Making Law Effective: Behavioural Insights into Compliance

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This paper investigates traditional and new tools for increasing the effectiveness of rules and enforcement strategies. As a preliminary concern, it underlines that there are two sides to effectiveness that cannot be approached separately: effectiveness as perfect compliance with the terms of rules, and effectiveness as a result of rules which incentivise behaviours to meet the "spirit of the law". In order to achieve this comprehensive approach to effectiveness, rules must be evidence-based, plain, understandable and accepted. Moreover, a clear understanding of compliance drivers is needed. Deterrence and all other possible motivations that go beyond the rational calculus should be assessed by decision-makers, such as internal motivation, procedural fairness, cooperation, social norms, heuristics and bias. Enriching the rationality assumption with other drivers of compliance does not mean dismissing traditional rules or enforcement tools, which conversely remain crucial for the purpose of supporting voluntary compliance and for preventing non-compliance. However, deterrence should be calibrated by a risk-based, responsive and proportional approach to (simplified) rules and enforcement strategies. Trust in public authorities, supportive and cooperative public administrations are also fundamental in order to increase voluntary compliance, and a cognitive-based approach should complement these views.

Dogmatic jurists have been traditionally indifferent to the "law in action", considering that the task of legislators and regulators is limited to drafting the "law in the books".[1] Related to this approach is an indifference for the law effectiveness[2] and for any empirical investigation into drivers that induce people to comply (such as deterrence, emotions or social norms) or – in general – that lead laws to attain their desired ends. Such approach has been indirectly supported by neoclassical economics and its idea that people can be treated as selfish, rational and independent agents.[3] According to this paradigm, compliance is related to rules

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[1] "Effective administration is perhaps the great problem of the future. (…) It is the work of lawyers to make the law in action conform to the law in the books (…) by making the law in the books such that the law in action can conform to it, and providing a speedy, cheap and efficient legal mode of applying it": R Pound, "Law in books and law in action" (1910) 44 American Law Review 35 at 36.

[2] "Le droit dogmatique considère qu'il y a règle de droit véritable dès qu'un texte émanant de l'organe constitutionnellement compétent a été régulièrement promulgué. Peu importe que ce texte ne soit pas effectivement appliqué. (…) L'effectivité n'appartient pas à la définition de la règle de droit": J Carbonnier, "Effectivité et ineffectivité de la règle de droit" (1957) 9 L'année sociologique 3.

[3] "Traditional regulatory theory simplified the [regulatory task] by assuming that consumers made rational choices. The regulator then could proceed, in brief, by positing a rational consumer in a specified market environment and

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supported by adequate sanctions and controls, information disclosure offers sufficient guarantees to consumers or private investors and economic incentives are able to influence individuals and firms.

The reality is both simpler and more complex at the same time. Compliance decisions are not necessarily the result of a complex cost-benefit and risk analysis. On the contrary, many determining factors which go beyond rationality lead people to action or inaction (eg emotions and social norms), and any decision to comply is not taken once and for all (it may be influenced, for instance, by previous experience and by public authorities' attitudes toward regulatees). Moreover, information is neither easily processed nor decisive in supporting conscious behaviours, and individuals and firms are not necessarily driven by economic incentives to act in accordance with rules.

While the findings of psychology, sociology, behavioural economics and behavioural ethics are well established and accepted in many areas of the social sciences, they have only marginally influenced the juridical approach to regulation and enforcement strategies of many rule-makers and law-makers around the world. Indeed, despite some countries having created behavioural insight teams in order to support regulators with experiments and expertise, none has yet implemented a comprehensive approach which, using insights from all of the above-mentioned disciplines, has led decision-makers to assessing all compliance drivers in order to draft more effective rules and enforcement strategies.

The intention of the paper is to support public decision-makers in approaching these disciplines towards a better understanding of human behaviours. It argues that for rules to be effective there needs to be a clear understanding of all drivers leading people to comply or, in a broad term, to react to rules by one of three responses: comply with the rules, break the rules, or comply creatively. Such drivers are not only deterrents, information or economic incentives, but also all other possible motivations that go beyond the rational calculus, such as internal motivations, a sense of procedural fairness, cooperation, social norms, or cognitive biases and heuristics. From this perspective, the paper addresses two points: it argues that such drivers help to identify not only the conditions for successful use of rules, but also the relative potential of rules as opposed to other control devices in different contexts.

The paper is organised as follows: Section I suggests a comprehensive approach to effectiveness, composed of two directions: effectiveness as perfect compliance with the terms of rules, and effectiveness as a result of rules which incentivise behaviours to meet the "spirit of the law".

Section II claims that the concepts related to the quality and the effectiveness of law and regulation are strictly linked, and that better regulation tools (such as legal drafting and the assessment of rules) may help public decision-makers in increasing the

(F'note continued)
comparing the choices she would make if choice were costless with the choices she would make if choice were costly in various way. If these (theoretically derived) choices differed widely (and the models had some empirical validation), there was reason to intervene in actual markets": A Schwartz, "Regulating for rationality" (2015) 67 Stanford Law Review 1384.

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effectiveness of rules and enforcement strategies. In turn, the latter are indeed crucial in increasing compliance and thus the effectiveness of rules.

Section III investigates different approaches to compliance-seeking, which lead to different rules and enforcement strategies. Some of these approaches (from the classic deterrence approach to the risk-based) assume the individual's rationality, while others suggest an understanding of compliance from a more complex and nuanced perspective. These studies suggest that it is worth paying attention, for instance, to psychological drivers and to individual internal motivations; to focus on the main actors of compliance and on their interaction (eg the single regulatee, other regulatees, and public authorities such as inspectors); and to consider the perceived legitimacy of public authorities ("procedural justice").

Section IV proposes that one more strand of this research is to be found in the cognitive sciences (ie all disciplines that study human cognitive limitations and how rules should respond to departures from rational behaviour),[4] which have contributed to the emergence of new regulatory tools (Section 2) and enforcement strategies (Section 3). These new tools are crucial in enhancing the effectiveness of law and regulations whenever a behavioural element exists (ie when the main objective of a rule is to change individual behaviour, or when individuals' behavioural response might hinder the effectiveness of a given rule).[5] In these cases, the use of cognitive insights in public decision-making and in regulatory impact assessment (to perform what is suggested should be qualified as "cognitive-based impact assessment") can be considered the most advanced border of better regulation.

In Section V, the paper concludes by suggesting that an integration of compliance approaches could offer the most promising prospects in increasing effectiveness. On one hand, deterrence is crucial in order to prevent non-compliance and to support voluntary compliance; however, in order to be effective, deterrence should be calibrated by a risk-based and responsive approach to rules and enforcement strategies. On the other hand, trust and cooperation are fundamental in order to ease voluntary compliance, and (in some circumstances) a cognitive-based approach should complement these views for the purpose of increasing effectiveness by designing environmental choices which prompt or support a given behaviour.

I. Two dimensions of effectiveness: the formal and the substantive

Effectiveness is crucial for any legal system. When rules are not effective, the problem they aim to address remains unsolved; for instance, private investors hold onto disastrous speculations, gamblers keep playing unless it ruins their lives, workers are not protected against accidents, pollution increases, etc. Moreover, ineffective rules are not justified and they are no more than a burden on public administrations, citizens and firms.

[4] Departures from rational behaviour are widely analysed in behavioural economics, sociology, psychology and behavioural ethics. In addition, neuroscience, with brain imaging, eye-tracking and other methods, could provide useful insights, but their contribution to rule-making and law-making is still limited.

[5] R Van Bavel et al, *Applying Behavioural Sciences to EU Policy-Making,* JRC Scientific and Policy Reports (Publications Office of the European Union 2013) 6.

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The indifference for the "law in action" has been criticised and – in many countries – overcome by an attention to the legislation and regulation life-cycle and thus enforcement has assumed an increased importance.[6] However, it is still not clear what is meant by effective rules. Following the shared understanding that compliance corresponds to conformity with rules,[7] effectiveness would coincide to perfect compliance with the terms of rules. In order to attain this type of compliance (ie conformity with rules), ex ante controls (such as concession systems), harsh sanctions and frequent inspections have traditionally been considered as the most effective enforcement strategies (ie a classic deterrence approach).[8]

While this dimension of effectiveness is crucial, the mere correspondence of behaviour with legal rules may not be decisive in meeting public goals. For instance, it has been demonstrated that compliance with a rule to disclose conflicts of interest can result in being ineffective in protecting financial investors because of the "anchoring effect"[9] (people can still feel a pressure to adhere to the advice disclosed as conflicted, or they paradoxically increase trust in the advice, interpreting the disclosure as a sign of honesty).[10] In the same vein, the so-called four eye rule, introduced in many systems in order to curb corruption, sometimes backfires, because people working in pairs are more likely to engage in corruption than people working individually.[11] Another example is opportunistic reporting in tax compliance, which reduces taxes by taking advantage of systems based on self-reporting (eg tax reporting of excessive R&D expenses, where it allows tax deductions and tax credits);[12] this practice cannot be qualified as tax evasion, but it leads to interpreting rules to gain advantages that those rules were never intended to recognise (tax avoidance). A reaction to this and other similar practices leading

[6] OECD, *Best Practice Principles for Regulatory Policy: Regulatory Enforcement and Inspections* (OECD 2014) 3.

[7] B Kingsbury, in "The concept of compliance as a function of competing conceptions of international law" (1998) 19 Michigan Journal of International Law 345 at 346 makes "the contrary argument that the concept of compliance with the law does not have, and cannot have, any meaning except as a function of prior theories of the nature and operation of the law to which it pertains".

[8] This approach to compliance is strictly linked to the neoclassical economics theory, based on the utility maximisation assumption (GS Becker, "Crime and Punishment: An Economic Approach" (1968) 76(2) Journal of Political Economy 169; GJ Stigler, "The Theory of Economic Regulation" (1971) 2(1) Bell Journal of Economic and Management Science 3), according to which people and firms act on the basis of a rational assessment of the option providing the largest net gain: see M Alligham, *Rational Choice* (Macmillan 1983). "In the taxation context, for example, a taxpayers' choice is between compliance and tax evasion. By complying, the taxpayer incurs a loss in the form of taxes paid, but evading tax there is the chance of a relative gain if evasion is undetected. Alternatively, there is the chance of an ever greater loss if the evasion is detected and penalized. According to the rational choice model, taxpayers calculate these risks when deciding whether or not to comply": K Murfy, "The Role of Trust in Nurturing Compliance: A Study of Accused Tax Avoiders" (2004) 28 Law and Human Behaviour 187 at 188.

[9] A Tversky and D Kahneman, "Judgment under Uncertainty: Heuristics and Biases" (1974) 185 (4157) Science 1124 at 1128.

[10] Moreover, the adviser in a conflict of interest might no longer feel responsible for the consequences as a perverse effect of disclosure: S Sah, DM Cain and G Loewenstein, "Confessing one's sins but still committing them: transparency and the failure of disclosure" in A Oliver, Behavioural Public Policy (Cambridge University Press 2013) 148.

[11] O Weisel and S Shalvi, "The collaborative roots of corruption" (2015) 112(34) PNAS 10651.

[12] I Klein, "The Cost of Self-Reporting", paper presented at the 13th Annual Conference, SIDE - ISLE (Italian Society of Law and Economics), 15–16 December 2017, Rome.

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to more stringent and particularly detailed rules would paradoxically increase ineffectiveness by making room for even more creative compliance.[13]

Here the two dimensions of effectiveness take shape, the formal and the substantive. Substantive compliance relates to the ability of rules to incentivise people to attain the desired results of such rules, ie the public interest involved in a given rule, such as (in the previous examples) investor protection, corruption prevention or the provision of financial contributions to common needs and the functions of the public sector.[14] In these examples, mere compliance with the term of a rule does not lead to effectiveness.

Substantial effectiveness is indeed something more than perfect compliance: law and regulation are effective not only when adequate incentives to comply are addressed to regulatees (formal effectiveness), but even where they support mechanisms to produce the desired results and give a concrete answer to the public interests with which they deal (substantive effectiveness). Therefore, a corruption prevention rule forbidding public servants from accepting gifts whose value exceed a certain threshold is effective not only if employees abide by such a rule (they accept only gifts whose value is lower than the amount imposed by the code of conduct), but if such a rule helps people avoid performing corrupt actions. Moreover, such rules concerning admissible gifts do not prevent non-monetary incentives (such as invitations to give lectures in prestigious conferences), which are harder to resist because they "create an ambiguity with regard to the rationale behind giving them"[15] and could often lead people to break the impartiality duty unconsciously, ie without fully recognising the ethical and legal implications of their behaviour.[16] Therefore, effective rules must: produce properly identified and targeted outcomes; satisfy representative concerns (openness, accountability etc), and do this at lowest feasible cost; and create confidence that such performance will be sustained.

Attaining effectiveness (in this broader view) is a complex task for decision-makers, which must investigate all compliance drivers involved, such as social norms which provide important motivation for action or inaction,[17] or the perception of public

[13] D McBarnet and C Whelan, "The elusive spirit of the law: formalism and the struggle for legal control" (1991) 54(6) Modern Law Review 848.

[14] Referring his influential study of rules emanating from government, Robert Baldwin (*Rules and Government* (Clarendon Press 1995) at p 142 underlines that "making rules work involves more than producing rules that are conducive to compliance. If the rules are not designed properly then even perfect enforcement and compliance with the terms of the rules may not lead to the results that are desired by legislators or those regulating in the public interest (eg safe factories, clean rivers)".

[15] Y Feldman, "Using Behavioral Ethics to Reduce Organizational Misconduct" (2017) 3(2) Behavioral Science and Policy 88.

[16] Y Feldman, in *The Law of Good People: Challenging States' Ability to Regulate Human Behavior* (Cambridge University Press, forthcoming) argues that "the good-people rationale – the idea that ordinary people could engage in all types of wrongdoing without being aware of the full meaning of their behavior – greatly complicates the regulatory challenge of states. Because of various psychological and social mechanisms that prevent people from recognizing their wrongdoing and encourage them to feel as if they are far more moral, unbiased, and law abiding than they actually are, individuals today are less likely to react, at least not explicitly, to classical legal signals, which they view as directed to other, 'bad' people".

[17] For instance, "individuals' unethicality does not depend on the simple calculations of cost-benefit analysis, but rather depends on the social norms implied by the dishonesty of others and also on the saliency of dishonesty": F Gino, S Ayal and D Ariely, "Contagion and differentiation in unethical behavior: the effect of one bad apple on the barrel" (2009) 20(3) Psychological Science 393.

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authorities' fairness, apart from rational cost-benefit calculations (as will be further analysed in Sections III and IV).

II. Better regulation tools for effectiveness

Better regulation tools can help public decision-makers in enhancing the effectiveness of law, regulation and enforcement strategies.

As a preliminary concern, it is to be underlined that the effectiveness issue specifically concerns the regulatory content of a given law and regulation, ie the rules which have a direct impact on end-user organisation or activities.[18] Such a rule can be supported by: (i) a source of law approved at a political level; (ii) administrative provisions adopted by public administrations through discretionary or technical powers; and (iii) self-regulation delegated by public powers.[19] This is why better regulation tools are relevant for all decision-makers (both legislators and regulators), whenever they deal with rules.[20]

What is it about rules that makes them effective? First of all, in order to be implemented, rules must be accessible and understood.[21] To this aim, plain-language drafting, informed by the criteria of cost efficiency, clarity, precision and unambiguity, is crucial.[22] Measures must also be taken to ensure that end-users really understand rules, and how such rules are interpreted and enforced by public administrations.[23] To this end, many countries rely on simplification of rules and administrative procedures and their communication to the public,[24] as well as guidance documents, education programs, the

[18] Regulations must be divided into rules and principles, where the core element of rules is the content which directly affects the end users, differently from principles (such as free competition) which must be applied by rules: R Dworkin, *Taking Rights Seriously* (first published 1977, Harvard University Press 1997); M De Benedetto, M Martelli and N Rangone, *La qualità delle regole* (Il Mulino 2011) 13.

[19] According to a traditional assumption (based on a certain view of separation of powers) "the administration exercises discretionary powers in individual cases, while rules concerning an undetermined class of subjects or even all of them are reserved to Parliament. But this view fails to provide an account of much of today's activities of public administrations in two respects. First, there are individual decisions potentially affecting a large part of the population, such as the authorization to build and manage a nuclear plant. (…) Second, modern societies are not regulated only by legislation, but also by innumerable rules, often having a technical nature, issued by public administrations, for example, with regard to the marketing of pharmaceutical products and to the delivery of electronic communications": G Della Cananea, *Due Process of Law Beyond the State: Requirements of Administrative Procedure* (Oxford University Press 2016) pp 111–112.

[20] The approaches and tools used to improve the quality of legislation differ from those implemented for regulation. Indeed, while drafting has traditionally been performed and improved in the domain of legislation, other good quality regulation tools (such as regulatory impact assessment, regulatory burden measurement, SME proportionality test, ex post evaluation etc) are mainly used by regulators.

[21] One challenge to effectiveness is obscure and ambiguous rules and regulatory inflation: E Bardach and RA Kagan, *Going by the Book. Unreasonableness. A Twentieth Century Fund Report* (Temple University Press 1982) 193.

[22] H Xanthaki, "Quality of legislation: an achievable universal concept or a utopian pursuit?" in M Travares Almeida (ed), *Quality of Legislation* (Nomos 2011) 75; M Mousmouti, "Effectiveness as an Aspect of Quality of EU Legislation: is it feasible?" (2014) 2(3) The Theory and Practice of Legislation 309.

[23] F Blanc, *Inspection Reforms: Why, How and With What Results* (OECD Publishing 2012) point 29. The so-called "Table of Eleven" determinants of compliance developed by The Netherlands in 2004 comprises 11 dimensions divided into two groups: the enforcement dimension group and those dealing with spontaneous compliance (composed by factors that affect voluntary compliance, ie in the absence of enforcement). In the latter, the level of knowledge and understanding of the rules, as well as the clarity of rules play a crucial role.

[24] At European level, the European Parliament, the Council and the Commission made commitments "to update and simplify legislation and to avoid overregulation and administrative burdens for citizens, administrations and businesses, including SMEs, while ensuring that the objectives of the legislation are met", and the European Commission "undertakes to present annually an overview, including an annual burden survey, of the results of the Union's efforts to

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transparency of informal guidance, and the possibility to ask public administrations how to interpret a given rule. Moreover, while the debate on detailed rules versus discretion is open,[25] it has been demonstrated that effectiveness is threatened both by excessively stringent and detailed rules,[26] and by rules which leave too much room for administrative discretion.[27]

Secondly, in order to avoid ineffectiveness, rules should be evidence-based: rule-makers must assess in advance their impacts, compared with those of alternative and feasible regulatory options, while also paying attention to the new administrative burdens (which must be limited and justified), to the impact on competition and on small and medium-sized enterprises. In order to allow public decision-makers to find the most effective regulatory tool, impact assessment should be useful, provided that it does not assume regulatees to be perfectly rational and utility maximisers, and provided that it investigates what motivates people in a given situation, a tool which should be qualified as "cognitive-based impact assessment" (see also Section IV.1).[28] In this framework, the specific drivers involved in compliance must be assessed: deterrence, emotions, internal motivations, ethics or social norms. For instance, a regulatory impact assessment of a piece of whistle-blower regulation which has been enriched by the above-mentioned analysis might detect a possible internal motivation to report corruption and assess to what extent this internal motivation might have been undermined by a monetary incentive.[29] Otherwise, in the above-mentioned example, the ability of the four eye rule to prevent corruption would be assessed in advance, as would the effectiveness of a mechanism designed to prevent this rule from backfiring, ie changing the responsibilities assigned to each member of the pair.[30] A "cognitive-based impact assessment" can also help in predicting whether a given bias could lead a regulatory option to fail, but also whether other bias could offset it. Eg the status quo bias, which makes individuals reluctant to act (for instance, to switch to a new provider in a newly-liberalised market) could be counteracted by the optimism bias, which makes individuals believe in success from acting.

(F'note continued)
simplify legislation and to avoid overregulation and reduce administrative burdens" (point 48, Inter-Institutional Agreement for Better Law-making of 13 April 2016).

[25] Baldwin, supra, note 14, p 16 ff.

[26] Bardach and Kagan, supra, note 21, p 58; J Black, "Forms and Paradoxes of Principles Based Regulation" (2008) 13 LSE Legal Studies Working Paper 16; Baldwin, supra, note 14, p 179. These studies challenge the idea that precise and detailed rules discourage non-compliance by increasing deterrence and the probability of punishment, on one hand, and increasing settlements out of court and therefore also a return of resources, on the other: I Ehrlich and RA Posner, "An Economic Analysis of Legal Rule-making" (1974) 3(1) Journal of Legal Studies 257.

[27] Such rules could create a favourable environment for corruption: V Tanzi, "Corruption Around the World: Causes, Consequences, Scope, and Cures" (1998) 45(4) IMF Staff Papers 10–11; A Shleifer and RW Vishny, "Corruption" (1993) 108(3) The Quarterly Journal of Economics 599.

[28] While the EC Toolbox included biased behaviours among the problems that can justify a regulatory intervention in the first step of RIA, a cognitive-based impact assessment has not been yet developed or systematically used at European or national level: N Rangone, "A Behavioural Approach to Administrative Corruption Prevention" in A Cerrillo i Martínez and J Ponce (eds), *Preventing Corruption and Promoting Good Government and Public Integrity* (Bruyland 2017) 75–76.

[29] Y Feldman and O Lobel, "The incentive of Matrix: The Comparative Effectiveness of Rewards, Liabilities, Duties and Protection for Reporting Illegality" (2008) 2 Regulation and Governance 165.

[30] As suggested by Feldman, supra, note 15.

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The preventive investigation into effectiveness can prove particularly difficult when (as is often the case) public interests are interdependent or contradictory (eg health protection and public spending limitation), or they are implemented by more than a single rule. In these cases, the assessment should include the public policy adopted to attain a given result, as well as laws and regulations which implement this policy, and all related policies which could interfere with its effectiveness.

III. Compliance, rationality and beyond

Compliance approaches can be divided into those moving within the individuals' rationality assumption (deterrence and risk-based), and those taking into account bias and heuristics (cognitive-based). There are many nuances in between, suggesting a number of aspects to be considered.

Any given approach to compliance leads to different rules and enforcement strategies.

The classic approach to compliance is through deterrence, according to which decisions about whether to comply depend on the level of sanctions, the stringency of inspections and ex ante controls (ie planning and/or concession or authorisation systems). This approach has been challenged on the grounds that it is ineffective,[31] costly and non-sustainable[32] for public authorities and regulatees,[33] and for having the effect of potentially diverting rules from their "desired ends".[34]

In the framework of the rational actor assumption, the "responsive" approach to behaviour suggests enforcement strategies be kept to the lowest level necessary to achieve results (eg education and advice), while regulators escalate the "enforcement pyramid" where regulatees are non-compliant.[35] The well-known "smart approach" extends the enforcement pyramid beyond government action, underlining the role of the other actor in effectiveness. For example, regulators might require regulatees to disclose information about their compliance with a given regulation (eg on pollution or food

[31] Psychological experiments motivated by cognitive dissonance theory suggest that higher sanctions may increase crime: GA Akerlof and WT Dickens, "The Economic Consequences of Cognitive Dissonance" (1982) 72(3) The American Economic Review 318; see also B Frey, *Not Just for the Money. An Economic Theory of Personal Motivation* (Edward Elgar Publishing 1997) p 81.

[32] "Although the idea of exercising authority through social control is attractively simple, it has been widely suggested that in democratic societies the legal system cannot function if it can influence people only by manipulating rewards and costs (…). This type of leadership is impractical because government is obliged to produce benefits or exercise coercion every time it seeks to influence citizens' behavior": TR Tyler, *Why People Obey the Law* (Yale University Press 1990) 22–23. "The authority must constantly demonstrate their credibility by maintaining a high level of deterrent potential, something that is difficult and sometimes impossible to do given the fiscal constraints. While our society, for example, expends large amounts of money to make the risk of being caught and punished for murder sufficiently high to be a deterrent, it does not devote similarly high levels of resources to combating speeding, littering, or drinking in public streets": TR Tyler, "Introduction" in TR Tyler (ed), *Procedural Justice*, vol I (Ashgate 2005) xv and xvi.

[33] R Kagan and JT Scholz, "The 'Criminology of Corporation' and Regulatory Enforcement Strategies" in K Hawkins and JM Thomas (eds), *Enforcing Regulation* (Kluwer-Nijhoff Publishing 1984) 73.

[34] Baldwin, supra, note 14, p 142. In the enforcement phase, while the move toward aggressive and legalistic enforcement should increase compliance ("inspectors armed with severe sanctions and instructed to act like policemen are not likely to be ignored"), this result should not blind to the fact that "unreasonableness and unresponsiveness associated with those regulations can keep the full potential of regulation from ever being realized": Bardach and Kagan, supra, note 21, p 93.

[35] I Ayres and J Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press 1992). In line with this approach, see OECD, *International Best Practice Principles: Improving Regulatory Enforcement and Inspections* (OECD 2014).

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hygiene) and third parties (eg insurance companies or consumer associations) can use that information in order to put pressure on those who break the rules.[36]

According to the new deterrence approach based on risk analysis, inspections and controls are targeted at where there is a higher probability of violation and the most important potential effects[37]. A more refined approach suggests that the intensity of the intervention (regulatory options or enforcement strategies) increases according to the regulatee's risk-type (related to past behaviour, culture, and attitude),[38] the institutional environment of the given regulation and how controls are implemented over time (really responsive risk-based approach).[39]

While these approaches to compliance are based on evidence of what is likely to work[40] (also suggesting a mix of enforcement strategies),[41] they do not investigate all compliance drivers not related to a rational calculus.

In recent years, the compliance model has been complemented by approaches based on education, persuasion and support for compliance.[42] These approaches start from the observation that legal systems have a limited deterrent ability and that they are dependent on voluntary compliance.[43] Cooperation and trust are fundamental in order to ease such voluntary compliance;[44] supportive and cooperative public administrations provide, for instance, simplified procedures, checklists, guidelines, ad hoc answers to ease compliance,[45] and enable firms which have violated rules to submit commitments (which would correct their unlawful behaviour and are effective in realising the interests protected by the violated rules).[46] In some contexts this approach has also led to flexible

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[36] N Gunningham, P Grabosky and D Sinclair, *Smart Regulation: Designing Environmental Policy* (Oxford University Press 1998) 93.

[37] P Hampton, *Reducing Administrative Burdens: Effective Administration and Enforcement* (HM Treasury 2005); OECD, *Recommendation on Regulatory Policy and Governance* (OECD 2012).

[38] J Black and R Baldwin, "When Risk-Based Regulation Aims Low: Approaches and Challenges" (2012) 6(1) Regulation and Governance 2; J Black and R Baldwin, "When Risk-Based Regulation Aims Low: A Strategic Framework" (2012) 6(1) Regulation and Governance 131. For instance, increased sanctions in case of "active tax fraud by manipulation of the balance sheet", compared to cases in which taxpayers simply forget to report particular income components: LP Feld and BS Frey, "Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation" (2007) 29(1) Law & Policy 109.

[39] R Baldwin and J Black, "Really responsive regulation" (2008) 71 *Modern Law Review* 59 et sqq; R Baldwin and J Black, "Really Responsive Risk-Based Regulation" (2010) 32(2) Law & Policy 181 et sqq.

[40] For instance, it has been observed that people react more to the probability of being detected than to the severity of sanctions: JT Scholz and WB Gray, "OSHA enforcement and workplace injuries: A behavioral approach to risk assessment" (1990) 3(3) Journal of Risk and Uncertainty 283 at 284.

[41] Gunningham, Grabosky and Sinclair, supra, note 36, p 422 ff; N Gunningham and D Sinclair, "Smart Regulation" in P Drahos (ed), *Regulatory Theory. Foundations and Applications* (ANU Press 2017) 134.

[42] OECD, supra, note 6, 61 ss.

[43] TR Tyler, "Citizens with legal procedures: a social science perspective on civil procedure reform" (1997) 45 The American Journal of Comparative Law 873.

[44] "Tax authorities and insurance organizations [as well as all authorities wielding power] are supposed to reduce costly punishments, provide supportive procedures and helpful information; and pursue societal goals to assure a service climate. This would, in the long run, create trust toward them which fosters cooperative behavior": E Hofmann et al, "Authorities' Coercive and Legitimate Power: The Impact on Cognitions Underlying Cooperation" (2017) 8(5) Frontiers in Psychology 13. Otherwise, trust and confidence erosion, misadministration and inefficiency create conditions for corruption: people are willing to pay in order to protect from inefficiencies: AD Molina, "Public Ethics and the Prevention of Corruption" in Cerrillo i Martínez and Ponce, supra, note 28, p 164.

[45] See, for instance, OFGEM, *Enforcement Guidelines* (2017), points 3.29 and 3.30.

[46] Eg Art 14-*ter*, Italian law no 287/1990 on competition; and Art 45, legislative decree no 93/2011, implementing European directives no 2009/72/CE, no 2009/73/CE and no 2008/92/CE on internal market for electricity.

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compliance and enforcement.[47] It is important to underline that deterrence and cooperative approaches are far from being in conflict: on one hand they are appropriate in different situations;[48] on the other hand, voluntary compliance would dissipate if people believed that the law was regularly being breached with impunity by some.[49] In other words, public authorities' supportive and cooperative approach can be decisive in encouraging voluntary compliance only if deterrence rules and enforcements strategies are effective.

In order to enhance voluntary compliance, the perception of fairness is also crucial (procedural justice). For instance, it has been demonstrated[50] that people are more willing to adhere to rules if the subjects enforcing such rules (judges, inspectors, but also managers, teachers, doctors etc) are perceived as exercising their authority through fair procedures.[51] These people's procedural fairness judgement is based on fairness,[52] impartiality and consistency across people and situations of decision-making, on the possibility to participate in public decisions[53] and the justification of final decisions. This

[47] Drawbacks to this approach include room for opportunistic use of flexibility and the skepticism of firms for fear of being sanctioned: JT Scholz, "Cooperation, deterrence, and the ecology of regulatory enforcement" (1984) 18(2) Law and Society Review 183 and 185 et sqq; moreover, cooperative strategies require an increased administrative discretion which should be perceived as a symptom of corruption: Kagan and Scholz, supra, note 33, p 80. In this enforcement or regulation dilemma, "while both the regulated firm and the government can choose a cooperative approach to regulatory enforcement and compliance, which would be optimal for both sides, both might have important incentives to choose evasive and conflictual approaches instead": M Potoski and A Prakash, "Voluntary programs, regulatory compliance and the regulation dilemma" in C Parker and V Lehmann Nielsen, *Explaining Compliance. Business Responses to Regulation* (Edward Elgar 2011) 247.

[48] "The cooperative strategies concentrate more enforcement activities on the small set of firms with a record on minimal compliance and on more serious, rather that technical, violations": JT Scholz, "Cooperative regulatory enforcement and the politics of administrative effectiveness" (1991) 85(1) American Political Science Review 120. According the abovementioned *Enforcement Guidelines*, OFGEM "do not normally consider alternative action to be appropriate when addressing potential breaches of competition law. It is also unlikely to be sufficient in sectoral cases when potential breaches are serious or when we have significant concerns about a company's conduct" (point 3.29).

[49] Kagan and Scholz, supra, note 33, at 76. "Enforcement strategies that elicit feelings of resentment towards compliance and towards authority appear to lead to subsequent non-compliance among those affected. In contrast, reintegrative tactics that serve to reduce feelings of resentment appear to foster compliance with rules": K Murphy, "Enforcing Tax Compliance: To Punish or Persuade?" (2008) 38(1) Economic Analysis and Policy 130. Moreover, for instance, it has been demonstrated that voluntary compliance increases when public authorities publicise the purchase of data on potential tax evaders from international tax havens: D Bethmann and M Kvasnicka, "International Tax Evasion, State Purchases of Confidential Bank Data and Voluntary Disclosures" (2016) Institute of Economic Research, Korea University, Working Paper Series, 1603.

[50] Field research results performed during the 1980s "have not only confirmed the findings of [early research using] laboratory and scenario studies on procedural justice, but in fact have usually shown stronger procedural justice effects": E Allan Lind and TR Tyler, *The Social Psychology of Procedural Justice* (Springer 1988) 203 et sqq.

[51] TR Tyler, "What is Procedural Justice? Criteria Used by Citizens to Assess the Fairness of Legal Procedures" (1988) 22(1) *Law and Society Review* 103 et sqq. "The best-designed regulation is a poor tool for governing if it can only be enforced through constant surveillance and draconian punishment. It makes much more sense to seek to improve *both* the objective quality of a regulation *and* the impressions of fair treatment engendered by citizens' personal experience with the regulation": EA Lind and C Arndt, "Perceived Fairness and Regulatory Policy" (2016) 6 OECD Regulatory Policy Working Paper 10; this study offers numerous examples of research in social neuroscience leading to similar conclusions, summarised in "The Biology of Fairness" table, ibid, p 8.

[52] "The absence of considerations of fairness and loyalty from standard economic theory is one of the most striking contrasts between this body of theory and other social sciences – and also between economic theory and lay intuition about human behavior": D Kahneman, JL Knetsh, RH Thaler, "Fairness and the Assumption of Economics" (1986) 59 (4) The Journal of Business S285.

[53] Differently from consultation, which "may help the administration attain an accurate decision, (…) participation is based on a non-instrumental rationale, in the sense that it ensures that human dignity is adequately respected by public administrators when taking decisions that potentially affect the lives of individuals and groups. Following another line of reasoning, participation performs a democratic role, in the sense of allowing citizens to express their views within

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"procedural justice", which has been qualified as the most important and long-term driver of compliance,[54] is crucial for effectiveness. For instance, citizens who feel that they are being treated unfairly would be more prone to opposing the implementation of an administrative decision by challenging that decision in court; employees who feel that they are being treated unfairly are more likely to breach corruption prevention rules.[55]

The so-called expressive function of law is among other compliance drivers: people respond to the signals embodied in rules, even in the absence of sanctions, beyond simple calculative effects.[56] In other words, a widespread compliance would occur "just because it is the law"[57] and would be related to the importance that individuals usually place on the opinions of others. This should be among the reasons why some firms go well beyond compliance measures required by legal rules, "even when enforcement mechanisms are flawed".[58]

Internal motivation to comply can also be decisive in the effectiveness of rules.[59] For instance, many experiments in different fields have demonstrated that penalties are not effective and may even be counterproductive when they "interfere[s] with the moral dimension of compliance activity".[60] In this framework, one explanation of the decrease in compliance after an audit and fines is the perceived lack of trust from public authorities leading to a crowding out of the intrinsic motivation to cooperate.[61]

A step forward in increasing effectiveness is taken by using insights from the cognitive sciences in the life-cycle of rules, particularly in drafting regulatory options and in the design of enforcement strategies.

(F'note continued)
decision- making processes": Della Cananea, supra, note 19, pp 110–111. See also A Alemanno, "Stakeholder Engagement in Regulatory Policy" (2015) *Regulatory Policy in Perspective: A Reader's Companion to the OECD Regulatory Policy Outlook 2015* (OECD 2015).

[54] F Blanc, *From Chasing Violation to Managing Risks. Origins, Challenges and Evolutions in Regulatory Inspections* (Edward Elgar 2018).

[55] L Trevino and KA Nelson, "Managing business ethics: Straight talk about how to do it right" (5th edn, John Wiley and Sons Publishers 2011) pp 24 and 304; Molina, supra, note 44, p 161.

[56] See, among others, CR Sunstein, "On the Expressive Function of Law" (1996) 144 University of Pennsylvania Law Review 2021 et sqq.

[57] Ayres and Braithwaite, supra, note 35, p 19.

[58] N Gunningham, RA Kagan and D Thornton, *Shades of Green: Business, Regulation and Enforcement* (Stanford University Press 2003) 21–22; see also RA Kagan and L Axelrad, *Regulatory Encounters: Multinational Corporations and Adversarial Legalism* (University of California Press 2000); N Gunningham and RA Kagan, "Regulation and Business Behavior" (2005) Law & Policy 217.

[59] N Mazar and D Ariely, "Dishonesty in Everyday Life and Its Policy Implications" (2006) 25(1) Journal of Public Policy and Marketing 118.

[60] "Where certain types of misconduct were once inherently wrong, the introduction of a fine may inadvertently specify the financial tipping point at which the costs of reporting misconduct outweigh the moral and social benefits": Y Feldman and O Lobel, "The incentive of matrix: the comparative effectiveness of rewards, liabilities, duties and protection for reporting illegality" (2010) 88(6) Texas Law Review 1182. In the famous study on the reaction to a monetary fine imposed on parents who were late picking up their child at school, the observation of a significant increase in the number of parents coming late has been explained by the fact that the behaviour that was previously wrong in itself has in fact a price, and this price allowed parents to be comfortable being late: U Gneezy and A Rustichini, "A Fine is a Price" (2000) 29(1) Journal of Legal Studies 1 et sqq On blood donation and on the implication of monetary rewards for social polity generally, see RM Titmuss, *The Gift Relationship: From Human Blood to Social Polity* (Pantheon Books 1971); and more recently N Lacetera and M Macis, "Do all material incentives for pro-social activities backfire? The response to cash and non-cash incentives for blood donations" (2010) 31 Journal of Economic Psychology 738 ff.

[61] On crowding effects see Frey, supra, note 31.

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IV. Cognitive sciences for effectiveness

1. Collecting cognitive insights in public decision-making: a challenge for public authorities

Cognitive sciences have demonstrated that the decision to comply is not necessarily based on a cost-benefit analysis: compliance is shaped by social norms,[62] imitation,[63] previous experiences (eg availability bias),[64] and ethics.[65] Individuals also tend to be bad at evaluating risk and probability.[66] Moreover, they tend to view themselves as ethical agents.[67] These biases, social influences and people's limited awareness of the full meaning of their own behaviour challenges the effectiveness of traditional rules and enforcement strategies in attaining public goals (such as curbing corruption or – in general – wrongdoing, liberalising markets, protecting the environment, consumers or investors). For these reasons, knowing how people and firms decide (consciously or unconsciously) to comply with a given rule allows public authorities to draft effective laws and regulation and to design effective controls, which in turn leads to increased compliance. This effectiveness (of rules and controls) is related to the fact that they are based on case-specific empirical evidence.

Deciding how and whether to use rules can indeed be guided by an analysis of targets (eg kinds of individuals being controlled, be they highly informed, rational and well-disposed to comply or not) and by cognitive issues. As is well known, according to the risk-based regulation doctrine, a regulatory strategy that is "very responsive" to regulatees' behaviour should increase its intensity (eg using command and control instead of incentive or disclosure regulation) according to the risk-type of the regulatees.[68] This sophisticated model tailored to end-users should be enriched by another which considers whether a cognitive limitation can hinder regulatees' capacity and intention to comply. This approach could lead to drafting differentiated regulation according to the different degree that regulatees are affected by cognitive bias, on the one hand, and their ability and amenability to be empowered, on the other (ie regulatees bias-type).[69] Therefore, bias and heuristics (as

[62] JM Nolan et al, "The constructive, destructive, and reconstructive power of social norms" (2007) 18 *Psychol Science* 429 et sqq.

[63] RB Cialdini, *Influence. The Psychology of Persuasion* (New York 1984); RB Cialdini, CA Kallgren and RR Reno, "A focus theory of normative conduct" (1991) 24 Advances in Experimental Social Psychology 201 et sqq.

[64] A Tversky and D Kahneman, "Availability: A Heuristic for Judging Frequency and Probability" (1973) Cognitive Psychology 207; Tversky and Kahneman, supra, note 9; T Gilovich, D Griffin and D Kahneman (eds), *Heuristics and Biases: The Psychology of Intuitive Judgement* (Cambridge University Press 2002).

[65] C Hodges, *Law and Corporate Behaviour. Integrating Theories of Regulation, Enforcement, Compliance and Ethics* (Hart 2015).

[66] C Jolls, "Behavioral Economics Analysis of Redistributive Legal Rules" (1998) 51 Vanderbilt Law Review 1653 et sqq; A Tversky and D Kahneman, "Belief in the law of small numbers" (1971) 76(2) Psychological Bulletin 105 et sqq.

[67] On self-deception and self-serving bias, see S Shalvi et al, "Justified ethicality: Observing desired counterfactuals modifies ethical perceptions and behavior" (2011) 115(2) Organizational Behavior and Human Decision Processes 181 et sqq; D Chugh, MH Bazerman and MR Banaji, "Bounded ethicality as a psychological barrier to recognizing conflicts of interests" in DA More et al (eds), *Conflicts of Interests: Challenges and Solutions in Business, Law, Medicine, and Public Policy* (Cambridge University Press 2005) 74 et sqq.

[68] While some regulatees are indeed well motivated with a high capacity to comply (which would justify a less intensive intervention), others are motivated but with low capacity to comply; some regulatees are less motivated while characterised by a high capacity to comply and others are less motivated with less capacity to comply, a situation which would justify a more intensive intervention: Black and Baldwin, supra note 38 (both articles).

[69] F Di Porto and N Rangone, "Proportionality of regulation: what role for cognitive sciences", paper presented at the annual conference of the International Research Society for Public Management, Hong Kong 2016; see also F Di Porto, "Regolazione, principio di proporzionalità e scienze cognitive", *Federalismi.it* (14 February 2018).

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well as other compliance drivers) could play a crucial role in effectiveness, provided that the public decision-making process changes in order to collect and use such evidence.

First of all, cognitive findings are crucial in the problem-definition phase, ie when public decision-makers identify the problem which affects a given market and the causes of such a problem. Indeed, a regulatory intervention might be seen to be justified if the driver of such a problem is that "behaviours are biased and individuals do not decide based on their own best interests".[70]

Secondly, whenever a behavioural element exists, specific cognitive-based field or lab experiments should be performed during the information-gathering phase, in order to test in advance the regulatory option that better addresses the problem.[71]

Thirdly, consultation with stakeholders must be designed in order to neutralise or bring out people's cognitive limitations. On one hand, in the selection of stakeholders to be involved in consultations, special attention should be payed to those whose bias might prevent regulation from effectiveness.[72] On the other hand, consultation procedures (which imply an immediate outlay for future and unsure advantages) should be as simple as possible in order to avoid participation being undermined by loss aversion and present bias. The framing and salience of the consultation documents are also crucial elements in dealing with stakeholders' bias.[73] In this way only, consultation can be an effective tool for collecting data and to enable end-users' participation in decision-making (which is also beneficial from a procedural justice point of view).

Fourthly, cognitive insights enrich the traditional regulatory toolkit with new tools (nudging and cognitive empowerment, analysed in Section IV.2) and should strengthen the effectiveness of enforcement strategies (Section IV.3).

Finally, the evaluation of the potential impact of alternative regulatory options should be performed in a way that brings out and considers how bias affecting potential end-users could undermine the effectiveness of such options.[74] This approach imposes a radical change on the public decision-making process. It requires expertise which does not usually characterise public authorities, neither governments nor parliaments. Moreover, a cognitive-based approach to public decision-making implies an increase in costs and time (eg the performance of a behavioural experiment can last between six and twelve months), while politicians usually want an immediate answer to problems.

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[70] European Commission, *Toolbox on Better Regulation* (2017) p 85.

[71] The performance of an ad hoc experiment is to be considered the preferred approach, while interventions drafted on the basis of a literature review alone do not avoid ineffectiveness: European Commission, *Behavioural Insight Applied Policy* (2016) p 17.

[72] Therefore, if the regulatory problem is a low switching rate, those invited should not be only firms and associations of consumers, but also individual consumers. Inertia bias could also prevent stakeholders from participation in consultation (therefore, the consultation method should be selected accordingly, for instance inviting consumers to seminars, organising online forum, or providing simplified questionnaires).

[73] Such as information overload (which could stop people from answering documents which are too long and complicated) or choice overload (which could paralyse people confronted by too many alternatives); overconfidence (which prevents people from neutrally evaluating their own ability or attitude), or confirmation (which leads people to select information which confirms their belief, while not paying attention to a different view).

[74] For instance, while impact assessment (IA) based on cost-benefit analysis usually assumes people's rationality, IA should include a risk analysis which takes into account end-users' biases as a risk to be assessed in terms of probability and effects: F Di Porto and N Rangone, "Behavioural Sciences in Practice: Lessons for EU Policymakers" in A Alemanno and A-L Sibony (eds), *Nudge and the Law: A European Perspective?* (Hart 2015) 33.

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Therefore, on one hand a behavioural approach is useful only where the main objective of rules is a change in individual behaviour (such as food consumption, waste recycling, transport habits, blood donation), or where people's response might hinder the effectiveness of rules (eg all rules intended to protect consumers, such as the disclosure regulation in financial markets or in the gambling industry). On the other hand, such a "behavioural element" must also be relevant, in order to justify such increases in costs and time.[75]

2. Cognitive sciences for effective rules

Cognitive limitations might impact differently on different regulatory strategies, sometimes being a reason for choosing a given approach, sometimes suggesting a preference for a different strategy.

For instance, command and control, such as bans, duties, or standards can reduce creative compliance and might benefit people affected by overconfidence bias (eg managers of listed companies or intermediaries in financial markets) or by inertia (eg people who want but are unable to stop smoking). However, it could lead to excessive limitations on those not affected by the abovementioned bias and to over-regulation.[76] Moreover, its effectiveness is strongly affected by expectations and generalised behaviour (social norms).

Information disclosure strategy is theoretically choice preserving, while it is often framed in a way that influences the choices of regulatees or their understanding of a given problem, phenomenon etc. Where framing is used in order to overcome people's cognitive limitations, the framing effect bias could justify this regulatory strategy. At the same time, a number of empirical studies show that individuals do not make full use of the information provided because they select information which confirms their already formed beliefs (confirmation bias) and are paradoxically confused by an increased amount of information which could lead them to inertia (information overload bias). Therefore, these biases might hinder information disclosure effectiveness, while decision-makers should also use cognitive insights in order to build a more comprehensive strategy to inform, named cognitive empowerment.[77]

Economic incentives, including differentiated tax regimes or subsidies (for instance benefits for energy savers or higher taxes for polluters), assume the rationality of regulatees and disregard any motivations that differ from economic ones. Therefore, while incentive regulation preserves individual autonomy and is quite easy to enforce, it can lead to a crowding out of the internal motivation to comply. Moreover, present bias (which leads individuals to place disproportionate weight on present rather than distant rewards or burdens) and loss aversion often lead to inertia, challenging the effectiveness of this regulatory strategy.

[75] Di Porto and Rangone, supra, note 74, 30–31.

[76] On weaknesses and strengths of traditional and cognitive-based regulatory strategies see Di Porto and Rangone, supra, note 74, 55–56.

[77] F Di Porto, *La regolazione degli obblighi informativi. Le sfide delle scienze cognitive e dei big data* (Editoriale Scientifica 2017) 126 ff.

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In addition to these main traditional regulatory strategies, cognitive studies have contributed to the emergence of new approaches which are cognitive-based: nudging and cognitive empowerment. While both can be classified as non-economic incentives, nudging designs the environmental choice in order to prompt a certain behaviour somehow exploiting an individual's bias, and cognitive empowerment is aimed at overcoming such biases.[78]

The most famous example of nudging is the default rule, which specifies an outcome if people make no choice. It leverages on inertia, status quo and loss aversion bias in order to nudge people to choose something that is considered better for them (eg a default according to which no additional services can be sold to consumers without their express consent) or for society as a whole (eg in some countries people save for retirement or are considered organ donors by default). This approach is effective because it avoids the regulatees' compliance decision step: the compliance is by default, provided that end-users do not opt out. Another example of default is fixed monetary limit in online gambling, which leverage on bias such as inertia that make people stick to default settings in betting decisions. Examples of empowerment are simplification of information given to consumers (in order to avoid information overload); standardisation of information (which eases comparisons of products or services); simplification of information requested of consumers or of activities to be performed by individuals (eg pro-choice web applications aimed at facilitating people's choices by making them easy), targeted education, and all sort of solutions that activate slow and accurate thinking (eg in the abovementioned example of monetary limits in online gambling, this nudge can be combined with alerts which disturb the spinning rhythm and give information about time and amount spent betting in order to slow down the spinning and to reduce the amount that gamblers choose to bet per spin).[79] And then there is the grey area of tools which are in between nudging and empowerment: the framing effect can be used to empower, but at the same time it contains some manipulative effects. For instance, the presentation of alternative therapies in terms of percentage of life or of probability of dying,[80] or information on risk related to gambling in terms of probability of win or losses: this makes a great difference in individual decision making.

Nudging and empowerment can characterise the regulatory content rules and their communication strategy (eg through letters conveying a comparative message[81]), or they

[78] This distinction has been pointed out in 2015 by Di Porto and Rangone, supra, note 74, 36 ff., where a classification of types of nudging and empowerment is given, along with many examples). Cass R Sunstein introduced the similar notion of "educative nudges" in *The Ethics of Influence: Government in the Age of Behavioral Science* (Cambridge University Press 2016) first mentioned at p 16) and T Grüne-Yanoff and R Hertwig that of "boost", in "Nudge versus boost: How coherent are policy and theory?" (2016) 26(1–2) Minds and Machines 149 et sqq.

[79] C Codagnone et al, "Study on online gambling and adequate measures for the protection on consumers of gambling services", Final Report for the European Commission (2014) pp 20–21 and 61–62.

[80] BJ McNeil et al, "On the elicitation of preferences for alternative therapies" (1982) 306 New England Journal of Medicine 1259 et sqq. How many alternative options are offered is also an issue: A Tversky and E Shafir, "Choice under conflict: the dynamics of deferred choice" (1992) 3(6) Psychological Science 358; JA Schwartzand GB Chapman, "Are more options always better? The attraction effect in physicians' decisions about medications" (1999) 19(3) Medical Decision Making 316.

[81] Cabinet Office, *Applying Behavioural Insights to Reduce Fraud Error and Debt* (The British Psychological Society 2012); see also M Hallsworth et al, "The Behavioralist as Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance" (2014) no 20007 NBER Working Paper; M Blumenthal, C Christian and J Slemrod, "Do Normative

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can be supported by a public policy or a public campaign.[82] Nudging can also be introduced at an administrative level through forms, in support or without a previous rule imposing it (eg forms which ask to be signed at the beginning[83]), as empowerment does (eg prefilled forms in order to "make things easier").

3. Cognitive insights for effective enforcement strategies

As already mentioned, effective controls lead to increased compliance and thus to increases in effectiveness of rules whose compliance is under control. The cognitive-based approach should make enforcement controls more effective by taking advantage of the limited ability of individuals to assess risks and probabilities.

For instance, tax compliance cognitive experiments show that evasion decreases where new companies are monitored at the very beginning of their "fiscal lives". This "echo effect"[84] bias is related to an over-estimation of the probability of being controlled, related to the very earliest controls. The "bomb crater" bias derives from a similar limited capacity to evaluate risks,[85] people believing that it is impossible to be checked twice in a row. Inspections should be planned accordingly: an immediate check for newly-created firms and inspections when firms do not expect to be controlled, in order to change their risk perception by modifying their personal reference point[86] and induce them to be more compliant in the future.

This cognitive-based approach to enforcement controls planning should not be a standalone measure or substitute for other enforcement approaches. Rather, it should complement the risk-based and proportionality features of inspection planning. Not only should regulatory compliance directed towards well-intentioned companies start with persuasion and inspection, with fines used for more risky or less compliant companies (according to the seminal theory of responsive regulation);[87] but controls should also be organised in order to take advantage of firms' limited ability to assess risks. This would help in organising controls which would be more effective in detecting past

(F'note continued)
Appeals Affect Tax Compliance? Evidence from a Controlled Experiment in Minnesota" (2001) 54(1) National Tax Journal 125.

[82] For instance, the introduction of a given choice for architectures in canteens or supermarket in the well-known example described in the best seller by RH Thaler and CR Sunstein, *Nudge. Improving Decisions about Health, Wealth, and Happiness* (Yale University Press 2008) 67.

[83] LL Shu et al, "Signing at the Beginning Makes Ethics Salient and Decreases Dishonest Self-Reports in Comparison to Signing at the End" (2012) 109 Proceedings of the National Academy of Sciences 15197 et sqq; US Social and Behavioral Sciences Team, *Annual Report* (2015) 15.

[84] L Mittone, "Dynamic Behaviour in Tax Evasion: an Experimental Approach" (2006) 35(5) The Journal of Socio-Economics 813 et sqq.

[85] B Kastlunger et al, "Sequence of audits, tax compliance, and taxpaying strategies" (2009) 30(3) Journal of Economic Psychology 407 et sqq.

[86] The personal reference point is a psychological criterion or heuristic that guides decision-making processes by setting a standard against which to compare the choice: D Kahneman and A Tversky, "Prospect theory: an analysis of decision under risk" (1979) 47(2) Econometrica 263.

[87] "Recently created business should be (...) first given a chance to improve (…) so as to promote a culture of openness on their side. (…) Businesses which have a history of compliance should be gradually checked less often (their risk level being rated lower) – inspectors should also generally start with improvement notices or (in the case of lesser violations) verbal warnings, except in cases of major, imminent hazard" (OECD, *Regulatory Enforcement and Inspections* (2014) pp 28 and 34, inspired by the theory of responsive regulation developed by Ayres and Braithwaite).

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infringements and in reducing future infringements by creating the belief of being under strict public control.

Moreover, a fair (procedural fairness) and supportive attitude among inspectors (cooperative enforcement strategy) is crucial in determining regulatees' future attitude to compliance and in not interfering with voluntary compliance (service for client versus cops and robbers).[88] It is a fragile equilibrium: excessive deterrence effort could reduce voluntary compliance,[89] while voluntary compliance would disappear in the absence of the certainty of punishment.

There are other tools which, in the enforcement phase, can be implemented in order to incentivise compliance and thus to increase the effectiveness of rules. Some of them are intended to reduce the administrative burden of controls;[90] others tend to support compliance through targeted information which acts as a stimulus to compliance. The latter, such as compliance ratings or compliance records disclosure, are intended to make compliance records salient or provide assurance to customers that a business has been reviewed by a third party for a specific regulation compliance and offers traceability of such. Cognitive insights can be used in order to increase the effectiveness of this tool; for instance, by an adequate frame of salient information, the compliance rating can motivate individuals or firms to improve compliance, help in overcoming inertia and status quo biases, and in changing the self-reference point.[91]

One example is food hygiene ratings based on simplified and summarised information on the compliance rate with hygiene law and regulation, provided through numbers (0–4), letters (A–C, grade pending) or smiley faces summarising the inspection results ranging from a very good rating to urgent improvement needed.[92] These disclosure compliance records increase the effectiveness both of enforcement (controls) and rules, thus increasing compliance. Their effectiveness is strictly related to their widespread use. Therefore, a compulsory disclosure of the rating could be the best regulatory approach,[93] until disclosure becomes a social norm (or at least consumers demand that firms provide

[88] Education, persuasion and dialogue are strategic in order to gain and maintain compliance of most taxpayers; "however, in the case of voluntary and repeated non-cooperation, severe economic and legal sanctions come into operation": E Kirchler and E Hoelzl, "Modelling Taxpayers' Behaviour as a Function of Interaction Between Tax Authorities and Taxpayers" in E Elfers, P Verboon and W Huisman (eds), *Managing and Maintaining Compliance* (Boom Legal Publisher 2006) 5–6. At the same time, public authorities should react differently to "active tax fraud by manipulation of the balance sheet, and passive tax evasion when taxpayers forget to report particular income components", according to the responsive regulation approach: LP Feld and BS Frey, "Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation" (2007) 29(1) Law & Policy 109.

[89] In the tax sector, it has been demonstrated that more auditing can backfire (while compliance increases until a certain auditing level, it decreases beyond that level). The reduced compliance is due to distrust created in taxpayers and by the perception that the tax authority and its enforcement actions are excessive and unfair: JP Mendoza, JL Wielhouwer and E Kirchler, "The backfiring effect of auditing on tax compliance" (2017) 62(11) Journal of Economic Psychology 284.

[90] For instance, the "inspection holiday" puts a frequency cap on inspections for businesses with track records of accountability which are rewarded with fewer inspections focusing controls on "bad performer" firms: R de Boer, *Regulatory Enforcement and Inspections. Dutch Approach*, October 2012). A similar recommendation is formulated by the OECD, which suggests limiting "re-inspection of the same issue by different inspectorates in the same business within a given period (eg one year), except if problems have been identified in the first visit": OECD, supra, note 6, 44.

[91] Cialdini (1984), supra, note 63; Nolan et al, supra, note 62, 249 et sqq.

[92] The Food Hygiene Rating Scheme, which has worked successfully in England, Wales and Northern Ireland, was launched in 2010, in New York City in 2010, in Los Angeles in 1998.

[93] Data from 2013 shows that "the majority of these systems are mandatory (Denmark, Canada (Toronto), USA (New York, Los Angeles, San Diego, Ohio, Kentucky), Singapore, and New Zealand, with semi-voluntary systems existing in

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the information in question). Another issue is the appropriateness of the information provided. To this aim, grades should summarise the compliance level in all aspects relevant to consumers (eg food safety, food contamination and labelling), and display the result of recent and previous inspections (covering, for instance, one year of activities). The impact of the framing and information provided should, of course, be tested in advance in order to find out the expected effectiveness.

Another example of compliance records disclosure is the so-called shaming lists published by many governments around the world, with names, addresses and other information on individuals and firms who have committed tax evasion,[94] with yet others showing photos.[95] Differently from the rating systems, it makes public and salient only negative behaviour and it leverages on the psychological cost of the social blame.[96] Cognitive insights can be used in order to increase the effectiveness of this tool also, and thus increase the effectiveness of regulation.

V. Attaining effectiveness requires public authorities to rethink traditional tools and procedures

Formal and substantive effectiveness are two strictly related faces: effectiveness needs formal compliance but is not merely a matter of compliance with the term of the rules. Effectiveness is also related to compliance with the spirit of the law and regulation, ie their "desired ends". In order to attain effectiveness in this broader view, all compliance drivers (such as rational calculus, emotions, internal motivations, ethics etc) should be taken into account by decision-makers.[97]

Enriching the rationality assumption with other drivers of compliance does not mean dismissing the homo economicus model[98] or any related traditional rules (from command and control to information disclosure) or enforcement tools (such as inspection and sanctions), which conversely remain crucial for the purpose of supporting voluntary compliance and for preventing non-compliance.

(F'note continued)
the UK (England, Wales, Northern Island, Scotland)": NSW Food Authority, *Progress of "Scores on Doors" (Food Hygiene Rating Scheme) in NSW* (June 2013) CP069/1306.

[94] More than 20 US states have shaming lists on the internet, eg New York, < www.tax.ny.gov/enforcement/warrants.htm > accessed 6 September 2018; Florida < floridarevenue.com/taxes/compliance/Pages/delinquent_taxpayer.aspx >, accessed 6 September 2018.

[95] For instance, the UK HM Revenue and Customs published in 2013 a photo gallery of the Most Wanted tax fugitives: see < www.gov.uk/government/news/hmrcs-most-wanted-gallery-of-tax-fugitives-published-as-another-caught >, accessed 6 September 2018.

[96] Establishing whether targeted transparency based on a positive framing is more effective than a negative one is something that should be established through ad hoc cognitive experiments.

[97] It is important to underline that none of the abovementioned theories on compliance suggest a new model of human behaviour; alternatively to building an overarching model of man, Frey, supra, note 31, at 124 suggests leaving "the partial models including some specific psychological effects as they are, and regulates the task of choosing the appropriate model to the problem at hand".

[98] It is not the purpose of this paper to determine whether the preferred theories are those that build on the Simon's notion of bounded rationality (eg Tversky and Kahneman, supra, note 9; Thaler and Sunstein, supra, note 82; and, among others, R Bobb and RH Pildes, "How behavioural economics trims its sails and why" (2014) 127 Harward Law Review 1612), or the approaches which "presume rationality when evidence [of biased behavours] is lacking": Schwartz, supra, note 3, at 1405–1406; in this line of thinking see also, among others, Frey, supra, note 31). However it seems to be unquestioned that cognitive findings lead to a richer and "more psychological model of human behaviour" (ibid, 118).

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However, in order to be effective, deterrence should be calibrated by a risk-based, responsive and proportional approach to (simplified) rules and enforcement strategies. Trust in public authorities, as well as supportive and cooperative public administrations, is also fundamental in order to ease compliance and to increase voluntary compliance. Moreover, whenever the main objective of a rule is to change individual behaviour, a cognitive-based approach should complement these views in order to help increase the effectiveness of rules and enforcement strategies.

Assessing the specific compliance drivers and potential impact of regulatory options in rule-making and law-making is a very complex task which requires new expertise, a strong political will and a sharp cultural change, but it can prevent rules and enforcement strategies from being ineffective.

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