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Anchoring in Economics: On Frey and Gallus on the Aggregation of Behavioural Anomalies

Peter E. Earl

Abstract
This paper examines the research area identified by Frey and Gallus (Aggregate Effects of Behavioral Anomalies: A New Research Area, 2014) and the relationship between it and the choices that economists make. It supports the Frey and Gallus view that, as a consequence of individuals employing external inputs rather than relying upon their own judgemental capacities, the quality of decision-making may differ at the market and macro levels from what has been observed in laboratory experiments. It seeks to forestall potential moves by rational choice theorists to argue that such processes, imposed by competitive pressures, will swiftly eliminate anomalous behaviour. But it questions Frey and Gallus's use of conventional rational choice theory as the reference point for judging the quality of real-world decisions. It argues that choice is an activity based on evolving sets of habits and rules, rather than based on give preference systems, and that Frey and Gallus's failure to consider alternative reference points is itself a manifestation of anchoring.

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1. Introduction

Frey and Gallus (2014) have made a valuable contribution by identifying a new research area, namely, the need to ascertain the real-world market- and macro-level significance of the behaviour at odds with conventional rational choice theory that has been observed in psychology laboratories. They argue that, beyond the laboratory, economic agents can call upon additional inputs when making decisions and that empirical research is needed to ascertain whether this results, in the context in question, in behavioural anomalies being ameliorated or exacerbated. The present paper is written in the belief that, if this research agenda is adopted, it should have major implications for how economists view the scope and nature of behavioural/psychological economics. However, I also will be trying to forestall the possibility that mainstream economists may seize upon the idea that, outside the psychology laboratory, people may improve their decisions by outsourcing decision-making expertise, as a basis for reversing their recent openness to the modern behavioural approach. Further, I will be arguing that the Frey and Gallus research agenda is itself anchored in a dysfunctional way to the dominant rational choice perspective.

2. The challenge implied in the Frey and Gallus research area

Aggregate economic outcomes depend not merely on personal modus operandi that individual consumers apply when choosing in markets. Such outcomes also depend on:

(a) the extent to which people employ inputs from the wider population as means of taking better decisions (cf. the notion of a 'market for preferences', explored in Earl and Potts, 2004);

(b) the extent to which suppliers set out skilfully to exploit their customers' decision-making limitations (for example, in ways considered by Hanson and Kysar, 1999a. 1999b); and

(c) the extent to which suppliers and those who design, approve and implement regulations are themselves operating subject to behavioural biases.

By outsourcing aspects of judgement and choice, real-world consumers might be able to overcome their inherited decision-making limitations. However, choosing in a social setting might instead magnify individuals' shortcomings. Similarly, on the supply side, organizations might enhance their performance by engaging in benchmarking and calling in consultants, but consultants could in some cases be working with dysfunctional heuristics – for example, ideas that are obsolete or based on managerial 'fads' that were informed by small, historically-specific samples. Social welfare might be substantially less than it could be, due to consumers taking poor decisions, being manipulated by suppliers and being presented with products that offer needlessly poor value for money because suppliers, too, are not making the most of the resources at their disposal. On the other hand, missed opportunities will be rare if all players are well-advised and avoid succumbing to biases or are protected from their irrational tendencies by well-conceived regulations. What actually happens, overall, in particular contexts cannot be resolved a priori; empirical investigations are needed.

The scale of the research needed to evaluate what is going on in any particular context is thus daunting, It involves understanding the significance of psychological processes in interactions between socially networked consumers, firms, and the political sphere that sets the rules of the game for the market environment. This would be a much more complex undertaking than behavioural economists have hitherto attempted. Unlike the behavioural economists of the 1960s (such as Cyert and March, 1963, and Leibenstein, 1966) who focused primarily on the behaviour of organizations and said little about end-consumers, modern behavioural economics has so far focused essentially on departures from rational choice by end-consumers and has said little about organizations. Modern 'behavioural industrial organization' research thus considers how firms might be trying to exploit departures of consumers from 'rational' choices and what this implies for competition between firms. The study of shortcomings of decision-making processes in firms has been left to other business disciplines and modern students are rarely introduced to Leibenstein's notion of *X*-inefficiency. This will have to change if economists are to venture into the research area identified by Frey and Gallus.

Economists will need to start recognizing that the great majority of transactions by value are between businesses ('B2B'), not between businesses and consumers ('B2C'), and that business decision-making may be just as biased as – or even more biased than – that of end-consumers, compared to conventional rational choice reference points. Public choice analysts similarly need to recognize that cognitive biases may also affect the politicians who vote on legislative motions that would change the environment faced by firms and consumers. For example, politicians may succumb to how lobbyists frame their

messages, or may be prone to engage in hyperbolic discounting. But politicians, too, can take advice that may, on the one hand, limit their susceptibility to the agenda of lobbyists and, on the other hand (where the advice comes from skilful 'spin doctors'), enable them better to frame what they say in ways designed to play on the heuristics and biases of voters. The end result may be that consumers do not end up getting the kinds of policy interventions that they need – for example, 'Big Food' lobbying may succeed in derailing attempts to require food labelling to include simple means (such as a star-rating or 'traffic light' system) that will enable consumers to make better judgements about the nutritional content of particular food products (for a case study, see Arnold, 2014).

If economists do not understand the interplay between decision-makers within and between consumers, organizations and politicians, they are poorly equipped to appraise arguments about policy and constitutional design, such as whether Thaler and Sunstein's (2008) liberal paternalism is necessary or, if it is indeed necessary and nudges are well conceived and implemented, if it is enough, or whether a much more tightly regulated economic environment is necessary.

3. The infinite regress problem and Day versus Winter revisited

The Frey and Gallus research agenda thus challenges those who would use ideology as the basis for choosing policy programmes. But in setting it out they have possibly laid the way for those who have an ideological commitment to the fully rational economic agent to continue preaching in the traditional manner. This could have consequences for modern behavioural economics that are

similar to what happened to Herbert Simon's earlier satisficing-based approach to behavioural economics after Day (1967) argued that, by a process of iteration in the face of competitive pressure, satisficers would eventually end up discovering optimal solutions. This seemed to imply that evolutionary selection processes would leave a population of firms that maximized profits. The mainstream reaction to this was, in essence, to take the view that 'Well, it's OK to carry on assuming all choices involve constrained optimization'. By the time that Winter (1971) pointed out that Day's argument would only hold in a static, innovation-free environment, it was too late to turn the tide.

Over the past two decades, psychology has been admitted into mainstream economics essentially as a means of shoring up its degenerating research programme by serving as a means of disposing of empirical anomalies identified in laboratory settings. Where necessary, a twisted form of optimizing behaviour (such as Prospect Theory, proposed by Kahneman and Tversky, 1979) has increasingly been allowed to replace the regular rational choice model of optimization as the mode of analysis. Because mainstream economists did not embraced psychology willingly (see Rabin and Thaler, 2001) and, given the anchoring role of their traditional psychology-free vision of economics, we should expect psychology to be cast out if reasons for doing so can be found.

By emphasizing that, outside of the research laboratory, decision-makers may have incentives to try to overcome their psychological shortcomings, as well as having access to resources to enable them to do so, Frey and Gallus have provided a means for rational choice theorists to try to continue applying 'as if' justifications for adhering to the traditional approach. Given the weight of the conventional anchor, this may scupper their attempt to promote their proposed

research area: the market mechanism will be presumed to ensure that products are available – self-help books (such as Belsky and Gilovich, 1999) and product review and comparison websites, or fee-for-service professional inputs into decisions, along with politicians who will try to win votes by introduce regulatory policies – to enable consumers to avoid errors and prevent them from having their choices manipulated by firms that are unscrupulously applying laboratory research findings regarding human heuristics and biases.

Such a presumption about how biases observed in the laboratory will be corrected in the real world deserves to be challenged. It suffers from the infinite regress problem that lies in the way of a decision-maker who attempts to solve an open-ended optimization problem, for if economic agents are to find ways of avoiding succumbing to inherited biases they, too, have an open-ended choice problem to resolve.

As far as optimization in general is concerned, the infinite regress problem arises as follows. If a problem space and options for resolving the problem are not pre-specified, the decision-maker will keep running into further choice problems in attempting to discover the best solution. For example, the question of which search strategy to select leads to the question of how one might put together a set of search strategies between which to choose and the question of how best to judge the prospective performance of any particular search strategy. Moreover, in the face of uncertainty, as Shackle (1961) realized, the identification of barriers to some imagined outcomes gives rise to the question of what might turn up as barriers to the barriers so far identified and thereby allow particular hoped-for or feared outcomes to occur. At some point, it is actually necessary for time constraints and limits to the imagination to force a

halt to the process of working out what to do, for open-ended problems have no other stopping point. This version of the infinite regress problem should have resulted in Simon's (1957) satisficing approach to choice supplanting the constrained optimization approach, but most mainstream economists seem unaware of it.

When applied to the problem of how to overcome limits to cognitive biases, the infinite regress problem is related to the puzzle of whether one can trust an auditor without having the auditor's work audited by someone else, who in turn would need to be trusted, and so on. Cognitive biases may prevent economic agents from realizing that they could benefit from seeking assistance in the first place but, if they do start considering possible means of enhancing the quality of their decisions, their existing biases may have an impact on how they go about searching for solutions and how they appraise potential solutions. As the old saying goes, 'It takes one to know one'.

For example, what is one to make of rival political contentions about whether or not to cut funding for a financial markets watchdog authority when there is the risk that some financial advisors operate without due skill and/or professional integrity? Those who claim to be able to supply means to improve the quality of one's choices may range from well-meaning members of one's social network, though to self-serving organizations (such as for-profit product comparison websites that only rank a subset of available products and/or succumb to conflicts of interest in preparing their rankings) and politicians with regulatory policy proposals. They will all be presenting their offerings within particular frames, and as agents make assessments of them (for example, in terms of trustworthiness) they will be doing so in terms of their own ways of

looking at the world. The stimuli being emitted by those who might be most able to help them are not guaranteed to arrest their attention or be construed as these parties had intended. For example, if Shackle's (1961) theory of attention is correct, hyped-up claims that seem somewhat implausible may crowd out more modest claims that seem perfectly possible. Moreover, Winter's critique of Day applies here, too: if economic agents do experiment with aids to better choices: in the real world of innovations (of both genuinely creative and devious, disingenuous kinds), iterative processes may not lead to optimally-assisted ways of choosing.

In short, if aids to rational choice are to be selected rationally, one must be capable of rational choice in the first place, so there should be no presumption that real-world decision-makers will necessarily end up arming themselves with the appropriate means to avoid succumbing to inbuilt biases. This is the logical basis for the research area that Frey and Gallus have identified.

4. Competitive pressure and economic efficiency

To say that economic agents may not avail themselves of the best available aids to avoiding anomalous choices is not to deny that many agents may feel a need to try to find ways of making better choices as opposed to doing what comes naturally, such as selecting default options that have in the past met their modest aspirations. Frey and Gallus are absolutely right to stress that those who have poor decision-making skills are likely to fare relatively badly in when competing against those who are better at taking decisions. The former may find it harder to achieve career advancement and social standing, and may have trouble maintaining their wealth. Firms that are run by relatively incompetent

entrepreneurs and managers may suffer diminishing market shares or be squeezed out of business altogether. However, in addition to the need for economists to have some concern about the fates of those who get selected out by competitive processes (rather than leaving this to, say, social workers), it is important for economists not to presume that competitive pressures will necessarily remove *all* those who persist in behaving in ways that are at odds with the conventional microeconomic view of rationality. Such a presumption would provide an alternative way towards avoiding entering the daunting Frey and Gallus research area: one might use it to argue that the real world should not display long-term evidence of the anomalies observed in laboratory experiments. Fools and their money will soon be parted.

Frey and Gallus are clearly aware that Friedman (1953) used Alchian (1950) to argue that, given competitive selection processes, it is reasonable to theorize 'as if' decision-makers behave optimally. In mentioning both of these sources, they reinforce the anchoring of the mainstream view that highly competitive markets only allow the survival of those who, by one means or another, act as rational optimizing agents, However, contrary to the impression given by Friedman, which Friedman's readers have helped impose as an anchor on economic thinking over the past sixty years, Alchian himself did *not* argue that market processes will ensure that only the 'fittest' survive and hence that sooner or later markets become populated by those who, on the basis of knowledge or luck, happen to make optimal choices. Rather, as Kay (1995) has pointed out, Alchian recognizes that in order to survive in a competitive environment, one must merely be fit enough relative to the opposition, given the capacity of that environment.

If market populations include both less-than-fully-rational suppliers and less-than-fully rational customers, we should not presume that competitive selection processes eliminate all players whose decision-making capabilities fall short of 'best-practice'. Incompetent suppliers may survive if there are enough incompetent customers who fail to discover the better deals being offered by best-practice suppliers or who are lucky enough to avoid heading to suppliers who are very good at setting traps for the unwary. Less-than-fully-rational suppliers may also win sales from those who are applying best-practice decision rules but who are unlucky in a statistical sense – for example, in the results that their sampling procedures generate. The competent firms will supply to competent customers, and to lucky incompetent customers who chose to buy from them accidentally. Competent and lucky-but-incompetent customers may indeed get to better deals than unlucky or unwary incompetent customers but this does not mean the latter necessarily will suffer financial and social ruin if they persist in their ways of operating. Rather, they may simply continue to operate with lower levels of consumption and social standing, just as incompetent firms may fail to become giant corporations but may at least bumble along serving incompetent/unlucky consumers. What matters is being able to find a niche or league that one is fit enough to inhabit.

The kinds of situation in which competitive pressures wipe out those who do not choose in the manner prescribed by rational choice theory are, paradoxically, precisely those where the probabilistic philosophy that has underpinned so much behavioural research is of questionable applicability – namely, decisions that involve what Shackle (1961) called 'crucial experiments'. These are choices in which the chooser puts at risk the great part of his or her

wealth in pursuit of a particular gain. For the individual embarking on a crucial experiment, the outcome is a significant one-off event and the choice is something they will either be in no position to repeat (if it goes badly) or may never need to repeat (if it goes well). In episodes of financial instability of the kind emphasized in the work of Minsky (1975), those who suffer disastrous losses of their life saving typically do not do so on the basis of their own assessments of the risks associated with the assets in which their investments are made; rather, they delegate their choices to unscrupulous financial advisors.

When people suffer catastrophic losses in this kind of way, others ought to learn to be more cautious in their choices of financial advice, but the patterns of behaviour get repeated, with new cohorts of risk-takers, in the manner chronicled across the centuries in Kindleberger and Aliber (2011). In other words, those who research the aggregative consequences of anomalous choices need to keep in minds that in the real-world, the population of agents is continually being refreshed: as lay observers often ruefully comment about instances of poor choices and/or gullibility, 'There's one born every minute'.

It needs also to be noticed that those who fail the test of a competitive market do not necessarily vanish without having an enduring impact. Wildly innovative projects that spectacularly contradict their proponents' optimistic financial expectations may nonetheless eventually be made to work in engineering terms. As a result, even if those who staked their wealth and/or reputations on them are indeed selected out by market processes, the fossils of their decisions sometimes continue to be employed for years after: sunk cost bias may result in money being poured into grand designs that never fully recoup their fixed costs, but if the projects are successfully completed in a

technical sense, they may continue to be operated so long as their revenues cover the subsequent variable costs and operational overheads.

From an evolutionary standpoint, such projects, born and nurtured on the basis of so-called anomalies and biases, may play a socially beneficial role by shifting the production possibility frontier or, at least, contributing to knowledge of where the limits to possibility lie (Potts, 2004). The lesson here is that we must be careful not to take a static view of rationality and efficiency when assessing the aggregate effects of anomalies. From an evolutionary economics perspective choice is not about finding the best allocation of a given set of resources with statistically known outcomes for each option. Rather, it is about generating new knowledge and changing the set of possibilities. From this standpoint, heuristic that rational choice theorists see as causes of anomalies may actually be every bit as functional as those of a 'fast and frugal kind' that are emphasized in the writing of Winter (1964) and Gigerenzer *et al*. (1999). For example, optimism bias may be necessary for dynamic efficiency. Sunk-cost bias may also be necessary for human progress, since tenacity on the whole is a desirable attribute if one is trying something new and difficult.

5. Anchoring to the wrong reference point

Like their subjects, academic economists are mere mortals who therefore need to operate with humility (Smith, 2008, p. 2). They are potentially subject to using dysfunctional heuristics and not always to be open to suggestions (for example, from journal referees) that they could do better by acting differently.

Unfortunately, Frey and Gallus have not followed Smith's advice. The arguments of the previous paragraph and discussions earlier in the paper about

the significance of the infinite regress problem and the anchoring effect that Friedman's misrepresentation of Alchian's evolutionary analysis point to a key issue that is missing in the Frey and Gallus analysis. They are raising questions about the significance of behavioural anomalies in real-world economic environments in relation to a specific view of what constitutes rational behaviour. They do not consider alternatives to the rational choice model other than those that involve distortions to it via heuristics that lead to so-called biases. They are not considering alternative potential reference points such as, say, Simon's (1976) 'procedural rationality' or Smith's (2008) 'ecological rationality'. In other words, Frey and Gallus themselves seem to have 'anchored' their analysis to the reference point that comes to mind because of its 'availability'. In trying to lead the herd of economists, they seem to have succumbed to 'herding' tendencies themselves.

There seems to be a presumption in the Frey and Gallus analysis that economists can make pronouncements on the choices economic agents should be making in particular contexts. If consumers will reveal their objective functions, the economist can use the rational agent model to discover, say, how much money they are wasting by sticking with a default option. But this presumes that it would indeed be possible to pin down the consumer's underlying utility function (which may not be the case, given the limitations of what can be asked of research subjects before they start suffering from respondent fatigue), and that the choice set is closed and static (which may not be the case if the market is one that operates in a Schumpeterian manner). In other words, the kind of research that Frey and Gallus advocate may prove problematic in some markets because optimal choices are elusive to economists,

too. If economists are to make pronouncements about the quality of choices that people are making, they may need a reference point other than that of standard rational choice theory.

Frey and Gallus also fail to notice that, if people are beset by the kinds of heuristics-driven biases that have been identified in psychological experiments, then the core idea that economic agents have given preference orderings may be completely misplaced. This possibility is recognized in Kahneman's (2011, ch. 27) discussion of the significance of the endowment effect and the use of reference points in assessing the costs and benefits of changing one's behaviour when market conditions change. Kahneman's analysis implies we need to view the consumer's willingness to make trade-offs as path-dependent. More fundamentally, we should note Ariely's (2009) discussion of anchoring and imprinting processes, Hodgson's (2003) analysis of the social processes by which habits are developed, and the personal constructs approach to psychology (founded by Kelly, 1955) that suggests people in everyday life should be viewed as if they are scientists, developing hypotheses and running experiments that are aimed developing their abilities to predict and control events. Taken together, these contributions imply a serious challenge to the idea that economic actors make their (possibly distorted) choices in terms of existing preference systems rather than merely doing what they do because they have latched on to particular initial ways of operating and then explored and refined them in a strongly path-dependent manner.

Although it is possible that economic agents might be able to *construct* preference systems if mainstream economic agents set out to elicit such systems from them, this would be very different from actually *having* well-defined

preference systems on which they have been basing their choices. Choice may actually be based on the application of rules – including the heuristics on which modern behavioural economists focus – rather than on preference systems. If so, responses to changing price incentives are reflections of the lives consumers have so far had, that have resulted in particular anchors and rules being picked up or constructed. If consumers were to wake up tomorrow suffering from mass amnesia about what they had previously been willing to purchase, then, as Ariely (2009, ch. 2) argues (and as had been recognized much earlier by Townshend, 1937), they would have no idea what trade-offs they should be making: rather than being grounded in preferences, value may be simply 'up in the air', held up by its own bootstraps.

6. Conclusion

Mainstream economists need to embrace the research area that Frey and Gallus have identified rather than feeling they are entitled to seize on competitive pressures and expertise-outsourcing opportunities as means of concluding that there is, after all, no need to worry about inept consumer decision making processes being ripe for exploitation if firms are not fettered by regulators. But they, and most modern behavioural economists, including Frey and Gallus, need also to consider how the heuristics and biases literature is relevant for understanding the behaviour of economists. If they do so, they may have a better chance of realizing that the traditional rational economic agent perspective should be abandoned altogether.

If economists jettison their conventional reference point, they will still need to undertake the kinds of empirical studies that Frey and Gallus are urging.

Consumer who lack any underlying preference ordering of the kind traditionally assumed, and whose behaviour is instead based on habits and rules, can end up being fleeced by unscrupulous suppliers or making other choices that are seriously dysfunctional in social or personal terms – for example, choosing not to immunize their children or allowing fear of flying to constrict their opportunity sets, due to the way they use, or fail to make use of, relevant statistics. If we reject the idea that choice is based on preference orderings, and with it the reference anchor of mainstream rational choice theory, we will need a different way, or ways, of assessing the quality of decision-making in the real world. To this end, the alternative views of rationality suggested by Simon and Smith warrant serious discussion. There are probably other contenders, too. And, in considering these alternative reference points, economists would be wise not to forget the logical barriers to optimization and to try to be alert to instances in which heuristics that seem conducive to anomalous behaviour in terms of the orthodox reference point may be of positive evolutionary value.

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