

RETHINKING POLICY FROM A BEHAVIOURAL ANGLE: A CASE OF NUDGE



Behavioural Economics can be very useful not only in understanding our own behaviour, but also in formulating the right policies and evaluating policy outcomes. In this blog, Muthuprasad T, S Niranjana and Aditya KS urge academia to consider inclusion of Behavioural

Economics topics in social science curricula.

CONTEXT

Behavioral Economics is not a new branch of Economics. Its seeds were sown by Adam Smith in his book “Theory of Moral Sentiments”, in which he opined that human decisions are driven by several factors, such as cognitive ability, attention and motivation. However, the seed of Behavioural Economics did not germinate until it was rejuvenated by Daniel Kahneman and Amos Tversky in the 1970s with their paper titled ‘Judgment under Uncertainty: Heuristics and Biases’. For his contribution to Behavioral Economics, Daniel Kahneman was awarded the Nobel Prize in 2002. Further developments in the field of Behavioral Economics came up largely due to the seminal works of another Nobel laureate, Richard H Thaler. Publication of the book ‘Nudge’ by Thaler and Cass R Sunstein (2008) revolutionised economic thinking and drew the attention of both academia and policy makers alike. This book talked of how understanding of different biases and use of simple nudges can induce people to make ideal/optimal choices.

NUDGE

‘Nudge’ means a light touch or push. The term ‘nudge’, in this context, is any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives (Thaler and Sunstein 2008). Let us consider, for example, that the objective of a policy is to reduce the weight of obese people, and you are tasked to design the choice architecture for achieving this. In this case, banning junk foods is not a nudge but keeping fruits and other healthy food in places which has higher probability of catching the attention of people is definitely a nudge. All the same, as mentioned in the definition, a nudge should not prohibit any of the options available.

Framing

Let us assume that you are consulting a doctor for major heart surgery. You are interested in knowing what the probability is of the being successful, right? Suppose the doctor says, “Of one hundred patients who have undergone this operation, ninety are alive after five years”, what will you do? For most of us, the statement will be pretty comforting, and probably provide enough confidence to go ahead with the surgery. What if the doctor frames the statement in a slightly different way and says “Of one hundred patients who have this operation, ten are dead after five years”? This statement sounds alarming and might make the patient seek a second opinion. Here, even though the contents of both the statements were exactly the same, people tend to react

differently based on how it is framed. Similarly, framing nudges are used in marketing, advertisements, promotions, and also in government policy making. For instance, consider the following information campaigns: (a) If you use energy conservation methods, you will save Rs. 5000 per year; or (b) If you don't use energy conservation methods, you will lose Rs. 5000 per year. It turns out that information campaign (b) framed in terms of loss, is far more effective than information campaign (a).

Box 1: Are humans rational?

Humans are always rational! It is one of the most common assumptions in most economic theories. Rationality assumes that human beings always aim at maximization of utility, subject to the constraints imposed by their given income. In simple terms, rationality assumption implies that a decision is always directed towards maximizing utility. Probably 'rationality' is the easiest assumption to write in the answer sheet for an economics student, but how far is it true in real life? Are *Homo Sapiens* always rational? Let's check.

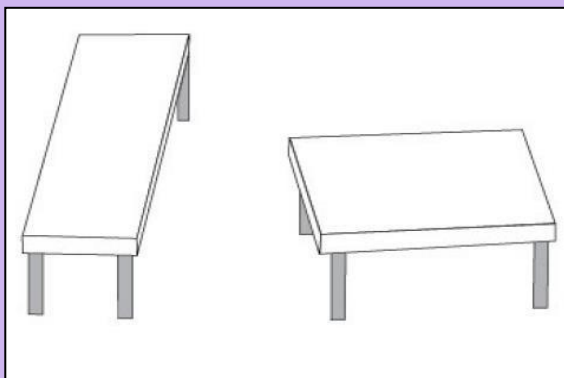


Figure 1: Shepard's Table

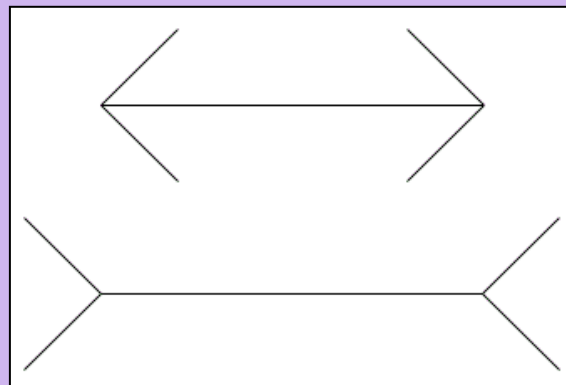


Figure 2: Müller-Lyer line

Observe the figures and answer the following.

In Fig. 1, which one would you prefer as a study table, the one on the right or the left? And in Fig. 2, guess which one is longer among the two lines?

Hope you have made your choices. Allow us to surprise you. Both the tables in Fig. 1 have the same dimensions, and both the lines are of the same length in Fig. 2. Well, if you have correctly predicted it, then you have outclassed most *Homo Sapiens*.

Now, some of you must be rushing up to your writing table to grab a ruler and verify, right? Yes, even we did the same, when we tried these illusions at first.

But don't worry, if you have selected either of the two tables in Fig. 1 and the bottom line in Fig. 2, you are with the majority.

Shepard's table: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3485780/>

Müller-Lyer line: <https://www.illusionsindex.org/ir/mueller-lyer>

Now, let's look at these numerical questions and try to solve it.

1) A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost? _____ cents.

— 2) In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? _____ days (Source: Richard H Thaler and Cass R Sunstein. 2008. Verbatim.)

Hope you are ready with your answers, if your answers are 10 cents and 24 days then we are sorry

again, you are wrong. If the ball costs 10 cents then according to the condition the total cost will be \$1.20 not \$1.10 Similarly, if your answer is 24 days, then according to the conditions given in the problem, the lily pads will cover the whole lake in 25th day itself (if 24th day, lake is 50% full, and it doubles every day). So, the correct answers are 5 cents and 47 days. Ashamed for failing to solve a simple numerical problem? Well, don't be. Most of us fail to give the right answer to these questions and this has nothing to do with a person's intellect.

So, what do these illusions and confusing numerals mean in economic theory? A lot. Allow us to explain. While performing even a simple calculation, we are affected by biases which blur our logical thinking and lead us to wrong answers. The reason is that we don't spend considerable energy in understanding it and also because we are habituated to a particular way of thinking. Human behaviour and the choices we make, to a large extent, are affected by biases and other considerations, and are not only driven by the objective of 'maximising individual welfare' (or utility) as postulated by the 'rationality' assumption. In simple terms, the rationality assumption assumes that all human beings are rational, that they evaluate the choices they have objectively and choose the one which maximises the utility/welfare. If our senses can be fooled by illusions, and if biases and habituated thinking can also lead us to wrong answers for simple numerals, how then can we expect an individual to be always correct in choosing utility maximising choices? That is the reason why a few economists have raised questions regarding the validity of the 'rationality' assumption, on which most conventional economic theory rests. Thinking along this line gave birth to Behavioural Economics.

One of the recent examples of using framing as a nudge in Indian policy making is the renaming of Swachh Bharat to Sundar Bharat (Economic Survey of India 2019).

Anchoring Bias

Anchoring bias is a cognitive bias in which an individual choice depends on the initial piece of information offered while making decisions. Allow us to explain with an example. One of my friends was looking to purchase a new laptop. As usual, we searched on two e-commerce websites and narrowed down on a model, which was priced at Rs. 35,000. Since it was electronics, we thought of purchasing from a shop, rather than from an e-commerce site. We reached a nearby shop, and to our happy surprise, the same model was on sale for Rs. 34,000. We immediately purchased the laptop and came out all satisfied. However, later in the day, we discovered that one of our friends had purchased the same model for Rs. 33,500 in a shop which was just 100 feet from where we had purchased. Well, what made us purchase the laptop in such a hurry, even before enquiring in the neighbouring stores?

The answer lies in anchoring bias. For all our decisions in purchasing the laptop, the initial price (which was the price of laptop on e-commerce site, Rs. 35,000) was the base price. As soon as we discovered that the actual price is one thousand less than the base price, we were convinced that it was a great deal. This concept of anchoring effect is successfully used during many marketing campaigns such as 'Amazon big billion days' and 'Flipkart freedom sales'. Initially, the price is quoted way above the actual price (in our heads that will become the benchmark price) and then offer hefty discounts on the products (like 50% off). When next time you see any advertisement like 60% off on MRP, think twice and don't be a victim of anchoring bias!

Default settings as Nudge

Default options are pre-set courses of action that take effect if nothing is specified by the decision maker (Thaler and Sunstein 2008). Default settings can be used as nudge if inertia exists. Let us understand it through simple examples.

While booking a flight ticket or any other travel ticket, as default the travel insurance check box will be ticked and many a times, we end up paying the insurance amount, only to realise the mistake later (we don't mean that buying insurance is a mistake, but buying it when you never wanted it is a mistake).

Even in many of the websites, while registering for membership, as a default, the check box for subscribing to their newsletter will be ticked, and often we go ahead without changing it. Only when the newsletter reaches our mail box, do we realise that we have subscribed for it. In this case, setting subscription as default increases the number of subscribers to their newsletters.

Choose your delivery options

Delivery Details ([Learn more](#))

Choose a delivery option:

- FREE Super Saver Delivery (3 - 5 business days)
- First Class (up to 2 business days)
- Expedited (1 business day(s))

Figure 3: Be aware of defaults

In some of the e-commerce sites, though free delivery is available it will not be set as a default option.

Decoy effect

The decoy effect is technically known as an 'asymmetrically dominated choice' and occurs when people's preference for one option over another changes as a result of adding a third (similar but less attractive) option (Bateman et al. 2008). We will now explain theoretical bluffs that you didn't understand correctly with simple examples.

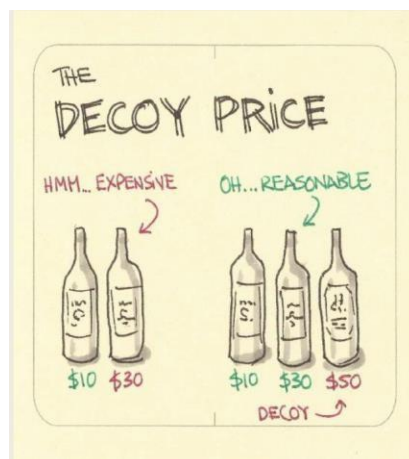


Figure 4: Decoy effect

In the picture above the \$30 bottle will be seen as expensive, but once the \$50 bottle is introduced into the picture the \$30 one will be seen as relatively cheap. Here the role the \$50 bottle plays is as a decoy to increase the sales of \$30 bottles. This is the reason why many of the items in several restaurants are highly priced even though nobody buys them. Actually, the role of such items in the menu card is to induce people to buy the other items in the menu. Thus, you will find many decoys in the product lines of many companies.

USE OF NUDGE IN AGRICULTURE: LITERATURE REVIEW

We have listed a few applications of nudges in the agricultural policy space in the following table:

SECTOR	PROBLEM	NUDGE	OBSERVATIONS
Pesticide policies Germany	- High use of pesticides	All pesticides will be labelled with a traffic light indicator for toxicity levels.	Total Frequency Index (measure of intensity of chemical crop protection) in the green nudge treatment declines by 4.2%. (Buchholz et al. 2018)
Water protection rules Germany	- Nitrogen runoffs induced due to agricultural fertilizer causing environmental damage to surface waters	Nudge with information and pictures showing environmental and health damages that are presumably caused by breaching the minimum distance-to water rule.	Nudging has a preventive effect and reduces the share of non-compliant participants. (Peth et al. 2018)
Irrigation sector France	- High use of water for irrigation purposes	Targeted farmers receive weekly information on individual and group water consumption over four months.	The nudge was effective at reducing the consumption of those who irrigate the most. (Sylvain et al. 2019)
Agriculture (Africa)	- Due to inertia people postpone many of their time-sensitive and important actions even though they are aware	To stop farmers' procrastination in buying fertilizer (possibly due to inconvenience in traveling to town) home delivery of	Fertilizer use increased by 70%. This effect was on par with the effect of 50% price subsidy. (Duflo et al. 2011)

	of the consequences of postponing.	fertilizer in appropriate period of the season was made.	
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From the discussion above, it is evident that Behavioral Economics has a lot of scope in agricultural policy making. Throughout the world, many countries have realized the importance of Behavioral Economics and have started to establish their nudge units in order to introduce 'nudge' in the policy space.

In the Indian context, Behavioral Economics is still at a nascent stage. The Government of India, realizing the value Behavioural Economics holds in policy making, has dedicated an entire chapter to it in the Economic Survey of India 2019, which is quite admirable and a welcome step.

Some of the important areas where nudge can be used in the Indian context are –

- In reducing water usage;
- In reducing food wastage;
- In reducing pesticide usage;
- In saving electricity;
- To induce the farmer to adopt new technologies; and
- To induce the farmer to opt for crop insurance etc

WHY NUDGE IS GOOD FOR EFFECTIVE POLICY MAKING?

- Nudges are cheap (involves minimal cost);
- Nudges are more democratic (not forbidding any choices).

We welcome the step taken by the Government of India regarding Behavioral Economics; at the same time we would like to point out that there is a long way to go. Nudges are good, but more research has to be done in the Indian context, not just to clear all the scepticism around it, but also to identify what nudges work and what do not.

Behavioural Economics can be very useful not only in understanding our own behaviour, but also in formulating the right policies and evaluating policy outcomes. Knowledge of Behavioral Economics can help social scientists in understanding farmers' choices – be it their decision to adopt technologies or their response to policies or choice of source of information. Concepts, such as 'framing effect' can be used in devising extension strategies for upscaling of technologies. Also, nudging farmers to make socially desirable choices is a nascent area, waiting to be explored. Hence, we urge academia to consider inclusion of Behavioral Economics in social science curricula.

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