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**Government Nudging:
A public policy tool to influence citizens
behaviors**

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ABSTRACT

The intent of this document is to analyze the aspects that brought Nudge Theory to being increasingly considered in the implementation of government policies, and to explore the facets that persuaded many governments to create Nudge Units in order to develop and reach their political objectives.

The study begins with a discussion of the origin of Nudge Theory, which are derived from behavioral sciences and psychology, and continues with a discussion about its formulation and explanation, starting with Richard Thaler and Cass Sunstein's best-selling book "Nudge: Improving Decisions About Health, Wealth, and Happiness" (2008). After a presentation of the forces involved in Nudge Theory, its empirical application in different fields is presented along with the situations where Nudging could improve governments' policy goals. Special notes are made about the obstacles and gray areas that characterize Nudge Theory. Particularly, examples of how Nudging is applied on in policies such as, retirement plans, fight against Covid-19, and initiatives to eat healthier, are provided. Moreover, in the last section we will discuss ethical considerations with respect to this theory.

The starting point that triggered the writer's attention is the curiosity to deepen the knowledge of individuals' decision making process and the elements that corrupt their way of thinking, trying to understand the methods that policy makers implement in order to encourage certain behaviors and discourage others.

INTRODUCTION

1.1 Consumer Behavior is not Always Rational

In the last decade, governments worldwide have begun to focus more and more on the application of Behavioral Economics in the policymaking context. The book “Nudge: Improving Decisions About Health, Wealth, and Happiness,” written by Richard Thaler and Cass Sunstein in 2008, marked the beginning of widespread interest in nudging.

The importance of this book goes beyond the novelty and discovery of concepts pertaining to nudging; it also organizes and categorizes important aspects of behavioral economics that already have been explained in previous literature and are central to understanding nudge theory. Thaler and Sunstein were good at giving catchy names to the concepts, branding and packaging them under the name of nudges and Nudge Theory, giving practical suggestions on how to take advantage of them.

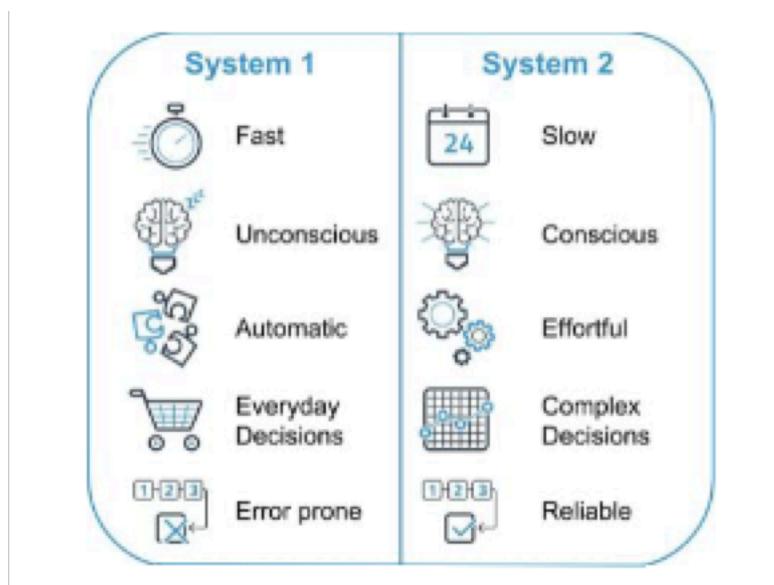
The keystone of their theory is that not all of the agents in the market are economists but simply humans. Keeping this in mind we observe that most people don’t always react following logic (reflecting or computing data before making a choice), but

sometimes in ways that undermine their health and welfare, making gut decision, pursuing their wants and satisfactions with an urgency requiring little or no reflection and contemplation. Hence this behavior will probably backfire in the future (e.g., failure to start a pension plan in the early work periods, damaging one's immune system with avoidable behaviors as drinking alcohol or smoking cigarettes). Obviously, by stating this, I do not mean that people are masochistic, but that most of their choices are the result of an unconscious illogical thinking. In this way, due to the lack of information and the basic knowledge necessary, often people fail in achieving the best solution, influenced by the distortion given by the time distance of an objective that is far away in the future in the consumer perspective, preferring something that gratify immediate desires instead. Just occasionally immediate gratification takes a backseat in favor of what is best for the long-term.

1.2 The Dual Process of Human Decision-Making System

In order to concretely explain this phenomenon, we will take a cue from the explanation given by the psychologists Daniel Kahneman and Amos Tversky in their research which is also the source of inspiration used by Thaler and Sunstein in the editing of their book.

The starting point of the theory comes from the explanation of the dual process of the human decision-making system, structured like a raging battle between System 1 and System 2 happening inside our mind every time we face a choice. The following picture lists the main characteristics of each system:



Source: www.ibpsychmatters.com

Figure 1

System 1 is an automatic system that works fast and requires little or no cognitive engagement, being driven by habits and tradition, intuition and immediate feelings, triggered by the environment. It is the mechanism that people usually recall to make every-day decisions, when they are in autopilot mode and so is easy to fall into cognitive errors (triggered by habits).

System 2 is a reflective, goal-oriented system driven by our values and intentions that requires cognitive capacity, calculation intervention and thinking space. It is the classical situation when you step back and start counting up until ten before speaking and acting, calculating cost and benefits and any other salient aspect. It is recalled in order to take complex decisions and so, in this modality, our choices are more reliable.

In Thaler and Sunstein's book, in order to enhance these concepts, those two systems are personified by a doer, like Homer Simpson with respect to System 1 and a planner, like Mr. Spock from the Star Trek series with respect to System 2 because of their famous characteristics: more instinctively the former and more calculator and logical the latter.

The problem is that laziness is imprinted in the human mind and most people behave like Homer, not like Mr. Spock, making them fallible. Market failures (e.g. asymmetric information, time inconsistent preferences, resource depletion or negative externalities) are so created by these impulsive behaviors of people.

This is the reason why governments have to intervene, by regulating the market, controlling prices, introducing transaction costs and regulating citizen behaviors through incentives and economic sanctions, such as taxes and fines. This limits behaviors that are harmful for the community and promotes logical choices that enhance efficiency.

1.3 The Government Tools

The ways at disposal of governments to lead consumer behaviors are essentially three (see table below):

- Economical (with tax and incentives);
- Psychological (influencing the people);
- Behavioral (changing the context).

Economical tools take the form of regulation, restrictions, mandates and bans that limit individual and corporation's actions. This provides clear standards and rules to respect in order to avoid actions that could harm the society. The negative side of these policies is their cost of compliance and control, because it takes a lot of time to modify the law and enforce it. Moreover, individuals and corporations need another period of time in order to get informed and accustomed to the laws before the ultimate implementation is done. In addition, an overly complex bureaucracy could over load the government system and place the burden upon people's minds. Other economical tools take the form of incentives (subsidies, grants) and penalizations (taxes and fines). Subsidies and grants act with a positive influence, giving to the people the possibility to take advantage from particular situations (if they weigh the cost and benefits of their choices). Taxes and fines discourage undesirable behaviors, but sometimes produce a negative influence: when they

aren't severe enough, unintentionally giving people the ability to pay off for their forbidden behavior. This creates a sense of entitlement and may not create lasting change.

Aside from this type of intervention and analysing the psychological tools, we note that their objective is to enhance the individual learning and knowledge, implementing information and educational programs, in order to give the possibility to individuals to take informed choices that accomplish to the best solution. When governments implement communication programs or use advertisements as a tool of persuasion, they try to improve the social welfare affecting and influencing people conduct and behaviors appealing to moral and civic responsibilities.

Given the tools from traditional Economics, and the cognitive mechanism from Psychology, many governments in the last years started to take into consideration a different type of intervention in public policy given by Behavioral Economics.

Behavioral science suggests that policymakers can shape behavior by focusing on the individual's automatic processes of judgment, focusing on the fact that people can behave irrationally and inconsistently with their choices. This is due to the fact that our minds are influenced by factors in the environment (e.g. organizational hierarchy and structure, time and space perception, shared beliefs and values etc.), so modifying them can be an effective instrument for shaping behavior. Behavioral

Science offers tools that can take advantage from these aspects and offer alternative options when regulation and incentives are not appropriate.

Following this approach, policy makers try to influence people's actions towards an unconscious thinking, which can be linked to the aforementioned System 1. Repeatedly exposing people's attention to the information made accessible to them they trigger an intuitive reaction. This goes in the opposite direction in comparison to the method used by psychology, in fact psychology aims to induce a reasoned action, directly connected to System 2, trying to inform and educate citizens so they can carefully evaluate which way to pursue. The following table describes and schematize the main concept just mentioned above.

	Economical tools	Psychological tools	Behavioral tools
Examples	Tax, fines, incentives, disincentives, grants, restrictions and regulations	Persuasion, Educational and communication programs	Shaping the context, social norm, peer comparison
Main Aspects	It limits individual actions, gives standards and behaving rules to follow	It enhance individual knowledge, favors the formation of informed and responsible citizens	It appeals to shared beliefs, values and interests and facilitates unconscious choice
Negative Effects	It has high costs of compliance and control and requires long period to implement	It brings to cognitive overload	It modifies people perception
Nudging Fundamentals			

Figure 2

As a result, the Nudge theory tries to take advantage from both these last two strategies, applying their insight depending on the context.

Its basic principles are rooted in the choice architecture theory, building in this way an apparatus that gives to the people the possibility to take advantage of the environment. This drives people towards choices that they wouldn't have taken in the previous scenarios, permitting them to cooperate and affect each other changing the habits of the community. This strategy can encourage people to save for retirement, make healthier diet and lifestyle choices, and participate in socially beneficial programs.

THE NUDGE THEORY

2.1 The Main Characteristics

Thaler and Sunstein give a definition about Nudge at the beginning of their book that says:

“...A nudge [...] is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates.”¹

From this sentence we can easily notice the three main factor, already mentioned in the introduction, behind the Nudge Theory:

- When the authors speak about “*choice architecture*” and “*alter people behavior*”, they refer to the ability of the policy maker into shaping the framework and the possibilities given to the people, leading their actions towards the objective of the policy itself. The presentation of the framework is one of the main aspects on which the Nudge theory is built on. In fact the choice available layout is the central tool that the policymaker has in order to influence the decisions of the agents in the market, helping them to think

¹ Thaler and Sunstein 2008, “Nudge, improving decision about health wealth and happiness”, pag.6

appropriately and making better decisions by offering choices that have been designed to enable these outcomes.

- Secondly, we have to stress the libertarian paternalism approach of the theory to the implementation of policies. When Thaler and Sustain say “*without forbidding*” or that “*nudges are not mandates*” they refer to the liberty-preserving principle. It means that people whether led toward particular directions, should be able to go their own way in order to leave to them the freedom of choice. Nudges are designed in order to lead people towards helpful behaviors. More specifically the paternalistic effort refers to the fact that governments aim is the social welfare, its approach to the population should take a shade of father and son relationship. At a government level manipulation should never take place and policies should never be hidden but should be instead as transparent as possible in order to give to individuals the possibility to review and understand government decisions. Like a father educates their son. In the same way Nudges can take steps to make rules more likely to stick while avoiding coercion and covert practices, sometimes making it sufficiently onerous for people to depart from them but always leaving to the people the final word about the choice.

- Last but definitely not least, an important aspect of Nudges is that they should be “*easy and cheap*” and shouldn’t “*significantly change economic incentive*”. Nudges affect how a topic is presented, in fact reality is already full of nudges, sometimes accidentally positioned sometimes deliberately located. The objective here is to turn them from harmful to helpful nudges. The best way is to identify, understand and modify them with indirect methods. For example, if the point is to make healthy behaviors more salient, we could alter the layout of a building to cue physical activity, change the position on the supermarket shelves of healthy and junk food and drinks, print graphic warnings or labels on cigarettes, nutrition facts or panels on food, not influencing in this way the taxonomy or the legislation, trying to achieve non-forced compliance. With this tool private and public institutions can reach economic savings and have the potential to promote growth and wealth.

The objective expected by the introduction of Nudges is to change the habits of the people by changing the social and physical environment, affecting the way of thinking and the approach that people have with it.

In doing this the long-term component has a crucial importance. Nudges are studied not to make people change behavior just immediately after the intervention, but to let this behavior stick and become a habit, repeatedly exposing them to the same

stimulus. For example, sending a text message, setting a reminder or an alarm clock can surprisingly improve the result of an action. Another tool could be an automatic enrollment or a default setting on computers and cell phones, focusing on the intrinsic laziness of the people in changing it. A different mechanism is to communicate social norms or provide information about what others do, influencing how individuals behave. For the same principle of social acceptance people are generally motivated to keep their promises and attain their goals, thus asking for commitments (whether written or oral, public or private) increases the likelihood of certain actions.

These solutions are drawn on the fact that the human tendencies are irrational, and (usually) don't follow logic (as stated before), so the policymaker can take advantage from the characteristics just mentioned and the insights of behavioral economics. The human mind is full of cognitive biases and that's the weakness to rely on in order to implement a successful strategy.

2.2 Heuristics and Cognitive Biases

The next step is to recognize which are these aspects that makes humans fallible economic agents. From behavioral science we can understand some of human mind errors that are at the basis of the inconsistent behavior that people do in daily life. These errors are nothing more than the Cognitive Biases that contrast with what Thaler and Sustain call Heuristics. These two elements are basically the two sides of the same coin. They are nothing more than people's mental constructs derived from the experience and the education received. They are the so-called internal references or "rules of thumb" (as Thaler and Sunstain call them) used by our mind in cognitive processes to assess things, make evaluations or critical considerations. The heuristic reasoning provides that an output is reached by relying on intuition rather than following a sequential verification procedure. This decision-making style is preferable in those circumstances in which the scarcity of cognitive and temporal resources prevent a deep and weighted evaluation of all elements, easing in this way the load of information to be processed and therefore the mental effort². In other words, they are useful when System 1 is rightly involved and there is a need to make simple and recurrent decisions. On the contrary they can be deleterious when the thinking process is more articulated and requires a more

² Evans 2006, 2008

serious and detached evaluation. That is when System 2 should take the lead, substituting System 1 which instead resists on command, letting people fall into Cognitive Biases and systematic errors that undermine the chance to take the best decision.

The research to identify these biases, that our mind can run into, is still very active and constantly evolving. The next table demonstrates a list of the most important and common biases that are at the base of the Nudge Theory implementation:

Table 1³:

BIAS	EXPLANATION	EXAMPLE
Anchoring and adjustment	It concerns the effect that the reference points (anchors) have in the assessments made by individuals	Using known things to estimate unknown things, comparing then guessing
Availability	Some events, facts or objects are more considered because they can be easily recalled and readily come to mind (more visibility, greatly influenced by mass media)	When we see/hear something lots, we question it less
Representativeness	How similar something is thought to be in relation to a perceived stereotype or assumption	Assumptions based on stereotypes

³ <https://www.businessballs.com/improving-workplace-performance/nudge-theory/#heuristics>

Over-confidence / Wishful thinking	Tendency to consider a future outcome as more likely if positive and in line with our ideas or desires, but less likely if negative and in contraposition with our opinions	Underestimation of costs, timescales, challenges / overestimation of rewards and the ease of unknown things
Loss aversion / Endowment effect	Tendency to consider a loss more significant than a gain of equal size, false valuation based on possession	The attribution of a higher value to an asset when already owned
Planning fallacy /Hyperbolic discounting	People are naturally biased towards short-term reward, and against long-term reward, to value benefits that are reaped now more than benefits reaped in the future, costs that are paid in the future are not felt as deeply as costs that are paid now	Urge to satisfy gratification (gambling products) or aspiration, ego, fear of missing out
Status quo	The tendency for people to stay committed to current situations, for fear of changing to the unknown	Laziness, aversion to complexity, inaction, risk avoidance
Mindlessness	The tendency for people to form views and decisions without concentrating, or even negligently	Poor concentration, negligence, complacency, fail to read terms and conditions
Spotlight effect	People tend to over-estimate the visibility/significance of their own decisions and actions.	Self-consciousness, fear of making errors
Following the herd	Individual looks to the behavior of their peers to inform their decision-making, and their tendency to conform to the same behavior their peers are engaged in	Need for affirmation, strength in numbers, following the crowd, fear of isolation

Recognizing these elements gives the possibility to design a Nudge and understand how to attack that behavior in order to change it, pursuing an improvement in the social welfare. The following table lists some of the most common and useful Nudges:

Table 2⁴:

NUDGE	EXPLANATION	POLICY EXAMPLE
Default rule	Automatic enrollment, changes on the default options	Cookies preferences on websites
Active choice	Dynamic decision to take	Blood donation, organ donation
Simplification & Saliency	People often make the easy choice, hence facilitate the decision you want them to follow. Resistance to change is often a product not of disagreement or of skepticism, but of perceived difficulty	Low numbers of well studied alternatives rather than multiple personalized choices
Information disclosure	Make information comprehensible and accessible	Item on bills
Uses of social norms	Inform people that most others are engaged in certain behavior and emphasizing what they do In such cases, it can be helpful to highlight not what most people actually do, but what most people think people should do	Writing that most of the people pay their taxes on time on tax forms
Positioning	The physical or visual positioning of something	Food and Drink products positioning on bar and grocery's shelves

⁴ <https://www.businessballs.com/improving-workplace-performance/nudge-theory/#heuristics>

Graphic or other warnings	Stress the attention on the risks and consequences incurring in	Labels on cigarette's boxes
Precommitment	Engaging in certain action and committing to a specific behavior at a precise future moment in time	Alcohol consuming cessation program
Reminders & Messenger	Timing greatly matters in order to avoid forgetfulness on obligations. Moreover we are affected by the perceived authority of the messenger	Short and easy to interpret e-mails, text messages, alarms coming from experts
Limiting	Helpful option can be more appealing if they seem limited by time or availability, but avoid pushing or pressurizing people which is potentially unattractive or off-putting	Expiry dates, limited stock
Feedback	People are open to influences from feedback or reflection while thinking and deciding, or having decided, prior to further decisions.	FAQ and customer reviews
Framing	It's a phenomenon that affects the perception of the information, based on a context of positive or negative decision (presentation distorting the attractiveness of something but not the actual scenario)	Accentuation, juxtaposition, design, orientation, styling
Priming	Preparing people for change	Mass media and advertisement campaigns
Sensory & Affect	Use of sounds, smells, taste and visual input containing emotional cues to influence people	Traffic lights
Ego	Tendency to behave in a way that supports the impression of a positive and consistent self-image, bounded with a desire of self-esteem	Smoking cessation program pointing out that smoking causes yellow teeth and impotence

These are just some of the dozens of biases and nudges recognized by the Behavioral Science. They allow us to identify some fundamental elements that influence our decisions, such as desire, time-cost ratio, inertia, context and group-thinking. From a practical point of view, each of these elements can, individually or in conjunction with others, influence and distort our decisions.

2.2.1 Empirical application of Nudges

As described in the previous table, if our aim is to eliminate an obsolete policy, we should try to prevent the sensation given by the “loss aversion bias” and try to take advantage from the “wishful thinking bias”. We should avoid to present situations as if we were depriving people from something. On the contrary, following the opposite direction could be more adapt to lead people to quit smoking. In fact, highlighting life years lost smoking, instead of life year gained after quitting exhorts people toward cessation. This approach would avoid the distortion caused by the “hyperbolic discounting” bias that respond to the affirmation “this will not happen to me!”. The principle at the base of this nudge is well described in Thaler and Sunstein book: “...*roughly speaking, losing something makes you twice as miserable as gaining the same thing makes you happy...*”. In fact, the thinking-process would be guided by the feeling that sticking with the habit will be disadvantageous and therefore decisions will be taken in order to preserve our health, overcoming in this way the bias of the “status quo”. Another way to exploit the “status quo bias” in our favor is to change certain default positions from opt-in to opt-out in order to address the population towards our goal and maximize the social welfare. People often find themselves sticking with default decisions to avoid the cognitive effort due to the flood of information that otherwise they would face and the consequent waste of time they would have to go through to process them.

Just when people feel that they have something to lose, or the output requested to the cognitive system concerns familiar or already consolidated procedures, they will proceed to change the default choice and may be more inclined to do something to prevent the loss.

An opposite strategy is to enforce people to take an active choosing. This can be preferred when you want to avoid the “mindlessness bias”. In fact when people do not have a strong knowledge of the matter, they could make decisions with little concentration. When a choice requires mindfulness this Nudge is useful to draw people's attention. In these cases it is essential to simplify the information as much as possible to let people take the most appropriate decision, or if preferable to avoid unhelpful decisions, making it difficult to be misguided by faulty thinking. In this sense, the use of feedback could help confirm when they are making good decisions. It could be useful to encounter a check-point and prompt useful considerations wherever an error of judgment might have been occurred, suggesting alternative pathways more in line with the previous choices.

In other circumstances the lack of information could be the problem. Let people obtaining the information could shift their behavior and make the market work better (sometimes saving lots of money). In this scenario the information disclosure is the right nudge to implement. For instance, it could be useful as a check on private

or public inattentions, negligence or corruption, or in informing people about long-term effect of some conduct, overtaking the “hyperbolic discounting bias” and substituting the “short term gratification” pursuit with a better “long-term orientation”. Moreover, in order to avoid the “hyperbolic discounting bias”, it could be good to display labels and warning signs in order to counteract the human tendency toward unrealistic optimism or implementing limited incentives, as it could be the introduction of short-term rewards (not necessarily monetary), relying on the fear of missing out an opportunity. This behavior reduces procrastination as well as it would do making public commitments. In fact, people are more likely to engage in activity if someone elicits their intentions or if they have to ensure consistency with their stated beliefs.

Our perception of how others see us, particularly our peers, matters to us. Making visible individual contributions to an activity with wider community benefit, increases overall contributions since people are aware that others can observe whether or not they have participated. Moreover, the greater visibility of individual actions may also generate positive social norms. The social context matters, because it provides guidance about accepted or expected behavior. When confronted with an ambiguous situation, we look to others for cues about how to behave, this is a

concept known as “social proof”⁵. Usually in order to achieve this goal, policies rely on the “following the herd bias”, showing the good behaviors of well-known neighbors or important characters, encouraging individuals to align themselves with what they believe to be common practice, taking advantage from the tendency of people to conform to the same behavior that their peers are engaged in also if they are a minority⁶.

If we want to lead people toward a behavior change in order to avoid a scenario that would undermine the future social welfare, we could refer our policy to the “availability bias”. Firstly, the broadcasts start an information or advertisement campaign reporting and writing articles more and more about that specific topic, emphasizing it, in order to enhance and focus the attention of the audience, priming the people. Hence, in a second moment they will be more prone or even enthusiastic, thanks to people’s internalization of the cause, to follow a behavior change in order to avoid the occurrence coming from that certain scenario (e.g. climate change focus). This could be done also by framing the context, providing a poor or an enthusiastic description of the consequences of that scenario, as doctors usually do focusing on survival rates rather than death rate of an intervention, rising

⁵ Cialdini, 2007

⁶ we are predisposed to emulate the behavior of those with whom we identify - Tajfel and Turner, 1986

a feeling of hope rather than desperation, being sure to not alter the actual situation but just presenting it from a different (more positive) point of view (half full, half empty glass principle). Often the choice of the words to use and the way something is presented is enough to alter greatly the policy result.

Last but not least the sensorial perception is another tool that well suits some intervention. For example, being suddenly soaked in water discourages people from being energetic and organized, hence the use of water cannons by police to disperse riots.

From this description, the appeal of Nudging is self-evident. Nudges are inputs that orient people to the most preferable option trying to recall their rationality to the fore and avoiding them to lose sight of the goal. Governments started to apply it just a decade ago in their policies and lots of research demonstrate how default rules, information disclosure, simplification, uses of social norms etc. have sometimes been found to have even larger impacts than significant economic incentives. Thus, there are lot of possibilities to keep improving this theory in the economic field. An analysis of Van Deun et al. (2018) pointed out that most research focus on the implementation of one particular type of nudge: information disclosure. While this, admittedly, is a fairly easy and perhaps also cost-efficient type of intervention, their scoping review revealed that there is still much potential

for expanding the application of nudges beyond this through the use of other type of nudges. For this reason, nudging still seems underexploited and its full potential is not yet reached.

2.3 The Choice Architect and the Nudged people

Given the biases and the nudges, the next question that probably pops up in the reader mind should be: “which are the characteristics of a good choice architect?” And “how should he behave in order to let nudged people following his suggestions?” In order to answer these questions we have to step back to the differentiation between Humans and Econs or Homer Simpson and Mr.Spock as we mentioned them in the introduction.

In doing this we rely once more on Kahneman and Tversky dual process theory that illustrate the contrast between System 1, characterized by instinct, and System 2, characterized by logic. The former reflects the decision-making process that Humans use more often, while the second reflect a step forward that the human mind does in order to take smart and consistent decisions. In other words, this is the situation when human become perfect economic agents, or for the lack of convenience Econs. Humans are affected by all the biases, that we just explained in the previous chapter, Econs instead, are a utopian race that always think rationally and pay attention to avoid them.

Policies are written by the authorities (Econs) taking in consideration all the economic scenarios based on the assumption that the economic agents (other Econs)

are going to behave as the economical theory suggest, but the choice architect should keep in mind that most of those economic agents are just humans, so these people lack the ability to process all of the complex and multiple information, selecting what to pay attention to, and what to respond to. A crucial aspect of Nudge theory is recognizing that Econs do not really exist in terms of broad societal behavior. Departing from this consideration, the best choice is to revert the policy-making assumption and trying to direct people toward the policy objective, designing a smoother path for who decides to go through it, changing the environment in order to let people modeling their decision around it. The cognitive shortcuts that our mind put in action when we face a choice, influence our behavior as well as our cognitive pathways, social norms and moral convictions, so the policy maker should work in accordance with how people actually behave, suiting the intervention for Humans. When we accept this, we begin to see why and how Nudging is a viable and necessary methodology into flip the policy maker perspective.

“Policy makers need a new rule of thumb that sees citizens not as homo economicus but rather as homo sapiens, as Humans rather than Econs”⁷.

⁷ Thaler and Sunstein, 2008, p. 7

In this sense the relationship between the choice architect and the governed population is extremely important. It definitely should be based on trust, good reputation and credibility. Hence government's leaders should work on their reputation first, giving good example to people and being the first that behave keeping in mind the collectivity beyond the individual, pursuing positive and social helpful outcome. This certainly would have a good effect on the policy that they will implement in the future, because people are more inclined to be nudged and be cooperative with someone who like and feel close to themselves. The leader of the party is the figurehead of the government, thus he plays the same role of the endorsees in an advertisement campaign, priming the people and affecting how they feel the authority.

Nevertheless, to be in line with the expectations, traditionally leaders should behave ethically and transparently, virtues that politicians often find themselves bypassing. In fact, when we think about how governments' leaders are seen today, most of the times we may feel the opposite is true. Most people distrust them and tag politicians as corrupted and selfish persons (this is probably why populism took a big shot in the last period). For this reason, Nudges are based on indirect strategies, focusing on changing people's environment in order to counteract this tendency. As a consequence, the choice that people face and the way that they'll respond to the new situation will defer from whom is implementing it. Moreover in this way it will

be more likely to change people habits, because it lightens the sense of being obliged from someone and enhance the sense of self-realization.

Above all, Nudged people are potentially able to respond very well towards the policy objective if they are aligned with the Choice Architect, depending on how the nudge is sent and how people perceive the message. If any sort of misunderstanding is avoided and the policy is well-designed, it will be absorbed from the population going towards excellent results.

2.4.1 Relationship in a digital environment

Thanks to the pandemic period that we are experiencing, smart working has become a common alternative to office work, demonstrating how often the physical presence of employees in corporate structures is unnecessary. This has strongly influenced the relationships between colleagues of the same and from different departments of the same company, or even between client and supplier.

Another area that has been heavily modified is the didactic one. In fact, online lessons and distance learning methods have been cleared thanks to the digitalization of procedures of all kinds. Even the government bureaucracy has been strongly digitalized with apps and guided online procedures, speeding up responding times and eliminating many intermediate steps, delivering information directly to who's in charge, opening the borders to a world where physical travel is reduced to the minimum. Since many years, meeting and conferences are attended online, registered or live lessons are available on studying platforms and government centers have been structured in such a way that the citizens do the entire loading data procedure in internet stations.

In these situations the technicians intervene only in case of need, significantly reducing waiting times and increasing their relative productivity. This was possible thanks to the development of software and interfaces that simplify the mechanisms and made these solutions accessible to all the people.

2.4.2 The Digital Environment

In this continuously evolving field, the study of the consequences and of how technological interfaces modify people's behavior plays an increasingly fundamental role in the structure of policies and on the aspects that the policy maker must take into consideration in order to improve collective development, accompanying people towards faster and more intuitive solutions and allowing to reach levels of personalization and savings results that are surprising.

Digital nudging deals precisely with this: the study mentioned above and the implementation of the best techniques and methodologies for the presentation of an interface that is at the service of the users, with helpful recommendations and advice, in a more spread digital choice environment. Although the term "Digital Nudging" was only introduced in 2016, changes in the user interface were adopted much earlier as a stimulus to a change in the behavior of the individual to promote better outputs for the community.

The principle is always the same: change the form of the decision-making context rather than introducing new regulations or bans, which would only increase the burden of the bureaucracy on people, with the inclusion of viable alternatives in favor of the user but in compliant with the objectives and the laws that guide the

society, leading to an improvement in the welfare of both the individual and the community itself.

For these reasons, nothing should be left to chance. Understanding the effects of certain digital environments is extremely important to understand which are the best nudges to implement in between those listed in table 2. In fact, these tools have a very high possibility of being put into practice in a digital scenario, with minimal or almost zero implementation costs, often resulting in huge savings on public spending. Furthermore, they favor the achievement of the settled objectives in a substantial way. In this context, the cognitive biases listed in table 1, would be used in a positive way rather than influencing negatively the choices, as it happens in everyday life, because they are foreseen and deliberately exploited or avoided through the implementation of the most suited Nudge in accordance with the advisable behavior.

2.4.3 Digital Nudging Interventions

If we pause for a moment and think, many situations in digital environments have characteristics that refer to the cognitive biases. In fact, an empty space is usually perceived as something to be filled while a default option as something recommended by industry experts. On an even more intuitive level, usually a tick means Yes, while an X means No, on a chromatic level instead, we associate the green color with something favorable and harmless, that confirms the rightness or consistency of the decision, while the red color puts us in a state of alert with the feeling of having done something wrong or to fix. Furthermore, everything written in capital letters is interpreted by our mind with a sense of greater importance or priority, indicating emphasis or loudness, taking advantage of the visual perception of the reader and attracting his attention even if in reality the information is not fundamental.

On the other hand, very tiny extensive small-print sentences are perceived with less importance and discourage people from deepening their reading due to the length, complexity and cognitive effort that the reading itself requires (i.e. terms and conditions in contracts). Even the presentation of random choices could seem voluntary to people' eyes, leading them to choose the first option rather than the last one, misleading user behavior and distorting the results sought.

These are all errors that profit by the visual perception of the reader and in which users could run into, perhaps pushed to underestimate parts or statements that would favor the predisposition to make a suitable choice regarding a certain topic and focus on others that instead would direct them towards an unprofitable or even detrimental choice for their situation, compromising the comprehension and the understanding of the topic.

Research on digital nudging and the study of the behavioral effect on people are likely to become an essential area of design science research, leading the evolution of interface-design. However not all that glitters is gold, in fact the strength of the digitalization of these procedures is also its Achilles heel.

In a digital context, the user is guided step-by-step, inevitably encountering a conditioning of his freedom of choice due to the interface design, going in contrast with the liberty-preserving principle. Therefore, from an ethical point of view it raises the question whether the adoption of these Nudges is good or bad for the citizens. From this perspective the principles that guide the choice architect and the libertarian paternalism play a fundamental role to justify the use of these tools, but we will deepen this argument later in chapter 4.

NUDGES IN PRACTICE

In general, “*the task of governments is to check that the actions of an individual do not adversely affect the interests of society*” (John Stuart Mill 1806-1873), in some cases by sanctioning or encouraging certain behaviors in opposition to others or by leveraging sometimes on common sense and on moral in others. In other words, the role of governments is to preserve the freedom of their citizens by delineating rights and duties.

More specifically, in the economic field, governments should act as regulators to prevent things like monopolies, lack of information from consumers about goods or services, and the harmful effects of various externalities that can be produced by an under-regulated market (for example, pollution, corruption, unsafe products, and so on). These market failures that benefit certain individuals or companies over others should be avoided in a healthy society.

For this reason, as we said in our initial introduction, given the resulting limitation of freedom, the imposition of laws is not always the best way to act. Therefore, from time to time, the policymaker should take into consideration the level of coercion necessary to achieve the political objective and analyze the degree of feasibility and cost effectiveness to incur in in order to achieve the desired outcome. This helps to uncover the best solution between the use of mandates and

prohibitions, positive or negative incentives, nudges and persuasion or a combination of the three.

To this end, studies and research have been carried out on this subject and have opened a wide scenario of opportunities for governments, stimulating the birth of Nudge Units.

3.1 Nudge Units

In the last decade, the continuous growth of attention and implementation of Nudges pushed governments to form teams of behavioral science experts, tasked to modify the framework and making interventions that would encourage citizens towards desirable behavior without restricting their choices, testing those interventions rapidly and inexpensively in order to implement the strategies that prove most effective. The Nudge Units carry out a support function to governments through the implementation of the behavioral economics notions into practice, informing and providing advice to governments about how to reach the best policy results. It determines which psychological or marketing technique to follow, aims to maximize the responsiveness of the population to these provisions and uses social engineering to improve public services.

3.1.2 Nudge Units Around the World

The pioneers in this field, have been the United Kingdom that established its “Behavioral Insight Team (BIT)” in 2010, with the intent to improve people’s lives and communities. It centralized the government initiatives in a standalone unit that works in partnership with governments, local authorities, businesses and charities to develop and test nudge interventions. In its initial years of life its budget was less than £500 thousands and 7 people were part of the unit. Nevertheless, it realized over £300 million in cost savings for the UK government. At the end of the team’s second year of operation, it had saved to the government up to 22 times the cost of the team⁸. Now the BIT is a “global social purpose company” with offices all around the world, accounting for more than 200 people being part of the staff. One of its academic affiliates is Professor Richard Thaler (one of the authors of the book “Nudge: improving decision about health, wealth and happiness”), that cooperated with the agency from the beginning of the project.

These shocking results piqued the curiosity of lots of other governments. A few years later, in 2012 the USA, under the Obama administration, asked to Cass Sustain (the co-author of the book), to become the administrator of the Office of

⁸ Data from: https://apolitical.co/en/solution_article/these-10-governments-are-leading-the-world-in-behavioural-science

Information and Regulatory Affairs (OIRA). This was the first step towards the creation of a USA Nudge Unit. In fact, he started to implement the Nudge theory in most of his interventions. Due to his success, in 2014 the USA government officially formed the “Social and Behavioral Science Team (SBST)” headed by Maya Shankar, with the aim to innovate and improve the efficiency of the public services, following the footsteps of the BIT performance.

Nevertheless, the team was dismantled in 2017, the very next day that Donald Trump settled in the White House.

Thanks to their strong relationship with the United Kingdom and their participation to the Commonwealth, the other earlier followers had been Canada and Australia. The latter made its first steps towards the creation of its own Nudge Unit in 2012, when the Australian state of New South Wales created its own team of behavioral scientists. The spread within the country was facilitated by the movement of people in between the country’ states (e.g. Chris Eccles moved from the Secretariat of the department of Premier and cabinet of the New South Wales to the state of Victoria’s same position where he suggested to create a Nudge Unit). Hence in 2016, in light of the results from its single states’ behavioral insight team, the Australian government established its own Board with the clear vision to improve the lives of Australians. It was named the “Behavioral Economics Team of the Australian

Government (BETA)”, and it delivered over \$25 million per year in direct benefits to the government.

Canada rather preferred to rely on a registered non-profit think-tank called “The Decision Lab” over a formal government agency. Though its single province followed different strategies (for example in 2013 the state of Ontario launched its first nudge unit called the Ontario Behavioral insight Unit OBIU).

In Europe the first was Germany, which followed the Canadian example in 2014, establishing a private non-profit think-tank. The European Union as a whole, launched its “EU Policy Lab” in 2016, with the declared intent to create a multidisciplinary space to openly explore and review policy issues and experiment and test behavioral insights in the designing policy field. Part of this project is the “Joint Research Centre,” a dedicated Nudge Unit that supports the “European Commission’s in-house science and knowledge management service”. Moreover, the EU created “The European Nudge Network” (TEN): an organization of companies which aim to establish a network of researchers, practitioners, stakeholders and policy-makers interested in developing and applying insights from behavioral economics. Many single states adhered to it: Sweden (with the “Swedish Nudging Network”), the Netherlands (with the “Behavioral Insights Network Netherlands”) and even Denmark (with the “Danish Nudging Network”). Many

other countries still lack behind but are starting projects that follow these major examples as Italy (NudgeItalia) and Greece (Nudge Unit Greece).

In these states, governments encourage public servants to apply behavioral science in the entire policymaking process, also addressing to private nudging consultancy agencies in the territory (f.i. the Danish “iNudgeyou”, the German “Behavia” or the French “BVA”).

Other international bodies that are also tapping the behavioral and experimental approaches to policies are the World Bank, the United Nations Development Programme, the Organisation for Economic Co-operation and Development, and the World Economic Forum. These institutions are actively supporting the spread of the use of behaviorally-inspired approaches into Central and Latin America, Central and Eastern Europe, Africa, and South Asia through direct investments, trials, summits, and publications⁹.

However, the main aspect that unites all these entities is the strong relation, support and collaboration among teams from different countries and within academia. By sharing the information it creates an articulated web of connections.

⁹ Manning, Lauren; Dalton, Abigail Goodnow; Afif, Zeina; Vakos, Renos; Naru, Faisal. 2020. Behavioral Science Around the World Volume II: Profiles of 17 International Organizations (English). eMBeD report. Washington, D.C.: World Bank Group

3.2 Where and When Nudges Fail or Work

The knowledge developed through the use of behavioral economics, research and experiments carried out by the different Nudge Units, allows us to assess when the use of nudges can replace common bureaucratic practice. Various studies have been carried out in recent years and it has been verified that on certain occasions a pure nudge can completely replace legislation with better result.

Incentives are designed to encourage a behavior or a choice over another. Therefore, they are a good strategy if the disadvantaged choice was capable to harm individual citizens or the society as a whole, or if the new behavior clearly improves individual benefits for citizens or the well-being for the total population.

This is certainly the case of the ecological field and new energy distribution. Here the state provides funds to companies to ensure them the same profit of using other more polluting materials or processes, letting them be at the same level of their competitors in the market, despite the higher fixed costs due to the use of methodologies and commodities designed to reduce their environmental impact. They are preferred over nudges if citizens lack relevant information and if it's too difficult or expensive to provide it to them.

Nevertheless, an excellent result can be obtained through the use of nudges when people's behaviors are guided by morality or by the common social norm since they are influenced by the choices of the other components of society.

A clear example is how the separate waste collection has been introduced in Italy. In fact it is now common sense to divide plastic, metals, glass, paper and wet waste from the other types of waste and it is regulated by law. Nevertheless, in 1997 when the separate waste collection was at its beginning the government leveraged on the morality of citizen leaving it optional and letting to the people the decision to comply or not with that behavior, only providing the bins necessary to the citizens that were willing to act in accordance with it. As time passed, citizens became interested in the cause, transforming the minority of those who recycle into an ever larger group of people. What was previously considered just a good behavior to adopt became a habit that everyone should follow. In 1997 just the 9% of the Italian families complied but that number has grown to more than the 85% of families.

In these cases, the so-called good example is a rather powerful tool that can convey the achievement of the political objectives set. The heuristic behind it, is the same explained about the “following the heard bias”: if the majority of people behave in a certain way, governments can reasonably hope that more people will follow and achieve their goal. Often this technique can be used even when there is not a real majority that observes that particular behavior in the population, by the use of well-

known personalities, acting as testimonials. This is a really good incentive to spread the use of a certain product instead of another or have a certain attitude towards certain situations rather than others, leveraging on the fact that those people who respect or feel a sense of closeness or adulation to the character in question will emulate his choices.

Similarly, in the news or in conferences, the order of the topics to be discussed can be studied in a way to give greater prominence to certain issues, influencing the listeners' thoughts. In fact, our minds are usually more focused at the beginning and at the end of an event:

- thanks to the mindfulness and freshness that people have in the first part, our mind assimilates and processes the information in a more focused way;
- on the contrary the central part, that is to say the core part, will have a less significant impact or at least will be misled by what came before and will be overshadowed by fatigue;
- instead, the final part and the conclusions will remain etched in our memory for a longer time period, due to the proximity of the information processed as a sort of anchor to the last stimulus received.

The Media give also the possibility to alleviate a behavior change by slowly approaching it, step-by-step, preparing the ground for what will be the future norm.

It is possible to guide citizens' thinking towards responsible behavior aiming to avoid or facilitate the advent of a certain scenario, priming people to obtain results in line with the policy goals.

Again, this is what happened with the climate change problem. In the last 20 years more and more space of magazines and newspapers has been dedicated to this topic, informing people over time about how pollution has reached unsustainable levels and the need to adopt behaviors to prevent it from reaching the point of no return. Even if before environmentalism was an action of a few pioneers, many people today are aimed at reducing waste. There has been an increasing number of initiatives put in place in the world such as the recent “Fridays for Future” that have made headlines in recent years.

Instead, when people lack of awareness about a certain topic and a preference doesn't exist at all or is weak, the default rule can be the right nudge to use. In fact, in the absence of technical knowledge, the information signal contained in a default rule will be considered adequate by the citizens and it will have a justified weight in their opinion. This leads to the acceptance of it by a significant part of the population, refusing to focus on it for the simple reason that attention is a limited resource and people tend not to use it if not strictly necessary.

A good example for it is the automatic enrollment of workers in pensions plan, that we will explain more in detail in chapter 3.5

On the other hand, when there is a strong awareness about the topic and the goal is to preserve citizens' freedom of choice, the "active choice" is the right tool to implement. It can be an excellent strategy to adopt when "one size does NOT fit all". In other words, it is useful when there is a marked diversity of needs and preferences between social classes and individual preferences are so personal, implying a very high level of choice customization.

The latter nudge promotes learning, encourages proactivity and competence on the possible future choices, so most of the times, it has a greater impact when used in combination with other nudges. To maximize its results it is usually matched by the nudge of "information disclosure". The problem here is that through this nudge, citizens could be overloaded with notions and concepts, thus they could fall into errors due to confusion and fatigue or because of the cognitive effort (lack of familiarity, professional incompetence). A smarter approach is to combine to it the use of the nudge of simplification, minimizing the alternatives to choose in between, while providing an adequate number of possibilities to satisfy everyone's needs.

Staying in the context of pension funds, it is natural that different levels of income need to join different types of plans, despite this providing only a limited number of plans, with a well-studied risk-benefit ratio in relation with the average spending habits of citizens, would have better savings results than the decision to offer a high number of highly customized alternatives, because of the high amount of

information that must be processed in the financial field, especially if they are not accustomed or familiar with it.

Although indirectly influencing citizens' behavior, all these methods leave full freedom of choice to people, in perfect compliance with the libertarian paternalism principle, but in many situations freedom of choice itself could be the problem.

Many policies aim to help people make better decisions for the community, but companies may not benefit from such interventions and could run promotional campaigns to counteract governments' policy goals. In these cases, it can be more beneficial to rely on coercive control methods rather than nudges. In fact, a direct method like setting boundaries and imposing new rules or incentives may be the best choice to take in order to guarantee a greater impact of the policy on the society, given that the introduction of rules has the aim to protect the community from the negative behavior of individuals.

For example, when individuals are prohibited from doing something that previously created a profit for companies (but it was to the detriment of customers), it is better to use rules and bans rather than nudges, in order to prevent private entities from letting appear something superfluous much more attractive and necessary through the use of counter-nudges, sidetracking the desired effect of the initial policy. To this end, they could grant additional privileges (unnecessary for most people), using framing methods, changing the context on the presentation of a product, service or

event, to the only extent of maintaining that profit or to achieve individual goals. In this regard, third parties are the real concern and reference can be made to what happened in the United States between 2009 and 2010. In this period, a study of the data revealed that the poorest bank customers paid over the 90% of all overdraft fees. The Financial regulators sought to protect the most vulnerable citizens by requiring their financial institutions to change the default rule, when opening a new account, referred to the adherence to the aforementioned overdraft services on occasional ATM and debit card transactions, from opt-out to opt-in, in order to activate a deliberate choice of the customer and avoid the incurrence of the mindlessness bias in them. But this measure proved to be absolutely ineffective because financial institutions put in place a sponsorship campaign of these services by convincing customers to opt-in anyway, by changing the way in which they were presented and promoting their usefulness (even if dubitable) in an aggressive way. For these reasons policy makers should keep in mind that both market and individual incentives should be aligned with their political objectives before preferring a nudge to another form of regulation.

However, in other situations incentives could lead to unbearable costs and regulation, through taxes and penalties. Those can be perceived as excessively restrictive and intrusive, or as a "license" to engage in improper behaviors. Thus, the best strategy is always to find the right balance between these different political

tools, integrating the bureaucratic part with the use of nudges. Nudges could so be seen as an added value, a surplus that in most cases strengthen the chosen strategies by working in harmony with regulation, incentive and persuasion, achieving the objectives set by the governments in a shorter period of time, and ensuring that their effect lasts over time. Through a correct use of the choice architecture is possible to reach a higher level of compliance of citizens' behavior with the objectives pointed out from the government policies, and transform these objectives into habit, rather than let them vanish into thin air after the focus is shifted.

3.3 How to Evaluate a Nudge

Evaluating the effectiveness of a Nudge has a primary importance. The BIT, in its report "Test, Learn, Adapt: Developing Public Policy with Randomized Control Trials" of 2012 exposed 9 points that define how to test political interventions with a randomized control study:

TEST

1. Identify two or more policy interventions to compare (e.g. old vs. new policy, different variations of a policy).
2. Determine the outcome that the policy is intended to influence and how it will be measured in the trial.
3. Decide on the randomization unit: whether to randomize to intervention and control groups at the level of individuals, institutions (e.g. schools), or geographical areas (e.g. local authorities).
4. Determine how many units (people, institutions, or areas) are required for robust results.
5. Assign each unit to one of the policy interventions, using a robust randomization method.
6. Introduce the policy interventions to the assigned groups.

LEARN

7. Measure the results and determine the impact of the policy interventions.

ADAPT

8. Adapt your policy intervention to reflect your findings.
9. Return to step 1 to continually improve your understanding of what works.

Source: Test, Learn, Adapt: Developing Public Policy with Randomized Control Trials" (2012)

The first six steps concern how to test Nudge interventions and underline the importance of choosing Multi-Arm Trials Over Single-Arm Trials. This is because it is crucial to compare the effects of our policy with control groups or even understand whether other possible variants of the intervention are to be preferred or not. Furthermore, point 2 describes how important is to unfold the intervention in an easy and simple way to be well received by the population, basing it on traceable implications, to leave measurable evidence and ensure that there are no external factors affecting the environment, which could compromise (positively or negatively) the effects of nudges. Another fundamental aspect (touched by points 3 and 4), is to carefully consider the reach and penetration of the trials. These two measurement units evaluate how many times an intervention reaches the audience (how many times it is exposed to the nudge) and what is the extent of the response received (in terms of people reached), giving the possibility to understand if the

citizens have absorbed and assimilated the intervention sent (consciously or unconsciously). As a consequence of the study of this analysis the choice architect will have the opportunity to make the necessary changes to the intervention to better adapt it to the habits of the population.

The objective is always to stimulate a conversion in the habits of the population. That is to say, making sure that people do not just comply with the government's principles of the policy (feeling obliged by it and not causing the lasting cultural change desired), but that they share and voluntarily adapt their behavior to it.

Finally, since behavioral economics and the use of nudges in government policies are only in their first stages, it is extremely important to publish research and experiments that have had negative results in order to not run into a publication bias as demonstrated by the study of Gurevitch et al. conducted in 2018 and the one of Dennis Hummel and Alexander Maedchea published in 2019¹⁰.

Point 9 emphasizes how by studying each nudge is possible to obtain information that could increase the efficiency of future nudges. For this reason, it is a good idea to keep a database of what has been done and share it with other entities, building a network of connections between different government bodies and private agencies to avoid the repetition of mistakes, already done and verified by others in the past.

¹⁰ "How Effective Is Nudging? A Quantitative Review on the Effect Sizes and Limits of Empirical Nudging Studies", to appear in: *Journal of Behavioral and Experimental Economics*, commissioned by the Institute of Information Systems and Marketing (IISM), Karlsruhe Institute of Technology (KIT)

3.4 Process and Methodology to implement a Nudge

The first step towards the creation of the Nudge Units and the implementation of its techniques, was taken in 2009 by the British government. Before that date, some of the Behavioral Insights Team future members (working at the Institute for Government), were commissioned to edit a research on the use of the discoveries and techniques from behavioral economics in the politic field.

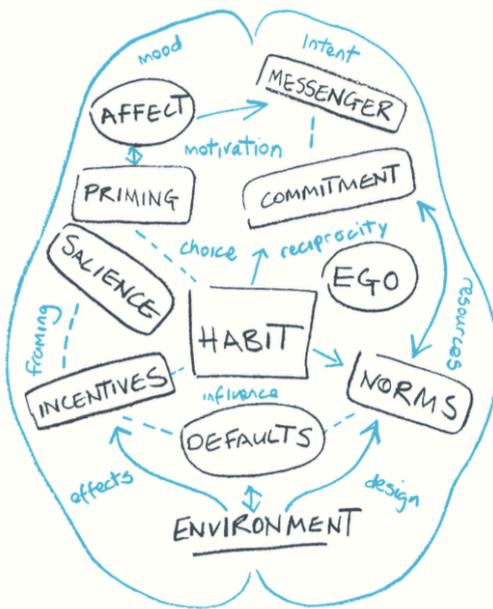


Figure 4, source: the Mindspace Framework

A report entitled "the Mindspace framework" was thus drawn up, describing the improvements that nudges could bring if applied in the real economy. Its stated goal was "to ensure policy-makers take account of the most robust effects on our behavior, demonstrating how behavioral theory can help meet current policy challenges and showing

how government can build behavioral theory into its current policy-making

practices"¹¹. With this in mind, they listed the nine most robust (non-coercive) influences on people behavior:

Messenger	We are heavily influenced by who communicates information
Incentives	Our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses
Norms	We are strongly influenced by what others do
Defaults	We “go with the flow” of pre-set options
Saliency	Our attention is drawn to what is novel and seems relevant to us
Priming	Our acts are often influenced by sub-conscious cues
Affect	Our emotional associations can powerfully shape our actions
Commitments	We seek to be consistent with our public promises, and reciprocate acts
Ego	We act in ways that make us feel better about ourselves

Excerpt from “MindSpace: influencing behavior through public policy”

Once these 9 nudges (already explained in detail in the previous chapter) were identified as the most useful and effective in changing policy-making, they tried to build a scientific method to recognize how and where to use them in the market bottlenecks. In other words, they outlined the guidelines that the government should follow in order to achieve its political goals, building up a complementary (or even alternative) strategy capable to achieve better results than the conventional legislation in the developed context.

¹¹ <https://www.instituteforgovernment.org.uk/aboutus>

3.4.1 Outline of the Nudge Development Process

At this point the real question is: how can these tools be applied to the real world? In order to answer this question, we will use the work done in 2008 by DEFRA (Department for Environment, Food and Rural Affairs of UK) in building the method by which the Mindspace framework (acronym of the 9 most robust nudges Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitment and Ego) identifies the barriers and bottlenecks in the policy areas and outlines the process to follow to obtain changes in behavior.

It unfolds in 4 different steps: Enable, Encourage, Engage and Exemplify. The Mindspace framework instead, adds 2 further supportive actions: Explore and Evaluate, respectively before and at the end of the process. These 6Es provide the way to answer the initial question.

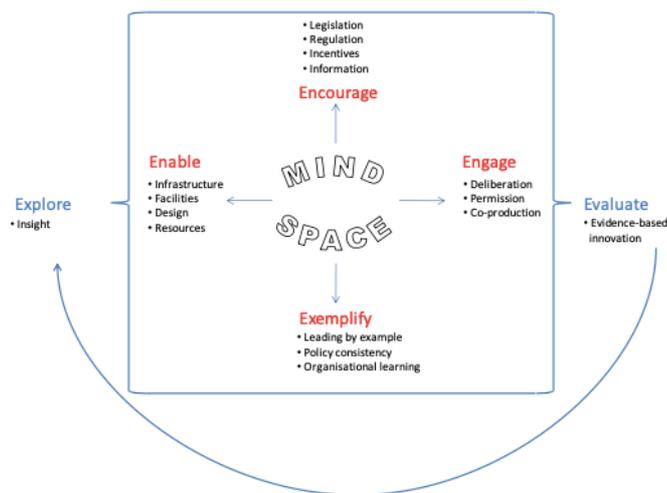


Figure 5 Source: Mindspace Framework

Let's give a look to each of these steps one by one:

1- First of all, the policy maker must EXPLORE the habits and the alternatives of whoever is trying to change the behavior. Unfortunately, not all the people respond to stimuli in the same way, so, at this point it will have to divide the population into different segments in order to audit the decision-making process of the population. This analysis concerns the identification of the best influence to implement and the study of the effects that the various nudges would lead to.

2- Secondly, the government has to ENABLE the possibility of making the change required to the population. Through an in-depth study of the existing environment, it has to recognize the obstacles that the citizens will face (practical and structural).

3- At this point the behavior of citizens has to be ENCOURAGED by improving the aspects of the existing environment, reassessing or removing some rules, in contrast with the objectives pursued, in order to incentivize citizens to shift towards the change.

4- Consequently the policy maker has to ENGAGE the public, understanding what actions are acceptable for them and introducing new elements in tune with the policy, gaining approval through it.

5- The next step is to EXEMPLIFY the desired change. That is to say that the government has to practice what it preached. The high personalities of the state

must give the so-called good example, otherwise they would be inconsistent and hypocritical to the eyes of the citizens, preaching good and scratching badly.

6- The last, and more important step, is to EVALUATE what affects positively and negatively the behavior of citizens, prioritize nudges, test for effectiveness and assess the operational costs. Every trial gives a result that can be useful for future trials. It's worth considering the possibility of creating an independent body specifically in charge to evaluate the behavior change. This last point has been already described and stressed in chapter 3.3 but it is valuable to emphasize it.

Lets see now three situations where nudges were implemented and their consequent results.

3.5 Future perspective (Pension plans)

In a world where the life expectancy rate is continuously growing and the birth rate is declining, as the one where we are living in, saving for retirement is a crucial problem. In fact, many governments provide pension plans in order to ensure that people have enough money for older ages. A direct consequence of what just stated is that the number of workers is decreasing in comparison to the number of people who retires. But the most common social security systems are structured in the manner that people who work now pay for the pensions of actual retired people. Hence contributions and taxes aren't enough anymore to let this mechanism work, so governments have to incentivize the adoption of saving behaviors in order to overtake the pensions payment problem (otherwise they'll have to increase taxes).

Many experiments of nudge intervention were implemented to convince people to think about the future and start saving in the early stages of their lives. This should be done from the very beginning of their career, when they are just starting to work, in order to be prepared for the further stage of their lives when they'll be older and weaker and work will become harder and harder year after year.

Despite these recommendations, when people are young and start a job, they see the elderly ages so far away in time from them (see table 1, chapter 2.2) and usually don't even think to enroll in saving programs. In the meantime years pass by and

that thought starts to introduce in their minds with the incoming of older ages and physical problems. The solution suggested by Thaler and Sustain in their book is to revert this behavior switching the default rule (see table 2, chapter 2.2), regarding the American system of saving programs enrollment, from opt in to opt out, relying in this way on the effect that the status quo bias would lead people.

The results are evident in a study conducted by Mandrian and Shea in 2001: under the opt-out default option just the 20% of employees were enrolled in a saving plan and after thirty-six months of work it gradually increased up until 65% of them. Instead, after the default rule was shifted to opt-in, the enrollment of new employees jumped to 90% and increased up until 98% by the same period range.

Moreover, to ease the burden of income reduction in the primary stages of work, another research conducted by Thaler and Benartzi studied an alternative method to collect money for retirement called “Save More Tomorrow”. In fact, in the first months of a career the paycheck is at the minimum and it could be difficult for people to renounce to a part of it. This nudge consists in a commitment to incremental savings percentages, that employees have to make in advance, timed to coincide with pay rises. The principle on which it is based upon is that people don’t see their paycheck going down whereas increment their savings.

In another test conducted within the military personnel by the SBST (Social and Behavioral Sciences Team) and the U.S. Department of Defense (DOD), made in order to increase their amount of savings, the 806,861 members of military service

who didn't take part to the federal government contribution retirement plan were offered towards different messages to enroll themselves in it. The differentiation of the content of the messages helped to study the impact of alternative strategies on the military's behavior, to maximize people participation. Part of them were not nudged, left to the business-as-usual method, considered as a control group to compare the experiment's results. The control group had a 1.1% savings-plan enrollment rate over the month following the messaging campaign, while the groups who received e-mails had enrollment rates ranging from 1.6% to 2.1%.

The messaging campaign costed around \$5,000. The results were 5,200 more people participating in the federal government contribution retirement plan, which corresponds to an increase for an amount of \$1,3 millions of savings just in the first month after the test. In accordance with it, another study commissioned by the Singaporean government, had significant different results just switching the way that they were referring to its pension fund. Switching its name from "CPF - insurance scheme" to "CPF - lifelong income for elderly" (CPF-LIFE), they recorded a significant increase participation in the saving plan, just because people were matching the word insurance to death, not understanding that the aim of the fund was to provide income during their life, as the latter name better suggests.

These are just a few examples to facilitate to understand how words really matter and can make the difference in different scenarios.

3.6 Covid-19 Distress

Nudging has been hugely implemented as a complement to standard policy instruments in the battle against the Covid-19 pandemic. Most of the governments in the world are actuating prevention campaigns influencing citizens behavior through the use of behavioral economics. This limits overreaction and irrational behaviors of people, finalized to regain the control of the situation (e.g. stockpiling: buying large amounts of supplies in fear of potential future shortage)¹². In periods of great uncertainty and unpredictability (like this that we are living in) or when a catastrophe is close (as it could be when in the USA a hurricane is announced), limited knowledge and strong emotions can easily lead citizens to fearful attitudes and a flawed assessment of risk. This sentiment of lack of control could lead them to stronger emotional and behavioral reactions in response to threats¹³. To avoid this scenario governments increase the level of conferences and messages sent to the citizens, improving communication and informing people day by day, paying attention to be as clear as possible.

As it regard this pandemic situation, the focus has been on the fundamental guidelines that must be followed to avoid contagion. That is, washing hands in the best way (explained and shown several times by various leading exponents) and as

¹² Yoon, Narasimhan, and Kim (2018)

¹³ Hogg and Mullin 1999; Van den Bos 2001

frequently as possible, the use of the mask (not just indoors but even outdoors if necessary) and social distancing, in order to avoid direct contacts and keep a distance of at least one meter from each other.

Some governments, like the British one, have even printed a logo and affixed it on the podium of all press conferences, to enhance their importance and imprint it in citizens' minds. Other governments started hashtags on social media or evoked images that prompt hopeful sentiments using the graphic technique in order to relieve the pressure and anxiety that the lockdown caused to people, trying to keep them calm in a quiet environment.



At the top the British logo, on the bottom left an Italian hashtag and on the bottom right the U.S. campaign

Figure 6

However, all governments, indiscriminately from political orientation, have promoted these beliefs through the use of Public Service Announcements (PSAs). PSAs are a type of advertising campaigns conducted by governmental agencies, used to address public issues. The aim is to prime people behavior towards certain actions, seeking to raise in the public awareness, informing and educating them in order to keep under control their perceived threat.

The majority of public health-oriented commercials appeal to people's emotional state, implementing in this way the sensorial and affection nudge (see table 2).

Some may argue that the most impactful emotions are fear and humor¹⁴, we can unsurprisingly note how these two moods respectively distinguished the Spanish and German advertisement campaigns:

The former pursued the goal by trying to frighten people into engaging in certain behaviors by leveraging to the fact that each of us knows at least a vulnerable person who is a key worker, that helps keep the country running, or is either elderly or immunosuppressed. A study conducted by DA Small and G Loewenstein¹⁵, has shown that people are more inclined to follow rules against Covid-19 when they think about the consequences that one their single wrong action could provoke to one of their close relatives. Once that person is identified among their loved ones,

¹⁴ Turner (2011)

¹⁵ Helping a victim or helping the victim: Altruism and identifiability, (2003)

after a self-assessment, people turned out to abide more to the rules than when it came to speak about unidentifiable people.

On the other hand, Germany tried to use humor to keep people in their homes and reducing travel to the minimum. They compared watching tv on the sofa to the war front in order to ease the coercion degree given by the lockdown situation and appealing to the patriotism of one's own citizens.

Fear is known to be the most powerful motivator, so many different states followed this strategy but in different ways. For example, Italy and France focused on the speed at which the contagion spreads highlighting the domino-effect that the disease provokes.

The preference of a strategy over another is connected to the degree at which the pandemic affected the country that we take under consideration and the level of threat that the government wants to let the public experience. In fact, Spain, Italy and France found themselves in situations with much worse statistics than Germany, so they emphasized the perceived threat on the population.

Conversely, a research conducted by Jungkeun Kim et al.¹⁶, underlined how showing additional comparative information (i.e., car accidents or flu information)

¹⁶ Jungkeun Kim , Marilyn Giroux , Hector Gonzalez-Jimenez , Seongsoo Jang , Seongseop (Sam) Kim , Jooyoung Park , Jae-Eun Kim , Jacob C. Lee & Yung Kyun Choi: Nudging to Reduce the Perceived Threat of Coronavirus and Stockpiling Intention (2020)

would have been a great method to reduce that perceived threat. This is in accordance with the principle of anchoring and adjustments, because it would have given to people information on a known topic in order to give them the possibility to compare the two and evaluate something new, as the pandemic is. This strategy has been strongly avoided by governments because wherever the pandemic hit, the situation has not reached the point at which governments are able to significantly lose the restrictions on the population yet, therefore they are not still interested in decreasing the level of threat.

Another method to nudge people to stay at home, used by the Indian government, was to list the possible alternative activities to undertake at home and emphasize the usefulness of personal care. Hence, they started to increase the focus on what they called AYUSH, that is the acronym of the traditional medicinal practices: Ayurvedic, Yoga and Naturopathy, Unani, Siddha and Homeopathy. Thus, the Indian government began to emphasize the benefits of these techniques to relieve emotional stress. In the meantime they began to repeatedly broadcast popular shows from the 80s and 90s on national TV, trying to leverage the use of nostalgia as a deterrent to leave home. Hashtags like #StayHomeIndiaWithBooks were created, and popular best-selling books were released for free online. This strategy, in addition to the strong nationalistic spirit requested to the population, convinced 1,3 billion of Indians to abide to the restrictions.

The implementation of nudges in the Public Service Announcements has in this way helped governments to limit the so called "behavioral fatigue", otherwise known as the fatigue derived from so many restrictions put in place at the same time to fight the Covid-19 pandemic. Moreover, it disseminated in a quick and efficient way information about the seriousness of the problem, increasing public awareness, and the spread of possible solutions that could help to avoid or at least try to contain the spread of the Covid-19 virus.

3.7 Healthy food

One of the few reasons why it was possible and essential to get out of home under lockdown restrictions, was to procure food.

Nowadays, our diet is corrupted by the consumption of junk food. This is due to the increasingly widespread birth of fast-foods and take-away restaurants that cut off waiting times and lead people to choose a quick, fast and low-cost meal, rather than choosing to eat something healthier or even homemade cooked, which would require time, effort and often to spend more moneys. Moreover, the deep progress in the packaging layout of the products and the constant bombardment that our mind receives from advertising, engineered in order to attract our attention, stimulate our automatic system and lead us to consume more snacks.

These elements induce people to eat more than they need, not just to dampen the sense of hunger, but exclusively for the pleasure of doing it.

The biases that distinguish these behaviors are mostly to be found in the hyperbolic discounting (see table 2, chapter 2.2) and availability principles (see table 2, chapter 2.2). In fact, the ready availability of food gives to people the idea of saving time. The simplicity in finding fast-food shops (which abound especially in urban and low-income areas) primes people towards the easy choice, while the healthier markets and green groceries are increasingly more difficult to find and less frequented.

All these behaviors are at the expense of our health and in some countries the problem of obesity (both in childhood and in mature people) has become a problem that must be tackled at the governmental level, due to the implications and costs that it entails for public and individual health of citizens, which makes them more prone to get sick from all kinds and types of diseases

The children obesity problem has been taken under serious consideration and many experiments were implemented to the end to nudge them to eat more fruit and vegetables and do more physical exercise. The governments are important carriers of those nudge types, hence different methods have been studied in various countries to increase the consumption of vegetables. For example, an initiative implemented in slightly different ways and names by Japan, Australia, New Zealand, Canada, the United States, the United Kingdom, Germany, France and Norway was called "5 a DAY". This advertising campaign encouraged the consumption of at least 5 fruit and vegetable products per day, following the World Health Organization recommended amount of greenery to conduct a healthy life and avoid diseases (other research after increased it to 10 to DAY).

Another example, to avoid the abuse of junk food, is that all products must display a label that describes the ingredients and the calorie level contained in them ("nutrition panel"). This good practice, which is often regulated by laws, when combined with the nudge of information disclosure, can lead to excellent results.

A research conducted by Cadario and Chandon revealed that descriptive labelling could decrease daily calories consumption by 54 Kcal (the same as 5 sugar cubes). Moreover contextualizing those information, adding interpretative cues in order to easily understand what is better for our health, such as a smiley face or traffic lights colors, decreased even more the daily calories consumption by 91 Kcal (the same as 9 sugar cubes).

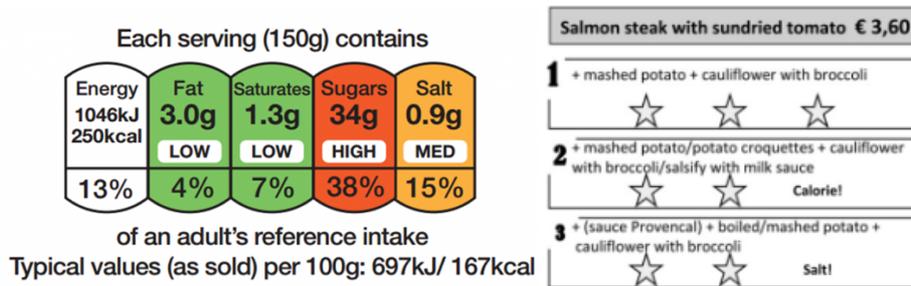


Figure 7 : Source: <https://www.marketingsociety.com/the-gym/nudging-healthy-eating>

When the negative effects of certain products are highlighted and massively exposed to the population, their consumption drastically drops down.

From this study it was clear that it is much easier to convince people to avoid unhealthy food rather than induce them to eat healthier. This is because people were more focused to avoid food labelled with the red color or rated with just one star, instead of searching what was considered the best choice.

Moreover, let the people know what they are affected from, highlighting it by the use of signs that alert the people that they are being nudged, as “we help you make

the healthy choice”, avoids the creation of a sense of manipulation that is ethically unfair and government should keep the distance from. Actually this type of approach would improve governments image and reputation, leveraging on the fact that people would be glad to find out that they are trying to help citizens to reach a better lifestyle.

However, all these studies and experiments arouse a huge question in policy-maker disputes: is it fair to indirectly influence people with the implementation of Nudes? This is the matter that we are going to debate in the next section.

THE ETHICAL PROBLEM

The Nudge theory, as exhaustively described in previous chapters, is a powerful tool in the hands of governments for the achievement of medium to long term goals. It could have a strong impact on the lifestyle of entire communities. Despite this, like any political tool, it must be used in an appropriate way, taking into account the consequences that certain choices entail and what it replaces. This can be done by evaluating the data and making a priori detailed analysis of the possible consequent scenarios. This tool, in the hands of a responsible choice architect, that chases the entire community welfare growth, could lead to astounding results. Otherwise, in the hands of private entities that seek personal enrichment, it can lead to even greater benefits for the individual to the detriment of the community.

For this reason, the philosophy behind this theory should follow the libertarian paternalism principle, as already described in chapter 2.1, which ensures the freedom of choice and protect the free will of citizens, trying to guide them towards the solution deemed the best in the collective context. The Nudge Theory was designed to help society, not to enrich those who are already powerful and rich. Hence, I am going to list and explain the most common criticisms related to the Nudge Theory.

4.1 Is Nudging harmful for freedom or a good tool in order to improve people lives?

This ethical aspect has a huge importance in the choice to use or not the aforementioned instrument for political purposes. There is a strong dispute about whether freedom is actually preserved or subjected to the use of deceptions and manipulations of reality. The major critical aspect regards the fact that the success of democracy comes from the extent to which citizens are able to reach a personal opinion through an informed judgment of the factual situation.

In response, Cass Sustain, as the major supporter of the theory of which he is the proponent, considers the introduction of solicitations in political spheres admissible, or even absolutely legitimate as long as they do not override people's actions. The sole purpose is to advise and show what is considered the most suitable alternative to achieve the common objectives, without compromising freedom of choice. This point of view finds its roots in John Stuart Mill (1806-1873) utilitarianism. According to this theory, in order to maximize the happiness of a society it's necessary to align the interests of the single individuals to those of the group, ensuring that one's freedom does not affect that of others.

The key point lies in the distinction between influence and manipulation. Sunstein, in most of his writings, argues that manipulation is related to the human compulsion

to comply with the promulgation and application of legal edicts, while the influence, which through the use of behavioral science includes Nudging, has the effect to push people towards the desired effects leaving to them the freedom to take a different choice. Hence, this interpretation does not compromise the liberty-preserving principle.

4.2 Is Nudging in contrast with the democratic principles?

At this point the crucial aspect on which the dispute is based is precisely freedom, more specifically that type of freedom related to the concept of justice firmly defended by a democratic government.

In this type of societal context the population should be informed and be in the first line in order to control and review not only the choices made by the government but also the methods used by it. Population should be vigilant on the government operation instead of being pushed to be cooperative.

To this intent, Sustain advocate transparency and visibility as the main principles at the base of Nudge interventions and that should underlie the choice architect decisions, ensuring to the citizens that the policies methods and purposes are used to favor the society. This approach should guarantee the absence of deceptions and keep distant any suspicions of corruption by disclosing the data to the public.

On the contrary, the growing government surveillance of citizens given by the growing amount of criminal and civil laws introduction and the enforcement applied by institutional bodies as police, prosecutors, courts and prisons, with the aim to ensure that they are respected and shared by society, has gradually eroded individual freedoms.

Therefore, where possible, the use of nudge is considered the method to ensure that certain rules are respected by relying on shared principles, outlined on moral restrictions and common behaviors that have become part of people habits.

In this way, Nudging could alleviate the perception of intrusiveness of governments in citizens lives, due to a nanny state that feeds the feeling that the government is making choices for them, which could lead to a lack of public consensus, thus preserving the democratic system (Chriss 2015).

4.3 Is Nudging in accordance with the economic system?

In this regard, the main problem relates to the predilection that the economic system has towards the concept of efficiency. In the economic field, the primary goal is to produce the greatest amount of goods through the use of the least amount of raw materials.

This approach, greatly facilitated by technological progress and the birth of social networks in between the last 20 years, led to a commodification of personal information for commercial and administrative purposes, erasing the traditional boundary between private and public. The control of this data, which is increasingly sought to be safeguarded through new laws to protect users privacy, has given the possibility to those who are aware of the habits, interests and desires of people, to shape their choices as they please. [54] [Agre & Rotenberg, 1998]

From this point of view, the use of nudging is ambiguous as it makes the personal choices of citizens meaningless, since the possibility of designing the judgment of citizens is in the hands of who is shaping the context. This phenomenon is well captured by Foucault's (2008) notion of governmentality, which refers to the way governments try to produce the citizen best-suited to fulfill those governments' policies. As Sugarman (2015) points out, "Neoliberal governmentality does not operate through the domination and oppression of citizens, but rather, by making their subjectivity a target of influence".

The debate is still widely open on this matter and the only answer that Sustain is able to give to this criticism is that the various uses of the Nudge theory cannot be attacked in general, but only on a case-by-case basis. According to him in some cases the benefits given by the use of nudges, far outweigh the disadvantages for the community. For example, this can be the case when people are considered, as a default rule from governments, to be organ donor from their birth, and have to explicitly opt-out from it if in contrast with the rule. It may actually be ethically dubious because they circumvent the conscious choice, but empirically evaluating it, where implemented, it has saved many lives.

Broadly speaking in some cases is inevitable to influence people, and so if governments are already attempting to shape behavior, they should do so as effectively as possible. In addition, we see here that they should also do it as ethically as possible.

CONCLUSIONS

The development of nudge theory is only in its infancy, but despite this, in the last decade it has gained an increasingly significant place in the communication relations between governments and citizens. The insights coming from behavioral economics have in fact changed the way of approaching people and are increasingly used as a method of designing political tools to complement the more traditional methods of regulation in every area of public life. For this reason, nudging was first developed as an ethical concept, useful for achieving social well-being, but over the years it has undergone various changes, emphasizing its positive and negative aspects.

Moreover, although various studies have been conducted over the years and recognized over 100 types of cognitive biases that could lead the human mind errors of perception, in most cases have been studied nudges that attack only five main empirical categories:

1. Representativeness biases (characterized by violation of probabilistic rules in favor of more representative and more available options),
2. Wish biases (characterized by the influence of desire on the decision),
3. Cost biases (characterized by distortion of the value of costs or losses),
4. Framing biases (characterized by the influence of the context on the decision),

5. Anchor biases (characterized by the influence of a reference point on the decision).

A substantial growth in the use of this instrument is therefore still possible, which despite being still in its initial growth phase has already given surprising savings results, as described in chapter 3.1.

However, it must be emphasized that this concentration on these five categories is due to the fact that they delimit the situations in which Nudge leads to the greatest results. A study conducted by Van Deun et al. 2018 analyzed the documents relating to this topic based on the effectiveness of the interventions, arriving at the following conclusions:

- The most significant and effective Nudges are the default rule and the information provision,
- It has been calculated that a third of interventions have insignificant outcomes and that this figure could be misled by a possible publication bias, due to the fact that studies with negative or undetectable outcomes may not have even been published.

Another negative effect to keep in consideration is the so-called “rebound effect”. The effectiveness of nudges in a context, such as the environmental impact, could lead to a reduction of negative externalities, such as pollution, promoting the use of clean energy or low energy consumption, but on the other hand this result could be contrasted by a compensatory behavior of people due to a substantial increase in

the use of those technologies (e.g. low consumption cars could lead people to drive more), thus leading to a paradoxical diminishment or even a worsening of effect of the intervention.

This does not mean that all nudges do not work, but that their effectiveness is linked to the category they belong to and to the context in which it is applied. The varied effectiveness of nudges was demonstrated in Section 3.7 when healthy food nudges were discussed.

The theory of nudge serves to understand people's behavior and sometimes to change it in order to improve their individual conditions and the whole society situation, planning interventions that produce better results than the norm offering free choices to the citizens. To this extent we remark the importance of multi-arm trials that would help to ensure which is the best strategy to implement and get the maximum results. It therefore seems that the next step for nudging will be to evaluate nudge effectiveness, and more importantly to identify the criteria to evaluate it.

This study shows that it is still unclear what makes a nudge effective or ineffective but the web transition of the procedures shift a focus towards an implementation of the studies on Digital Nudging in people lives, due to the fact that it could have an outstanding impact and improve government policies in a drastic way.

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