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**A BEHAVIORAL PRINCIPAL-AGENT THEORY TO
STUDY CORRUPTION AND TAX EVASION**

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ABSTRACT

The essay is focused on further development of the Principal-Agent Theory (PAT), a theory that can serve as a useful and at times powerful framework for detecting corruption and tax evasion. To widen and deepen the analysis of these crimes, it is useful to refer to the findings of behavioral economics. These findings depart from the classic view of traditional economics, a paradigm which states that individuals are driven only by their economic interests. First of all, regarding the topic of corruption, the first section of this essay will explore the agent behaviors that are affected by cognitive biases including: a misperception of risks, contexts and others. In the second section, the part regarding the subject of tax evasion, this essay will illustrate the client behavior, focusing both on the role of tax morale and on specific biases and heuristics including but not limited to: tax-evasion, framing, myopia, and salience. Finally, the essay will provide some suggestions of value to the principal, including a look at a few of the positive and negative aspects of the behavioral approach.

Keywords: *Principal-Agent Theory (PAT), Corruption, Behavioral economics, Context, Trust*

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INTRODUCTION

Principal-Agent Theory (hereinafter: PAT) was initially used to analyze organizational behavior and corporate governance,¹ and it has been applied in a high number of disciplines.² Most of general economic literature has also adopted PAT to illustrate criminal behavior as a result of rational choice, which involves a group consisting of three actors: principal (State or government), agent (public officials or tax authorities), and client (stakeholders or taxpayers).³

According to this, an individual is more likely to engage in corruption, tax evasion, and other criminal behaviors, if the benefits linked with the act are expected to outweigh the costs. This rational calculation consists of both the expected benefits - this includes monetary gains, as well as positions and power for oneself and for their circle of friends - and of the list of possible costs, which includes 'the bribe payment, moral costs of violating norms, efforts to hide the crime and money laundering, as well as the perceived risk of detection, and the consequences of prosecution and punishment'.⁴ The actors of PAT are characterized by the following aspects: they are rational and informed players, they know their preferences and are able to predict and rank the likely outcomes of alternative.

However, these assumptions seem to be partially in contrast with the findings of the empirical evidence: individuals frequently make decisions that in some cases depart from the "risk versus reward"⁵ equation, because the economic incentives represent solely one part of the answer to explain the criminal behavior.⁶ In this change of perspective, part of the doctrine has been to sketch out a new theory, which is able to expand the behavioral analysis of PAT. Let us refer to the first of many for now as: the Behavioral PAT⁷ and Behavioral Agent Theory⁸. These theories, although their goals and methods are different, have

(*) PhD candidate at Luiss Guido Carli University. The author is grateful to Prof. Cass R. Sunstein for his insightful comments on an earlier version of the paper submitted to the "Behavioral Economics, Law and Public Policy" Seminar at Harvard Law School. The usual disclaimer applies.

¹ For a more detailed analysis of PAT, see G. Gérard Charreaux, 'Positive agency theory: place and contributions', in Eric Brousseau and Jean-Michel Glachant, *The Economics of Contracts: Theories and Applications* (Cambridge University Press, 2002), at 251.

² PAT is a model that can be used to many objectives and in various fields, see Kathleen M. Eisenhardt, 'Agency theory: An assessment and review', 14 *Academy of Management Review* 57 (1989). 'Agency theory has been used by scholars in accounting, economics, finance, marketing, political science, organizational behavior and sociology'.

³ e.g. more generally see Johann G. Lambsdorff, 'How Corruption in Government Affects Public Welfare: A Review of Theories', Discussion Paper No. 9 (2001).

⁴ See Tina Søreide, *Drivers of Corruption: A Brief Review* (World Bank Publications, 2014), at 26.

⁵ See Richard H. Thaler, 'Mental Accounting and Consumer Choice', 27 *Marketing Science* (2008), at 16.

⁶ In particular, Daniel Kahneman and Amos Tversky have developed "prospect theory" that is an alternative to expected utility theory, aiming to explain individual choice under uncertainty. see Daniel Kahneman and Amos Tversky, 'Prospect theory: An analysis of decision under risk', 47 *Econometrica* 263 (1979).

⁷ See Cass R. Sunstein and Oren Bar-Gill, 'Regulation As Delegation', 7 *Journal of Legal Analysis* 1 (2015).

⁸ See Alexander Pepper, *The Economic Psychology of Incentives: New Design Principles for Executive Pay* (New York: Palgrave Macmillan, 2015). Behavioral-Agent Theory places much greater emphasis on agent motivation than the standard agency model, which focuses primarily on the alignment of the interests of principals and agents, see Alexander Pepper and Julie Gore, 'The economic psychology of incentives: an international study of top managers', 49 *Journal of World Business* (2013). See also Alexander Pepper and Julie Gore, 'Behavioral agency theory: new foundations for theorizing about executive compensation', 41 *Journal of Management* (2015).

argued that standard PAT is unrealistic in the regulatory context, and it should be enriched with behavioral insights, recognizing the so-called bounded rationality of its actors.⁹

By adding a behavioral lens in the PAT framework to the investigation of crimes - such as corruption, tax evasion and set forth - it is possible to develop the analysis, adding new elements to understand their foundations. In particular, behavioral theories, supported by experiments, have demonstrated that human characteristics can have a relevant role on the decision-making process of the PAT actors.

a) Agents are affected by biases, heuristics, and other forms of imperfect rationality. For example, it has been found that agents possess an unrealistic optimism that leads them to underestimate risks of being caught; agents have a strong tendency to prefer rewards today instead of tomorrow (*i.e.*, they have high discount factors), or the perceived risks associated with the crime by agents are not linear in the actual probability of being detected and punished.

b) Clients are guided to compliance by non-monetary incentives (trust in the law, reciprocity, social influence, etc.), as well as of specific biases and heuristics (loss aversion, isolation, salience, framing, postdiction, myopia, etc.) that in some circumstances lead them to wrong or unpredictable decisions.

c) Principals often considered as victims might use the findings of the experiment's evidence both to improve traditional tools (bans and mandates) and to implement a behavioral toolkit (default rules and smart disclosure) to combat such relevant social pathologies. For example, authorities can send letters to taxpayers aiming to encourage compliance without enforcement, using the power of social norms.

This essay strives to contribute to the on-going debate from a more specific perspective, which has been covered less intensively: the role of behavioral theory explaining criminal behavior. The purpose of this essay is to introduce a possible future development of PAT, and it reflects on the following questions: if a rational calculation of costs and benefits appears to account for only one piece of the puzzle? What else explains the model of behavior and motivation? What takes into full account the actual model of human behavior that explains crimes and how can we combat them?

The structure is organized as follows. First, in section I, the paper outlines corruption beginning from the behavioral perspective, analyzing the agent's decision-making process, which is influenced by non-monetary incentives, as well as by personal interests. Section II examines in depth the matter of tax-compliance, particularly by exploring taxpayer behavior, and his specific heuristics and biases that affect tax compliance. Section III attempts to provide some suggestions for principal, trying to shed light on the positive and negative issues concerned in the implementation of the behavioral approach.

⁹ For a more detailed analysis of the bounded rationality, see Herbert A. Simon, 'A Behavioral Model of Rational Choice', 69 *The Quarterly Journal of Economics* 99 (1955). Bounded rationality has spawned a lot of research interests in different fields, referring to the fact that human cognitive faculties are limited and individuals tend to rely on heuristics or the rule of thumb to reduce complex tasks, and simplify problems; but, at the same time the use of a limited number of heuristics violates logical principles and can lead to errors. Some scholars are skeptical about the facts or relevance of these heuristics and biases, see generally, *e.g.*, Daniel Kahneman and Amos Tversky, 'Judgment under Uncertainty: Heuristics and Biases', 185 *Science* 1124 (1974).

1. A behavioral analysis of PAT

The traditional economic paradigm usually refers a PAT to illustrate pathologies and violations in the relationship between principal, agent and client, which is considered ‘the outcome of rational individual choices’.¹⁰

PAT relies on a more comprehensive rational-choice-theory framework¹¹, it claims that agents consider their role as a business, rather than as a functional role in the public interest.¹² Within the “public role as a market” point of view, an agent might assume an illicit behavior based on the following relationships (or conditions): first, principals delegate their own decision-making power to the agent to perform the elective mandate on their behalf; second, this delegation produces asymmetric information between the principal and agent (with the resulting difficulty that the principal must now monitor the agent’s activities effectively); third, agent may be tempted to offer its power in exchange for own advantages.¹³

Starting from this point, actors are influenced by the so-called narrow “self-interest”¹⁴, and this means that their choices are based on a rational calculation of the positive and negative effects of their behaviors.¹⁵ In this way, they have considered crimes as a sort of “opportunity”¹⁶, because their decisions are oriented toward their own welfare.

Although PAT has come to dominate the field in recent years, this has also been criticized by scholars and experts, that have recognized that the literature on this model seems to suffer from a strong reductionist tendency to hypothesize that an agent is exclusively motivated by private interests, rejecting tradition-bound economic point of view.¹⁷

¹⁰ See Alberto Vannucci, ‘Three paradigms for the analysis of corruption’, 1 *Labour & Law Issues* (2015), 5.

¹¹ For a more critical review on the rational choice theory, see Donald P. Green and Ian Shapiro, ‘Rationality in Politics and Economics’, in Donald P. Green and Ian Shapiro (eds) *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science* (Yale University, 1994), at 1.

¹² Mario Centorrino and Maurizio Lisciandra, ‘La teoria economica della corruzione’, in Mario Centorrino et al (eds), *La corruzione fra teoria economica, normativa internazionale, modelli d’organizzazione d’impresa*, in *I quaderni europei*, No. 18 (2010), at 6.

¹³ On the link between PAT and corruption, see Andrei Shleifer and Robert W. Vishny, ‘Corruption’, 108 *The Quarterly Journal of Economics* 599 (1993). ‘Most studies focus on the principal-agent model of corruption. This model focuses on the relationship between the principal, *i.e.*, the top level of government, and the agent, *i.e.*, an official, who takes he bribes from the private individuals interested in some government-produced good’.

¹⁴ See Robert Klitgaard, *Controlling Corruption* (University of California Press, 1988), at 69.

¹⁵ Regarding the case of corruption, see Robert Klitgaard, Ronald MacLean-Abaroa and Lindsey H. Parris, *Corrupt Cities. A Practical Guide to Cure and Prevention* (The World Bank, 2000), at 35. This point is emphasized in Gary S. Becker, ‘Crime and Punishment: An Economic Approach’, 76 *Journal of political economy* 176 (1968). ‘The approach taken here follows the economists’ usual analysis of choice and assumes that a person commits an offense if the expected utility to him exceeds the utility he could get by using his time and other resources at other activities. Some person become “criminals”, therefore, not because their basic motivation differs from that of other persons, but because their benefits and costs differ’.

¹⁶ See Susan Rose-Ackerman and Rory Truex, ‘Corruption and Policy Reform’, Working Paper Prepared for the Copenhagen Consensus Project (2012), at 9.

¹⁷ For a critical review, see Lauchlan Munro, ‘A Principal-Agent Analysis of the Family: Implications for the Welfare State’, IDPM Discussion Paper Series Working Paper No. 58 (1999), at 6. ‘To date, both principal and agent have been assumed to be rational adults who are morally, legally and intellectually capable of defining and defending their own interests’. See also Alexander Jonathan Brown, ‘What are We Trying to Measure? Reviewing the Basics of

This classical perspective seems limited and unable to explain some of the powerful aspects of crimes, perhaps because PAT appears to be based on a flawed foundation that has been described as an ‘antiquated model of human behavior’.¹⁸ In many circumstances, this model fails to provide a satisfactory account of the actual process of human decision-making. In fact, on the one hand, agents are driven by their own interests (personal, family or private clique), on the other, additionally, there are many different motivations that seem to depart from the rationally bounded realm of the purely economic approach; agents choosing to obey or not the rules by taking into account their external and internal motivations.¹⁹

First of all, aiming to enrich the analysis it is possible use the findings of others sciences - such as sociology, anthropology, psychology, neurology²⁰ and so on - through which pursuit a different set of incentives; highlighting that the findings of the others sciences serve to widen the analysis, but it does not entail that the classical paradigm must be substituted with an other one.²¹

The experimental evidence has demonstrated that the classic assumption, according to this actors of PAT will always make each choice in isolation driven by economic interests alone²² can be ‘useful and often plausible, but sometimes empirically problematic’.²³ The idea that an agent is seen as economic man

Corruption Definition’, in Charles Sampford et al (eds), *Measuring Corruption* (Ashgate, 2006), at 71. ‘[...] the factors noticed by economics as likely to influence principal-agent relationships tend to be somewhat oversimplified’. In PAT, principal is considered always the victim, but this idea seem be limited, on this point see Johann G. Lambsdorff, ‘Corruption and rent-seeking’, *Public Choice* 113 (2002), at 97. ‘[...] the principal-agent model commonly assumes that a benevolent principal has full control over the legal framework, over rewards and penalties. This type of approach may be too narrow. Particularly in societies where corruption permeates any and sometimes all public institutions, the assumption of a benevolent principal appears unjustifiable’. See also, e.g., more generally, V. Tanzi, ‘Corruption Around the World: Causes, Consequences, Scope, and Cures’, IMF Working Paper No. 63 (1998), at 31. ‘In this Weberian world, no principal-agent problems would develop. Unfortunately, in the real world, Weberian bureaucracies are rare’.

¹⁸ Bryan D. Jones, ‘Bounded Rationality and Political Science: Lessons from Public Administration’, 13 *Journal of Public Administration Research and Theory* 404 (2003).

¹⁹ See Klaus Abbink and Danila Serra, ‘Anti-corruption policies: Lessons from the lab’, (2012), 23. In this regard, see also Harvey Leibenstein, ‘Allocative Efficiency vs. “X-Efficiency”’, 56 *The American Economic Review* 392 (1966).

²⁰ Some neurologists have described the functioning of the intuitive system and mirror neurons. See also Giacomo Rizzolatti and Laila Craighero, ‘The mirror-neuron system’, 27 *Annual Review of Neuroscience* (2004), 169-192.

²¹ In this regard, see Johann G. Lambsdorff and Mathias Nell, ‘Corruption: Where we stand and where to go’, in Martin Kreutner (ed.), *The Corruption Monster: Ethik, Politik und Korruption* (Vienna, Czernin Verlags, 2006), at 9. ‘[...] while traditional approaches to anti-corruption such as repression and prevention certainly have their merits it is doubtful whether they should be the guiding principles for future reform measures. Rather, they have to be complemented by novel inspirations’. For an emphasis on this point, see Sabino Cassese, ‘New paths for administrative law: A manifesto’, 10 *International Journal of Constitutional Law* 613 (2012). ‘[...] in a plural and open world, in which legal orders communicate, methodological nationalism, exceptionalism, and limited contextualism become obsolete: the national isolation of legal science is anachronistic’.

²² Some economists have used the story and the role of Robinson Crusoe to illustrate economic man as an isolated individual, see William S. Kern, ‘Robinson Crusoe and the Economists’, in Ulla Grapard and Gillian Hewitson (eds), *Robinson Crusoe’s Economic Man: A Construction and Deconstruction* (Routledge, 2011), 68-69. For a more complete analysis of economic man, see Jeremy Bentham, ‘The Psychology of Economic Man’, in Werner Stark (ed), *Jeremy Bentham’s Economic Writings* (London: George Allen & Unwin, 1954).

²³ See Klaus Abbink, Bernd Irlenbusch, and Elke Renner, ‘An Experiment Bribery Game’, 12 *The Journal of Law, Economics, & Organization*, n.º 2 (2012), at 431. See also Hersh M. Shefrin and Richard H Thaler, ‘An Economic Theory of Self-control’, NBER Working Paper No. 208 (1978), at 12. ‘Standard utility theory considers individual as a maximizing agent, but most authors have noted that individuals are born not with coherent purposes but with needs, which requires the establishment of certain relationships with the outside world. These relationships are established as the individual matures. During this time, a coherent idea of selfhood develops; however, a considerable amount of psychic conflicts always present’.

has already been examined and partially rejected, the theory of the *homo economicus*²⁴ which the micro-foundation of PAT is ‘too simplistic’.²⁵ This conceptualization has been developed in a more evolved model - the so-called *homo reciprocans* - in which the reciprocity feature is a key element that provides a more comprehensive picture of humans who face negative incentives.²⁶

Homo reciprocans evokes a man closest to real world, a world in which he is not only driven by the self-regarding of his own motives, but also social motives, revealing and explaining for instance the scientific observation that ‘humans are sometimes willing to reciprocate a bribe but they also devote resources to an altruistic punishment of bribe-takers and like to serve their principals’.²⁷

Corruption and other kinds of violations are the result a set of invisible reciprocities between principals, agents and clients²⁸, thus a plus wide approach can serve to shed light on these interactions, and illuminate invisible exchanges.²⁹ Behavioral literatures have recognized these aspects, arguing that the decision making process of PAT actors is characterized by a combination of social-emotional boundaries and cognitive biases that may change the agent’s propensity to engage in a crime. In particular, a choice between honesty or not can at times be affected by or based on different kinds of biases and incentives, such us: unrealistic optimism, misperception of risks, cultural norms, and the severity of both formal punishment and social sanctions. The following section will attempt to describe such limits and incentives that depart from the paradigm and model and point of view of agent as *homo economicus*.

²⁴ John Stuart Mill first proposed the definition of *homo economicus*, see John Stuart Mill, *Saggi su alcuni problemi insoluti dell’economia politica* (ISEDI, 1976).

²⁵ Most authors have stated that *homo oeconomicus* theory is limited. For a critical review about the *homo economicus* theory, see Milton Friedman, *Essays in Positive Economics* (University of Chicago Press, 1953). See also Friedrich V. Hayek, *Individualism and Economic Order* (Chicago and London: University of Chicago Press, 1948) in particular 33-57.

²⁶ Briefly, according to recent studies, the human mind contains two cognitive systems: system I is the automatic (and intuitive) system, while system II is the deliberative and reflective system. The first can be associated with and linked to the model of *homo reciprocans* and the latter can be linked to the *homo oeconomicus*. See in this regard Cass R. Sunstein, ‘Behavioral law and economics: a progress report’, 1 *American Law and Economics Review* (1999), at 125. ‘[...] rather than being *homo economicus*, people may be *homo reciprocans*, in the sense that people respond kindly to gifts retaliate when mistreated, even at the expense of their material self-interest’.

²⁷ See Johann G. Lambsdorff, ‘Behavioral and experimental economics as a guidance to anticorruption’, in Danila Serra and Leonard Wantchekon (eds.) *New Advances in Experimental Research on Corruption Research in Experimental Economics* (Emerald Group Publishing Limited, 2012), at 296.

²⁸ Not surprisingly, corruption is defined at times as a “social network phenomenon”, one in which the social network structure is determined by the exchange relationships between the individuals or between the units. On this point, see Raúl Carvajal, ‘Large Scale Corruption: Definition, Causes and Cures’, 12 *Systemic Practice and Action Research* 335 (1999).

²⁹ Corruption is characterized by secrecy, in this regard, see M. Mosquera, *Negotiation Games in the Fight against Corruption*, Edmond J. Safra Working Papers, No. 46, 19 June 2014, in particular 6. ‘Secrecy is another key aspect of the negotiation of corruption’.

2. Agents and the non-monetary incentives of the corruption

Of course, agents are humans and they are affected by cognitive errors and limits.³⁰ Recently, some studies - that are possible to include from the field of “law and behavioural sciences”³¹ - have shown both that the agent’s decisions seem to deviate by the expected utility theory and they ‘tend to make decisions one at a time, and in particular that they are prone to neglect the relevance of future decision opportunities’.³² The findings of these studies, supported by numerous experiments, have recognized that agents have inadequate cognitive capacities to elaborate rational strategies and this leads them to make a wrong probability calculation of being discovered.³³

Aiming to describe that difficulties of assessing probabilities by the agents, it is possible describe the following behavioral biases and incentives that may explain corruption.

a) *Optimism or unrealistic optimism*: the tendency to be over-optimistic, overestimating favourable and pleasing outcomes, *i.e.*, people tend to believe that risk are less likely to materialize for themselves than for other. This bias is linked to the idea that people think about dangers - such as accidents, infections, disasters, crashes and so on - as something far from themselves. In other words, humans overestimate the benefits of good events and underestimate the effects of bad events. One example of unrealistic optimism bias is the State lotteries: in this case, an individual plays lotteries or bingo in the belief he will win more than he will lose.³⁴ Similarly, agents consider their decisions to ask for a bribe as a form of a bet, or of a challenge or gamble: ‘in the sense that government officials face risk each time they ask for a bribe’.³⁵ Thus, if a crime is considered as a form of a lottery and criminals are viewed as the gamblers, the effect of harsh penalties may fail. So too will fail the expectations of policy makers. In other words, many agents believe they are immune from negative events (controls, sanctions and fines) due to their overconfidence. This may mean both that they do not change their behavior - for example continuing to demand a bribe,

³⁰ See Cass R. Sunstein, ‘Empirically Informed Regulation’, 78 *University of Chicago Law Review* 1349 (2011).

³¹ See Anne-Lise Sibony and Alberto Alemanno, ‘The Emergence of Behavioural Policy-Making: A European Perspective’, in Anne-Lise Sibony and Alberto Alemanno (eds), *Nudging and the Law. What can EU Learn from Behavioural Sciences?* (Oxford, Hart Publishing, 2014), at 1.

³² See Daniel Kahneman and Dan Lovallo, ‘Timid Choices and Bold Forecasts: Cognitive Perspective on Risk Taking’, 39 *Management Science* 17 (1993).

³³ The question of how lay individuals evaluate the probabilities of uncertain events has attracted considerable research interest in the last decade, see Amos Tversky and Daniel Kahneman, ‘Extensional Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment’, 90 *Psychological Review* 293 (1983).

³⁴ Empirical researchers have demonstrated that there is systematic overconfidence in risk judgments, see Christine Jolls, ‘Behavioral Economic Analysis of Redistributive Legal Rules’, in Cass R. Sunstein (ed), *Behavioral Law and Economics* (Cambridge University Press, 2000), at 292. ‘People offer unrealistically optimistic assessments of the probability of negative events in areas directly related to the effects of redistributive legal rules. For example, most people think that they are less likely than the average person to be sued’. See also Barbara Luppi and Francesco Parisi, ‘Forgiving Overconfidence in Tort Law’, *Berkeley Program in Law and Economics* (2009), at 3. An example of an optimism bias is linked by the findings of the survey in which respondents see themselves as better and more competent drivers than average.

³⁵ See Olivier Cadot, ‘Corruption as a Gamble’, 33 *Journal of Public Economics* 223 (1987).

providing bad public good and monopolizing their role, and so on - and it may also mean a mix of sanctions and punishments to discourage corruption may in fact too be weak.³⁶

b) *Narrow bracketing*: an agent chooses to be honest or commits a crime based on two different decision-making processes: a global evaluation of the consequences (broad bracketing), and a local evaluation of a decision (narrow bracketing).³⁷ The broad bracketing is the strategy that economic theories have assumed as given, when agents must face a problem: the standard hypothesis considers agents able to maximize their welfare. But some experiments seem to confirm that agents have only a limited evaluation of consequences: ‘a decision maker who faces multiple decisions tends to choose an option in each case without full regard to the other decisions and circumstances that she faces’.³⁸ Agents make choices through an automatic process, they “fast think”³⁹ without taking into consideration available alternatives, assessing benefits and costs not only based on a rational calculation, but also through their feelings (including emotional features) that might lead to counterproductive choices. Many scholars have called this tendency a misperception of risk⁴⁰, *i.e.*, an impossibility to ponder all impacts of a choice, ‘evaluating the detection probability in narrow brackets of only a few periods might lead to an underestimation of the total risk involved in engaging in corrupt behavior’.⁴¹

In particular, some researchers have conducted an experiment with the fundamental goal to explore narrow bracketing on the behavior agents, *i.e.*, they have assessed ‘to which extent [...] the misperception of risk on the side of the corrupt bureaucrat influence the decision to engage in corrupt behavior’.⁴² The experiment was carried-out between 2010 and 2011 at Paderborn University, it involved 109 students in business administration. The authors analyzed the students (considered public officials), within the ten periods, and they submitted them to two treatments: the first, the authors offered to the subjects a reward for their work, which consisted in positioning the sliders (earned income); in the second treatment, subjects were endowed by the experimenter (endowed income). Then, the authors gave the possibility to accept an additional payment (*i.e.*, a bribe) or to refuse it. If students choose to reject an extra illegal payment, the earning was stable. Alternatively, if students choose to take part in acts of corruption, the effects were the following: with the probability of 80%, the income is increased, without the risk of being punished; with

³⁶ See Cass R. Sunstein, ‘Behavioral Analysis of Law’, 64 *University Chicago Law Review* 1175 (1997).

³⁷ Most researchers, supported by experiments, have demonstrated that people adopt narrow bracketing strategy, see Daniel Read, George Loewenstein and Matthew Rabin, *Choice Bracketing, Journal of Risk and Uncertainty*, (Kluwer Academic Publishers, 1999), at 171.

³⁸ See Matthew Rabin and George Weizsacker, ‘Narrow Bracketing and Dominated Choices’, IZA discussion paper series No. 3040, (2007), at 6. A growing body of behavioral research focuses on the broad/narrow bracketing biases, see Oliver J. Sheldon and Ayelet Fishbach, ‘Anticipating and Resisting the Temptation to Behave Unethically’, *Personality and Social Psychology Bulletin* (2015), 6. ‘Choice bracketing involves the grouping together of individual choices into sets. When sets are small, containing one or very few choices, bracketing is narrow, whereas when sets are large, it is broad’.

³⁹ Daniel Kahneman, *Thinking, Fast and Slow*, New York (Farrar, Straus and Giroux, 2011).

⁴⁰ A famous case of misperception of risk is linked to the Titanic disaster, see Malcom Harkins, *The Misperception of Risk* (Springer, 2013), at 15.

⁴¹ Behnud M. Djawadi and René Fahr, ‘The Impact of Risk Perception and Risk Attitudes on Corrupt Behavior: Evidence from a Petty Corruption Experiment’, IZA discussion paper series No. 7383 (May 2013), at 2.

⁴² *ibid*

the probability of 20%, subjects were discovered and their incomes were annulled. The last situation represents the chance that corruption is discovered by officers.⁴³ Researchers have observed that students, independently of treatment, showed a systematic underestimating of the overall probability of being captured. In particular, a key factor to explain the misperception of risks is linked to the period in which bribe is accepted by students. Then, the authors have identified ‘high corruption rates at very early periods of the experiment. This behavior cannot be explained by the risk attitudes of the subjects’.⁴⁴ The choice to adopt an illegal behavior continues over time and this suggests that the misperception of risk seems to be a determinant behavior of corruption, rather the risk aversion. Therefore, the experiment led to two important results: the first, the choice to adopt an illegal behavior in different times recommends that ‘the preventive impact of detection and sanctions diminish as individuals commit more crimes’.⁴⁵ The second, traditional measures to fight corruption, such as strengthening controls and punishment are not an effective deterrent: ‘the strong influence of misperceiving the involved risk needs to be taken into account when assessing the efficacy of increasing the monitoring by government agencies’.⁴⁶

c) *Cultural norms*: this is a key determinant of corruption that can be linked to broad social norms that persist of the time and across generation; such persistence ‘is one of the primary features that distinguished “culture” from contemporaneous “peer effects”, even if these two terms are obviously related’.⁴⁷ A multitude of researchers have analysed the relationship between corruption and cultural issues,⁴⁸ that is characterized on a circular polarization, *i.e.*, ‘certain cultural norms cause corruption because corruption exists; corruption exists because of certain cultural norms’.⁴⁹

In particular, analysing the cultural effect, Raymond Fisman and Edward Miguel have observed the parking behaviour of United Nations’ officials in New York. By studying diplomats’ parking violations (considered corruption), they have adopted an empirical approach for assessing the role of both cultural norms and legal enforcement.⁵⁰ The analysis is focused on two periods: during the first one (until October 2002), agents had the opportunity to avoid paying parking fines and this behavior was considered corruption itself, since it represented an abuse of public office functions. Instead, starting from October 2002, the New York City administration has sanctioned agents that have accumulated more than three unpaid parking violations, revoking their diplomatic permissions.⁵¹ The study has demonstrated, first of all,

⁴³ *Ivi*, 10.

⁴⁴ *Ivi*, 21.

⁴⁵ Tina Søreide, *Drivers of Corruption: A Brief Review*, cit., 29.

⁴⁶ Behnud M. Djawadi and René Fahr, *The Impact of Risk Perception and Risk Attitudes on Corrupt Behavior: Evidence from a Petty Corruption Experiment*, cit., 21-22.

⁴⁷ See Erzo Luttmer and Monica Singhal, ‘Tax Morale’, 28 *Journal of Economic Perspectives* 149 (2014).

⁴⁸ Eugen Dimant, ‘The Nature of Corruption: An Interdisciplinary Perspective’, Economics discussion papers No. 59 (2013). On the link between context and corruption see Susan Rose-Ackerman, ‘Corruption: Greed, Culture, and the State’, 120 *Yale Law Journal* 125 (2010).

⁴⁹ See Susan Rose-Ackerman and Bonnie J. Palifka, *Corruption and Government: Causes, Consequences, and Reform* (Cambridge University Press, 2016).

⁵⁰ Raymond Fisman and Miguel Edward, ‘Corruption, Norms, and Legal Enforcement: Evidence from Diplomatic Parking Tickets’, 115 *Journal of Political Economy* 1020 (2007).

⁵¹ *Ivi*, 1021.

that parking violations are positively correlated with the Corruption Perception Index (CPI)⁵² of the diplomats' countries. In fact, people from countries with not much corruption (Scandinavian countries, Canada and Japan) behave remarkably well even in situations in which there are no legal consequences, whereas people living in countries with a higher degree of corruption (Kuwait, Egypt, Chad, Sudan, Bulgaria, Mozambique, Albania, Senegal, and Pakistan) commit many violations. The authors have noticed that a consequence of the parking violations was increase of fines in the amount of 18 million dollar between 1997 and 2002.⁵³ In this period, the findings of this research seem to confirm that 'cultural norms are "persistent" and that individuals carry their norms and environments. This provides the first unambiguous evidence for the persistence of corruption norms'.⁵⁴ Then, the study has pointed out a second effect: law enforcement has reduced parking violations by 98% and this explains how legal enforcement is one relevant determinant of corruption behaviour. The study has highlighted the following questions: on the one hand, the cultural dimension is an element that is necessary take in to account, on the other, the law enforcement represents a key-determinant of the corruption.⁵⁵ The authors suggest that both factors should be taken seriously in debates about the causes of corruption and the policy measures to combat it'.⁵⁶ Finally, the results have demonstrated that diplomatic officials who come from the most corrupt countries may have a propensity for parking violations; at the same time, these data and information should be enriched, therefore it is necessary according to the authors to focus one's attention toward habits and social norms established within the diplomatic officials' home countries. In the context of illegal acts, people recognize the negative effects of their illegal behaviour, but 'it is something that has always been a part of their lives and is hard to change'.⁵⁷

d) *Betrayal aversion*: this aversion can be considered an universal phenomenon, one that involves basic human nature. Betrayal aversion is been object by various experiments, and it seems especially heavy when includes the relationship between agents and citizens: on the one hand, public officials who should be guided by public standards and moral rules; on the other, the members of society expect to receive public goods.⁵⁸ Remembering Rousseau's theory, an illicit behavior from agents undermines the "social contract",⁵⁹ in fact an intentional act of betrayal risks of violating a duty or contract's conditions, which

⁵² On the link between corruption and Corruption Perceptions Index (CPI), see Pranab Bardham, 'Corruption and Development: A Review of Issues', 35 *Journal of Economic Literature*, n.° 3 (1997), 1320-1346.

⁵³ Raymond Fisman and Miguel Edward, *Corruption, Norms, and Legal Enforcement: Evidence from Diplomatic Parking Tickets*, cit., 1021.

⁵⁴ Sheheryar Banuri and Catherine C. Eckel, 'The Effects of Short-Term Punishment Institutions on Bribery: US versus Pakistan', CBEES Working Paper Series No. 11-05 (2012), 10.

⁵⁵ Raymond Fisman and Miguel Edward, *Corruption, Norms, and Legal Enforcement: Evidence from Diplomatic Parking Tickets*, op. cit., 1026.

⁵⁶ *ibid*

⁵⁷ Raymond Fisman and Miguel Edward, 'Corruption and Culture', *National Post*, (December 8, 2006), at 2.

⁵⁸ See Harvard Magazine, *Games of Trust and Betrayal* (March-April 2006), at 94. <http://harvardmagazine.com/2006/03/games-of-trust-and-betra.html>.

⁵⁹ See Jean-Jacques Rousseau, *Il contratto sociale* (Milano, Università Economica Feltrinelli, 2003).

produces utility losses both to principal and agent, and in the extreme might favour the exit from contract by citizens.⁶⁰

To illustrate the effects and power of trust betrayal and social disapproval versus agents, it is possible to analyze an experiment conducted at Oxford University in which the author set up a theoretical game situation in which he could: observe corrupting behaviors, and investigate how agents respond to different kinds of positive and negative incentives in a controlled setting. The Oxford experiment attempted to simulate the structure of an environment in which corrupt decisions are made and it compared public officials' willingness to demand a bribe under the following three conditions: 1) in the absence of any accountability mechanisms (no monitoring); 2) in the presence of top-down controls in the form of a monetary fine, a penalty applied with a low probability which was set at 4 percent (external controls); 3) in the presence of a combined system, *i.e.*, the presence of institutions that made it possible for citizens to report the behavior of corrupt agents, quickly and formally. Within the experiment, agents identified by citizens as corrupt were punishable by the top administration (with the probability set at 4 percent).⁶¹ Note that in this case, there existed a real risk that agents might suffer both the monetary penalty and the non-monetary social costs of their criminal behavior and would thus care as individual persons about becoming the focus of the social disapproval of their subjects.⁶² The experiment as designed and conducted involved a total of 180 Oxford University students. It was structured to run in a series of four sessions. Each of the four sessions worked as follows: of a total of 15 subjects in the experiment, 5 were randomly chosen to play the role of agent (public official) for the length of the experiment. Of the remaining subjects, 5 were chosen to play the role of "private citizens" and the remaining 5 were chosen to play "other members of the society". In addition, agents and citizens were randomly assigned by the author to play in pairs; importantly, none of the subjects of the experiment knew who was paired with whom. Each subject only knew his or her own role, and each subject had to decide how to play the game individually and to make that personal decision independently and without the knowledge of any of the other participants.⁶³ The simulation began with the extraction of 25 marbles: one red marble and 24 green marbles. The extraction of the red marble (with the 4% probability of the total) would suggest punishment of all of the corrupt agents. On the other hand, if the bribe was paid by the citizens, the extraction of the green marble would produce

⁶⁰ Iris Bohnet et al., 'Betrayal Aversion', 98 *American Economic Review* 1 (2008), at 296.

⁶¹ Top-down mechanism is organized as follow: top administration performs in the identification of the risks corruption, utilizing the mix of penalties and controls, whether bottom-up mechanism is characterized by the following aspect: the controls of public (assets) goods are monitored directly by beneficiaries. In this regard, see James R. Hollyer, 'Is It Better to Empowerment the People or the Authorities? Assessing the Conditional Effects of "Top-Down" and "Bottom-Up" Anticorruption Interventions', in Danila Serra and Leonard Wantcheko (eds), *New Advances in Experimental Research on Corruption, Research in Experimental Economics* (Bingley: Emerald Group Publishing 2012).

⁶² Danila Serra, 'Combining Top-down and Bottom-up Accountability: Evidence from a Bribery Experiment', CSAE WPS/2008-25, at 13.

⁶³ In particular, a student that assumed a role of "citizen" had to answer 21 questions published in the survey: the first 20 questions were addressed to understand whether they would accept a bribe or not pay any possible bribe demanded by the agents. The last question asked whether citizens would report (or not) the agents, if he or she demanded a bribe from them.

no penalty and no consequences for the agents.⁶⁴ The results of the experiment were as follows: only the 5% of the agents, in absence of any kind of controls, behaved honestly. In other words, 5% did not behave in a corrupt way. The percentage of the honest agents rose to 10% in the presence of top-down controls. And the percentage of honest agents grew to 30% in the presence of a combined accountability system. When applying a statistical point of view, the numerical value of the first result, the small percentage of 5% appears so small as to seem irrelevant. What is important is to focus our attention on the difference between behaviors, specifically to compare the case in which there is not any kind of control with the case in which there is combined monitoring. Quite possibly the most important conclusion we might reach is this: the experiment shows that a combination of interventions (top-down and bottom-up) is the best and most effective solution. The possibility for subjects to denounce corrupt agents seems to be a valid and powerful deterrent that exerts social and behavioral influence over agent behavior. These experimental findings from Oxford University appear to depart from and even contradict the classical assumption, an older assumption that states that corrupt behavior is linked exclusively with the monetary incentives involved and with no other structures, forces or conditions.⁶⁵

Given the implementation of the Oxford simulation, the author noted that ‘non-monetary costs may also play a significant role in the individual decision to engage in or abstain from bribery and, therefore, should possibly be exploited when designing anti-corruption interventions’.⁶⁶ In this way, the effectiveness of the combined structure of top-down with bottom-up intervention can be illustrated through the non-monetary costs burdened from corrupt agents. Indeed, the agent prefers to avoid the moral costs caused by the social disapproval ‘i.e., fear of being “named and shamed” by the citizen’.⁶⁷ Moreover, the better results are experimentally demonstrated and achieved by combining the monitoring with the trust betrayal aversion. In the experiment, agents may be more likely to abstain from corruption in order to avoid ‘the risk of being “betrayed” by the citizen to whom they delivered the corrupt service’. At the end, this lab’s game has confirmed the findings of the previous experiment about the wrong process of probabilities, in fact the agent’s behavior is guided ‘by the conjunction fallacy in probability judgment’.⁶⁸ Thus, the Oxford experiment highlighted the relevance of specific aspects such as, betrayal and moral costs. The latter especially have been recognized as a “negative addendum”, a powerful consideration which is included in the subject’s calculation of the subject’s own choice of whether or not to be involved in a corrupt transaction.

These points are not isolated within of the experiment world, but their findings can be noted in many real situations in life that go beyond the traditional boundary of the field of classic economics. Furthermore, as governments and tax authorities continue with increasing focus to proactively formulate policies that draw their attention to the natural influential power of non-pecuniary factors, structures which are

⁶⁴ Danila Serra, *Combining Top-down and Bottom-up Accountability: Evidence from a Bribery Experiment*, cit., 14.

⁶⁵ *Ivi*, 26.

⁶⁶ *Ivi*, 3.

⁶⁷ Danila Serra, ‘Combining Top-down and Bottom-up Accountability: Evidence from a Bribery Experiment’, 28 *Journal of Law, Economics, & Organization* 585 (2011).

⁶⁸ *ibid.*

increasingly considered important and effective forces. For example, some American tax authorities have “name and shame” programs in which the names of top tax debtors are revealed publicly on state websites.⁶⁹

2.1 Taxpayers and the non-monetary incentives to compliance

According to the analysis provided by standard PAT, principal (tax authorities or tax-collecting agencies) normally used a system of coercion to combat tax evasion, agents (inspectors) implement a control/sanctions mix, monitoring their results directly, and clients (taxpayers) make a rational choice to be honest or to commit a crime.⁷⁰

Regarding this traditional accountability system, many authors raise doubts because there is a real risk that the agent (inspector) and the principal (supervisor) may be the same person, creating the possibility of a harmful conflict of interests.⁷¹ This mechanism is based on the multiplication of controls, which has produced poor or contradictory results,⁷² in fact, in some cases ‘increasing the number of auditors may paradoxically induce more corruption, as a larger number of auditors could be bribed in exchange for turning a blind eye’.⁷³ At the same time, the possibility of an increase of the level of sanctions seems insufficient to reach the final goal, *i.e.*, that people are more likely to conform to a norm; paradoxically there is a risk that if sanctions are inappropriate or not proportional: ‘[they] will operate as a mere indicator for the amount of the bribe without being a deterrent’.⁷⁴ The rational idea that repressive instruments can favor tax compliance seems to give limited results as noted by various experiments

⁶⁹ See E. F. P. Luttmer and Monica Singhal, *Tax Morale*, cit., 149. ‘More than half of US states have or have had “name and shame” programs in which the names of top tax debtors are revealed publicly on state websites’.

⁷⁰ See Jennifer F. Reinganum and Louis L. Wilde, ‘Income Tax Compliance in a Principal-Agent Framework’, *Journal of Public Economics* 26 (1985) 1-18, in particular 2.

⁷¹ Especially during an inspection, it is possible that agent and client will mutually agree to make an arrangement to jointly receive illicit income or other advantages. See Dilip Mookherjee and Ivan Paak Liang Png, ‘Corruptible law enforcers: how should they be compensated?’, 105 *The economic journal* 145 (Blackwell Publishers, 1995). ‘Whenever a principal delegates enforcement authority, opportunities for corruption arise [...]. Sanitation inspectors, auditors, production foremen, and financial regulators all have discretion to ‘sell out’ [...]. In our model a regulator engages an inspector to monitor pollution from some factory. The regulator can neither directly control the inspector’s monitoring effort, nor prevent the factory from bribing her’. See also Jakob Svensson, ‘Eight Questions about Corruption’, 19 *Journal of economic perspectives* 40 (2005). ‘Because traditional approaches to improve governance have produced rather disappointing results, experimentation and evaluation of new tools to enhance accountability should be at the forefront of research on corruption’.

⁷² Relevant discussion can be found in Benjamin A. Olken, ‘Monitoring Corruption: Evidence from a Field Experiment in Indonesia’, 115 *Journal of Political Economy* 201 (2007). ‘In practice, [...] the very individuals tasked with monitoring and enforcing punishments may themselves be corruptible. In that case, increasing the probability that a low-level official is monitored by a higher-level official could result only in a transfer between the officials, not in a reduction of corruption’. See also Frank Anechiarico and James B. Jacobs, *The Pursuit of Absolute Integrity. How Corruption Control Makes Government Ineffective* (The University of Chicago Press, 1996), 193. ‘[...] too many outdated and counterproductive corruption controls have contributed to that crisis, while having no significant impact on the corruption rate’.

⁷³ Danila Serra, *Combining Top-down and Bottom-up Accountability: Evidence from a Bribery Experiment*, cit., 570.

⁷⁴ Maria De Benedetto, ‘Corruption and Controls’, 17 *European Journal Law Reform* 491 (2015). See also Frederic G. Reamer, *Criminal Lessons: Case Studies and Commentary on Crime and Justice* (Columbia University Press, 2003) at 190. ‘Supervisor should impose sanctions incrementally, based on the relevant goals, the offender’s stage of change, and the offender’s risk assessment profile’.

explained above: ‘it does not fit with reality [...], deterrence policies often fail to achieve higher tax compliance’.⁷⁵ This model includes some remedies - such as fines, a larger penalty or a greater probability of detection - that do not lead to a reduction of the tax evasion as well as that do not appear to include all of the incentives required to influence the taxpayer behavior.⁷⁶

Focusing attention on incentives able to influence taxpayers, according to the economic model of crimes, they weigh the benefits and costs of evasion to maximize compliance.⁷⁷ Their behavior is based on a rational calculus that can be illustrated with a simple equation. A rational taxpayer should ‘pay his tax (t), only if that tax is less than the sum of the probability of getting caught with the result that the taxpayer is forced to pay the tax (p), times the tax otherwise owed, plus the costs of any government fine or penalty for non-compliance if caught, plus the cost (if any) of non-compliance, (c) (I ignore for simplicity the costs of compliance)’.⁷⁸

$$t \leq p(t+f) + c$$

However, there is a mass of evidence that recognizes that, on the one hand, traditional paradigm perhaps is inappropriate, on the other, the ‘human element plays a vital role in individual taxpayer compliance decisions’.⁷⁹ A large body of work suggests that taxpayers in some circumstances are inattentive to some types of incentives, it sheds light on: ‘non pecuniary factors in the taxpayer’s decision on whether or not to evade taxes’.⁸⁰

Aiming to widen the point, tax administrators and a part of doctrine have focused their attention on improving the so-called tax-morale, which is been recognized by OCSE as an umbrella term that embraces non-monetary incentives for tax compliance.⁸¹ Tax-morale can be considered a fundamental principle that provides a set of underlying motivations for tax-compliance and consists of different channels: trust, reciprocity, social influence or social norms.⁸²

⁷⁵ See Christoph A. Schaltegger and Benno Torgler, ‘Direct Democracy, Decentralization and Earmarked Taxation: An Institutional Framework to Foster Tax Compliance’, 36 *Intertax* 426 (2008). For an emphasis on this point, see Benno Torgler, ‘To evade taxes or not to evade: that is the question’, 32 *Journal of Socio-Economics* 290 (2009). ‘[...] the traditional coercive tools to enhance tax-compliance might be limited’.

⁷⁶ This result is not surprising because tax evasion actually is considered to be a plague of a democratic society and its costs have negative consequences for the economic growth, pushing international organisations (especially OCSE) to provide a new framework agreement to fight against it. See OCSE, Action Plan on Base Erosion and Profit Shifting (BEPS), <http://www.oecd.org/ctp/BEPSActionPlan.pdf>

⁷⁷ See on this point, Michael G. Allingham and Agnar Sandmo, ‘Income tax evasion: a theoretical analysis’, 1 *Journal of Public Economics* 1 (1972), 323-338, in particular 324. ‘The taxpayer has the choice between two main strategies: (1) he may declare his actual income. (2) He may declare less than his actual income. If he chooses the latter strategy his payoff will depend on whether or not he is investigated by the tax authorities’.

⁷⁸ Edward J. McCaffery, ‘Behavioral Economics and the Law: Tax’, Center for Law and Social Science Research Papers Series No. CLASS13-1 (2013), at 8.

⁷⁹ Ken Devos, *Factors Influencing Individual Taxpayer Compliance Behaviour* (Springer Science, 2014), 13-14.

⁸⁰ Michael G. Allingham and Sandmo Agnar, *Income Tax Evasion: A Theoretical Analysis*, cit., 326.

⁸¹ See OECD, *Tax and Development: What Drives Tax Morale?* (OECD Publishing, 2013).

⁸² There is a large empirical evidence of a significant correlation between tax morale and tax compliance, see Brian Erard and Jonathan S. Feinstein, ‘The role of moral sentiments and audit perceptions in tax compliance’, 49 *Public Finance* 70 (1994).

First, taxpayers appear influenced by a series of intrinsic motivations - such as trust, moral rules and sentiments - which act to modify tax-morale.⁸³ Most studies have shown that trust is a relevant issue, able both to increase to economic growth and to enhance some of the factors that promote it, such as judicial efficiency and reduced corruption, tax evasion and other social problems.⁸⁴ In particular, Benno Torgler's researchers have demonstrated that trust in the law (but also trust in the State and its officials) is a key-determinant to developing tax-morale: 'the empirical findings point out both that trust in government and the rule of law have a positive effect on tax-morale'.⁸⁵ In the presence of possible corruption that involves public officials, the result can be a weak level of trust toward them, with negative effects their own public credibility⁸⁶ and legitimacy;⁸⁷ reducing their power to enforce the laws as well as in general the "sense of the state" that is a key characteristic of a democratic society. This confirms that in 'an inefficient state where corruption is rampant the citizens will have little trust in authority and thus a low incentive to cooperate'.⁸⁸ This creates a vicious cycle: a weak trust toward government institutions encourages stakeholders to adopt deviant behavior and this leads to various consequences such as social inequity, low competition and so on. The following paradox seems therefore to arise: some bad conditions within a community indirectly encourage citizens to behave illegally, thus tax evasion becomes an acceptable behavior;⁸⁹ in other words, this violation can be expected and tolerated, *i.e.*, it is considered a "social norm".⁹⁰

Second, reciprocity refers to a willingness by citizens to pay taxes in exchange for direct tax-benefit linkages. As mentioned above analysing the betrayal aversion, taxpayers may consider taxes as a part of a social contract, and in this way tax payments are made in exchange for services and for the efficient

⁸³ See AA.VV., 'Tax Governance: The Future Role of Tax Administrations in a Networking Society', 41 *Intertax* 264-271 (2013).

⁸⁴ Iris Bohnet, Richard Zeckhauser, 'Trust, risk and betrayal', 55 *Journal of Economic Behavior & Organization* 467 (2004), at 479.

⁸⁵ Benno Torgler, *Tax Compliance and Tax Morale: A Theoretical and Empirical Analysis* (Edward Elgar Publishing, 2007), at 18.

⁸⁶ In this regard, see Johann G. Lambsdorff, 'How Corruption in Government Affects Public Welfare - A Review of Theories', CEGE discussion paper No. 9 (2001), at 28. 'The most crucial problem with a strong self-seeking principal is that it will not be able to commit itself to policies with any credibility'.

⁸⁷ In this regard, see Susan Rose-Ackerman, 'Corruption and Government', 15 *International Peacekeeping* (2008), 328-343.

⁸⁸ See Benno Torgler and Friedrich Schneider, 'Shadow Economy, Tax Morale, Governance and Institutional Quality: A Panel', IZA Discussion Paper No. 2563, (2007). Some authors highlight the role of trust, see also Noel D. Johnson and Alexandra A. Mislin, 'Trust games: A meta-analysis', 32 *Journal of Economic Psychology* 865 (2011). 'Higher levels of trust have been associated with more efficient judicial systems, higher quality government bureaucracies, lower corruption, and greater financial development'. See also Johann G. Lambsdorff, 'Making Corrupt Deals: Contracting in the Shadow of the Law', 48 *Journal of Economic Behavior & Organization* 238 (2002). The Author argued that trust is a key element for the expansion of corruption. 'Another conclusion of this study is that corruption often takes place as a by-product of other relationships. These relationships may be characterized by a market exchange based on trust, hierarchical relationships or social structures'.

⁸⁹ In this regard, see Tetsushi Sonobe, 'An inquiry into corruption norms and development', in Keijiro Otsuka and Takashi Shiraishi (eds), *State Building and Development* (Routledge, 2014), at 157. '[...] citizens, government officials, and politicians in corrupt societies tend to be more accepting of corrupt behaviors than those in clean society'.

⁹⁰ World Bank, *World Development Report 2015: Mind, Society, and Behavior* (Washington DC: World Bank, 2015), at 60.

provision of public goods by the State. Tax-compliance may also be affected by the types of government services that are funded by tax revenues and how these are viewed by the taxpayer. Moreover, compliance is greatly influenced by the perceived behavior of other taxpayers and this obviously can have a great impact on tax revenue (hence the power of social norms is strong).⁹¹

For example, taxpayers are careful about their reputations, and, they may be influenced by others so as not to incur their disapproval. In fact, the literature has stated that: ‘an individual taxpayer is influenced strongly by his perception of the behavior of other taxpayers. If taxpayers believe tax evasion to be common, tax morale decreases. Alternatively, if they believe others to be honest, tax morale increases’.⁹²

The Behavioural Insight Team (BIT) - a social purpose company, the first government institution dedicated to the application of behavioral sciences -⁹³ has adopted social norms to encourage individuals to pay their tax debts more quickly.⁹⁴ In particular, BIT has tried an experiment to increase tax compliance. BIT sent out this short message via letters: ‘9 out of 10 people in Britain pay their taxes on time’. In this way, authors have evaluated the effects of social norms’ on users, who are nudged to follow the majority of people who pay their taxes regularly.⁹⁵ The result seems to be encouraging: of the survey-group made up of 1.400 taxpayers, an increase of tax-payment was recorded, up from 38,7% to 45, 5%.⁹⁶ The lesson is this: ‘when tax delinquents are told that most people pay their taxes on time, they are far more likely to pay up’.⁹⁷ Then, BIT sent out a second set of letters with the following text: ‘9 out of 10 people pay their taxes on time, you are one of the few people who have not paid yet’. In this way, the UK Authority affected the “loss-aversion” bias: if stakeholders pay taxes in time, they might avoid sanctions and punishments.⁹⁸ The result was that including a phrase with both these elements raised the payment rates achieved by a single letter from 36,8% to 40,7%.⁹⁹

⁹¹ Richard H. Thaler, ‘Watching Behavior Writing the Rules’, *The New York Times*, 7 July 2012, 3. Some authors have recognized the role and power of social norms, see Robert B. Cialdini et al, ‘Managing social norms for persuasive impact’, 1 *Social Influence* 1 (2006).

⁹² Bruno S. Frey and Benno Torgler, ‘Tax Morale and Conditional Cooperation’, 35 *Journal of Comparative Economics* 136 (2007), at 153.

⁹³ See the website, <http://www.cabinetoffice.gov.uk/behavioural-insights-team>.

⁹⁴ On this point, see Behavioural Insight Team, ‘EAST. Four simple ways to apply behavioural insights’ (Cabinet Office, 2014). For a detailed study see also Adam Burgess, ‘“Nudging” Healthy Lifestyles: The UK Experiments with the Behavioural Alternative to Regulation and the Market’, 3 *European Journal of Risk and Regulation* 3-16 (2012).

⁹⁵ AA.VV., ‘The Behavioralist As Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance’, NBER Working Paper No. w20007 (2014), at 13.

⁹⁶ Cabinet Office, *Applying behavioural insights to reduce fraud, error and debt*, Behavioural Insight Team 2012, at 23.

⁹⁷ Cass R. Sunstein, ‘Nudging Taxpayers to Do the Right Thing’. <http://www.bloombergview.com/articles/2014-04-15/nudging-taxpayers-to-do-the-right-thing>.

⁹⁸ For most people, perceived losses weigh more heavily than equivalent gains. For one first conceptualization of the loss aversion bias, see Adam Smith, *The theory of Moral Sentiments* (Sixth Edition, Meta Libri, 1790), at 192. ‘We suffer more [...] when we fall from a better to a worse situation, than we ever enjoy when we rise from a worse to a better’. Research in psychology and behavioral economics has demonstrated the importance of loss aversion, see also Daniel Kahneman, Jack L. Knetsch and Richard H. Thaler, ‘Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias’, 5 *The Journal of Economic Perspectives* 199 (1991). ‘Another central result is that changes that make things worse (losses) loom larger than improvements or gains’.

⁹⁹ Cabinet Office, *Applying behavioural insights to reduce fraud, error and debt*, cit., 24.

In order to raise the tax compliance level, the researchers seem to confirm the relevance ‘of moving away from mechanistic recommendations on tax administration, and of moving towards an analysis of the relationship between tax morale in developing countries and individual characteristics as well as satisfaction with and trust in the government’.¹⁰⁰ Although social norms are not able to achieve positive effects in any contexts¹⁰¹ and their implementation is not automatic,¹⁰² it seems possible to argue that this lesson from behavioural economics about tax-compliance might be important both to reduce the “tax-gap”¹⁰³ and to design interventions to increase tax revenue.

2.2 Taxpayers and its cognitive biases

The findings of behavioral economics have demonstrated that variables in the equation (as illustrated above) are not complete enough to understand taxpayers’ behavior, which have affected by a series of cognitive errors in judgment and decision making, especially with respect to tax and public finance; these areas are of considerable complexity.¹⁰⁴ This section will illustrate some behavioral biases and limits that affects taxpayers, which can alter their behavior.¹⁰⁵

(a) *Isolation or focusing effects*: a taxpayer faces some complex questions (tax and fiscal policies are complex matters) and he makes choices based on the most salient or obvious aspect, in this way failing to take into account logically important information that is not immediately available to his mental models.¹⁰⁶ Taxpayer adopts a single (simple) mental model and he processes only information present in its scheme, and others relevant factors are excluded; therefore, this cognitive error can be illustrated as a sort of “tunnel vision” in approaching problems and choices.¹⁰⁷

(b) *Postdiction*: a large body of evidence has recognized that people consider facts or events concerning the future differently than facts or events concerning the past. Even if objective probabilities

¹⁰⁰ OECD, *Tax and Development: What Drives Tax Morale?*, cit., 3.

¹⁰¹ For an emphasis of the effectiveness of social norms, see Andrew Leicester, Peter Levell and Imran Rasul, ‘Tax and benefit policy: insights from behavioural economics’, IFS Commentary C125 (2012). However, in some cases, a social norms campaign does not reach maximum satisfaction, see Marsha Blumenthal, Charles W. Christian and Joel Slemrod, ‘Do normative appeals affect tax compliance? Evidence from a controlled experiment in Minnesota’, 54 *National Tax Journal* 134 (2001). ‘We find little or no evidence that either of two normative appeals delivered by letter affects aggregate tax compliance behavior [...]. We conclude that these experimental results yield no evidence for policy makers that normative appeals will bring in additional tax revenues and, for researchers, no evidence that this kind of normative appeal affects tax compliance’.

¹⁰² See Jeffrey J. Rachlinski, ‘The Limits of Social Norms’, 74 *Chicago-Kent College Law Review* 1537 (2000). The author has recognized three important obstacles to the use of social norms: ‘first, antisocial norms, once established, are hard to dislodge; second, even if people adhere to positive social norms, determining when they are triggered is difficult; third, subtle aspects of situations can induce antisocial conduct, seemingly even against social norms’.

¹⁰³ Vito Tanzi and Parthasarathi Shome, ‘A Primer on Tax Evasion’, Working Paper No. 93/21, IMF (1993), 1-23, in particular 17.

¹⁰⁴ See Edward J. McCaffery and Jonathan Baron, ‘Thinking About Tax’, 12 *Psychology, Public Policy, and Law* 106-135 (2006).

¹⁰⁵ See Edward J. McCaffery and Jonathan Baron, ‘Heuristics and Biases in Thinking About Tax’, Law & Economics Research Paper Series (2003), 1-28.

¹⁰⁶ Edward J. McCaffery and Jonathan Baron, *Thinking About Tax*, cit., 107.

¹⁰⁷ *ibid*

and payoffs are identical, individuals are much more willing to ‘predict a future event (and are more confident in the accuracy of their predictions) than they are willing to postdict a past event (and are also less confident in the accuracy of their postdiction)’.¹⁰⁸ Taking into account these results, it is possible this refers to traditional income tax system, which is based on a limited system of auditing that cannot evaluate all tax files. More generally, taxpayers send their individual income tax return (whether correct or false), then, in the next step, the tax authority randomly selects a small number of files for auditing. Therefore, in this phase, taxpayers who will be audited are identified only after tax returns are filed and individuals who consider committing fraud are engaged in prediction. However, the tax-authorities could change their filing-auditing sequence, selecting before (in advance) the names of those who will be audited, and they will leverage on the fact that taxpayers that are affected by postdiction will be more risk-averse to evasion.¹⁰⁹

(c) *Tax aversion*: of course, it should not be necessary to state that people do not generally like taxes. The tax-aversion can be associated to the loss aversion bias: taxpayers react to a perceived loss more negatively than the mere failure to obtain a gain, even if their value is the same thing. Taxpayers who are ‘in the status of “gain” (expect to get a refund) are substantially more risk-averse (avoid cheating) when filing their taxes as compared to individuals who are in the status of “loss”’.¹¹⁰ In other word, to the extent that taxes are perceived as losses and subsidies are perceived as gains, loss aversion suggests that taxes will have a stronger behavioral effect. Moreover, this aversion is linked to the extent in which governments labeled their tax - such as over-tax, surcharge, right of use and so on - and this seems achieve different behaviors from taxpayers; thus, it seems clear that the label “tax” alone creates negative attitudes. For instance, in the tax-law context, ‘a “child bonus,” *ceteris paribus*, appears to help parents, while a “childless penalty” appears to hurt non-parents’.¹¹¹ Some scholars have conducted an experiment to observe the subject’s reaction in based on the way of raising funds for the services (education, theft insurance, basic telephone service, mail delivery, basic health care, vaccinations and others), *i.e.*, if funds are called a “tax” or a “payment”. The result of this experiment has been the following: ‘subjects have reacted differently to levies called a tax than to those called a payment, even if the amounts were identical’.¹¹² This different perception about tax might have relevant implications in the formulation of effective policy tools.

¹⁰⁸ See Ehud Guttel and Alon Harel, ‘Uncertainty Revisited: Legal Prediction and Legal Postdiction’, *SSRN Electronic Journal* 107 (2008), at 3. See also Alon Harel, ‘Behavioural Analysis of Criminal Law: A Survey’, 2 *Bergen Journal of Criminal Law and Criminal Justice* 1 (2014), 32-55.

¹⁰⁹ This risk-averse view of a past event may be of use for governments and tax authorities to improve legislative tools and to ‘pre-examine the operation of tax enforcement authorities’. See also Alon Harel, ‘The Contribution of Gary Becker’, in Markus D. Dubber (ed.) *Foundational Texts in Modern Criminal Law* (OUP Oxford, 2014), at 314. ‘The differential treatment of prediction and postdiction suggests that criminals are more likely to bet in the second case than in the first. Consequently, the first type of precautions is more effective’.

¹¹⁰ Ehud Guttel and Alon Harel, *Uncertainty Revisited: Legal Prediction and Legal Postdiction*, *op. cit.*, 28. This has been confirmed also by others scholars, see Otto H. Chang, Donald R. Nichols and Joseph J. Schultz, ‘Taxpayer attitudes toward tax audit risk’, 8 *Journal of Economic Psychology* (1987), at 307. ‘Taxpayers viewing tax payments as a reduction of gain exhibited different behavior from those who viewed tax payments as certain losses’.

¹¹¹ Edward J. McCaffery and Jonathan Baron, ‘Framing and taxation: evaluation of tax policies involving household composition’, Center for Law and Social Science Research Papers Series, No. CLASS13-1 (2003), at 7.

¹¹² Edward J. McCaffery and Jonathan Baron, *Heuristics and Biases in Thinking About Tax*, *cit.*, 13.

(d) *Myopia*: many biases can be identified with the “time inconsistent preferences”, *i.e.*, people fail to account the longer term effect of a choice, but they focus only a short-term period. In the tax-law context, the classic example refers to the failure to save (or the tendency of “over-consumption”).¹¹³ Taxpayers seem do not able to take into account the long-term effects, when they are oriented to pursue their short-term needs. This behavioral bias is intrinsically linked with procrastination: according to the traditional paradigm, people will consider both the short-term and the long-term; in practice, ‘they procrastinate or neglect to take steps that impose small short-term costs but that would produce large long-term gains’.¹¹⁴ According to a behavioral life-cycle model, most people are unable to do the optimal thing. As a result they make a wide range of mistakes in their saving and spending decisions: taxpayers are affected by myopia in their saving decisions. In other words, taxpayers suffer an excessive concern with the present and a corresponding devaluation of the future’.¹¹⁵

(e) *Hidden tax*: if taxpayers are tax-averse, governments have a strong incentive to hide taxes in various ways. For example, as mentioned above, tax-authorities tend to hide taxes by giving them different labels such as user fees, surcharges, and so on. Taxpayers preferred hidden taxes to transparent taxes because they are not able to think about a long-term period; in this way they neglect to consider the true incidence of the tax. In this regard, some studies on Italian fiscal policies have revealed that there are more taxes that taxpayers never take into account. Moreover, there are hidden taxes included in energy bills that the government uses for different reasons: for example, taxes that are used to stimulate renewable energy, and for disposal of nuclear energy.

(f) *Saliency and framing*: people can be influenced by how information is presented or ‘framed’. In this way, choices involving a significant number of domains are often not made solely on an analysis of the totality of their consequences (weighing costs and benefits), but instead are influenced by how the information is organized.¹¹⁶ To describe these relevant cognitive biases, it is possible to refer to an experiment that highlights the role of saliency for taxes, which starts with the assumption that in some circumstances there are some types of taxes with some “shrouded attributes” to which some consumers do not dedicate much attention.¹¹⁷ The experiment is structured in two parts in the following way: first, a laboratory test conducted in a grocery store and, second, an observational study of the effect of alcohol taxes on alcohol consumption.¹¹⁸ In a grocery store, the sales tax is added to the total cost of the product

¹¹³ This point is emphasized in George Loewenstein, ‘Because it is there the challenge of Mountaineering...for Utility Theory’, in George Loewenstein (ed), *Exotic Preferences. Behavioral Economics and Human Motivation* (Oxford University Press, 2007).

¹¹⁴ Cass R. Sunstein, ‘Nudges.gov: Behavioral Economics and Regulation’, in Eyal Zamir and Doron Teichman (eds), *The Oxford Handbook of Behavioral Economics and the Law* (Oxford University Press, 2014), at 721.

¹¹⁵ See Edward J. McCaffery, ‘Behavioral Economics and the Law: Tax’, in Eyal Zamir and Doron Teichman (eds), *The Oxford Handbook of Behavioral Economics and the Law*, cit., 606.

¹¹⁶ In particular, information that appears vivid and salient can have a great effect on human behavior, more than information written in an abstract or statistical form.

¹¹⁷ Cass R. Sunstein, *Empirically Informed Regulation*, cit., 1355. These types of taxes, such as taxes on raw material added at the end of the shopping - are likely to receive a low consideration because they are not salient.

¹¹⁸ See Raj Chetty, Adam Looney and Kory Kroft, ‘Saliency and Taxation: Theory and Evidence’, 999 *American Economic Review* (2009), 1145-1177.

only at the register (hence is less salient).¹¹⁹ Aiming to test if end-users underreact to the sales tax because it is not included in the post price, the authors have posted some “special tags” showing the tax-inclusive price below the original pretax price tags. The findings show that ‘without the tags, nearly all survey respondents ignored taxes when calculating the total price of a basket of goods, whereas with the tags, the vast majority computed the total tax-inclusive price correctly’.¹²⁰ This evidence seems to be confirmed by the alcohol tax test. In fact, the authors have recognized that when such taxes are specifically identified in the post price, increases in such taxes have a larger negative effect on alcohol consumption than when they are applied at the register (hence are less salient). The experiments have demonstrated that salience is an important determinant of behavioral response to taxation; therefore, governments and policy-makers should take into account these results, formulating sensible regulatory policies, especially those that involve disclosure and are attentive to the importance of salience.¹²¹

(g) *Subadditivity*: taxpayers seem more willing to pay a small tax, rather than a big and large tax, even if they amount to the same total costs for taxpayers. This bias is related to salience: for a series of low-salient taxes produces less psychic pain than an equivalent, large, transparent tax.¹²²

Although there are many more biases that affect taxpayers - such as metric, penalty aversion, neutrality, disaggregation, and so forth - the objective of this essay is not make a list and describe it, but to focus only on relevant biases and explain in general taxpayer behavior. Thus, the fundamental task for the behavioral perspective is ‘to come up with ways to debias or counteract widespread behavioral biases and their effects’.¹²³ These results suggest that principal may have access to a broader range of instruments to influence compliance without enforcement, especially using the insights of behavioralism to support proposals to promote individual savings through *ad hoc*, tax-favored vehicles.¹²⁴ For instance, the identification of specific, clear, unambiguous information about the fiscal policies or the providing of personal payment reminders can reduce tax evasion or loss aversion bias.¹²⁵

¹¹⁹ Cass R. Sunstein, *Empirically Informed Regulation*, *op. cit.*, 1146.

¹²⁰ *ibid*

¹²¹ Cass R. Sunstein, *Nudges.gov: Behavioral Economics and Regulation*, *cit.*, 739. There is accumulating evidence that suggests the relevance of the salience, see N. Dwenger et al, ‘Extrinsic and Intrinsic Motivations for Tax Compliance: Evidence from a Field Experiment in Germany’, (2015). The experiment has evaluated the effects of various interventions for increase the collecting of the local church tax. In short, tax salience and deterrence have strong effects on compliance.

¹²² For a more detailed analysis of the subadditivity, see Amos Tversky and Derek J. Koehler, ‘Support Theory: A Non Extensional Representation of Subjective Probability’, 101 *Psychological Review* (1994), 549. ‘The subadditivity assumption, we suggest, represents a basic principle of human judgment. When people assess their degree of belief in an implicit disjunction, they do not normally unpack the hypothesis into its exclusive components and add their support, as required by extensionality. Instead, they tend to form a global impression that is based primarily on the most representative or available cases’.

¹²³ Edward J. McCaffery, *Behavioral Economics and the Law: Tax*, *cit.*, 603.

¹²⁴ Edward J. McCaffery, ‘Behavioral Economics and Fundamental Tax Reform’, in John W. Diamond and George R. Zodrow (eds.) *Fundamental Tax Reform: Issue, Choices, and Implications* (MIT Press, 2006), at 455.

¹²⁵ Cass R. Sunstein, ‘Making Government Logical’, *The New York Times*, 19 September 2015, 1. For example, ‘the White House’s Social and Behavioral Sciences Team helped to design a new email campaign to increase savings by service members, which nearly doubled enrollment in federal savings plans. It found that simple text messages to lower-income students, reminding them to complete required pre-matriculation tasks, increased college enrollment among those students by 5.7 percentage points’.

3. Conclusion: some suggestions for principal

My central claim in this essay has been that, with the support of the behavioral point of view, it is possible to develop the traditional PAT, identifying different kinds of incentives, and promoting new tools to contrast crimes. Applying a wide model of PAT to study some social pathologies, it is possible to include new variables in order to explain deviant behavior and understand that, for example, an agent chooses to betray the principal's trust, extorting a bribe, because he is affected by behavioral biases and limits that depart from the classical assumptions. The findings of behavioral economics might be a valid support to provide a proper strategy for principals to prevent illicit behaviors, in terms of positive incentives¹²⁶ as well as to contribute to 'identify more clearly the proper scope of regulation'.¹²⁷ Therefore, the principal should take into account these results, adopting the following interventions.

First, regulation should be "re-thought",¹²⁸ including all information and evidences, *i.e.*, 'the real world consequences [and real people reactions] in to regulatory interventions'.¹²⁹ As noted above and underlined by scholars, the principal has the objective to modify behavior or life style of individuals and recognizes limits and biases, by increasing the quality of regulations.¹³⁰ In this way, public policies enriched with the analysis of the behavioral insights 'offer crucial information to rule-makers about the reactions of end-users, and in so doing they enable the better formulation of rules and the provision of more adequate responses to the public interest they are intended to satisfy'.¹³¹ This amount of supplementary information can be considered as an antidote to political corruption, and fill the gap of the asymmetry.¹³²

Aiming for a proper implementation of the behavioral approach, it is necessary that its influence must cover all steps of the regulatory cycle.¹³³ In order to ensure that regulation is empirically informed, it

¹²⁶ See Johann G. Lambsdorff, *Behavioral and experimental economics as a guidance to anticorruption*, cit., 279.

¹²⁷ Cass R. Sunstein and Oren Bar-Gill, *Regulation As Delegation*, cit., 3.

¹²⁸ Matthew Adler and Eric A. Posner, 'Happiness Research and Cost-Benefit Analysis', in Eric A. Posner and Cass R. Sunstein (eds), *Law and Happiness* (The University of Chicago Press, 2010), at 254.

¹²⁹ Cass R. Sunstein, 'Paradoxes of the Regulatory State', *57 University of Chicago Law Review* (1990). In this regard, see Julio Ponce Solé, 'Nudging, simplificación procedi mental y buen gobierno regulatorio: el Derecho Administrativo del siglo XXI y sus relaciones con las ciencias sociales', *La Simplificación de los Procedimientos Administrativos* (2014), at 197. 'Los buenos procesos de toma de decisión de las autoridades públicas requieren un aprendizaje de la gestión de los escasos recursos cognitivos existentes'.

¹³⁰ Nicoletta Rangone, 'Dalle scienze cognitive, alcune indicazioni per i regolatori', *Studi Parlamentari e di Politica Costituzionale* 175 (2012), 95-105, in particular 97.

¹³¹ Fabiana Di Porto and Nicoletta Rangone, 'Cognitive-Based Regulation: New Challenges for Regulators?', in www.federalismi.it, No. 20 (2013), at 3. See Sarah Conly, *Against Autonomy: Justifying Coercive Paternalism* (Cambridge University Press, 2012), at 2. 'The existence of cognitive deficits does suggest a need for different sorts of legislation [...]'.
¹³² See Matthew S. Winters et al, 'Using Field Experiments to Understand Information as an Antidote to Corruption', in Danila Serra and Leonard Wantcheko (eds), *New Advances in Experimental Research on Corruption* cit., 217. See also John W. Pratt and Richard Zeckhauser, 'Principals and Agents: An Overview', in John W. Pratt and Richard Zeckhauser (eds), *Principals and Agents: The Structure of Business* (Harvard Business School Press, 1985) 2-3. 'The challenge in the agency relationship arise whenever [...] the principal cannot perfectly and costlessly monitor the agent's action and information'.

¹³³ The application of the experimental results requires a deep re-design of the process of policy-making, specifically, this requires the addition of time and resources to incorporate the appropriate behavioral information. In particular, principals run the risk of creating government failures if they do not properly evaluate how its own regulatory tools actually function. However, the important question that arises from the discussion in the literature (and that is not

is necessary to evaluate the effects of rules, and these rules should be subject to public pre-review and comments (where irrationalities and limits can emerge and be recognized)¹³⁴. In this case, RIA can be a valid and powerful support when formulating alternative policy options, with regard to non-economic incentives adopted for *real people* (reciprocan men).¹³⁵ This instrument can assume a relevant role in order to gather real and actionable information from clients, preventing limitations and unexpected behaviours, and enriching data and information that support the policy-options preferred. Moreover, regulations must be revisited through a cycle of *ex-post* evaluation and adjustment over time to monitor unintended adverse side effects; in this phase, the role of maintenance of rules seems to be relevant for continual improvement.¹³⁶

Second, the nature of supervisory coercion should be “re-examine”¹³⁷, this intervention focuses on the “controls and sanctions” mix and the opportunities offered by the behavioral sciences’ findings to improve the quality of enforcement.¹³⁸ Traditional policies to fight corruption, tax evasion, and others unlawful activities, which are based on punishments and fines (that is a type of repressive approach), are limited and their impacts are heterogeneous. Regulators should adjust their sanction’s level and the accountability system: specifically, in regards to sanctions, these should be both well-proportioned (*i.e.*, balanced) aiming to be a real deterrent, and able to influence the social sphere of the criminals (corrupts agents, tax evadors, etc.), including reputational sanctions,¹³⁹ moral costs, social disapproval, and set forth.¹⁴⁰ Specifically, in regards to controls, some experts have argued that it is necessary to encompass a risk-based approach: ‘in order to be effective - express specific difficulties especially in mapping the most dangerous areas or cases of administrative activity in which it is more probable to find evidence of corruption’.¹⁴¹

completely resolved) is the following, *i.e.*, ‘how to turn the plentiful empirical findings about human behavior into an operational regulatory tool’. See on this point Alberto Alemanno and Alessandro Spina, ‘Nudging Legally. On the Checks and Balances of Behavioural Regulation’, *I•CON*, vol. 12, n.° 2, 2014, 429-456.

¹³⁴ The consultation phase requires a group of experts with technical skills focused on behavioural economics, statistics and data management.

¹³⁵ About the role of the impact assessment tool, see Alberto Alemanno, ‘Nudging Europe. Why the European Commission should include behavioural insights in the design of regulatory proposals’, *European Voice* (16 May 2012).

¹³⁶ On this topic, see Maria De Benedetto, ‘Maintenance of Rules’, CREI Working Paper No. 2 (2014).

¹³⁷ See Brad T. Gomez, Scott Gates and Brad Gomez, ‘Donut Shops, Speed Traps, and Paperwork: Supervision and the Allocation of Time to Bureaucratic Tasks’, in G. Krause and K. Meier (eds), *Politics, Policy and Organisations: Frontiers in the scientific study of bureaucracy* (Ann Arbor, MI: University of Michigan Press), at 133.

¹³⁸ For an emphasis on this point, see Gary S. Becker and George J. Stigler, ‘Law Enforcement, Malfeasance, and Compensation of Enforcers’, in 1 *The Journal of Legal Studies* (1974), 1-18, in particular 4.

¹³⁹ See Philip Hampton, ‘Reducing administrative burdens: effective inspection and enforcement’, Final Report (2005), at 20. ‘[...] incentives such as award schemes or reputational sanctions such as ‘naming and shaming’ to encourage compliance’.

¹⁴⁰ See Iris Bohnet, ‘Betrayal Aversion: Evidence from Brazil, China, Oman, Switzerland, Turkey, and the United States’, 98 *American Economic Review* (2008), at 295. ‘[...] if people are averse to being betrayed beyond the mere pay-off consequences, it will be important to decrease the likelihood of betrayal as well, for example through incentives acting on reputations’.

¹⁴¹ Maria De Benedetto, *Corruption and controls*, cit., 490.

Third, regulator might be considered as a “choice architecture”, which designs a context where people are nudged to assume a desirable behavior to them.¹⁴² The idea of nudge, inspired by paternalist liberalism, is rooted in an understanding of biases that people are subject to in various situations where they have choices to make.¹⁴³ Nudge can ensure that policies are based on facts and evidence, rather than dogmas, anecdotes, and ideologies, enriching the quality of information described at the beginning.¹⁴⁴ Nudging possesses an inverse methodology to address the individual behavior, which does not entail the enactment of the normative provisions; in this way, the first result is to reduce the potential negative incentive, *i.e.*, the over-regulation:¹⁴⁵ ‘the proclaimed advantage in doing this is that public policy-makers might influence our everyday choices and behaviors without recourse to injunctions or bans’.¹⁴⁶

Traditionally, a nudge can be linked with the following tools - such as default rules, smart disclosure, and others simplification tools - that are considered as “informational nudges”.¹⁴⁷ Default rules are defined as “canonical nudge”¹⁴⁸ and are hinged on the power of inertia and procrastination, which lead individuals to predetermined choices. For example, aiming to nudge people toward a better choice for their welfare, policy-makers have promoted tax-favoured and highly salient savings plans.¹⁴⁹ Smart disclosure can significantly improve tax-compliance, leading tax-payers to make more informed decisions. Considering individual’s cognitive capacities that are not infinite, particularly their attention is very limited, and standard tax system that is not simple to be well-understand, policies should provide a clear and salient information.

Although nudge presents more positive points¹⁵⁰, perhaps, the most critical factor is related to the ethical question, *i.e.*, nudging tends to work best when users are unaware that their behaviour is influenced by choice architecture. In this regard, the question is whether nudges should be counted as unacceptably manipulative or as an interference with freedom¹⁵¹. Moreover, some authors have pointed to the “behavioral paradox”¹⁵², *i.e.*, principals (or choice architectures) are boundedly rational too and they may

¹⁴² See Richard H. Thaler and Cass R. Sunstein, *Nudge. Improving decisions about health, wealth and happiness* (Yale University Press, New Haven, CT, 2008).

¹⁴³ See Richard H. Thaler and Cass R. Sunstein, ‘Libertarian Paternalism’, 93 *The American Economic Review* (2003).

¹⁴⁴ Cass R. Sunstein, *Simpler: The Future of Government* (Simon & Schuster, 2013). See also Cass R. Sunstein, *Why Nudge?: The Politics of Libertarian Paternalism* (Yale University Press, 2014), 26-32.

¹⁴⁵ In this regard, see Anthony Ogus, ‘Corruption and Regulatory Structures’, Berkeley Program in Law and Economics Working Paper Series (2003), 1-16, in particular 5.

¹⁴⁶ See Pelle G. Hansen and Andreas M. Jespersen, ‘Nudge and the Manipulation of Choice. A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy’, *European Journal of Risk Regulation* 1 (2013), at 4.

¹⁴⁷ Saurabh Bhargava and George Loewenstein, ‘Behavioral Economics and Public Policy 102: Beyond Nudging’, 105 *American Economic Review: Papers & Proceedings* 397 (2015).

¹⁴⁸ See Cass R. Sunstein, ‘Deciding by default’, 162 *University of Pennsylvania Law Review* (2013).

¹⁴⁹ Edward J. McCaffery, *Behavioral Economics and the Law: Tax, op. cit.*, 606.

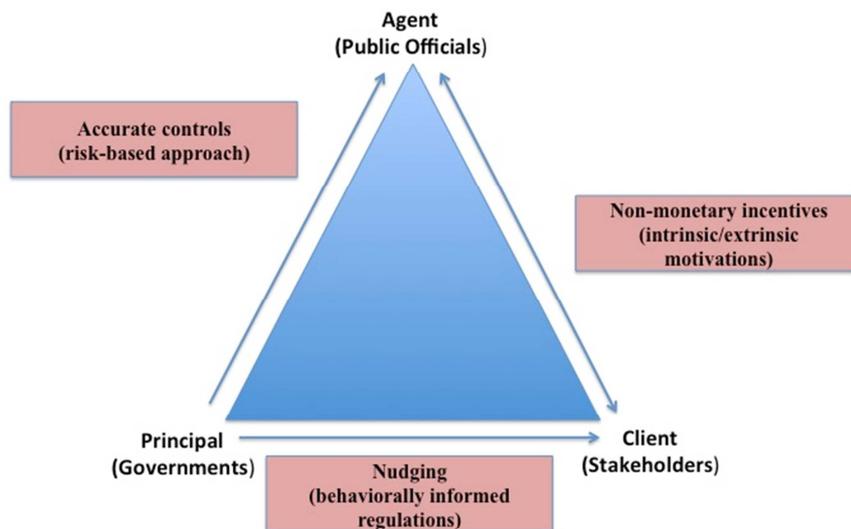
¹⁵⁰ Among the positive points, nudge influences human behaviour without reducing the freedom of end-users, increasing efficacy and it has low costs. See Nicoletta Rangone, ‘Errori cognitivi e scelte di regolazione’, 1 *Analisi Giuridica dell’Economia* (2012), 15-17.

¹⁵¹ See Kyle Whyte and Evan Selinger, ‘Is There A Right Way To Nudge The Practice And Ethics Of Choice Architecture’, 5 *Sociology Compass* 10 (2011), at 928.

¹⁵² Kip Viscusi and Ted Gayer, *Behavioral Public Choice: The Behavioral Paradox Of Government Policy*, 38 *Harvard Journal of Law & Public Policy* (2015), at 1106.

be affected by behavioral failures: ‘although government agencies increasingly use behavioral irrationalities as a justification for government intervention, the paradox is that these same government policies are also subject to similar behavioral inadequacies across a broad range of policies’.¹⁵³

Considering these results, in the figure 1 (here below), the paper has attempted to re-design PAT, aiming to widen the analysis of the social problems, such as corruption and tax evasion, focusing on the behavioral insight that might affect the actors of the model.



¹⁵³ *ibid*

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