

Applying behavioural insights to policy-making

Fotini Economou*,**

Abstract

The past few years have brought increased research interest and use of findings derived from behavioural sciences in policy-making. To this end, international organisations and the governments of several countries have created specialised teams. This article aims to present the potential offered by behavioural insights and report examples of behavioural interventions in several areas (such as taxation, savings, protection of depositors, investors and consumers, health, saving energy, education and employment), highlighting, at the same time, the behavioural dimension that exists in all research and policy areas, which should not be ignored. The article provides useful conclusions and suggestions for policy-making in Greece.

Key words: behavioural sciences, behavioural insights, policy-making.

1. Introduction

The important role of psychology in the economy, along with the finding that people are predictably irrational (see Ariely, 2008) in various aspects of their economic and social life, has increased research interest in the use of findings derived from behavioural sciences in policy-making. International experience has indicated that emotions impact the decision-making process, especially in times of significant economic changes. Thus, over the last decade there has been increasing recognition of the usefulness of behavioural findings, focusing on the way people make decisions in practice rather than in theory. These findings contribute to the understanding of human behaviour in order to develop more targeted and effective policies in different areas which complement traditional approaches.

The recent (2017) Nobel Prize award in Economics to Professor Richard Thaler is a practical recognition of the scientific community for his contribution to behavioural economics. According to Thaler (2017), understanding human nature can improve the explanatory power of economic theory and help find solutions to various public policy problems. Indeed, Thaler and Sunstein's (2008) book, titled *Nudge: Improving Decisions on Health, Wealth, and Happiness*, is believed to have inspired the creation of specialised nudge units in public and private organisations all over the world.

The aim of this article is to present the potential offered by the use of behavioural findings in policy-making, to report examples of several interventions and to highlight the behavioural dimension that exists in all research and policy areas, which should not be ignored. The rest of the article is structured as follows: Section 2 presents the theoretical/conceptual framework. Section 3 describes international developments on the use of behavioural findings in policy-making. Section 4 provides examples of policies that have been applied internationally and could, under certain conditions, constitute examples of good practice. Finally, the article provides useful conclusions and suggestions for policy-making in Greece.

2. Conceptual framework

Behavioural sciences combine knowledge and research methods from a number of disciplines (including economics, psychology, sociology, neuroscience) and systematically study human behaviour using observation and experimentation (EC, 2016a).

Empirical research has highlighted that individuals are influenced by the way alternative options and information are presented to them (framing). They are significantly affected by default options, they often make myopic decisions and show inertia due to loss aversion (Ciriolo, 2011). Moreover, although providing information is to the benefit of individuals, information and choice overload may create confusion. For this reason, simple, empirical rules (heuristics) are often used. Even though heuristics may simplify and speed up the decision-making process, they could result in mistakes

* Research Fellow, Centre of Planning and Economic Research (KEPE).

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when individuals make quick decisions. In a broader context of analysis, Simon (Nobel Laureate in Economics, 1978) presented the concept of bounded rationality in the decision-making process in which individuals are able to make satisfactory but not necessarily the best decisions (satisficing) (see Simon, 1979).

Consequently, cognitive and behavioural biases as well as limitations in the decision-making process¹ may cause deviations from rational behaviour that traditional economic theory cannot adequately explain. The gap between theory and practice is bridged by behavioural economics, which applies the principles and findings of psychology to human behaviour in order to explain the economic decision-making process. Moreover, psychologist Daniel Kahneman, the Nobel Prize winner in Economics (2002), uses the term “applied behavioural science” to describe the common research field of psychology and economics (see Shafir, 2013).

A recent European Commission report (EC, 2016a) points to the difference between behavioural insights and nudge. Behavioural insights are the result of research in behavioural sciences in order to better understand human behaviour and decision-making in everyday life. On the other hand, the work of Thaler and Sunstein (2008) highlighted the concept of nudge, which refers to “any aspect of the choice architecture that alters people’s behaviour in a predictable way, without forbidding any options or significantly changing their economic incentives.” Therefore, it is not about orders or prohibitions, but simple/easy interventions that may induce behaviours and decisions without limiting personal freedom.

It is, therefore, clear that behavioural insights do not only focus on the choice architecture. Behavioural insights are wider and serve as input in the policy-making process, supporting a wider range of tools, and can be integrated and used along with traditional interventions (regulations, information requirements, etc.) (EC, 2016a). The use of behavioural insights creates the preconditions, but cannot guarantee the desired policy outcome, while there are cases in which the application of traditional interventions or even no intervention is preferable.

3. International experience

In recent years, the significant contribution of behavioural insights in policy-making has been recognised

by major international organisations. For example, the OECD since 2013 supports public organisations that use behavioural insights in order to improve public policy. At the same time, specialised units or teams such as the Foresight and Behavioural Insights Unit in the European Commission (since 2014), the UN Behavioural Initiative at the United Nations (since 2016) and the Mind, Behavior, and Development Unit at the World Bank (since 2017) have been created. Apart from their own actions, they also contribute to research by reporting international interventions and experiences (see *inter alia*, World Bank, 2015; EC, 2016a; UN, 2016; OECD, 2017).

Moreover, at the national level, several governments have created specialised teams to use the findings of behavioural sciences in policy-making or have explicitly asked national bodies or policy departments to use this knowledge. The United States and the United Kingdom have been pioneers in the use of behavioural insights and their example has been followed by other countries such as Australia, Canada, Denmark, Germany, Israel, the Netherlands, New Zealand, Norway, Singapore, South Africa, Turkey and others (OECD, 2017).

The Behavioural Insights Team, the world’s leading body for the implementation of behavioural sciences, also acting as an internal adviser to policy-makers, was created in the United Kingdom in 2010. Moreover, the Social and Behavioral Sciences Team was created in the US in 2014. Following the publication of Thaler and Sunstein’s aforementioned 2008 book, Professor Sunstein was appointed Administrator of the US Office of Information and Regulatory Affairs by President Barack Obama in 2009, and Professor Thaler became a consultant to the Behavioural Insights Team established by the Government of David Cameron in the United Kingdom in 2010.

Note that according to the recent European Commission report (EC, 2016a), even in cases where no specialised team has been formed in the public administration, the implementation and the results of behavioural insights are evident in most EU countries.

Finally, the contribution of other non-governmental research teams, such as the Behavioral Insights Group at Harvard Kennedy School (since 2013), should also be acknowledged since they focus on improving the decision-making process of both policy-makers and individuals.

1. For a detailed presentation and categorization of the most important behavioural biases, see, among others, Hirschleifer (2001), Camerer and Loewenstein (2004), Montier (2007).

4. Examples of behaviourally-informed policy interventions

Behavioural insights resulting from the examination of the decision-making process and the understanding of the related behavioural biases may provide innovative approaches beyond the traditional interventions and improve policy design and implementation. Here are some successful initiatives that have been implemented in a number of countries in several areas, such as taxation, savings (financial planning), protection of depositors, investors and consumers, health, energy saving, education and employment.

4.1. Taxation

In the area of taxation, there are several examples of interventions aiming primarily at tax compliance and fighting tax evasion. These interventions differ according to the means they use to reach their goal.

Receipt-based tax lotteries

Since the end of 2017, a receipt-based tax lottery scheme has been implemented in Greece by the Independent Authority for Public Revenue (IAPR). The participation is limited to receipts from goods or services bought using cards or other electronic means of payment, to be eligible for winning a prize of 1,000 euros each month for 1,000 lucky winners. In this way, individuals are encouraged to ask for legal receipts and use electronic payment instruments. The use of lotteries has been applied in several European countries with differentiations e.g. Malta (1997), Slovakia (2013), Portugal (2014), Romania (2015), Poland (2015), and their first application dates back to the 1950s in Taiwan (Fookan et al., 2015; EC, 2016a). The initiative is based on the finding that individuals tend to over-weight small probabilities and focus more on the reward than on the probability of winning it. This is useful in cases where it would be very expensive to provide economic incentives to the entire population (e.g. €1 for each receipt) in order to encourage the desired behaviour.

Similarly, with a view to fight the black economy, tax evasion and unfair competition, the Croatian Tax Administration launched a lottery-like competition in which they asked tourists to collect 20 receipts for purchases made in Croatia from 1/8/2015 to 2/10/2015. This initiative aimed to encourage tourists to ask for legal receipts in order to win a trip to Croatia the next year. In addition, the communication of this competition used behavioural messages employing framing (e.g. with the phrase “Every receipt you take is an as-

urance of a more organised society and a more secure future.”) and social norms (e.g. with the phrase “call us at our toll-free number and report the fiscalisation subject who doesn’t respect the rules, in contrast to a large majority of others”) (Croatian Tax Administration, 2015; EC, 2016a).

Behaviourally-informed letters

Recent empirical research focuses on the use of different behavioural messages in the communication with taxpayers in order to increase tax compliance and improve tax debt collection. The effectiveness of tax reminders has been examined via randomised controlled trials (RCTs) in several countries such as Australia (Wenzel, 2005), Denmark (Kleven et al., 2011), Germany (Dwenger et al., 2016), Poland (Heldandez et al., 2017), the United Kingdom (Hallsworth et al., 2014), the USA (Blumenthal, Christian and Slemrod, 2001), etc. These tests are low cost and easily implemented as they are based on data available to tax authorities. Empirical findings from the United Kingdom indicate the effectiveness of this approach. Some of the messages that have been tested either concern social norms (e.g. how many people pay on time), or associate taxes with the gain or loss of public goods. According to Hallsworth et al. (2014), in the first case, the payment of declared tax liabilities increased by 5.1% within 23 days of the delivery of the letter, while in the case of gain or loss framing of public goods, an increase of 1.6% was observed.

Certainly, the effectiveness of behaviourally-informed letters varies not only among different countries but also among taxpayers in the same country and should therefore be considered on a case-by-case basis. Interestingly, there are findings of such an intervention in Poland, according to which the effectiveness of messages depends on the taxpayers’ characteristics (Hernandez et al., 2017). According to the authors, the effect of a particular message varies according to the age, gender, geographic location of the debtor and the amount due. For example, mentioning public goods in the letter improved tax compliance among people aged 20-29, but had a negative impact on tax compliance among people aged 50-64. This result can be interpreted by taking into account the public goods mentioned in the behavioural message of the letter (e.g. kindergartens, schools, roads and security), as younger people are more likely to benefit from them (or some of them) and be motivated to pay their tax debt when they receive a reminder. According to this finding, if the observed variation can be attributed to the choice of the public goods mentioned in the letters, then tax compliance could be strengthened by changing the public goods mentioned so as to appeal

to different demographic groups. In addition, according to the authors, messages regarding public goods are more effective in rural areas, perhaps due to a closer connection with the effect of the relevant government expenditure and the existing relationship with the community.

Apart from individuals, the use of behaviourally-informed letters seem to be effective for companies as well. More specifically, the BIT (2016) examined the effect of alternative letters on companies that recorded tax debts for the first time, considering that this was a good time for an intervention, and that timely feedback could prevent a company from systematically delaying payments. So, along with the standard letter, two additional letters were tested. The former had a behavioural message similar to that sent to individuals, which was based on social norms, i.e. the vast majority of entrepreneurs in this sector pay their taxes on time and most people with a similar debt have already paid it. Of course, this holds for the UK and that is why it is mentioned in the letter. The second letter had educational/informational content about the most common cause of corporate tax debts in the UK, i.e. mistakes in filling in the statements, and provided useful advice. Within two weeks of receipt of the letter, both versions of the new letters resulted in an increase in the proportion of companies that paid their tax obligations. The letter with the educational/informational content was more effective and increased payment rates from 41.4% to 47.5%, while the letter with the behavioural message increased payment rates to 44.7%. Moreover, according to the empirical findings, both new letters were more effective for taxpayers with larger debt.

Simplification of procedures

Simplification of administrative procedures via the creation of pre-populated online tax returns can also improve tax compliance by reducing the burden of the large amount of information and the effort required by taxpayers to comply as well as the cost of tax management. This approach is applied by several European countries (EC, 2016a), such as Austria, France, Hungary, Italy, Spain, and Greece.

An additional intervention was examined by the BIT in the UK (BIT, 2014) in order to improve tax collection rates by making it easier for taxpayers to pay. This was a simple but effective intervention to send letters to taxpayers directing the recipients to the specific form they had to fill in and not simply to the website that contained the form. Although this was only a small change in the content of the letter, which slightly reduced the difficulty for taxpayers, it resulted in increased response rates from 19.2% to 23.4%.

Actions to raise awareness and change taxpayers' behaviour

Another key factor to achieve tax compliance is the development of a sense of fairness, trust and confidence in the effectiveness of the tax system and the public sector in general. To this end, the Austrian Federal Ministry of Finance conducted a pilot program to improve tax compliance using a range of educational activities and tools, for example via educational videos that promote a sense of reciprocity, fairness and transparency, and highlight the way in which taxpayers' money is used. At the same time, tax and customs officers visited schools (as part of an educational program) to explain to students the usefulness of taxes in providing the means to support society. Within the framework of the same initiative, a website was created, specifically designed for young people, providing e-learning tools and messages in order to promote tax compliance (see Elmecker, 2014; EC, 2016a).

In the same spirit, the Tax and Customs Board in Estonia frequently conducts information campaigns to raise awareness and change taxpayers' views so that taxes may be seen not only as a burden, but as a contribution to fund public projects and benefits. There are also other information campaigns that highlight the cost of non-payment of taxes/contributions by taxpayers, for example in the case of undeclared work (EC, 2016a).

In Bulgaria, an information campaign against the illicit cigarette trade was carried out with the co-operation of the government and an independent institute, focusing on the fact that the illicit cigarette trade supports various forms of organised crime (EC, 2016a). This message used affect and framing to indicate the serious impact of the illicit cigarette trade, not only on the economy and health, but also on society in general.

Obviously, in order to measure the effectiveness of the above initiatives, a clear distinction should be made between taxpayers who choose not to comply and taxpayers who are objectively unable to meet the deadlines of their obligations. In the second case, individuals and companies, though willing to pay on time, are unable to do so and discouraged to comply (Arcos Holzinger and Biddle, 2016). The Swedish Tax Agency has introduced a comprehensive, preventive approach to improve compliance from the early stages of the tax process with the "Right from the Start" model (see OECD, 2012; Walsh, 2012). Initially, the taxpayers who are not likely to comply or already have not complied are identified. A set of procedures follows to encourage compliance in a flexible and cost-effective way. This approach includes training, active contact and commitment to taxpayers, facilitating compliance, and cre-

ating a relationship of trust with the tax administration and positive social norms. This approach is particularly useful for new business owners as, according to Kamleitner et al. (2012), they have not yet established specific patterns (behavioural, perceptual, etc.) and can therefore develop a culture of paying taxes in a climate of mutual trust and co-operation.

4.2. Savings (financial planning) and protection of depositors and investors

Behavioural interventions on savings are based on research findings according to which procrastination, inertia, projection bias, and status quo bias may result in people not saving for their retirement. Having recognised the personal constraints that affect the decision-making process, the UK Department for Work and Pensions introduced an automatic retirement scheme in October 2012 in order to increase employees' savings, providing them at the same time the option to quit the program (see Hardcastle, 2012; UK Department for Work and Pensions, 2013, 2015). Individuals will either decide to stop saving or keep the default option to participate in the retirement plan. Under these circumstances, if no action is taken, inertia may work for the benefit of saving and the individual. Similar schemes for automatic participation in pension plans have been implemented in the USA, Denmark, Sweden, etc. (BIT, 2014).

A related approach concerns the Save More Tomorrow™ (SMarT) program (Thaler and Benartzi, 2004), which is based on the idea that employees can commit themselves today to increase their savings rate in the future, whenever they receive a pay increase and up to a maximum predetermined level. Although employees are able to quit the program any time, in this case inertia seems to work for their benefit, too. In fact, the features of the program may reduce the perceived loss aversion (of a part of their income) in the interest of saving.

In addition, a recent study conducted by the UK's Financial Conduct Authority examines the fact that depositors with savings accounts do not always react when the interest rates that were initially offered to them decrease (Adams et al., 2015). This behaviour is mainly related to the fact that depositors fail to compare the long-term benefit with the short-term cost to change bank or account, as well as to inertia and lack of attention to savings decisions. According to the findings, depositors who received a relevant reminder letter before the interest rate was reduced were more likely to change bank or account than those who either did not receive a reminder or received it after the interest rate cut.

4.3. Consumer protection

The first attempt of the European Commission to use behavioural insights in policy making was in 2008, proposing a Directive on consumer rights to the European Parliament and the European Council. The proposal also included a clause limiting the use of default options in consumer contracts (EC, 2011). Although, according to rational models, changes to the default options should not affect the decision-making process, as the optimal choice remains the same, the existing literature provides empirical findings that highlight their impact on the decision-making process (see, for example, Smith et al., 2009). This means that vendors could influence buyers' choices depending on the default option set. The effect is expected to be significant in electronic transactions that may involve pre-selection of a product among alternatives or additional components or features that may be added (or removed) from the product's standard characteristics (Lunn, 2014). Thus, the EU Consumer Rights Directive (2011/83/EU) has prohibited the use of default options in online sales for contracts after mid-2014. Such examples are, among others, the default option of travel insurance with the purchase of an air ticket, the default option of meals with the purchase of accommodation, etc.

Another example of framing in the decision-making process relates to consumers' information about the fuel consumption of vehicles. Since consumers are not able to directly observe fuel consumption, in many countries there are regulations that provide for the use of a standard measure that makes comparisons possible (Lunn, 2014). Such a measure is the distance per unit of fuel (e.g. kilometer per liter, miles per gallon). However, according to Larrick and Soll (2008), adopting this measure may cause a cognitive illusion as consumers may consider the difference between 10 and 11 kilometers per liter and the difference between 20 and 21 kilometers per liter comparable, since in both cases the difference is 1 kilometer per liter. To the extent that this is not well understood by consumers, they may not buy the most efficient vehicles. Having recognised the potential impact on consumers' decision making process, the US Environmental Protection Agency made changes, during the period 2010-2011, to the regulations of car labeling about the features to be found on the windows of new cars for sale. Since the cost of driving a car depends essentially on the amount of fuel required for a certain distance, the new regulations also required that fuel consumption in gallons per 100 miles is presented as well as an estimate of the annual fuel cost for typical use.

The US intervention for consumer financial protection with the 2009 Credit Card Accountability Responsibil-

ity and Disclosure (CARD) Act is also interesting (see Lunn, 2014). International experience suggests that people's decision-making process is not time-consistent as they tend to excessively discount large (potential) future costs when deciding for immediate purchases. In addition, some consumers show inadequate attention to possible costs, such as fees or changes in interest rates and terms of the agreements. In other cases, consumers may be too optimistic when estimating possible costs or ignore compound interest, or even anchor their credit card payments to the minimum payment information provided, which may be treated as advice. Trying to overcome these problems, a series of fees that seemed to be hidden was forbidden, providing at the same time helpful and timely information. Yet another important action was to decline transactions when they exceed the credit limit, beyond which the consumers are charged, unless they have explicitly made that choice. In addition, new rules have been introduced to define more precisely late payments, terms and conditions, the number and size of financial penalties, and to prohibit inactivity fees, etc. as well as provide a clear calculation of the time and cost of repayment of the balance through the minimum monthly payments and a corresponding calculation of repayment cost within 36 months.

4.4. Health

Default options may also have a significant impact on organ donation. According to Johnson and Goldstein (2003), the implementation of a system that assumes by default that individuals agree to become organ donors could significantly increase the number of donors and lives saved by them. For example, there is an opt out system in Greece, where all citizens automatically become potential donors, provided they have not explicitly stated their opposition and with their family's consent to become donor. Similar systems with small variations on a case-by-case basis have also been applied in other European countries, such as Austria, Belgium, France, Spain, Italy, Luxembourg, Norway, Hungary, Poland, Portugal, Slovenia, Sweden, the Czech Republic, and Finland (Zúñiga-Fajuri, 2015; EC, 2016a).

Moreover, there are several interventions regarding healthy eating. In Sweden, Norway, Denmark and Iceland, as part of the effort to encourage healthy eating, products that meet predefined criteria (e.g. low in fat, sugar, salt, etc.) can be labeled with a "Green Keyhole" (Sjölin, 2013). This practice makes it easier and obvious to identify healthy food options. The choice of labeling is optional and free of charge for producers who wish to use it. They have the responsibility to check and meet the standards set by the four coun-

tries. In the same direction, in Estonia, the government provides online nutrition information to citizens in a simplified way. For example, there is an electronic application that calculates the amount of salt consumed on a daily basis and allows for comparisons of alternative food options by giving information on the maximum daily recommended quantity of consumption in a personalised, simplified and obvious way (EC, 2016a).

Other interventions aim to reduce smoking and increase awareness of its negative health effects. A well-known example of a behavioural approach to reduce smoking concerns the obligation of all EU member states from May 2016 to put on the cigarette packs both informative messages pointing to the dangers of smoking and images supplementing the written message, covering a total of 65% of the two sides of the pack (EC, 2016b). In this way, the message is as clear and comprehensible as possible, aiming at people's emotions by visualizing the serious effects of smoking. According to the World Health Organization, illustrated warnings about the effects of smoking on health are an effective way to raise public awareness about the risks involved. At the same time, international empirical findings indicate that strengthening alert-based policies should be a priority for smoking control (Noar et al., 2016).

Additional initiatives are implemented in individual countries. For example, in Latvia, the Disease Prevention and Control Centre, in collaboration with the Ministry of Health, conducted an awareness campaign to combat youth smoking, using framing, people's tendency to be immediately satisfied and present bias, pointing out the desired message in an obvious way. Among other things, the campaign provided an application for calculating the (daily, monthly, and annual) savings from smoking reduction, presenting this financial benefit in terms of attractive products (e.g. with the picture of a laptop) along with the message: "This is just one of the things you will be able to buy with the money you spend on cigarettes." (EC, 2016a). In the same spirit, the Portuguese Ministry of Health has conducted a campaign to raise awareness of the effects of smoking on non-smokers (passive smokers) and children, using short videos, radio ads and posters, highlighting the fact that "when someone smokes everyone smokes" (EC, 2016a).

4.5. Saving energy

Protecting the environment and saving energy are key priorities. In this context, the Regulatory Authority for Electricity, Gas and Water in Italy, in co-operation with the University of Salento, examined the impact of pro-

viding consumption information data to better inform consumers (OECD, 2016). To this end, they examined the impact of different types of information about energy use on consumer behaviour, in terms of its frequency, content and framing. This approach is based on loss aversion, feedback and framing. According to the results of an experiment involving 300 students, continuous feedback is very useful as it increases learning and awareness. It proved to be helpful in providing information on the evolution of energy consumption not in terms of energy, but in terms of cost, as well as costs related to inefficient use, for example compared with the cost of the previous bill. The selection of the appropriate benchmark is critical in order to draw conclusions and make comparisons (e.g. average, best/worst performance of similar consumers), as comparisons with inefficient energy users do not motivate consumers to improve their own energy use. The findings were used to redesign electricity and gas bills in order to provide more information to consumers, raise awareness and improve the energy use of electrical appliances.

Moreover, in 2015, the Swiss Federal Office of Energy examined the effect of providing additional information on the energy operating cost of electrical appliances (e.g. tumble dryers, vacuum cleaners, freezers and televisions) over their useful life compared to the average appliance of their category (see Schubert and Stadelmann, 2016). The experiment tested the impact of the standard energy label on the basis of the European requirements as well as an alternative label with additional information on operating costs over its useful life compared to the standard case of no provision of information on energy efficiency. Overall, it has been found that additional energy operating cost information over the useful life of the product resulted in a larger reduction in the average annual electricity consumption of tumble dryers (which consume a lot of energy). Results for other appliances vary. A specialised platform (TopTen.ch) has been created in Switzerland in order to provide annual energy consumption and lifetime energy operating cost data for different product categories (EC, 2016a). In this way, Swiss consumers are better informed about energy savings and this framing limits present bias as well as loss aversion, making it easier to compare the current purchase price of the appliance with the overall savings associated with it.

4.6. Education and employment

Certainly, adults who do not have literacy and numeracy skills tend to be less productive in their work, receive lower wages, are more likely to have health problems and experience social exclusion (BIT, 2015).

The Behavioural Research Center for Adult Skills and Knowledge (ASK) was established in 2014 in the UK to conduct research in this area. One of the first problems identified was the deterioration in attendance rates of adult educational programs. Many college programs in the UK were experiencing a 20% reduction in participation over a 10-week period, with the largest reduction after a one-week break in the middle of the program. To address this issue, ASK examined the effectiveness of sending text messages to program participants, which were based on positive feedback, social support, organisation and planning. This resulted in a 7% increase in average attendance for participants receiving text messages compared to those who did not. In addition, the post-mid-year drop-out rate was reduced by 36% for those who received text messages (OECD, 2016).

The use of text messages also finds practical application in improving the job search system for the unemployed. According to the BIT (2015), an intervention took place in Bedford, using text messages to test the effectiveness of encouraging job seekers to participate in job fairs. Text messages were used to inform people when job opportunities arose. The BIT examined the effectiveness of different messages. According to the results, messages based on reciprocity proved to be the most effective, i.e. messages indicating that the job counselor had done something specifically for them in the event (e.g. a scheduled meeting) and personally wished them good luck. These messages were more efficient than those including only the meeting-related information or those based on a personal message, but with no reciprocity element.

5. Conclusions and suggestions for policy-making

The effectiveness of public policies depends to a large extent on how individuals react to them, as well as on the extent to which people's real behaviour is taken into consideration when designing them. Unrealistic assumptions about people's behaviour may result in policies with unpredictable results. Only when we know the cause of a problem can we deal with it effectively. If, for example, people's behaviour is primarily determined by lack of knowledge and information, then education and information will help address possible problems. If, however, the individuals' behaviour is determined by behavioural biases (e.g. loss aversion, default options bias, etc.), then it is appropriate to take these into account in the policy-making process (see Ciriolo, 2011).

This article provides a review of international trends in the use of behavioural insights in policy-making, as

well as a brief presentation of several interventions that have been implemented mainly in the EU and the US. The list of behavioural interventions at the international level is extensive and constantly expanding. Although this review cannot exhaust the particularly rich literature, it is indicative of the existing interventions in key areas such as taxation, savings, consumer/investor protection, health, saving energy, education and employment. Moreover, it provides useful conclusions, which could also be used in Greece.

The reported interventions at the international level have low cost (e.g. sending text messages) or even zero cost (e.g. redesigning letters to tax debtors). However, they are often effective both in monetary terms (e.g. increased tax collection) and in terms of health (e.g. increased number of organ donors) and quality of life (e.g. better dietary habits).

In many cases the proposed interventions are implemented in many countries (e.g. letters to increase tax compliance, lotteries, organ donation, healthy food labeling). Consequently, the reported interventions are potentially good practices which, under certain conditions, could be effective for other countries too, such as Greece.

Note that Greece, whether due to obligation (e.g. European consumer protection legislation) or by choice (e.g. tax lotteries), already applies interventions based on behavioural insights. Taking into consideration the limited financial resources of the country, it may be even more necessary to undertake small interventions with low or even zero cost which may have significant positive effects. In many cases, the possibility of applying the interventions mentioned above could be examined. For example, policy-makers could consider:

- Regarding the crucial issue of tax compliance and the fight against tax evasion: (a) extending the program of public lotteries to tourists from abroad (see the example of Croatia), e.g. a quarterly lottery for a trip to Greece (selecting from a series of destinations) the following year; (b) appropriately modifying written communication with taxpayers and debtors, with reference to social norms and the association of taxes with the gain/loss of public goods² (see the examples of the UK and Poland), possibly providing feedback from taxpayers by expressing their views on the area where they feel that there is greater need to use these resources. Similarly, for companies, appropriately modifying written communication, as well as the provision of information,

support and guidance to deal directly with debt repayment difficulties could be considered (see the example of the UK); (c) undertaking communication actions with a view to develop a sense of trust and confidence in the effectiveness of the tax system (see the example of Austria) and raise awareness of the additional difficulties that tax evasion creates in the economy and society in general (see the examples of Estonia and Bulgaria).

- Regarding savings: (a) enhancing financial education for both adults and children in order to understand the behavioural biases that they will have to face in the financial planning process in order to save for an emergency and for their retirement; (b) undertaking communication actions to make individuals familiar with the automatic participation programs in order to achieve consistency in their savings; (c) undertaking communication actions to ensure depositor/investor confidence in the banking/financial system, taking into consideration recent findings (Economou and Triandopoulos, 2018) which identify economic sentiment, among other factors, as a determinant of household deposits in Greece during the period 2003-2014.
- Regarding consumer protection: undertaking communication actions to inform consumers about the impact of framing on all aspects of everyday life, e.g. online purchases, credit card accounts, etc.
- Regarding health: using healthy food labeling (see the example of Sweden, Norway, Denmark and Iceland), making absolutely clear which products are healthy for consumers and, in particular, for children.
- Regarding saving energy: (a) redesigning the electricity consumption bills and the provision of information that make comparisons with the consumption cost of the previous month, of the corresponding month of the previous year, of the average household in the region possible (see the example of Italy); (b) providing information to capture the total cost of energy consumption over the useful life of electrical appliances (see the example of Switzerland) in order to facilitate the purchase of energy-efficient appliances.
- Regarding education and employment: (a) testing the impact of reciprocity and frequent personalised communication on the educational process and/or the assistance to find work in Greece, and then;

2. Note that in 2011 the Ministry of Finance provided information (along with the tax note) to the taxpayers on the contribution of their taxes to the Government Budget (in euro) by category, e.g. social security and pensions, health and social solidarity, education, defense, etc.

(b) undertaking relevant informational actions for teachers and work counselors.

The literature provides a wealth of empirical findings and international experience provides a number of examples of behavioural interventions. In general, it is recommended to systematically apply these findings in policy-making. The co-operation of the government with universities and research institutes in Greece and abroad could contribute to this goal using the experience and knowledge of specialised scientists (economists, psychologists, sociologists, etc.) and public administration executives either in the form of advisory support, or even with the creation of a specialised team.

At the same time or/and independently of the national level, behavioural insights could also be used in regional policy-making. Even if this issue has not yet been extensively examined, behavioural interventions could encourage the desired behaviour of entire organisations, having an impact on people working in them or via targeted policies. According to the *OECD* (2018), behavioural insights could be used in the regional development policy planning for:

- The decision-making process concerning the more efficient use of funds and the selection of investment projects.
- Improving co-ordination, communication and co-operation among the actors involved, for example by actively involving stakeholders in policy-making that they will later be called upon to implement. In this way, a climate of co-operation, justice, involvement and commitment of all the actors is created. The Alliance for Entrepreneurship and Development of Western Greece (SEADE)³ is an example of such involvement between broader public administration and local-government bodies, chambers, the academic and research community, the business community and the producer organisations. Another example is the involvement of stakeholders in the consultation of the five-year Regional Operational Programs.
- Simplification of directions and procedures, for example, in relation to public procurement or grant applications.
- Better understanding of the use of rewards and incentives in organisations and not just sanctioning mechanisms, aiming at enhancing the capacity of local and regional governments to propose effective

projects and create incentives to implement best practices.

- Working with independent research institutes or independent evaluation institutions to boost citizens' confidence as well as guarantee transparency of results. This puts stronger pressure on local authorities for the consequences of their actions or omissions.

In any case, according to the BIT (2014), behavioural interventions should have specific characteristics. They should be: (a) easy, i.e. simple and should not require much effort by individuals; (b) attractive, i.e. attracting attention and offering incentives or rewards; (c) social, i.e. describing positive behaviours of the majority of people, using social relationship networks and collective action as well as encouraging people to commit to others and (d) timely, i.e. be applied when people are likely to be more receptive, take into account immediate costs and benefits, help people to plan their response to events, as there is often a gap between intentions and actions.

Note that, although several behavioural interventions have been successfully implemented in several countries (sometimes with modifications), it is not necessary that any intervention be able to deliver the expected results in any country. It is clear that culture, experience, and economic and social conditions define the priorities and choices of individuals and inevitably affect the effectiveness of individual interventions. In addition, the same intervention may differ significantly in its effectiveness depending on its timing.

Another crucial issue is that in several cases it is difficult to accurately determine the effectiveness of the interventions as they are not only aimed at economic benefits for national, regional or local government, but also aim at protecting individuals (consumers and investors), the environment, health, etc. In addition, interventions take place in the real world and not in the laboratory where all other conditions remain the same. Randomised controlled trials (RCTs) (and/or other appropriate methods) should be used in advance, wherever possible, in order to estimate the potential benefits of the interventions under consideration. Benartzi et al. (2017) emphasise the need to measure the effectiveness of behavioural interventions. To this end they calculated ratios of impact to cost for several interventions and concluded that behavioural interventions often have better results compared to traditional ones. Measuring the results is critical in order to effectively

3. The SEADE network was proposed and implemented in Western Greece as part of the region's action plan which won the European Entrepreneurial Region Award for 2017. For more information see <<http://www.pde.gov.gr/eer/>>.

determine the net effect of an intervention, i.e. whether the policy benefits outweigh the costs involved, in order to examine the possibility of maintaining, modifying or even terminating the intervention.

In conclusion, behavioural interventions are not a panacea and in many cases cannot fully solve the respective policy problems. However, small, low or zero cost interventions may have significant effects along with traditional approaches. Therefore, it is worth systematically and thoroughly investigating the appropriate interventions where it seems that they can have positive results.

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