

Behavioural Economics and Public Policy: Lessons for Effective and Efficient Developmental Schemes

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Abstract

Why do we often want things we do not need, and need things we do not want? This paper reviews the very core process of human psyche and the associated biases that make us what we are not: *Homo economicus*. It also proposes the many ways public policies could be redesigned – based on the recent findings in behavioural economics – in order to change the way people behave in an optimal way so that an ideal level of individual and social welfare can be achieved for any given society.

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1. Introduction

Imagine that you have just been given a coffee mug with gold *Samaggi Samagom* emblem on the day of your arrival at the conference. You are happy. It is, after all, a free mug. Now, imagine that at the end of the conference, you have been asked by the same person who had given you the mug just one day prior for an opportunity to buy that mug of yours back. How much would you be willing to sell it back to him or her for?

Now imagine that instead of being given a coffee mug on the day of your arrival, you have been given an opportunity to purchase a coffee mug with gold *Samaggi Samagom* emblem. How much would you be willing to pay for the ownership of that mug? More importantly, would the willingness to accept the price offered to buy the mug back be the same as the willingness to pay for it?

If you are thinking rationally, and since we are talking about the same coffee mug here, then the willingness to accept (WTA) the price offered to buy the mug off you should be exactly the same as the willingness to pay (WTP). But obviously, as the tone of this paper suggests, it is hardly the same in reality: the WTA is always larger than the WTP (1) (2).

The reason why that is – and perhaps to many other conundrums you may have about why sometimes we behave irrationally when it comes to making a decision – makes up the main focus of this article. This paper thus aims to review the main cognitive biases associated with our decision making process (and general behaviours) and to offer some advice on how we may be able to use this new knowledge to improve how government design public and development policies.

2. Setting the scene

One of the central tenets in economics assumes that people are rational. We behave in such a way that matches our self-interests. We also have perfect foresights and are fully informed about the outcomes of any decisions that we made or are about to make. Put it simply, we know exactly what we want and we are always fully aware of what it takes to get it.

This assumption of *Homo economicus* or the “Economic man” is what we have been taught early in our Economics 101 classes. We believe that a person’s behaviour is a good proxy for what he/she wants. If A chooses to eat an apple rather than an orange, we can reasonably make an assumption that by eating an apple, A derives more utility (or satisfaction) than if A eats an orange.

Yet recent studies in both behavioural economics and happiness economics have shown that this is hardly the case. People do not always (in fact, hardly ever) act according to what we expect them to do if they are truly rational. In fact, we are heavily influenced by the way others around us behave, for example, which in turn could lead to us choosing something that, on a hindsight, would not have led to the best possible outcome for us (3).

3. Behavioural biases in economics (and social psychology)

To better understand some of the forces governing the way we behave, I will outline here some of the better known cognitive biases (as well as other type of behavioural biases) in the literature.

i) Endowment effects

The reason why we tend to ask for more money for the same coffee mug than what we are willing to pay for it is called an endowment effect. The term, first given by Richard Thaler (4), denotes people’s tendency to value a good or service more once the ownership has been established. This has been shown to be true with small goods such as coffee mugs (1) to goods that have no obvious substitution effects such as a Duke University basketball ticket, e.g. the lowest WTP for a Duke basketball ticket for those who did not win it in the raffle is \$170, whilst the lowest to WTA for the purchase of the ticket is \$2,400 (2).

Such evidence of anomaly violates the conventional economics assumption of WTP and WTA: the WTP and WTA should be exactly the same between the same good. In other words, the indifference curves for any two goods should not intersect with each other. But because of the endowment effect, a good is thought to worth more money to the individual who started of owning the good than to those who started with money.

ii) Loss aversion

One of the explanations to the endowment effect is loss aversion, which denotes people's tendency to be more sensitive to decreases in their wealth than to increases (5) (6). Empirical estimates find that losses are valued about twice as strongly as gains, e.g. the disutility (or loss of satisfaction) of losing \$100 is approximately twice as the utility (or satisfaction) of gaining \$100 (7). More evidence can also be found in the studies of happiness where a drop of income hurts our well-being more than what the same gain can do to increase our happiness (9).

It is believed that loss aversion can be used to explain many social phenomenons that go beyond economics. For example, it can be used to explain the polarization of people in Thailand at this very moment and the political tension that they wage. This is because loss aversion simply means that it is that much harder for you to admit you made a mistake, which is best captured by Aronson et al's maxim (2001) p.175 – "Once we have committed a lot of time or energy to a cause, it is nearly impossible to convince us that it is unworthy" (10).

iii) Framing effects

The way we frame the question (or how the choices are present or framed to us) can also influence our decisions in a significant way. To give an example of a framing effect (and linking it to loss aversion described above) let us take a look at the experiment conducted by Daniel Kahneman and Amos Tversky (8). In their study, randomly selected individuals in the control group were asked the following question:

"Imagine that your country is preparing for an outbreak of a disease which is expected to kill 600 people. Given the choice between two vaccination schedules, Program A which will save 200 and Program B which will save all 600 with probability 1/3 - which program would you choose?"

On the other hand, people in the treated group were asked the following question:

"Imagine that your country is preparing for an outbreak of a disease which is expected to kill 600 people. Given the choice between two vaccination schedules, Program C which will allow 400 people to die and Program D which will let no one die with probability 1/3 and all 600 will die with probability 2/3 - which program would you choose?"

According to standard economic theory, because the outcomes of two sets of choices (A and C or B and D) are the same, the split between randomly selected individuals choosing either A or B and C or D should be roughly the same. However, as it turns out, more people in the control group chose option A than option B. Conversely, more people in the treatment group chose option D than option C. This is simply because, in our brain, the first question which had been asked on the control group generates a 'gain' frame for us (i.e. we are framed to think of things in terms of what we could gain), whereas the second question was phrased so that people in the treatment group were framed to think of things in terms of what they could lose. In other words, it looks as if more lives will be lost with option C than D when in fact the outcomes are practically the same. It is similar to the fact that people prefer to buy a pack of ground beef which says '80% lean' than '20% fat' when they are practically the same in reality.

iv) Status quo bias

Another important cognitive bias, which is also related to the endowment effects and loss aversion, is the status quo bias. This denotes the people's strong tendency to remain at status quo (i.e. in the same position), because the disadvantage of leaving it loom larger than advantages (5). Status quo bias explains why most

people hate changes if the gain that can be derived from such changes is not compelling enough. In other words, most people prefer to choose the default option rather than opt for something new.

A good example comes from the states of New Jersey and Pennsylvania. Both states now offer a choice between two types of car insurance: A cheaper policy that restrict the right to sue, and a more expensive one that maintains an unrestricted right. People in New Jersey are given, as a default option, a cheaper policy with an option to change to a more expensive one with the unrestricted right to sue later. People in Pennsylvania, on the other hand, are offered the more expensive option as the default, with an opportunity to opt for a cheaper kind. In a study group conducted by Hershey et al (11), 23% of the people who were offered the New Jersey plan elected the right to sue, whilst 53% of the people who were offered the Pennsylvania plan opted to retain that right.

v) **Social comparison and social norm effects**

Perhaps not so much a cognitive bias but an evolutionary phenomenon, we tend to care a great deal about what other people think, own, and do. This is reflected in a countless number of studies that examine the impact of relative incomes on people's self-reported happiness (12) (13) (14). Basically, we want to earn more (or be more attractive, be better at sports, etc.) than whoever we choose to compare ourselves to. But if there are more people like us – for example, if we were an unemployed person – unemployment will not hurt us as much as if we were the only unemployed person out of all our friends or colleagues (15). This latter phenomenon is called social norm effect.

The existence of such externality can result in many of today's seemingly irrational social behaviours. For example, we can observe a lot of city workers working over time and earning very little extra money when that time should be spent doing something else much more worthwhile such as spend time with family and friends. One explanation for this is that relative incomes matter: If I work less, I know somebody will earn more than I do and I don't like it! We therefore arrive at a zero-sum game outcome where everybody works extra hard but nobody gains from being relatively richer than others. One can also speculate that absolute income will matter less as the society grows wealthier.

vi) **Focusing and anchoring effects**

When asked to think about a value of something – this could be anything, e.g. money or how much our girlfriend/boyfriend means to us, more often than not we are likely to exaggerate the value of it (or him/her). An example of how focusing effects can influence decisions can be found in a study of Californian and people in the Midwest of the USA conducted by David Schkade and Daniel Kahneman (16). When people from California and Midwest were asked: "Who do you think would be happier: People living in California or people living in the Midwest?" both groups answered "People living in California". However, when each group was asked to state how happy they are with their lives, the average levels of happiness of both groups appear to be exactly the same.

The reason for the misprediction is quite clear. When both groups were asked to make a joint evaluation between living in California and in Midwest, the only salient thing to them at the time when making that assessment is the contrast in their weather. In other words, their attention was focused or 'anchored' on what seems to be the clearest difference to them. Yet when they were asked about the things that make them happy, other things like job, marriage, family life come into play and more likely to matter more to them than weather. Because people from both groups were randomly picked, it should be no surprised to us that their average levels of happiness were the same.

We may also anchor on things that are unrelated (or arbitrary) to the context that we use to make our decisions. For instance, in an experiment conducted by Dan Ariely, George Loewenstein, and Drazen Prelec (17), MBA students from Sloane School were introduced to different consumer products (computer accessories, wine bottles, luxury chocolate, and books), which were briefly introduced to them without revealing their real market price. After introducing the products, each student was then asked whether they would buy each good for a dollar figure equal to the last two digits of their social security number. They can decide to offer more or less until each individual's WTP is achieved. The results were incredible: the WTP for any good was heavily influenced by each student's social security number. Subjects with above-

median social security numbers stated values from 57% to 107% higher than did subjects with below-median social security numbers. To put that into dollar figures, subjects with social security numbers in the top quintile were willing to pay \$56 on average for a cordless computer keyboard, compared with \$16 on average for subjects with bottom quintile numbers.

vii) Hot state versus cold state

The term ‘hot state versus cold state’ depicts the way people often mispredict in a cold state what they would or would not do in a hot state. To illustrate this point, imagine you saying to yourself when you are completely full from lunch that “I will not eat anymore tonight” but then you find yourself looking for something to eat in only a few hours afterwards. The feeling of full stomach straight after lunch represents a cold state. Here, it is very difficult to imagine what it feels like to be hungry as our brain makes it much more difficult for us to imagine what a different state, i.e. the hot state, is like (18). As a result, stated preferences will often succumb to time-inconsistency problem. This is also linked with the problem of self-control. It also partly explains why good guy/girl cheats or why good politicians lie.

4) Effective and efficient developmental schemes

You might wonder why policy makers should care or pay any attention to the above biases. In economics (and in any fields in social science), policies are designed with an aim to change people’s behaviours for the better through the manipulation of their incentives. However, two major issues have to be taken into consideration when planning a policy. Number one – it has to be cost-efficient. Number two – it has to be cost-effective. For instance, some policies are much more costly than others and may not be as effective in altering people’s behaviours (e.g. taxation). By making better acquaintances with these cognitive biases, it is possible that we can create better – in terms of efficiency and effectiveness – policies to deal with many of the issues faced by our government today.

To give but a few examples of how the above biases could be used to our advantage:

(a) Environment

One of the biggest issues faced by every government in the world today is how best to encourage their people to be ‘greener’. Whilst green taxes are being used in many developed countries, they only seem to work with those who are most sensitive to the environment and insensitive to changes in income. Moreover, the messages that we are flashed everyday about our environment and what we could do to help save it – e.g., “Please conserve the electricity to save the environment” or “Turn off your tap to save the rain forest” – also do not help to alter people’s behaviours in a significant way.

In a study by Goldstein et al (19), however, they have been able to show that we can in fact influence people’s behaviours so that will be consistent with becoming ‘greener’ by using a very simply and cost-effective method. Using what we know about the effects of social norm (in that people care about what other people think, own, or do), the authors conducted an experiment to try and see whether they can influence the rate of towel usage in hotels. They found that the imposition of descriptive norms (e.g., “the majority of guests reuse their towels”) are much more effective in encouraging towel usage than the traditional appeal widely used by hotels that focused solely on environmental protection. However, they found the imposition of provincial norms that are closely matched individuals’ immediate situational circumstances (e.g., “the majority of guests in this room reuse their towels”) to be most effective. This is an extremely efficient policy with a maximum outcome: The impact of imposing norms is great, but the cost of changing what we put on the signs in these hotels is negligibly small.

(b) Research

Whilst people regard research in science in Thailand to be amongst one of the best in the world, research in social science is fairly poor by international standards. One reason for this is that there is no significant reward or punishment system (i.e. we have a system that favours status quo) in Thailand.

How, then, should we encourage social scientists in Thailand to produce research papers that are publishable in top international academic journals? One way is to use the fact that we hate losing a lot more than we love winning to our advantage. Because people hate losing more than winning, the reward that we need to offer them in order to encourage them to publish will have to be extremely large. On the other hand, the punishment for not being able to publish their papers does not have to be large in order to be effective. For example, imagine that there is a club in different universities called a 'Publishing Club'. In this club, each member, i.e. people who love to be able to publish in international academic journals, is given two options. Option one is for them to submit one of their papers to an international academic journal at least once every six months. The second option is that, if they are not able to submit their paper to a journal once a year, they will have to give the club three thousand Bahts every six months. This money, when received by the club, will be used to facilitate in things that are not beneficial to the person losing it, e.g. the money can be used to hold parties which the person who paid for it cannot attend. Because of loss aversion, people will be more inclined to try and publish their papers than if there were rewards for it.

(c) Charitable giving, including organ donation

For the status quo bias, we know that people tend to 'opt in' then to 'opt out' from default options, provided that the difference between opting in and opting out is not compelling. Using this knowledge, we can imagine creating a form for people to fill in – like asking people to donate their money for good causes or even their organs once they pass away – where the default option is 'to donate'. This way, because people are more likely to stick with the default option, we can increase the amount of donation (whether it is money or organs) without making them feel as if we are forcing them to do so.

(d) Defusing conflicts

We know from loss aversion that one of the reasons why there may be tensions between two or more groups of people is because it is a lot harder to admit that you are wrong (because the cost of admitting it seems so great). Therefore, one way to defuse or reduce the level of tensions between groups is to try and lower the loss associated with admitting that there may be flaws coming from both groups. This is, however, easily said than done, and more research is required into how we can lower such cost.

More suggestions can also be found in *Nudge*, a book written by Richard Thaler and Cass Sunstein (20).

5) Conclusions

Human brain is a funny thing. To know how it works, however, is no funny business. With an aim to try and better understand what makes us tick, this paper reviews some of the better-known behavioural biases that influence our thinking, our behaviours, and our well-being. It also offers some food for thoughts on what can we use this newly equipped knowledge for in order to create better, cheaper, and more effective public policies that have individual and social welfare at the very heart.

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