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Freedom of choice and bounded rationality: a brief appraisal of behavioral economists' plea for light paternalism

ROBERTA MURAMATSU
PATRÍCIA FONSECA*

Behavioral economics has addressed interesting positive and normative questions underlying the standard rational choice theory. More recently, it suggests that, in a real world of boundedly rational agents, economists could help people to improve the quality of their choices without any harm to autonomy and freedom of choice. This paper aims to scrutinize available arguments for and against current proposals of light paternalistic interventions mainly in the domain of intertemporal choice. It argues that incorporating the notion of bounded rationality in economic analysis and empirical findings of cognitive biases and self-control problems cannot make an indisputable case for paternalism.

Keywords: freedom; choice; bounded rationality; paternalism; behavioral economics.

JEL Classification: B40; B41; D11; D91.

> *So the immediate problem in Libertarian Paternalism is the fatuity of its declared motivation. Very few libertarians have maintained what Thaler and Sunstein suggest they maintain, and indeed many of the leading theorists have worked with ideas in line with what Thaler and Sunstein have to say about man's nature. Thaler and Sunstein are forcing an open door.*
>
> Daniel Klein, Statist Quo Bias, *Economic Journal Watch*, 2004

* Professora doutora da Universidade Presbiteriana Mackenzie e do Insper, e-mail: rmuramatsu@uol.com.br; Pesquisadora independente na área de Economia Comportamental e Psicologia Econômica, e-mail patifonseca@gmail.com. Submetido: 23/fevereiro/2011. Aprovado: 12/março/2011.

INTRODUCTION

There is a long-standing methodological tradition stating that economics is a positive science that remains silent about policy issues and the complex determinants of human ends, values and motives. Yet many challenges posed to mainstream economics have inspired contemporary behavioral economists to develop alternative models of choice that better explain why and in what contexts individuals might select courses of action or consumption alternatives, which are regarded as biased or even irrational.

The research program of behavioral economics has addressed pretty interesting issues underlying standard choice theory. Systematic evidence of biased probabilistic judgments and conflicting (time, risk and social) preferences conducive to suboptimal outcomes lead behavioral economists to appeal to the notion of bounded rationality so as to recommend light paternalistic interventions. The latter draw on the idea that it is possible and desirable to improve the quality of people's decision-making without any damage to their autonomy and freedom of choice (Thaler and Sunstein, 2003; Thaler and Benartzi, 2004; Loewenstein and Haisley, 2008).

Our departure point is the conjecture that economic models **informed by psychology and sociology are gradually changing the** face of contemporary economics to a systematic body of knowledge that put positive and normative economics together and even makes us to doubt the traditional contrast between them (Hands, forthcoming). We draw on experimental evidence of economically significant framing effects, status quo bias, default rules, self-control problems, and loss aversion to scrutinize behavioral economists' arguments for and against light or libertarian paternalism. Our attempt is to weigh out its outlined costs and benefits.

More specifically, this article aims to challenge the increasingly popular view among behavioral economists that boundedly rational agents, who sometimes fail to make choices that are in their best interests, make an indisputable case for soft paternalistic policies. Rather, we argue for the idea that bounded rationality sheds extra light on the problems associated with the very design and implementation of paternalistic policies (Glaeser, 2006). In order to accomplish this task, our argument is structured as follows.

The second section is devoted to analyze important issues related to freedom of choice and bounded rationality. Our hunch is that this is a necessary step to a thorough analysis of paternalism and its relationship with the instrumental as well as the intrinsic value of freedom. In the third section, arguments for light paternalism are introduced and scrutinized. The fourth section discusses, in turn, some worries and objections to paternalistic interventions. The fifth section wraps the overall argument up and concludes.

FREEDOM OF CHOICE AND BOUNDED RATIONALITY

Economists as well as social scientists value freedom of choice pretty highly. Not only is freedom an end in its own right, but also offers the means to achieve many human ends like happiness and well-being and even to make rational choic-

es (Sen, 1988). In a famous essay entitled 'On Liberty', John Stuart Mill suggests that "most of our human faculties of perception, judgment, discriminative feeling, mental activity, and even moral preference, are fully exercised in making a choice" (1859, chapter 3, paragraph 3).

Most people highlight the instrumental value of freedom of choice by referring to the number of options or alternative courses of action over which an individual can choose or command. Amartya Sen (2004) dubs the standard interpretation of freedom a cardinal perspective, dependent on the number of choice alternatives. He goes on to criticize it because it implies that the degree of freedom a person has depends only on the number of choice options he or she faces. If this is so, freedom associated with the choice over a set X of three difficult alternatives ('to be tortured till death', 'to be burned alive' and 'to be put in a gas chamber') is just the same as that involving another set Y containing three good options ('to win in the lottery', 'to receive a wonderful flat', 'to be given a very expensive car'). To him, an improved account for freedom also considers what each option in sets X and Y means to individual's values and potential well-being.

To put it succinctly, an analysis of freedom need to go beyond the observation of alternatives within a choice set. It might take into account some questions like whether and what diverse agents in terms of natural, social and personal features can actually choose (Sen, 1988, p. 278).

Furthermore, we can distinguish two dimensions of freedom, the so-called negative and positive freedom. According to Isaiah Berlin's (1969), we often concentrate efforts on the former rather than the latter. Negative freedom refers to absence of a class of constraints, obstacles or prohibitions that an individual or state can impose on another. Positive freedom of choice, in turn, has to do with the extent to which a person has the chance to fulfill her potential or opportunity to achieve whatever she values most. In other words, negative freedom amounts to 'freedom from', whereas positive freedom means 'freedom to'.

It seems that standard economics literature also focus on 'negative freedom'. It is important to stress that 'positive freedom' sheds a different light on the phenomenon under study. It draws our attention to the fact that freedom of choice is strongly related to the individual's capabilities for pursuing some basic liberties (e.g., being well nourished, avoiding mortality, being able to move freely, having time for education and leisure). The underlying idea is that nourished and educated individuals are 'freer to make better choices' than starving, fearful, unhealthy, and illiterate ones.[1] With the above in mind, we turn to a brief discussion of the concept of bounded rationality that also guide our assessment of the arguments for and against using paternalistic interventions to help individuals to make optimal choices.

Behavioral economists follow Herbert Simon's broad usage of the concept of bounded rationality (henceforth: BR). The latter is often contrasted with the neoclassical economic approach to rational choice behavior, which is in turn built on

[1] For further details about the interconnections among freedom, rationality and capabilities, we strongly suggest Sen's (2004) book.

the (expected) utility maximization hypothesis.[2] There are at least three important interpretations of BR: (a) maximization under constraints; (b) irrationality; and (c) toolbox of cue-based heuristics shaped by individual cognitive capabilities and the structure of natural and/or social environment.

Many economists take BR as synonymous of constrained optimization or irrationality. The first interpretation is based on the idea that individual choices differ from the model of perfect rationality because they are made under time constraints, actual agent's computational facilities, limited knowledge and costly information (Gigerenzer and Selten, 2002). Simon's writings of the late 1980s and early 1990s seem to reject this vision of BR because it is still committed to an Olympian picture of individual rationality (Simon, 1990, 1997). A second popular account of BR is in terms of experimental evidence against Bayesian probabilistic judgments and expected utility maximization hypothesis named choice anomalies (Kahneman, Slovic and Tversky, 1982; Thaler, 1991). Although this account of BR accommodates the empirical fact that individuals' usage of heuristics can lead to biased or suboptimal behavior, we are more inclined to view BR somewhat differently. In the proposed third treatment of BR, actual behavior is shaped simultaneously by the agent's computational facilities and the structure of the environment just like a pair of scissors (Simon, 1990; Gigerenzer et al., 1999).

The relative advantage of the third version of bounded rationality is that it recognizes that individuals try hard to economize on their limited computational (information-processing) capabilities by relying on various heuristics and rules of thumb to make judgments and decisions. These theoretical ideas are in tune with empirical evidence that under some contexts individual probability inferences deviate from Bayesian rules and (expected) utility theory.

Behavioral economists offer compelling evidence that boundedly rational agents' choices are influenced by small changes in context, default rules, legal and organizational rules and sensitive to framing effects and inertia (Thaler and Sunstein, 2003). If this is so, we can conclude that boundedly rational individuals sometimes fail to make choices that are in their best interests. This gives room for attempts to overcome suboptimal behavior by means of paternalistic measures. The latter are thought to help individuals to improve the quality of individual choice by 'debiasing' agents' perception of the decision-making task.

ECONOMISTS AS THERAPISTS: ARGUMENTS FOR PATERNALISM

According to the philosopher Gerald Dworkin, paternalism can be defined as "interference with a person's liberty of action justified by reasons referring exclusively to the welfare, good, happiness, interests or values of the person" (1972, p. 65). In a sense, paternalism can be regarded as an affront to agent's autonomy and freedom of choice because it prohibits people from doing what they opted for or

[2] Yet even Simon acknowledged that the concept of BR is used in an ambiguous manner (Simon, 1997).

at least shape the ways in which individuals arrive at their decisions. We can think of two versions of paternalism, a weak or soft version and a strong one.

Soft paternalistic interventions are justified in terms of the view that the person towards whom we act paternalistically is not competent due to ignorance, irrational propensities, deficiencies in cognition and emotional dispositions. Strong paternalism involves the view that interferences with individual's freedom of choice are legitimate even when individual action is reflected, deliberate and voluntary (Dworkin, 1995).

To our minds, some behavioral economists might be inspired by the concepts of positive freedom as well as bounded rationality so as to endorse only a light version of paternalistic initiatives. In his abovementioned essay, Stuart Mill offers a good example to stress the difference between the acceptance of soft paternalism and the denial of a strong type. In his own words,

> If either a public officer or anyone else saw a person attempting to cross a bridge which has been ascertained to be unsafe, and there were no time to warn him of his danger, they might seize him and turn him back, without any real infringement of his liberty; for liberty consists in doing what one desires, and he does not desire to fall into the river [...] Nevertheless... no one but the person himself can judge of the sufficiency of the motive which may prompt him to incur the risk: in this case, therefore... he ought, I conceive, to be only warned of the danger; not forcibly prevented from exposing himself to it (*On Liberty*, chapter 5, paragraph 5).

Quite similarly, behavioral economists' defense of new paternalism seems to be based on the premise that people sometimes need a little help in the economic decision making process in order to approximate their behavior to maximizing standards. Loewenstein and Haisley (2008, p. 213) maintain that it is possible to improve decision making without restricting it. In other words, behavioral economists try to influence some people's decision-making without prohibiting people to do whatever they value or damaging their autonomy. To them, interferences serve to provide information or to point out defects or biases in agents' rational judgments.

In a nutshell, the psychological economist's goal is to use behavioral conceptual tools to overcome individual cognitive limitations and/or emotional and affective dispositions that sometimes lead to distorted and even self-destructive patterns of behavior. We now turn to presentation and scrutiny of the arguments for soft paternalistic interferences within the economic domain of intertemporal comsumption.

We summarize the main arguments for interventions: (a) sub-optimal choices are recurrent and economically relevant; (b) agents are aware of their cognitive limitations and accept self-binding commitment strategies; (c) planners are often under cold visceral states or neutral emotions and doers might be under the impact of hot states or strong feelings; (d) choices are sensitive to framing and inevitably rely on default rules; (e) interferences are conducive to lower transaction costs; (f)

economical policy design; (g) individuals are free to opt out; (h) there are validation and verification requests.[3]

It is possible to observe a number of questionable (sub-optimal) savings decisions. A general phenomenon of low individual savings rates has been detected in various important countries. The decreasing savings rates over time threaten many economies' potential for investment, technological innovations and sustainable growth (Thaler, 1994; World Bank, 1999). Bernheim (1993) estimated that the baby boom generation was saving only a third of what is necessary to maintain their consumption in retirement. To complicate matters, important financial innovations and expansion of credit markets enhanced the complexity of intertemporal consumption choice task, gave rise to self-control problems and provided new incentives for overindebtedness (Kennickel et al., 1997; Bucks et al., 2006; Akerlof and Schiller, 2009).[4]

Empirical findings suggest that many people prefer to improve over time their intertemporal consumption trajectories (Loewenstein and Sicherman, 1991; Frank and Hutchens, 1993). Such results might reveal that individuals' low savings decision profiles result from cognitive limitations like bounded willpower, fallacious statistical reasoning and an undervaluation of future wants and tastes.

In the specific case of retirement choices, suboptimal outcomes are observed when considering that many people do not take advantage of the employers' match in some firms' retirement programs. After the age of 60, take-up rates of the employers' match are decreasing (Choi et al., 2005), despite the fact that people face no penalties for retirement account withdrawals from that point. As some may say, money is practically left on the table. Duflo et al., (2005, p. 23) argues that, in general, people are "very far from taking full advantage of what could have been perceived as a 'free lunch' opportunity".

Paternalistic policies related to savings decisions might be also justified by the fact that "people make better choices in contexts which they have experience and good information" (Thaler and Sunstein, 2003, p. 5). Yet people do not have the opportunity of experiencing over and over retirement and savings decisions. Neither are they able to make optimal estimates about probabilities and utilities of future outcomes. They tend to draw inferences about their future values, goals and utilities based on their current visceral states and emotions.[5]

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[3] Some of the listed arguments were extracted from recent literature and others by the authors of this piece (Thaler, 1994; O'Donoghue and Rabin, 2003; Camerer et al., 2003; Thaler and Sunstein, 2003; Ashraf et al., 2003, Loewenstein and Haisley, 2008).

[4] The average American household has approximately $8,400 worth of credit card debt (Loewenstein and Haisley, 2008, p. 3). And according to Meier and Sprenger (2007, p. 2) "in the last decade, the median debt burden for credit card borrowers increased by 100 percent in nominal terms, rising from $1,100 in 1995 to $2,200 in 2004. In line with this growth, there is an increase in the number of people seeking credit counseling — a possible indication that many individuals see their own level of debt as suboptimal".

[5] "When people have a hard time predicting how their choices will end up their lives, they have less to gain by numerous options and perhaps even by choosing for themselves." (Thaler and Sunstein, 2003, p. 38).

Many people acknowledge that they should be saving more for retirement than they actually do. Systematic patterns of dynamically inconsistent behaviors are perceived by light paternalists as a motive to intervene. Loewenstein and Haisley (2008) advocate that just like a psychotherapist who regards his client professed desire as useful information, economists should also take into consideration agents´ preferences over a wealthier future. Once individuals know that their choices are distorted by myopia, inertia, weakness of will, they might be ready to agree on (and even appreciate) credible commitment devices and interventions to help them choose in their long run best interests. Some field experiments show that many clients demand a savings plan with built-in illiquidity so as to pursue intertemporally consistent consumption choice patterns (Wright, 1998; Vonderlack and Schreiner, 2001; Matin, 2002; Ashraf et al., 2003).[6]

The planner's cold visceral state and his or her assessment to information processing resources constitutes another argument in favor of light paternalism when it comes to complex and important decisions, such as retirement savings. People do not seem to enjoy or be acquainted with all the technicalities of the decision-making process and therefore often appeal to rules of the thumb, routines or heuristics to make quick judgments and choices. Under many contexts, doer's hot affective states lead to overestimation of current gratification, which distort the difficult problem of predicting individual future utilities or preferences. Given the premise that the planner (rather than the doer) is not under the impact of emotions or affective factors, he or she might be better equipped to weigh the costs and benefits of alternative courses of action and eventually select the best possible option available to an individual.

The view that default rules and framing options shape boundedly rational people's choices also motivates proposals of soft interventions. Thaler and Sunstein (2003) go on to claim that legal definitions make some kind of paternalism inevitable. Some legal arrangements that result from consumers' as well as workers' rights offer default rules that shape decision making in predictable ways. With regard to the very design of savings programs, experiments show that simple changes in the default rules from "opt-in" to "opt-out" made enrollment shifts from 49% to 86% (Madrian and Shea, 2001; Choi et al., 2001). There are also findings that default contribution rates established in retirement savings plans were also somehow sticky, which is congruent with the power of suggestion. Provided that default options play major roles in production of puzzling patterns of behavior and cannot be easily avoided in particular contexts, behavioral economists suggest interventions to change them in ways that help individuals to make improved choices.

Just like default rules, the inevitability of framing options is invoked to make a case for light paternalism. Some experiments suggest that framing effects affect savings choices. There is robust evidence that individuals behave as if money (wealth) were not fungible and create mental accounts with different marginal propensities to save (Madrian and Shea, 2001; Ashraf et al., 2003; Thaler and Benartzi, 2004;

[6] There are similar empirical findings even in economies with developed financial markets and relatively low transaction costs (Ashraf et al., 2003).

Duflo et al., 2005; Bertrand et al., 2005). Behavioral economists stress that soft paternalistic measures can be used to define effective default options, which lower transaction costs and overcome some cognitive limitations like inertia and status quo biases. Examples of measures that decrease transaction costs and de-bias savings behavior strategies abound: automatic transfers to savings accounts; automatic reductions from paychecks to savings accounts; automatic increases in pension fund contribution levels; and the use of deposit collectors (Ashraf et al., 2003).

Some light paternalistic savings policies are thought to bring a considerable reduction in government expenditure. Automatic enrollments in retirement plans carry much more effective (and economical) incentives than tax cuts (Thaler and Sunstein, 2003). Likewise, Laurence Kotlikoff (1992) suggests a creative savings program in which every American worker should receive annual reports from social security administration containing projected benefits of their retirement plans. This would activate a principle of salience that enabled individuals to estimate their future preferences. Individuals are thought to increase their contribution levels once they are informed that their current transfers are insufficient to yield a smooth consumption trajectory after retirement.

Behavioral economists also justify paternalistic policies based on the idea that individual autonomy (i.e., capacity of individuals to define the kind of life they want to have) is not damaged when agents have the right to choose whether or not they commit themselves to a savings program. Putting it somewhat different, an individual's right to 'opt out' serves as a freedom of choice warranty. The idea is to preserve freedom of choice while helping boundedly rational individuals to improve the quality of their choices. Thaler and Bernatzi (2002) for example, perceived that when workers compared return distributions of three alternative retirement plan portfolios (one of which was their own) with a median portfolio of their co-workers, they preferred the median portfolio. Thaler and Cronqvist (2003) found that individually chosen retirement plan portfolio had an inferior return rate compared to the default option. The foregoing empirical results suggest that freedom of choice not necessarily lead to satisfactory outcomes.

Finally, another related argument for light interferences concerns the possibility of using improved informational and feedback mechanisms to investigate the significance and impact of light paternalistic policies on actual individual savings decisions. Behavioral economists emphasize that designing proper savings (pilot) programs are important for long term results of such initiatives (Matin, 2002; Ashraf, 2003).

The foregoing remarks might lead many to infer that paternalistic interferences are inevitable and often desirable. In our understanding, this is a problematic conclusion. We turn to some worries and objections to interventions.

ARGUMENTS AGAINST PATERNALISTIC PROPOSALS

Despite the expanding scope of behavioral analysis toward normative economics and policy-making, this section focuses on arguments that challenge the misleading view that the notions of positive freedom and bounded rationality imply a defense of light paternalism as something inevitable and even desirable. Our at-

tempt is to contribute to a richer understanding of criticisms of paternalism as well as available exceptions that call for moderate interventions.

Just like contemporary adherents of the liberal tradition (Hayek, 1945; Friedman and Friedman, 1990; and Posner, 1998), Stuart Mill regarded paternalism as an affront to individual autonomy and free will. The commitment to freedom of choice seems seemed to draw on the idea that only free choice would offer the credible means by which agents could have the chance to advance their faculties of judgment and decision-making.

According to Mill (1859), interferences were only legitimate if they served to correct mistakes about facts, not values. If a person still opts for a suboptimal course of action, her free will ought to be respected. The lesson is that economists might accept interferences only to enable an individual to figure out her decision task. For instance, if someone knows that a bridge is damaged and still wants to cross it (she wants to kill herself); she must be allowed to proceed. Yet we doubt that these ideas fit well with Thaler and Sunstein (2008)'s claim that interventions are justified because autonomy and information do not suffice for production of optimal choice behaviors.

Critics of behavioral economics also express similar worries. Sugden (2005), Klick and Mitchell (2006) among others emphasize the inherent value of freedom of choice and autonomy.[7] People should have the right to make their own choices and learn from their previous mistakes. In response to this first type of criticism, behavioral economists stress that important decisions like saving for tomorrow have far-reaching consequences and people cannot wait to learn from previous mistakes.

A second related source of objection has to do with bounded rationality. Opponents of paternalism properly emphasize that policy makers and experts are also boundedly rational agents. Therefore, it is not clear that paternalistic measures will help people to make choices that are in their best interests. In this case, a defense of human autonomy and criticism of paternalism can be justified by the recognition that human knowledge is fragmented, limited and therefore fallible. As F. Hayek put it, "*man on the spot* cannot decide solely on the basis of his limited but intimate knowledge of the facts of his immediate surroundings" (1945, p. 5).

In our perspective, overly enthusiastic behavioral economists underestimate the fact that interventions might be conducive to inferior outcomes because policy makers as well as experts cannot get rid of some cognitive limitations. This poses a serious problem because interventions can give rise to behaviors that turn out to be biased not only because of policy makers' own information processing capabilities but due to other people's distorted judgments and decisions about what ought to be pursued or valued.

Quite similarly, Edward Glaeser (2006) argues that economic decision making inevitably deals with errors, due to psychological biases and cognitive restrictions. As a result, paternalism can make individuals worse-off. This might be so because

[7] We borrow Gerald Dworkin's conceptualization of autonomy. The latter refers to the human ability to reflect and decide how to pursue her best preferences.

bureaucrats often do not have the same incentives as those of individuals whose decision-making task is to be redesigned or shaped. In addition, individuals have more incentives to make good savings choice for themselves than anyone else. Then, question of 'who the planner is' matters for assessment of final outcomes.

A third concern refers to the fact that experts and policy makers are not clearly disinterested parties. If this is so, interferences with individual freedom of choice might lead to unintended as well as intentional errors. We are inclined to consider regulatory capture as a non-desirable consequence of paternalistic interventions. The underlying idea is that well organized groups are particularly interested in pushing bureaucrats to select policy measures that suit their own interests. By bribing and financing political campaigns some individuals or groups are able to influence the planners' decision-making in a rather effective way.

Thaler and Sunstein (2003) acknowledge the risk of regulatory capture, yet they try to downplay this problem by suggesting that a libertarian check on bad plans would do the job. We are not convinced by that. Everything depends on features of the institutional environment and the incentives they offer to those designing, implementing and monitoring effectiveness of interventionist policies. To complicate matters, regulatory capture can happen through rather subtle ways. It might involve belief manipulation.

Behavioral economics provides evidence that individuals are extremely subject to social influence, information frames and suggestion (Asch, 1952; Thaler and Sunstein, 2003; Glaeser, 2006). Firms and well organized groups may spend money to change public opinion, biasing decisions in their own interests.

Thaler and Cronqvist (2003) showed that the Swedish privatized social security system was successful in framing people's judgments and this shaped their portfolio towards an active choice. After massive advertising, 66.9% of the participants made actively their savings decisions. The empirical results were impressive considering that, without advertising efforts, only 10% or less chose their own portfolio (others allocated in the default plan). Yet they acknowledged that the social security plan turned out to be unsuccessful because the median return rates of the default option portfolio were higher than the median return rates of the actively chosen alternative. These considerations throw light on the risks of designing poorly calibrated paternalistic policies.

It is doubtful to us that paternalistic interventions decrease transaction costs by offering more benefits than costs to decision makers. Not only does this issue amount to an empirical question, but also depends on what we take as a benefit or good to people. Behavioral economists often take a wealthy future and long health life as gains that outweigh the cost of short time autonomy loss. One cannot ignore that what people understand to be "good" might vary. Some may value items neglected by paternalists, such as "being respected as independent and responsible agents that have the right to decide for themselves" (Dworkin, 2005).

When we consider the design of savings and retirement programs, it is important to stress that devices like a predetermined withdrawal amount, period and fee constitute interesting commitment savings strategies. However, there are no indisputable grounds for claiming that such constraints on freedom of choice always help individuals to achieve what they value the most over time.

Paternalism is accompanied by some psychic costs. Loewenstein and O'Donougue (2006) stress that presenting widespread phenomena like overindebtedness, obesity and undersaving as "undesirable" or "irrational" behaviors might impose a psychic tax on those individuals, who previously opted for courses of action conducive to the abovementioned suboptimal outcomes. Campaigns against obesity already have the effect of turning eating into a disapproving act. This kind of framing is likely to hurt agent's free will and autonomy. Given that this type of psychic tax provides no concrete source of revenue, it can be taken as deadweight loss effect.

In this case, it is not easy to control and establish a limit to paternalistic interventions (by the state or private sector) because those in charge are always ready to violate some boundaries (Glaeser, 2006, p. 151). Some attempts to influence people's decision-making in the direction of optimal choice behaviors tend to violate the autonomy of individuals with heterogeneous preferences and values.

There is no clear boundary between soft and hard paternalism. As soon as economists engage in value judgments and have the chance to recommend what is the best for other people, strong interferences are more easily justified. This can open the door to mandatory interventions.[8] To illustrate, let us take Singapore's Central Provident Fund (CPF) as an example of effective savings program that is clearly an affront to individual freedom of choice (Akerloff and Shiller, 2009; Loke and Cramer, 2009). In that setting, individuals are obliged to contribute monthly to CPF, and are only allowed to withdraw some money after saving a minimum sum for medical and retirement accounts.[9] The success of compulsory savings schemes just like CPF inspire some interventionist ideas that in our opinion can also perform very poorly in other social environments or institutional settings.

Paternalistic designs can bring about unpredicted negative consequences. O'Donoughe and Rabin warn that a policy that helps some agents to avoid a common error may *hurt* others making another common error (2003, p. 195). Again, boundedly rational policy advisers cannot identify all the possible mistakes they might make in a world of heterogeneous agents.

With this all in mind, we challenge the view that paternalistic policies are always inevitable and objection to them are incoherent. We would draw attention to the risks of using behavioral economics as a political expedient (Loewenstein and Ubel, 2010).

FINAL REMARKS

Promoting individual (as well as social) welfare improvements is unquestionably an important goal challenge posed to the moral science of economics. Based on this conviction, this paper attempted to scrutinize the claims economists make

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[8] The case of cigarettes is a fine example. It began with activity framing, but as beliefs about smoking were changing, increased regulation and taxation policies arise (Glaeser, 2006).

[9] The minimum amount in 2008 was approximately S$106.000 (S$-Singapore's currency) or $72.780 (in US dollars), which means individuals could only withdraw a certain amount of money after they saved this minimum sum (Loke and Cramer, 2009).

in favor and contrary to interventionist (savings) policies in a world of boundedly rational agents.

The main lesson drawn from our research is that, despite the effectiveness of particular soft paternalistic policies, we are still in need of further investigations of when and under what environments we can justify tiny interferences with agents' decision-making task without harming their autonomy and freedom of choice. We doubt that we already have enough empirical techniques to measure the net payoffs of previously commitment savings devices that could guarantee the design and implementation of successful large scale programs.

We hope that in the near future a growing number of applied studies will be made with the purpose of improving our understanding of the major causal roles psychological and institutional factors play in economic decision making, including those patterns regarded as suboptimal. Until many puzzles are to be identified and resolved so as to improve our grasp of how specific cognitive biases are decisive in production of economic behaviors like undersaving. We might also profit from listening to other economists' interpretations in terms of distorted incentives provided by institutions and mistaken macroeconomic management strategies.

For the specific case of savings and retirement decisions, we are led to conclude that changes in default rules and framing options can guide policy reforms given that some individuals acknowledge their difficulties with planning and making choices of far-reaching consequences. Yet economists must remain hesitant to impose their own value judgments on others.

Of course, there is room for 'nudging' in an economic world of boundedly rational agents. Nevertheless, being able to influence (or nudge) individual decision making do not imply welfare superior outcomes. We end up by warning readers about the greatest risk of behavioral economics behaving badly that is to ignore that even experts' knowledge is fragmented and fallible.

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