product complexity or even, I suppose, through offering cheap software that is not very good

- The regulator should consider whether Behavioural IO models could offer more on what happens to savvy and unsavvy consumers in the face of increased complexity, intermediaries armed with impressive–looking software, and clever attempts to mould demand

- Also perhaps modelling of practical/behavioural drivers of dependence between product firms and advisers: surely more than commission bias

# Empirical work is also warranted

- Where search software is important in markets, it must be scrutinised through test data, to see how well it works in terms of the regulator's consumer protection objective and especially the competition objective
- For example: is price competition being undermined by this software?
- Even if the software is OK, might it be over-ridden by advisers: to see how well markets are working, there is a case for comparing actual purchases with the best value apparently available, through careful empirical analysis, and how this changes over time
- The regulator could develop its own Roboadvice software for the foregoing and should audit any in use. And why is more of it not in use?

# Other important issues in ecommerce

- Law and Economics research in the US finds that the contracts in ecommerce become significantly longer and more skewed against the consumer – because people tick boxes on line and cannot see the length and complexity of what they sign
- This could be an important mechanism for dampening competition, so may warrant empirical investigation
- This point and the one on Robocop suggest that the regulator does not use Law and Accounting for research purposes in the way the US does
- May be time to reconsider this?
- Another big issue in ecommerce is remoteness and depersonalisation
- Gigerenzer's evolved heuristics may work poorly because of lack of human interaction and suppliers may feel less morally constrained
- If the regulator does not harness technology as described above, getting the same level of protection may require stronger intervention

# Let’s take stock again

- I have considered what financial regulators are really trying to do, and whether the science required is already on hand
- I have described some big picture issues mostly affecting retail markets and discussed what might be done about these
- I am now going to look at big picture issues mostly affecting wholesale markets and discuss what be done about these

# Now to regulation of wholesale markets

- Some of the relevant assumptions I asked you to suspend were:

- Stability and competition are simply in conflict.
- Regulation for stability means measurement and analysis of risks in banks' balance sheets and rational incentives for prudence.
- The goal of regulating wholesale financial markets is market integrity.
- The way to regulate wholesale financial markets is timely and accurate information about instruments and counterparties.

- I'll elaborate on these mostly by talking about the apparent untapped potential for financial conduct regulation to contribute to growth and stability

# What's the big issue here?

- Simply put, the world has changed and financial regulation has not
- Long ago in the developed countries that laid down the fundamentals of financial regulation and central banking the role of banks in financing the real economy was very great
- So it made sense for central banks to focus on growth and stability
- Just as it made sense for stock exchanges and wholesale market regulators to focus on making the listing and trading of securities less like the activity in a casino run by criminals
- But in these countries non-banks and retained earnings now largely finance the real economy

# So what?

- If it's true that non-banks are allocating, externally or internally, much of the finance for the real economy, then the nature and quality of this allocation process will have a significant influence on economic growth - at least if one accepts the Schumpeter/King/Levine/Beck view of the relationship between finance and growth

- The literature on growth and stability is more nuanced but ECB said in 2017 'Economic growth is supporting financial stability', and it's intuitive that financial crisis is more likely if firms misallocate resources

- The nature and quality of external allocation and of the monitoring of internal allocation by the finance sector depends materially on financial conduct regulation, implying this regulation matters for growth and stability: an untapped opportunity

# But is there really a problem?

- May well be a problem
- Conduct regulators aren't thinking explicitly about growth and stability
- Standard paradigm e.g. Gower Report 1983 holds: the main purposes of financial conduct regulation are to stop sensible people being made fools of and to stop misconduct/misinformation in, and specify listing information for, debt/asset markets
- But bearing down on crooks and mandating information can't be taken to mean that financial markets will do the best they can for growth
- Impacts need attention due to perverse incentives/ behavioural issues

# If this opportunity is real, why have we not identified it before?

- Could be due to status quo bias – attachment to assumptions
- While conduct regulation is far from new, with the Securities and Exchange Act now being around 85 years old, the great longevity of wrong ideas in other sciences say we treat conduct regulation as 85 years **young**, and economics overall not much less young!
- One possibility is that securities regulators are not looking for growth and stability benefits because their statutes do not require this
  - Even though Governments are obviously concerned about growth and financial markets are part of the life blood of the economy!
- Securities regulators may be siloed by markets (e.g. equities, bonds, etc), so overall contribution of finance to economy is not even observed
- Regulatory debate is often focused not on economic markets but on topics like imperfections in disclosure, conflicts of interest, risk, etc.

# Is pursuing the opportunity a worthwhile additional objective of securities market regulation?

- Little scope for significant further benefits in already well-regulated, ‘efficient’ securities sectors and jurisdictions while conduct regulation focuses on well-worn micro issues, risks and remedies

- No cost-benefit analysis or impact assessment of recent improvements in disclosure regulations for wholesale markets and other such traditional provisions has even claimed let alone demonstrated really substantial economic benefits

- I argue that greater gains can be achieved by securities regulators in highly sophisticated jurisdictions if they turn to market design and macroconduct issues that may help growth and stability

# And the traditional approach may now bring significant costs in developed jurisdictions

- Tweaking disclosures, penalties and conflicts rules do not matter very much in jurisdictions with already well-developed regimes because they have already been substantially addressed in sensible ways

- Returns to tweaking things further may diminish very fast
  - For example, Bhattacharya et al find that only first use of penalty powers makes a difference to behaviour, albeit permanently

- And tweaks definitely have costs - increased administration and also increasing regime complexity that can be as a barrier to entry or innovation, and thus to improvement in allocating capital

# The traditional approach may also damage competition and innovation

- The concept of risk is widely used in conventional conduct regulation
- It is useful when a possible change threatens the objectives of regulators as analysed through a proper economic analysis of the market effects of the risk, should it crystallise
  - Example: classic notion of risk to banks' balance sheets in prudential supervision, where pre-emptive action on the risk is often justified by the probability of high economic costs if nothing is done
- But what if there is no realistic economic analysis of how the risk, if it crystallises, will play out in the relevant markets?
- This appears common, causing intervention with no evidence of benefit
- 'Mitigating' these kinds of 'risks' also reinforces status quo bias and leads to undue caution about excellent, pro-competitive innovations
- So, non-economic regulatory focus on risk may suppress identification of disruptive opportunities for markets to help growth and stability

# How in general could financial conduct regulation help growth and stability?

- Useful to start with two examples of real-world practice: utility regulation and macroprudential regulation of banks
- There is a substantial body of work in utility/competition regulation that considers how the relevant (utility) markets can best be set up
  - E.g. the best way of allocating infrastructural costs, which is relevant to financial markets with massive costs (see FSA OP6 or FCA's recent Asset Management market study)
- Macroprudential considers mostly the impacts that banking has on the economy, so the issue is how to extend this to financial markets
- So that they can help (non-bubble) growth and reduce bubbles and asset price shocks that can lead to instability and crisis
- BIS Paper 62, Financial Sector Regulation for Growth, Equity and Stability, by Caruana, Subbarao et al discusses these issues in banking

# What else?

- The general idea is that regulators should consider ‘macroconduct’ requirements, roughly meaning conduct requirements designed to produce macro benefits such as growth and stability
- Macro benefits depend a lot on cumulative effects on the relevant markets, so overall market design is a central part of this
- A critical point is that conduct regulators tend to focus on intermediation not monitoring even though most capital allocation is internal
- The FCA in fact held two conferences on this broad topic but specific follow-up action is less clear. FCA knowledge of relevant markets means it could make a critical contribution to FPC in this area

# Conference insights that could be actioned?

- It's worth recalling some key points from these conferences, which attracted some well-known speakers
  - Stiglitz - technological change used to pursue private, information-based rents, increasing volatility/lowering economic performance. Implies need for wide fiduciary duty and severe penalties for individuals
  - Levine - finds a positive relationship between finance and GDP using a natural experiment in the US. Positive impacts of finance can be enhanced through more competition dealing with TBTF
  - Brandao-Marques: AM, Shadow Banking, bank credit, etc need to be considered together to deliver a well-working financial sector and consequently growth and prosperity. The challenge is to develop 'aggregate regulatory policy'

# More conference insights worth considering

- Budish – HFT is costly: batch auctions as opposed to continuous trading could focus market participants on price not speed. Should increase the efficiency of allocation of capital, which should help growth
- Besley, Roland and Van Reenen - the UK's significant fall in TFP is due in material part to credit market frictions. Facilitation of P2P lending and Shadow Banking is proposed to offset this
- James, Kotak and Tsomocos - find that regulation determines the quality of the corporate governance regime and that the quality of this regime is highly correlated with growth and stability. It is argued that weakened regulation has led to short-termism in firms and weaker growth; that there does not need to be a growth/stability trade-off and that strategic macroconduct policy can lower crisis risk and the long run risk to stability posed by low growth

# How can insights from these conferences be taken forward in practice – some suggestions

- The major challenge posed by the conferences is: what changes would enhance governance enough to enable or incentivise the financial sector to monitor the real sector's allocation of capital materially better?
- Here are some preliminary suggestions – not restricted to FS regulation
  - Address problems with accounting data that disrupt markets when revealed; by using anonymised open ledgers that allow investors to use own models to make valuations based on actual transactions
  - Address problems arising from the limited duties owed by auditors and their conflicts of interest, which increase the cost of capital and are in principle remediable by creating duties to regulators
  - Given firms' tax practices, is listing in a virtual currency in a virtual country desirable to protect industry from Government policy?
  - Can Distributed Ledger Technology achieve higher accountability/ lower costs through sharing of/ shared analysis of, information?

# Further suggestions on the above

- Can regulation help Distributed Ledger 'Smart Contracts' etc reduce uncertainty/risk and thereby lower costs of finance: are standards such as ISDA's for swaps contracts warranted? Or DLT for custody?
- Fragmentation is a simple idea: can Network Economics offer something more to help connect and deepen financial markets?
- Can regulation help Network/Platform technology create/disseminate 'Wisdom of Crowds' information to discipline users of capital?
- Should regulations be designed to facilitate Shadow Banking so that increased disintermediation of banks lowers risk/cost of crisis?
- Can regulation use insights from psychology/emotional finance and other science of decision making to identify market design features likely to promote stable behaviour by individuals in hard times?
- Or is it better to use these insights to design/trigger circuit breakers?

# Let’s take stock again

- I have considered what financial regulators are really trying to do, and whether the science required is already on hand
- I have described some big picture issues mostly affecting retail markets and discussed what might be done about these
- I have described some big picture issues mostly affecting wholesale markets and discussed what be done about these
- In the last brief section I am going to offer a few other ideas that may be helpful

# Text analytics

- I briefly mentioned this in the form of ‘Robocop’
- It is worth spelling out, given the importance of disclosures to regulators and to customers as a regulatory tool, that Robocop works by detecting likely false disclosures through free text Supervisory returns
- See Hoberg&Lewis ‘Do fraudulent firms produce abnormal disclosure?’ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2298302
- And there are many possible applications, even without free text returns
- For example, the Bank of England has been using text analytics with UCL to identify the link between sentiment and stability: https://www.ecb.europa.eu/events/pdf/conferences/140407/presentations/session5/Nyman-

# Improving culture and governance in firms

- Here are some insights from FCA OPs 24 and 25:
  - To change the choice architecture of compliance, make detection and punishment salient and vivid
  - Enhance the role of morality – a corporate narrative;
  - Improve culture by publicising good behaviour and bearing down on bad sub-cultures; ensure bad culture lowers remuneration
  - Use cross-firm mechanisms to identify biases in local decision-making
  - Use of random audits and of third party information on compliance
  - Create a race to blow the whistle through reporting obligations on internal professional staff and external advisors
  - Build a story around what Board responsibility means and make it salient by requiring Boards to sign Compliance Statements or explain why not

# Is the observed set of markets efficient: a research question?

- Is the set of markets and products that the regulator observes and uses as critical units of account for regulation misaligned with the needs that the financial sector is meant to serve and/or designed to confuse?
- For example, why are retail debt and asset markets almost always separate? Offset mortgages appear to be a great idea, and are tax-efficient, but are not the general case
- There may be product proliferation to prompt over-consumption or there may be proliferation of offerings within product types to create complexity as a search friction?
- Is there a case for intrusive ‘market design’ to address these points?

# Finally, what about the regulators themselves?

- Developing literature on behavioural biases in regulatory decision making
- Important for regulators to be aware of what may happen and have mechanisms to identify and address it
- For example, training for major committees on behavioural biases and how these may survive old-style governance processes
- Useful overview in David Hirshleifer ‘Psychological bias as a driver of financial regulation’, which discusses issues including:
  - Salience and Vividness Effects (e.g. reaction to political pressure)
  - Omission Bias (e.g. not allowing the complex and generally useful)
  - Scapegoating and Xenophobia (e.g. indulging members of own group)
  - Fairness and Reciprocity Norms (e.g. harsh rules for lenders)
  - Overconfidence (e.g. social planners not grasping why the market is as it is)

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