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Neoliberalism in the Laboratory? Experimental Economics on Markets and their Limits

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Experimental economics is now part of mainstream economics and is fast becoming one of its most influential methods. Drawing on the distinction between market and behavioural experimentation, this article assesses the compatibility of the most influential experimental research with the neoliberal understanding of the political and moral preconditions for markets to develop. A politically relevant asymmetry at the core of this research programme will be signalled: while issues of political economy are eschewed by market experimenters (for example, whose interests are favoured and whose groups have power in economic processes), topics of moral economy are recognised and dealt with by behavioural experimenters (for example, the interactions between economic institutions and individuals' motivations and moral make-up). It is argued that experimental research has thereby contributed to a depoliticised and moralised view of markets, one that tends to present markets as a civilising institution once their technical and moral failures are recognised and adequately dealt with.

Keywords: experimental economics, markets, cognitive biases and heuristics, endogenous and social preferences, neoliberalism

1. Introduction

Experimental economics is now part of mainstream economics and is fast becoming one of its most influential methods. Drawing on the distinction between technological and behavioural experiments developed in Santos (2007, 2010), this article assesses the compatibility of the most influential experimental research with the neoliberal understanding of the political and moral preconditions for market competition to develop. A politically relevant asymmetry at the core of this research programme will be signalled: while issues of political economy

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are eschewed by market experimenters (for example, whose interests are favoured and whose groups have power in economic processes), topics of moral economy are recognised and dealt with by behavioural experimenters (for example, the interactions between economic institutions and individuals' motivations and moral make-up). It is thus argued that experimental research has contributed to a depoliticised and moralised view of markets, one that tends to present markets as a civilising institution once their technical and moral failures are recognised and adequately dealt with.

Technological experiments study specific market institutions (Santos 2007, 2010). In a nutshell, experimental economists do this by testing in the laboratory particular sets of market rules that define how experimental buyers and sellers are to engage in the trade of a fictitious experimental commodity and how these exchanges are to translate into commodity allocations. For example, in a double auction experiment (Smith 1962) subjects were randomly assigned the roles of sellers or buyers. Sellers were then endowed with a unit of a fictitious commodity and told that they could earn the difference between the price at which that unit was sold and its reservation price (the minimum price for which they should be willing to sell). Similarly, buyers were told that purchases of this commodity could result in earnings equal to the difference between the reservation price (the maximum price for which they should be willing to buy) and the actual paid price. Subjects were subsequently asked to engage in multilateral bargaining by orally stating intentions to buy or sell one unit of the commodity to the whole group of traders. Whenever a match was reached, a binding contract was closed for the agreed contract price. When the experiment ended, each subject received the earnings made from trading. The experimenters then evaluated whether subjects maximised their earnings and whether the experimental market produced the equilibrium prices and quantities. In this way, technological experiments allowed for examining the relative performance of different institutions, mainly of a market kind, by observing the impact of particular sets of rules on the decisions of the participants and the resulting individual and collective market outcomes. This accumulated knowledge was subsequently used to design and test market institutions before their implementation in the economy, turning experiments into engineering tools for market building.

Drawing on the work of Vernon Smith and Alvin Roth, two prominent experimenters with market settings, Section 2 shows how market experimentation has helped to strengthen the idea that economics is a form of constructivist rationality devoted to the development of technical devices to be put at the service of market building. While diverging on the possibility of remaking the world in the idealised image of markets in economics, Smith and Roth end up converging on the technical travails of the economists and on the avoidance of the political economy of market construction.

Behavioural experiments also study the impact of particular socioeconomic institutions on the decisions of the participants in the experiments and the resulting individual and collective outcomes (Santos 2007, 2010). But rather than concerning themselves with the performance of market institutions, economists are instead interested in the study of individual decision-making and the impact of market and non-market institutions on human behaviour. For example, in the ultimatum game (UG) experiment, first conducted by Güth *et al.* (1982), two subjects

were invited to participate in a two-round game that consisted of the partition of a fixed amount of money between them. In the first round, the first player proposed a division of this amount between the two. In the second round, the second player decided whether or not to accept the offer. If s/he accepted, each received accordingly, otherwise both received nothing. The experimental results refuted the theoretical asymmetric prediction according to which the proposer receives the bulk of the fixed amount. But not only did proposers make more generous offers, the responders also refused positive payoffs by opting for no rewards. These results have been interpreted as revealing participants' social preferences, namely the tendency to abide by the relevant social norm and to punish those who do not. In this case, the salient norm was the 50:50 split, explaining proposers' generous offers and responders' rejections of positive but low offers. By varying aspects of the social context (for example, the social proximity between subjects), behavioural experiments have been used to study how socioeconomic institutions interact with social norms and values and what the impact of this interaction is on human behaviour. In so doing, they have brought to the fore the psychological make-up and moral commitments of human beings.

Section 3 then reviews the heuristics and biases and the social preference branches of behavioural research and their policy implications. While the former still operates within the neoclassical framework, research on social preferences highlights the moral consequences of markets and other economic institutions, underlining the functional importance of the moral make-up of individuals, where morality is seen as a solution to the departures from idealised views of perfect competition.

The technological and behavioural experiments here reviewed, as argued in Section 4, converge with neoliberalism, conceived as a set of theories and policy prescriptions that value non-market spheres and social relations, but only to the extent that they are instrumental in supporting the expansion of market forces and ensuring their legitimacy, and that concede that the conditions for the existence of a market society must be created by a properly configured political power (Mirowski 2009; Rodrigues 2010). By providing 'technical' tools, market experiments help in this constructivist endeavour. But neoliberalism is not limited to the market engineering ambitions of certain strands of economics since it presupposes a particular moral economy that emphasises the civilising impacts of markets on human motivations and interactions. Markets also depend on the existence of non-market spheres which have to be calibrated so as to help generate a 'market-embedded morality' (Shamir 2008). This has been highlighted by findings of behavioural experiments in conformity with the moral economy of neoliberalism. The paper then concludes by signalling the complementary nature of the two strands of experimental research in that the behavioural branch investigates the moral conditions for market expansion and alternative solutions when this fails.

2. Technological experiments: constructing markets

Technological experiments have been devoted to the study of market institutions (Santos 2007, 2010). Experimental economists study the performance of market institutions by designing and implementing in the laboratory particular sets of

rules of individual property rights that define the range of admissible actions for experimental subjects and how subjects' actions are to translate into commodity allocations. Different institutions can then be examined and their relative performance compared by observing the impact of particular sets of rules on the decisions of the participants and the resulting individual and collective outcomes.

Vernon Smith is the field's prominent practitioner who has most contributed to the experimental study of market mechanisms. Smith (1962) launched the experimental study of market allocation mechanisms with his first double auction experiments, aimed at testing competitive price theory.[1] Because this required specifying the rules and procedures of the market mechanism, which were left unspecified in economic theory, it called Smith's attention to the importance of rules to both individual behaviour and market performance. In short, it made Smith acknowledge that 'institutions matter'.

Experimental economists have been particularly interested in studying the incentive-compatibility of market mechanisms (Smith 1982), that is, whether the set of market rules lead each economic agent to choose the action that is the best utility-maximising response to the other agents' actions and whether a social optimum obtains in the sense that no one can increase his/her utility without decreasing that of others (in other words, if the market is capable of generating a Nash equilibrium whose outcomes are Pareto optima).

Technological experiments have produced a substantial amount of evidence of the relative performance of various markets (for example, Holt 1995). And more recently, they have been used to design and test market institutions before they are implemented in the economy. This strand of experimental research has thus turned experiments into engineering tools for market building, which explains the label attributed to them.

According to Smith, the engineering role of experiments was facilitated by the more open dialogue between experimental economists and managers and policy-makers in industry and government, who *qua* problem-solvers, are more familiar with the experiential base which experiments provide than with the abstraction of economic theory (Smith 2008: xv). More importantly for the present discussion, though, market experiments and their use in the design of new market mechanisms have forced economists explicitly to recognise that markets are the outcome of complex social engineering processes that determine the rules under which individuals are to act and the aggregate results that obtain by having economic agents interact under these rules. Rather than assuming at the outset that markets ensure economic efficiency via the symbiotic conjunction of agents' rationality and the information disseminated through prices, as conventional economists did, experimental economists are devoted to the experimental study of 'the rules of individual private property' given their role in determining market outcomes.

This view is most vocally voiced by Roth (2002: 1341) in his proposal of a specific field, labelled design economics, which is presented as 'the part of economics intended to further the design and maintenance of markets and other economic institutions'.[2] Based on economists' work as design economists, combining the contributions of experimental economics, game theory and computational

economics, Roth stresses that markets need to be particularly tailored to the context in which they are to be implemented:

> The largest lesson in all this is that design is important because markets don't always grow like weeds – some of them are hothouse orchids. Time and place have to be established, related goods need to be assembled, or related markets linked so that complementarities can be handled, incentive problems have to be overcome, etc. (Roth 2002: 1373–4)

It is also clear that design economics is to be devoted to the 'technical issues' that arise in market building. Design economists, *qua* specialised technicians, deal with the technical complications that arise in social engineering, specifically with those that stem from the strategic environment and the opportunistic behaviour of economic agents, who will try to outwit the regulator (whose political job is to decide the rules), and also from the cognitive limitations of real economic agents that may compromise the goals set beforehand. This is so because the effectiveness of market mechanisms requires that the design setter be able to ensure that economic agents behave predictably under the new institutional setup, taking advantage of the opportunities of the economic environment.[3]

The solutions of design economics are not circumscribed to a presumably demarcated market domain (Roth 2007). However, the expansion of markets or market-like forms of exchange to new domains of social life introduces an additional problem. Economists have to deal with adverse reactions towards the introduction of market-like arrangements that set up contractual forms of exchange involving the transfer of money and property rights. These new forms of exchange tend to be considered 'repugnant', as Roth puts it, when money is added to a transaction. This 'distaste for certain kinds of transactions can be a real constraint on markets and how they are designed, every bit as real as the constraints imposed by technology or by the requirements of incentives and efficiency' (Roth 2007: 38).

The challenge, from the point of view of the design economist, is to learn how to deal with these 'constraints', perceived as part of a technical problem that needs to be tackled. Roth then urges economists to understand better and engage more with the phenomena of so-called repugnant transactions. But this is not a question of appraising the reasons that might support individuals' reluctance to accept the commodification of certain goods and relations. It is instead a technical matter because 'attitudes about the repugnance (or other kinds of inappropriateness) of transactions shape whole markets, and therefore shape what choices people face' (Roth 2007: 38). When referring to the debate over the creation of a market for the sale of kidneys, Roth (2007: 53–4) makes this clearer by contrasting the reactions of its opponents to the frustration of economists 'at the failure to adopt what they see as a feasible solution that could be implemented quickly'. In Roth's (2007: 53–4) view, design economists, *qua* rational technicians, should then take on 'the important educational role of pointing to inefficiencies and trade-offs, and costs and benefits'. In order to be effective, new markets have to deal with all sorts of complications that arise in market building.

The recent interest of economists in market building might seem surprising for someone not familiar with the economics discipline. But 'the' market, the central institution of neoclassical economics, has not been constituted as an object of study in its own right. There has been little interest, in mainstream research, in studying how specific markets operate and how prices are actually obtained. Instead, it has been taken as a relatively homogenous and undifferentiated entity, to which are associated vague notions of supply and demand that jointly determine the equilibrium price of commodities. However, a general sense is growing that experimental economics is contributing to change this state of affairs (Mirowski 2007, Hodgson 2008). Mirowski in fact considers that we are now moving 'from a period when "the market" has been left implicit and undefined to an era in which markets are becoming the center of attention'. Economics has hence 'become less fixated upon agency and more concerned to theorise the meaning and significance of a diversity of (small-m) markets' (Mirowski 2007: 211). However, the recognition that markets are context-specific institutions does not seem to lead to a revision of the neoclassical paradigm. In Smith's view (2008: xiv), market experimentation and conventional economic theory are compatible; the former complements the latter, allowing for the study of 'the missing dynamic process analysis that had not been part of the standard equilibrium tool kit'.

But economists' attempts at creating and implementing particular kinds of market mechanisms did bring to the fore the problems of 'constructivist rationality'. Smith (2008: 2) defines constructivist rationality applied to individuals as the 'deliberate use of reason to analyze and prescribe actions judged to be better than alternative feasible actions that might be chosen', constructivism applied to organisations aims instead at 'optimal design', that is, 'the deliberate design of rule systems to achieve desirable performance' by providing 'incentives for agents to choose better actions than would result from alternative arrangements'. Constructivist rationality contrasts with the notion of 'ecological rationality', inspired by Hayek, which refers 'to emergent order in the form of the practices, norms, and evolving institutional rules governing action by individuals that are part of our cultural and biological heritage and are created by human interactions, but not by conscious human design' (Smith 2008: 2).

Smith bluntly states that rational constructivist designs are doomed to fail. This is so because no rational constructivist design can take into account at the outset all the relevant factors for the successful (however success is defined) functioning of a new market. These factors can only be identified, if at all, in implementation. Constructivist designs are, and must be, based on restrictive, simplifying and tractable assumptions about the economic environment and how economic agents will behave therein. This is so even in the simpler cases, such as in auction design:

> Auction design requires balancing a number of competing considerations, each one of which has an uncertain weight in the final specification of the mechanism to be used. Achieving the balance is a problem in trial-and-error selection among alternative constructively rational designs to find and choose an ecologically

> rational design; even if one has managed to come up with what is believed to be a sophisticated constructivist model of the process, it must be tested to see whether it is also ecologically fit because of the inherent uncertainty in conjectures as to which assumptions are relevant in abstract modeling. (Smith 2008: 144–5)

Rational constructivist designs will fail in leading economic agents to the exploration of opportunities that produce the efficient outcomes predicted by the design setter. Market building will instead be a long process of trial and error and resulting rule 'fixes':

> You begin with a precise theoretically 'optimal' auction procedure (. . .) It was an elementary exercise in constructivism, but it was not ecologically fit. In implementation, the model encountered behavioral incentives or 'strategic' problems not considered as part of the original theory and likely intractable from a theoretical point of view. You come up with a rule 'fix' to provide countervailing incentive. This creates a new problem requiring a new rule adjustment, and so on. (Smith 2008: 129)

Experiments can offer ecological fitness tests for new market mechanisms prior to their implementation in the field, allowing for assessing the combined effect of market rules and the actions of economic agents under the new set of rules. But this is at best an incomplete test. Only the implementation of the new mechanism in the economy can provide an adequate test. Failures in implementation reveal that some of the assumed presuppositions in the rational constructivist designs are not valid and ought to be revised. In this account, these revisions call for adjustments in the incentive structure of the market mechanism such that individuals' incentives correspond to what is needed to achieve group optima, while making sure that economic agents understand the incentive structure so that they behave accordingly, and preventing the opportunistic exploiting of any gap which undermines the gains from instituting the new market. For example, in the Federal Communications Commission's (FCC) auctions of US radio spectrum, one of the most celebrated economic engineering success stories, the goal was clearly defined – awarding the licenses for the use of airwave spectrum to those who valued them most and could most effectively employ them – which required building a mechanism that allowed bidders to estimate their maximum willingness to pay for the auctioned item, and made sure bidders submitted this value in the form of a bid. But the first auction failed to prevent bidders' collusive practices, further amendments had then to be introduced to limit bidders' strategic exploitation, imposing further constraints on their behaviour, and so forth (Smith 2008: 137–48).[4] To summarise, building and maintaining markets presupposes permanent tinkering with their constitutive elements.

Smith (2003: 473) declares that he has never been comfortable with the label 'economic systems design' because 'it is reminiscent of the idea that we can engineer best social arrangements'. But from this it does not follow that he and Roth diverge on the possibilities of trying to build markets from scratch guided

by economists committed to market competition, considered a superior form of 'maximizing group welfare' (Smith 2003). Roth and Smith also converge on the avoidance of the political economy of market construction, by trying to reduce all issues at stake to technical problems, namely those pertaining to the incentive structure or the trade-offs of market mechanisms, to be solved either by trial-and-error procedures or by teaching market opponents the costs involved in non-market solutions. And both neglect the underlying political processes of market design and the struggle for political influence over the rights-obligations structure that give specificity to different markets, determining how advantage and opportunity are to be distributed among different groups of people with different degrees of power.

But the distribution of property rights is of paramount importance because it specifies who may use and control the use of an object of value, and thereby who may receive the benefits of its use and impose costs on others for the use and control of that object with the protection of the state. This is so because when the state grants a property right, it is also acknowledging a commitment to defend the interests of those to whom the property right has been granted (Bromley 2006, 2008). Insofar as market design overlooks these underlying political processes it risks widening the gap between proposed market designs and their actual accomplishments. The higher the stakes, the more the (re)creation of a new market gives rise to an intense struggle for influence over the collective definition of the new rules of individual property rights.

The outcome will contain a high degree of uncertainty, not only epistemic, as underlined by Smith, but also political: it will depend on the power of those involved and their capability to bring forward their favoured solutions. To put it in another way, the efficacy of market design ultimately hinges on determining the extent to which economists are able to implement their models in the real world and make reality conform to their theoretical constructs, that is, on determining the performativity of economics (Santos and Rodrigues 2009). Given the uncertainty involved, market building more likely frames and shapes the interactions of individuals for the attainment of rather elusive goals, say the allocation of resources in an operational way while attempting to curb opportunistic behaviour on their part.

Even though absent in Smith's and Roth's recollections, the most celebrated case of market design, was not an exception. The FCC auction was, too, exemplary of the political struggle underlying the construction of markets from scratch. The process of building the auction was naturally marked by the interests of the constituencies involved, namely those of the telecommunication corporations. And it deeply involved economists in the policy-making process, namely game-theoretical economists, hired to lobby for particular auction designs and, after implementation, to assist their clients in defining their bidding strategies (Nik-Khah 2008). As Charles Plott (1997: 606), a prominent experimental economist involved in the FCC auction, put it: 'Business understood that the rules and form of the auction could influence who acquired what and how much was paid'.

Nonetheless, both market experimentation and design economics are praised for advancing the engineering aspirations of economics, which can do without the political economy of market construction, as the memorial Nobel

Prizes awarded to Vernon Smith and Alvin Roth unambiguously testify (Christophers 2012).[5]

3. Behavioural experiments: markets with morality

Behavioural experiments also study market and other economic institutions (Santos 2007, 2010). But rather than concerning themselves with the trade of fictional goods in which subjects are explicitly told and have the opportunity (in the instruction phase) to understand how to maximise their payoffs (for example, by selling these fictional goods at the highest possible prices and being paid in accordance with the gains from trade) as technological experiments do, behavioural experiments focus on the relation between socioeconomic institutions and individual behaviour. Specifically, they study how economic institutions interact with social norms and values and what the impact of this interaction is on human behaviour. In so doing, they bring to the fore the psychological make-up and moral commitments of human beings. Behavioural experiments have, in fact, contributed to the establishment of the field of behavioural economics, which grew with the accumulation of results from other empirical inquiries, and from other disciplines, namely from cognitive and social psychology. According to Colin Camerer and George Loewenstein, two leading practitioners in the field:

> at the core of behavioural economics is the conviction that increasing the realism of the psychological underpinnings of economic analysis will improve the field of economics on its own terms – generating theoretical insights, making better predictions of field phenomena, and suggesting better policy. (Camerer and Loewenstein 2004: 3)

However, they noted that the relevance of human psychology to economics does not necessarily imply 'a wholesale rejection of the neoclassical approach to economics based on utility maximization, equilibrium, and efficiency' (Camerer and Loewenstein 2004: 3).[6]

Two distinct programmes can be identified in behavioural experimentation: one devoted to the study of individual decision-making, namely to the processes that people use to estimate probabilities and choose among given options (Camerer 1995); the other devoted to the study of various strategic and cooperative problems of social interaction, the game-theoretical strand (Camerer 2003). While both research programmes challenge the neoclassical economics model of human action, *Homo economicus*, they pose different challenges. The former generally calls for the revision of the rationality assumption, the latter calls instead for the revision of the self-interested and the exogeneity of preference assumptions.[7]

3.1 *The heuristics and biases programme*

The first programme is associated with the work of the psychologists Tversky and Kahneman (1974, 1981) and Kahneman and Tversky (1979).[8] Rather than basing their decisions on the calculus of the net benefits of various choice alternatives,

people have instead recourse to simple rules of thumb, or heuristics, which help them cope with various problems in a quick and satisfactory way, but may lead to different choices than those predicted by expected utility theory. Tversky and Kahneman (1974) identified three pervasive heuristics – anchoring and adjustment, availability and representativeness – and the behavioural patterns they generate. The 'anchoring and adjustment' heuristic, for example, leads to excessive influence of a particular feature of the problem (which works as an 'anchor') because individuals often fail adequately to take into account other relevant elements of the decision-problem. The psychologists also note that the framing of the decision-problem, that is, the way the problem is described and presented, has a strong impact on the choices individuals make (Tversky and Kahneman 1981). This goes against the standard assumption that individual preferences and the inherent costs and benefits of the alternatives at hand are the sole determinants of human behaviour. People are also influenced by the wider decisional context that affects the choices they make. Kahneman and Tversky (1979) early formalised their insights in the prospect theory, a descriptive theory of decision-making under risk that stresses the role of the status quo and reference points on tastes and choices.

The accumulation of empirical violations of expected utility theory over the last three decades is now inspiring various versions of so-called 'soft paternalistic' approaches to individual decision-making – asymmetric paternalism, cautious paternalism, libertarian paternalism (Camerer *et al.* 2003) – devoted to helping people make choices more in line with maximising behaviour, while avoiding as much as possible placing limits on individual choice and thus causing harm to those who behave rationally.

The Libertarian Paternalism proposed by Thaler and Sunstein (2003, 2008) takes as its point of departure the rejection of the assumption that 'almost all people, almost all of the time, make choices that are in their best interest or at the very least are better than the choices that would be made by someone else' (Thaler and Sunstein 2008: 9). Based on an informed view of actual human behaviour, the policy-maker, or the choice architect as Thaler and Sunstein put it, has 'the responsibility for organising the context in which people make decisions' (3). The goal is to steer people's choices in directions 'that will make choosers better off, as judged by themselves' (5), where 'better off' is to be determined on the basis of choices people would have made under ideal circumstances characterised by complete information, unlimited cognitive abilities and no lack of willpower. A critical aspect of choice architecture is that it emphatically avoids constraining the options of the individual in the sense that people's behaviour is to be altered in a predictable way 'without forbidding any options or significantly changing their economic incentives' (6). This, in Thaler's and Sunstein's view, guarantees that no coercion is involved.

The most celebrated choice architecture is the programme *Save More Tomorrow*, designed by Benartzi and Thaler (2007) to increase the American 401(k) employee savings plans, in the context of ongoing reforms in pension provision, namely the replacement of defined benefit plans by defined contribution plans, which transfers responsibility and risk of long-term planning from governments

and corporations to the individual. The expansion of markets in this domain is, however, confronted with workers' cognitive limitations and lack of willpower since it requires more complex and difficult decision-making on the part of the employees in a critical dimension of their lives. Indeed, while in defined benefit plans the pension is automatically calculated based on salary history and length of employment, in defined contribution plans individuals have to decide how much and where to invest their savings. Saving money is particularly hard also because it requires people to overcome their natural tendency to prioritise present consumption over consuming in the future. The cognitive and emotional costs inherent to saving for retirement thus tend to give rise to *status quo biases*, that is, the tendency to stick to one's current situation regardless of the long-term benefits of altering that situation (Samuelson and Zeckhauser 1988).

Default options have been found to be a powerful mechanism to tackle people's *status quo biases* by presenting a solution that is automatically selected if the individual fails to choose for him/herself. In the USA, many corporations have introduced automatic enrolment in defined contribution plans (at a specific savings rate and asset allocation) resulting in far greater uptake of the retirement savings programme. But it was also found that many employees continued saving at the default rate, which was deemed insufficient. The programme *Save More Tomorrow* was then designed to promote the automatic escalation of contributions so as to circumvent people's inertia. A key feature of the programme was the synchronisation of the upward adjustment of savings rates to pay rises. Not only would the trade-off between saving and consuming be attenuated by postponing the increase of workers' contributions to the future, but this rise would not be perceived as painful insofar as the upward adjustment of savings rates would not cause a reduction in nominal wages. It would also take advantage of people's inertia to ensure the incremental growth of people's savings rates. The programme *Save More Tomorrow* is thus an ingenious mechanism that exploits workers' biased valuations of the future to make them behave in the intended way. And it has been found effective to the extent that it has led to a higher participation and savings rate and thereby contributed to workers' welfare, under the assumption that people were under-saving. In any case, as Benartzi and Thaler stress, had workers realised that they were saving more than they wanted, they would have opted out of the plan or changed their savings rates. But very few employees did so.

This shows that these proposals inspired by the heuristics and biases branch of behavioural research still work within the larger framework of the neoclassical research programme, focusing on the marginal problems posed by decision-makers' bounded rationality or lack of self-control, working within the prevalent institutional arrangements and contributing to promote ongoing processes of commodification. The problems of bounded rationality are to be dealt with the design of 'choice architectures' to help individuals calculate the costs and benefits associated with available options, or to 'nudge' them in directions considered welfare-improving. The ultimate goal is to improve the functioning or the expansion of markets. The more consumers make the right choices, the more markets become competitive and indeed legitimate.

3.2 *The social preferences programme*

The second strand of behavioural research is inspired by game theory, which uses games to depict various problems of social interaction, comprising the set of strategies for each player, the precise rules for the order in which players choose strategies, the information they have, and how they evaluate resulting outcomes. These games have inspired the design of experiments that have attempted to measure aspects of social norms and social preferences. Canonical experiments include the prisoners' dilemma game, the public goods game, the ultimatum game, and the dictator game, among others, which have shown that rather than caring exclusively about their own material payoffs, people also behave cooperatively or in a pro-social way, even when it is costly for them to do so. In other words, besides having self-interested preferences, people also have so-called social preferences in the sense that they dislike inequality, abide by social norms, and behave reciprocally or altruistically (see Camerer and Fehr 2004 for a review).

These results have inspired the economics of reciprocity (for example, Fehr and Gächter 2000, Gintis *et al.* 2005) that explain pro-social behaviour in terms of reciprocity, defined as a 'predisposition to cooperate with others, and to punish (at personal cost, if necessary) those who violate the norms of cooperation, even when it is implausible to expect that these costs will be recovered at a later date' (Gintis *et al.* 2005: 8). Rather than *Homo economicus* people are taken to be 'conditional cooperators', behaving cooperatively if others do so as well, or 'altruistic punishers', sanctioning those who do not abide by prevalent norms of cooperation (Gintis *et al.* 2005: 8). Reciprocity is distinct from altruism, which is a form of unconditional kindness, and from cooperative behaviour in repeated interactions if agents expect future material benefits from their actions. And it is deemed to be an ubiquitous disposition, explaining cooperation in varied social dilemmatic situations, such as tax compliance (Andreoni *et al.* 1998), wage setting by firms (Bewley 2005), political attitudes and voter behaviour (Fong *et al.* 2005), as well as the protection of local environmental public goods (Ostrom 2005).

Behavioural research has thus shown that reciprocity is a useful norm enforcement mechanism in contexts that are only imperfectly contractible, as many real markets are, and that social norms should be taken into account as any other constraint on individual behaviour considered by conventional economic theory, such as legal, informational and budget constraints (Fehr and Gächter 2000: 168). Indeed, in the presence of incomplete contracts and the opportunity to punish those who deviate from the relevant social norms, the mere threat of being punished by reciprocal individuals induces the free-riders to cooperate, resulting in a general high level of cooperation. Along the same lines, more recently, Samuel Bowles has highlighted the functional importance of social preferences for markets in the following way:

> [T]he proper functioning of markets (...) depends critically on social and moral preferences. For example, in the absence of a strong work ethic and feelings of reciprocity between employers and employees, an adequately functioning labor market would be

> impossible. If trust, truth telling, and other ethical behaviors were absent between borrowers and lenders, credit markets would likewise collapse. (Bowles 2011: 47)

This recovers a neoclassical intuition, as expressed by Arrow (1971: 22), according to which social norms are 'reactions of society to compensate for market failures'.

Of particular relevance to the present discussion is the role of behavioural research in drawing economists' attention to the intricacy of the relationship between human behaviour and the socioeconomic context. Behavioural experiments have been particularly useful to explore the effect of contextual factors on human behaviour because they can be easily and deliberately manipulated to this end. For example, when choice problems are framed as market exchanges (for example, by defining a given social interaction as a market transaction) or introduce features that aim to resemble market environments (for example, anonymity, property rights, performance-based rewards, very high stakes, competition, and so forth), they tend to elicit behaviour more in line with *Homo economicus* (Hoffman *et al.* 1994; Blount 1995; Bohnet and Frey 1999; Fehr and Schmidt 1999; Falk *et al*. 2003). Taken together, they have shown that rational, self-regarding behaviours are more likely in market contexts that are closer to the ideal of perfect competition, because they: create social settings that render the self-regarding norms more salient, reduce the range of actions available to experimental subjects (for example, to buying and selling) which do not facilitate the expression of other-regarding considerations, and create a competitive environment which renders social preferences and other-regarding actions irrelevant to the resulting outcomes (Santos 2009).

By the same token, contexts that improve social proximity between subjects (for example, by permitting communication between them) and allow subjects to abide by social norms that effectively produce desired and desirable outcomes create favourable contexts for the manifestation of pro-social behaviours. A salient pattern is that individuals generally tend to abide by the relevant norm if they believe they are expected to conform to it and expect that others will conform to it too. The opportunity to punish those who deviate from the relevant norm of conduct helps to enforce it.

By revealing how the social context elicits different behaviours driven by different motivations, behavioural experiments have shown how preferences tend to be situation-dependent (Bowles 1998, 2011). They have shown, in particular, that the context activates a particular set of motivations within individuals' 'heterogeneous repertoire of preferences' by conveying important messages about the nature of the social interaction (Bowles and Polanía-Reyes 2012).

Another important contribution of behavioural experiments pertains to the corrosive effects of the introduction of pecuniary incentives on morality, the 'crowding-out of intrinsic motivations' (Frey and Jegen 2001; Bowles and Polanía-Reyes 2012). This effect is particularly strong in contexts where activities are enjoyed precisely because they are intrinsically motivated, conferring a sense of self-determination and competence on those who perform them; such is the case of voluntary compliance with social norms (Bowles 2008). The crowding-out

effect suggests that extrinsic incentives should be used with caution if individuals' intrinsic motivations are an important driving force for individuals to undertake a given activity. Extrinsic incentives are, however, effective in activities for which there is little or no pre-existing motivation or ethical obligation.

Besides emphasising the potential diversity of human motivations and the role of different institutional arrangements in eliciting them, behavioural experiments have also contributed to drawing economists' attention to the even-more challenging issue of endogenous preferences, that is, the long-lasting effects of institutions on the kind of values individuals will durably acquire and retain. In other words, on the kind of people the economy produces (Bowles 1998, 2011). This idea has been supported by the now-famous field experiments carried out in 15 small-scale societies in Africa, Asia and Latin America (Henrich *et al.* 2001, 2004). The replication of the UG in these societies closely reflected the structures of everyday social interactions favoured by the economy and the values individuals shared and brought to the experimental setting.[9] One of the most salient conclusions of these studies is that the higher the importance of markets in social life, the more 'fair-minded behaviour' individuals exhibit. Bowles, one of the co-authors of the study, presents a 'plausible explanation' for the positive correlation between the degree of market integration and generosity of the offers made in the UG as well as the frequency of costly punishments to offers perceived to be unfair: 'this kind of fair-mindedness is essential to the exchange process [...] individuals engaging in mutually beneficial exchanges with strangers represent models of successful behaviour which are then copied by others' (Bowles 2008: 1607). These 'cross-cultural behavioural experiments' led Bowles (2011: 62–3) to an optimistic depiction of the relation between the institutions of 'liberal societies', market and non-market alike, and the 'more flourishing civic cultures' therein. Once it is recognised that human behaviour interacts in complex ways with the social context, one must concede that these interactions can be virtuous if the right mix of institutions, market and non-market, are in place.

It was thus in this way that behavioural research, by bringing the psychological and social make-up of individuals back into economic analysis, brought moral issues to the fore. Markets and other economic institutions affect people's moral values through their effects on the construal of the social situation and the values that underlie favoured patterns of social interaction. Aspects of social life once thought to be in the province of psychology or sociology are now seen to be essential to the explanation of the functioning of markets, particularly of those marked by the presence of incomplete contracts.

Behavioural economists have subsequently focused on the implications of individual heterogeneous motives for public policies, introducing a more sophisticated approach to 'mechanism design'. Thus, and similar to the experimental approach to market design, the behavioural approach has also framed the issues at stake as technical problems. The difference between them is that, whereas market experimenters rely solely on economic incentives, behavioural economists also mobilise public-spirited motives. The behavioural approach hence goes beyond the neoclassical economics toolkit based on economic incentives to induce self-regarding individuals to contribute to the common good. It also has recourse to

other-regarding considerations, namely people's civic virtues. In this view, 'effective policies are those that support socially valued outcomes not only by harnessing selfish motives to socially valued ends, but also by evoking, cultivating and empowering public-spirited motives' (Gintis *et al*. 2005: 4).

It is now clearer that behavioural economists have mostly addressed the instrumental role of endogenous social preferences to the resolution of market failures where preference endogeneity itself is conceived of as 'a kind of market failure' because the 'influence of our preferences on others is not even approximately captured by contracts'. This failure generates 'evaluative' and 'public interest' issues since 'individual's preferences induce actions imposing non-contractible costs and benefits on others' (Bowles 1998: 104–5). Pro-social behaviour is seen as a response, that to a certain extent can be publicly promoted, to market imperfections, thus conforming to a second phase of economics imperialism as Fine and Milonakis (2009: 9) define it: 'economic and social structures, institutions, customs, habits, culture, and apparently non-rational behaviour, are explained as the rational, possibly collective, sometimes strategic, and often putatively path-dependent, responses to market imperfections'.[10]

Market experimentation and behavioural research are in the end complementary. While market exchanges are taken as adequate and efficient where markets resemble ideal circumstances and social relations are contractible, personal forms of exchange based on trust and reciprocity are required and effective where social interactions are only imperfectly contractible. Conflict between rules of market exchange and forms of personal interaction may occur and may be important. The latter may create obstacles to the expansion of market relations (for example, through repugnant transactions); market exchanges, in turn, undermine social cohesion and erode viable interpersonal exchange systems based on mutual trust (for example, through the crowding-out effects of intrinsic motivations). Nevertheless, the presumed behavioural success of 'liberal societies' hinges on a functional articulation between enduring market and non-market spheres (Bowles 2011). Each has a role in generating the most adequate balance of individual and social preferences. Endowed with the right combination of self-interest and 'nice traits', cultivated by an appropriate institutional mix (Bowles 1998), individuals would be up to the task of living in a complex market society, according to this line of research. Echoing Hayek (1988), Smith defends that individuals can indeed learn to be, simultaneously, 'habitual social exchangers' and 'vigorous traders', which means that markets can coexist with the social foundations on which they ultimately rely. This, of course, demands permanent attention to two ever-present dangers: (1) the inappropriate application of the 'rules of personal exchange' which may undermine 'the extended order of markets'; and, (2) the insensitive application of the 'rules of impersonal exchange' which may hamper 'our cohesive social networks and crush viable interpersonal exchange systems based on mutual trust' (Smith 2008: 325–6). Understanding this and other neoliberal elements of experimental economics demands a better grasp of neoliberalism as a programme of institutional and individual transformation geared towards the political and moral promotion of the ideal of market competition.

4. Neoliberal experiments?

Neoliberalism is sometimes presented as a defence of the association between a certain conception of individual freedom and free markets emerging spontaneously out of the withdrawal of the state from direct intervention in economic affairs. In this view, the state should be exclusively devoted to the impartial setting of the legal rules and the correction, with the help of civil society, of localised market failures. Recent studies on neoliberalism have, on the contrary, noted the gap between these and other 'enabling myths' (Dugger 1989) and the actual neoliberal theoretical practice of careful planning of the conditions for a market society to flourish, and the need of a strong state in this endeavour (Mirowski 2009).

4.1 *The careful planning and supervision of market societies*

The work of Friedrich Hayek, a fundamental figure of the 'neoliberal thought collective' (Mirowski and Plehwe 2009), clearly embodies this tension (Rodrigues 2012). As Hayek (1960: 194) himself recognised, 'it is the character rather than the volume of government activity that is important' since a 'functioning market presupposes certain activities on the part of the state; there are some other such activities by which its functioning will be assisted; and it can tolerate many more, provided that they are of the kind which are compatible with a functioning market'. It is thus a concern with the concrete institutional expressions of this too-abstract concept – a 'functioning market' – that should frame the inquiry into neoliberal views on the political travails of assuring the institutional underpinnings of a market society. This would require a political constitution and a political and judicial system attentive to the dangers of what Hayek labelled 'unlimited democracies', associating 'limited democracy' with the flourishing of the market: 'I doubt whether a functioning market has ever newly arisen under an unlimited democracy, and it seems likely that unlimited democracy will destroy it where it has grown up' (Hayek 1982 [1979]: 77). This is where Hayek's 'intellectual emergency equipment' enters deliberately to engineer a 'limited democracy' aimed at changing the priorities and possibilities of politicians and citizens and at avoiding the contexts that nurture forms of collective action favouring, for example, redistributive policies guided by the idea of social justice, considered to be a mask for organised egoism and the enemy of a negative conception of freedom. This, according to Hayek, is to be achieved through a detailed blueprint for reforms in the political process that would give power to elites, ideally influenced by neoliberal worldviews, with only a minimum of popular scrutiny and democratic choice. The latter would be constrained by a constitution that blocks social-democratic outcomes in the areas of taxation or the extension of democracy to the economic realm (Hayek 1982 [1979]).

Besides providing the political and institutional preconditions for a market society to flourish, the actual functioning of markets requires constant supervision. Neoliberalisation is actually marked by permanent intellectual and political efforts 'to *fix* markets, to build quasi-markets and to repair market failures' (Peck 2010: xiii). This includes, among other things, the definition and redefinition of the

malleable legal underpinning for market completion to spread the temporary provision of certain goods and services with a view to assisting the development of markets for their provision and even limited redistribution of resources with a purely precautionary bent.

Given the above, the neoliberal is bound to become a 'gardener', to recover Hayek's (1944: 23) metaphor, 'who tends a plant in order to create the conditions most favourable to its growth'. Almost sixty years later, the market experimenter Alvin Roth would use a similar gardening metaphor to describe certain markets as 'hothouse orchids', as seen above, in order to justify the need for their more controlled cultivation through the use of experimental tools (Roth 2002: 1373). The variety of markets and of their cultivation methods is now simultaneously wider and more precise as the potential scope for their application has expanded to reach the problems created by the markets themselves (Mirowski 2009).

The commonalities between market experiments and neoliberalism do not end here. The effort to depoliticise the creation of markets is shared among political economists of a neoliberal persuasion, despite the many differences that can be pointed out within a heterogeneous and sometimes even contradictory set of theoretical practices (Chang 2002). This effort can be pursued either by trying to reduce these constructivist efforts to mere technicalities to be monopolised by elites and experts, less bound to redistributive temptations, and/or to emphasise the complex ecology of markets and thus their ultimately spontaneous and uncontrollable nature, which only allows tinkering with them at the margins. Smith's (2003, 2008) distinction, inspired by Hayek, between constructivist and ecological rationalities, both of which are needed in their rather undefined spheres, can be interpreted as an effort to make the role of experts in the design of institutions compatible with the appreciation of the evolutionary, complex, unpredictable and uncontrollable nature of social order. As is typical in neoliberal circles, the ideological implications of society's nature are sometimes said to be mysteriously favourable to the development of a market society, thus obfuscating the demanding and necessarily deliberate political work that is needed to create markets, no matter their institutional completion (Rodrigues 2010).

Neoliberals are also interested in the moral embeddedness of markets. This interest and its association with the above-mentioned effort to depoliticise markets have not gone unnoticed by students of neoliberalism either. For example, Shamir (2008: 1) has identified 'the moralization of economic action that accompanies the economization of the political' in neoliberal practices. As in behavioural research, morality is here narrowly and instrumentally conceived of as the thinner layer of shared beliefs and dispositions that individuals must have so that markets can function properly once 'market failures' are acknowledged. In this regard, two ongoing issues on the moral economy of neoliberalism – the status of *Homo economicus* and the social determinants of human behaviour – can be mentioned by making a reference to Hayek's influential positions (Rodrigues 2013).

4.2 *Revising the status of* Homo economicus

The first moral issue is the refusal of the 'bogey of the "economic man"' (Hayek 1948: 12). The rejection of *Homo economicus* firstly operates at the level of the

rationalistic picture presupposed in conventional economic theory. The abandonment of this picture of the individual was considered to be an intellectual precondition fully to appreciate the role of 'well-constructed institutions', especially of those conducive to markets, which were, in turn, considered to be a precondition for freedom: 'The case for individual freedom rests chiefly on the recognition of the inevitable ignorance of us all' (Hayek 1960: 29). Markets are needed because of the informational role of prices in guiding individuals, who can never hope to achieve the very demanding standards presupposed by 'economic man'. This view is echoed in market experiments. One of the main findings attributed to market experiments is, according to Smith (1976, 2003), that the welfare results of competitive models can be achieved in properly designed markets under weaker conditions at the informational and cognitive levels of the individual participants:

> There are no experimental results more important or more significant than that the information specifications of traditional competitive price theory are grossly overstated. The experimental facts are that no double auction trader [in the double auction experiment] needs to know *anything* about the valuation conditions of other traders, or have *any* understanding or knowledge of market supply and demand conditions, or have any trade experience (although experience may speed convergence) or satisfy the quaint and irrelevant requirement of being a price 'taker' (every trader is a price *maker* in the double auction). (Smith 1976: 57, emphasis in original)

This is the experimental version of Hayek's belief in competitive markets as superior information devices from which ignorant individuals can profit. This neoliberal confidence in the power of competitive markets might explain why the results of behavioural experiments in the area of the so-called 'anomalies' in human rationality have mostly given rise to efforts better to redesign the 'choice architectures', that underlie all institutionally mediated interactions, by assisting individuals in their decision-making through information disclosure devices and other calculating tools and thereby guarantee the expansion of functioning markets (Thaler and Sunstein 2008).[11]

The primacy given to the expansion of markets has also allowed for so-called soft paternalistic interventions when information disclosure does not effectively lead to welfare-improving situations. As mentioned above, in this case, rather than assisting individuals in their decision-making, choice architectures are designed to circumvent the need for reasoning and deliberation, 'nudging' people in desirable directions.

The technical character of choice architectures is reinforced by its recent adoption in developing countries, namely through the use of randomised control trial field experiments. The application of behavioural lessons to developing countries is justified by the observation that the poor and their counterparts in the developed world are equally prone to the same cognitive limitations and self-control problems. The problem at hand is now how to assist boundedly rational people living in underdeveloped market societies, where it is said that they can rely

neither on properly functioning markets nor on the welfare state. This makes choice architectures even more necessary because 'the poor bear responsibility for too many aspects of their lives', being far more vulnerable to cognitive and self-control biases (Banerjee and Duflo 2011: 269). Given the narrower margins for error therein, the consequences are, moreover, more damaging for the poor than for the non-poor (Bertrand *et al.* 2004). The proposal of a behaviourally inspired development economics is thus to improve the lives of the poor 'by making it as easy as possible to do the right thing – based on everything else we know-using the power of default options and small nudges' (Banerjee and Duflo 2011: 269).

In the aftermath of the microcredit disillusion in developing countries, behaviourally inspired development economics is refocusing discussion on 'helping the poor save more' (Karlan 2010). This is said to be a particularly important domain for intervention because the poor 'have no automatic way to save, such as a retirement plan or a contribution to Social Security, so they have to find a way to make sure that they save' (Banerjee and Duflo 2011: 269). Saving is even more demanding in these countries because the few savings options available make saving money harder, given people's difficulty in overcoming their tendency to prioritise the present over the future. The solution must then be based on the careful design of savings accounts 'that make it easy to put in money and somewhat costlier to take it out'. This is seen as a solution that 'can be made easily available to everyone, if need be, by subsidising the cost for the bank that offers them' (Banerjee and Duflo 2011: 269).

Based on these insights, Duflo *et al.* (2006) tested a commitment device in Busia, a poor rural district in Western Kenya, where farmers seemed to be unable to save the money they needed to buy fertiliser, despite their desire to do so, given its potential to improve yields, and thus poor farmers' lives. This was taken as a clear case where the failure of fertiliser adoption was only partially explained by information: 'whatever information is provided seems to be forgotten fast and not diffused'. Equally important were farmers' time preferences, namely their 'ability to finance the purchase of fertilizer, which, for many farmers, is synonymous with ability to buy fertilizer at the time of harvest' (19).

The Busia experiment tested a commitment device akin to the 401(k) programme. In this experiment, a group of farmers were randomly selected and divided into three groups. They were all visited by the research team right after harvest. The first group was asked to buy the fertiliser right away, paying either in cash or by selling maize. The second group was offered the option of buying fertiliser a few days later when the research team would come to collect the money. The third control group was asked whether they wanted to buy the fertiliser at the time of the planting season, a few months later. The research team found that while interest in the three options was similar, the actual take-up decreased from 50 per cent when the money was collected on the day to 29 per cent when the money was collected a few days later, to 0 per cent when the money was collected at the time of planting season. The research team continued to test other mechanisms that attempted to deal with farmers' present biases that limit the profitable investment in fertiliser, for example, by manipulating the timing and the amount of subsidies to the purchase of the fertiliser (Duflo *et al.*

2008). Based on these series of experiments, the authors concluded that 'a paternalist libertarian approach of small, time-limited discounts could yield higher welfare than either laissez-faire politics or heavy subsidies, by helping stochastically hyperbolic farmers commit themselves to invest in fertiliser while avoiding large distortions in fertiliser use among time-consistent farmers, and the fiscal costs of heavy subsidies' (Duflo *et al.* 2011: 2353). This example seems to confirm Harrison's contention that Africa is on the '"cutting edge" of most contemporary neoliberalism-in-practice' (Harrison 2010: 19). One dimension of this practice signalled by Harrison (2010) is the promotion of the right entrepreneurial attitudes and practices, of which saving can be seen as one important instance.

The growing influence of behavioural research in development economics is shaping the field, replacing the older tradition, based on the questioning of the structural problems that trap poor countries into poverty and on the proposal of major reforms to kick-start virtuous cycles therein, by a micro-level approach that aims to tackle 'concrete problems which can have specific answers' (Banerjee and Duflo 2011: 6), thus reinforcing the neoliberal structures that might have generated those same problems in the first place. Choice architectures do just that: they provide specific answers to concrete problems by carefully organising the context of choice within a given set of socioeconomic constraints, thereby contributing to their reinforcement.

But again, the depoliticised nature of choice architecture is illusory.

Behaviourally inspired development policies may constitute not only an instance of behavioural economics imperialism, in the sense that it is imposing the heuristics and biases discourse and solutions on development economics issues (Davis 2012), but it may also represent a version of neoliberal imperialism insofar as choice architectures become part of an external intellectual support to on-going commodification processes.

4.3 *The instrumental value of the social determinants of human behaviour*

The neoliberal rejection of *Homo economicus* is not confined to rationality. The purely egoistic motivational portrait of individuals is also rejected. Hayek stresses that elites need to have a shared conception of something akin to the neoliberal common good when operating as intellectuals, judges or politicians in the non-market spheres on which markets have to rely (Rodrigues 2012). As Amable (2011: 18) argues, given the suspicion towards democracy, 'in the neo-liberal ideology, ethical requirements for elite members may act as a substitute to people's legitimacy'. As for the people, particularly when interacting in markets, in Hayek's view, 'commercial morals' are essential to a functional market society. They provide a moral back-up for functioning markets based upon individuals' willingness to assume full responsibility for their actions, which translates into the acceptance of the rules and results of a permanently evolving market order. The consideration of a more complex depiction of individuals' motivations, going beyond selfishness, is an insight which has recently been promoted by behavioural experiments. Smith's (2003: 406) formulation – 'markets economize on the need for virtue, but do not eliminate it' can be said to summarise

the dominant view in this area, being close to Hayek's (1944, 1960) depiction of a progressively rarefied moral code, adapted to the needs of a market society, whose substantive content is only vaguely hinted at. In this context, the 'economic virtues' extolled by neoliberals are those that show themselves to be 'essential for the economy to work properly'.

Besides the rejection of a simplistic view of human motivations, there is a second, and related, moral issue that is considered: how might the socialisation of individuals, their learning experiences, lead them to accept the realities of a market society. Here, Hayek relies on two mechanisms, both presupposing the idea of preference endogeneity (Rodrigues 2013). The first is the impact of the 'civilizing forces of commerce', allowing the flourishing of 'the eminently social virtues which smooth social contacts and which make control from above less necessary and at the same time more difficult' (Hayek 1944: 153). These social virtues – 'independence, self-reliance, and the willingness to bear risks, the readiness to back one's own conviction against a majority, and the willingness to voluntary co-operations with one's neighbors' (Hayek 1944: 218) – are both a precondition for the development of a market society and are fostered by 'the moral sentiments which made the Open Society [a market society] possible'. These moral sentiments 'grew up in the towns, the commercial and trading centers, while the feelings of the large numbers were still governed by the parochial sentiments and the xenophobic and fighting attitudes governing the tribal group' (Hayek 1982 [1979]: 146). Since the tendency for these attitudes to spread can be precisely countered by the prevalence of so-called atavistic attitudes in certain non-market spheres, there is an ideological battle to be waged. Such a battle requires the previous demarcation between the needed thin layer of shared moral beliefs and a morality associated with strong forms of group solidarity that can have an anti-market inclination inimical to the expansion of markets. Changing values, directly by persuasion or indirectly by changing the institutions in which individuals interact, is here of paramount importance to foster market society and constitutes the second mechanism on which Hayek relies to transform individuals' preferences. In the end, a delicate, but asymmetric, balancing act has to be performed: individuals must learn to live in different worlds, both market and non-market, nurturing different motivations, which can be either mutually supportive or mutually destructive. The ultimate challenge is thus to guarantee that individuals abide by the evolving rules of a market society.

The recent recognition of preference endogeneity is partially a product of behavioural experiments, as shown above, and supports some of Hayek's assertions. Even the concern in some of these experiments with the corrosive effects of market incentives on individuals' vague 'nice traits' (Frey and Jegen 2001; Bowles 2011), is not as anti-market as it seems, since it is mostly deployed to criticise faith in the universal use of pecuniary incentives to direct individuals' efforts inside organisations and in other contexts of imperfect contractible relations. The enlargement of the concept of market failure to include morality in these contexts betrays a predominant instrumental appreciation of the issues at stake, that is, whether these individuals' dispositions, going beyond selfishness, contribute to the workings of markets. This is an instance of new economics imperialism (Fine and Milonakis 2009), as mentioned above; the difference from the older

form, in which all social relations were seen through the lens of the market metaphor, is that the social is now justified as a rational reaction to market failures.

The relationship between this new form of imperialism and neoliberalism is not clear-cut and depends on how one interprets an elastic concept such as market failure. If, on the one hand, it is true that that the latter 'has been used in order to justify anything from the minimal state to full-blown socialist planning' (Chang 2002: 541), on the other hand, it still presumes that the market is the default and, within a more or less stringent context, ideal organisation for a viable economic life (Anderson 1993). Under the hegemony of neoliberalism, the concept has been complemented by a greater attention to government failures and used to justify the reconfiguration of markets or their creation from scratch if adequate governance mechanisms are in place. It has also supported a new-found confidence in the complementary role of community governance schemes, supported by experimental and non-experimental research on the viability of localised collective action embedded in a market society (Ostrom 2005). In this case, too, social values are shown to be instrumental to the emergence of non-market and non-state solutions. This is also an important lesson learned from conducting behavioural experiments in developing communities, which should also be adopted in the new field of behavioural development economics (Cardenas and Carpenter, 2008). Besides choice architectures based on the introduction of defaults and minor adjustments to underlying incentive structures, other solutions may be devised based on the mobilisation of communitarian values and mechanisms of norm enforcement (Mullainathan 2007).[12]

5. Conclusion

This article argues that neoliberal elements can be found in the most influential experimental economics research. It contends that market experiments can be seen as an integral part of a constructivist and depoliticised view of markets and that behavioural research endorses a moralised view of markets akin to the neoliberal conception.

The neoliberal leaning in the work of market experimenters was easily identified. They have acknowledged that markets involve complex institutional engineering while avoiding the political economy of market construction by circumscribing the issues at stake to technical problems that experts are to sort out. Markets have also been praised for providing the information required for rational decision-making, which substantially reduces the very demanding standards presupposed by 'economic man', and for being the most efficient form of economic organisation. The struggle for political influence over the rights-obligations structure that gives specificity to different markets, determining, for example, how advantage and opportunity are to be distributed among different groups of people with different degrees of power, has been excluded from the analysis.

Behavioural research has brought the psychological and moral make-up of individuals to the fore. It has exposed the diversity of human motivation and the role of different institutional arrangements in eliciting them, and it has increasingly drawn economists' attention to the challenging issue of endogenous preferences,

that is, the long-lasting effects of institutions on the kind of values individuals will durably acquire and retain. No doubt, preference heterogeneity and endogeneity can have anti-neoliberal implications as, for example, in supporting democratic practices within organisations or state-sponsored redistribution deemed necessary for the promotion of cooperative environments and the flourishing of human capabilities given the role of socioeconomic institutions in transforming the kind of people we may become. However, behavioural research has been used to emphasise the functional role of so-called social preferences where social interactions are only imperfectly contractible. Behavioural research has thus led to the proposal of a more sophisticated approach to mechanism design, which mobilises both self-interested and public-spirited motives to the attainment of the goals set by the policy-maker. The focus on the functional articulation between enduring market and non-market spheres, as well as on the right combination of heterogeneous motives by an appropriate institutional mix, in the end, has contributed to legitimising the advances of commodification by creating non-market spheres more attuned to its needs.

By associating the analysis of the moral consequences of markets and other socioeconomic institutions with the concept of market failure, behavioural research has retained the view that markets are the default institution and that non-market institutions and dispositions are to be explained, as in economics imperialism, and valued, as in neoliberalism, as the most rational solutions to market failures. This may have been an unintended consequence of behavioural research. It, nonetheless, reflects the price of its ambitions in a neoliberal epoch, that is, the price of bringing behavioural research agenda to the core of economics and policy-making, in both the developed and developing worlds.

Notes

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1. There were earlier market experiments, such as those by Chamberlain (1948) and by Siegel and Fouraker (1960), which inspired and greatly influenced Smith's experimental work. However, Smith is recognisably the founder of this research programme having received the *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel*, in 2002, 'for having established laboratory experiments as a tool in empirical economic analysis, especially in the study of alternative market mechanisms'. In this year, the prize was shared with the psychologist Daniel Kahneman 'for having integrated insights from psychological research into economic science', being influent in behavioural experimental research, as we shall see below. 'The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2002', Nobelprize.org, 21 Feburary 2013, http://www.nobelprize.org/nobel_prizes/economics/laureates/2002/.
2. Not so surprisingly, in 1982, 10 years after the attribution of Smith's award, the economic sciences memorial Nobel Prize was awarded to Alvin E. Roth and Lloyd S. Shapley 'for the theory of stable allocations and the practice of market design', praised as an 'outstanding example of economic engineering'. 'The Prize in Economic Sciences 2012 – Press Release', Nobelprize.org, 21 Feburary 2013, http://www.nobelprize.org/nobel_prizes/economics/laureates/2012/press.html.
3. See Santos (2011) for a more developed critical analysis of design economics.
4. See Santos and Rodrigues (2009) and references therein for a critical account of the FCC auctions.

5. See notes 1 and 2.
6. This is not surprising considering the psychological sparseness of the behavioural assumptions of neoclassical economic theory and the ambivalent nature of its key concept – preference – that can and has accounted for great behavioural variety.
7. See Frey and Benz (2004) for an analysis of the implications of this research and references therein.
8. There are earlier incursions into behavioural research, namely those carried out by Herbert Simon. But only the research programme Kahneman and Tversky launched became influent. See Sent (2004) for a comparison between what she classifies as the old and the new behavioural economics.
9. The UG experiment, first conducted by Güth *et al.* (1982), is described in the introduction.
10. The first stage consisted in the application of economic analysis to the subject matter of other disciplines, where the social was treated as if it were a market populated by rational and perfectly informed agents.
11. See Santos (2011) for a critical appraisal of choice architecture.
12. Incidentally, Elinor Ostrom is the recipient of the memorial Nobel Prize of 2009 (with Oliver Williamson) attributed 'for her analysis of economic governance, especially the commons', showing 'that economic analysis can shed light on most forms of social organization'. She is, in particular, praised for challenging 'the conventional wisdom that common property is poorly managed and should be either regulated by central authorities or privatized', basing her proposal on 'sophisticated mechanisms for decision-making and rule enforcement to handle conflicts of interest'. 'The Prize in Economics 2009 – Press Release', Nobelprize.org, 21 February 2013, http://www.nobelprize.org/nobel_prizes/economics/laureates/2009/press.html

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