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Learning and the Law: Improving Behavioral Regulation from an International and Comparative Perspective

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LEARNING AND THE LAW: IMPROVING BEHAVIORAL REGULATION FROM AN INTERNATIONAL AND COMPARATIVE PERSPECTIVE

*Georgios Dimitropoulos, Philipp Hacker**

Various disciplines are increasingly discovering the power of learning. However, the potential and the complexities of learning theory in decision-making contexts have so far been neglected by scholarship in law and economics as well as behavioral law and economics: either learning is uncritically assumed to occur and to mitigate biases, or it is generally claimed that learning is insufficient to overcome cognitive biases. Even where learning is considered, the scope is merely limited to individual or social learning. Learning by and across institutions, a crucial factor for effective regulation, is largely ignored. That type of learning should be paramount, however, as an increasing number of institutions at the international and domestic level are adopting behavioral regulation, which prides itself on facilitating “smart decisions.”

This Article argues that legal analysis should tap the precious resource of learning to facilitate lasting and beneficial real-world effects. It draws on social and cognitive psychology, behavioral game theory, and organizational science to show that there are vast effectiveness and efficiency gains to be made from an

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integration of learning theory into regulatory and private law contexts. Interdisciplinary learning theory suggests that such gains can be made through learning by doing, observational learning, as well as recursive and generative learning. These learning methods can be used at the individual, social, team, and institutional level, which is demonstrated using case studies from international law, as well as American and European Union law. As an overarching category subsuming these forms of learning, the Article develops the concept of systemic learning. It suggests that the law should introduce systemic learning patterns in public and private law contexts through feedback loops and institutionalized systemic learning facilities. Finally, it proposes the institutionalization of an Agency for Systemic Learning Management. Having ignored learning theory in the past, future behavioral regulation should put learning efforts center stage as it unfolds on a global scale.

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INTRODUCTION

Various fields of science, such as game theory, welfare economics, and management theory, are increasingly discovering the power of learning.¹ This Article argues that legal analysis

¹ See JOSEPH E. STIGLITZ & BRUCE C. GREENWALD, CREATING A LEARNING SOCIETY: A NEW APPROACH TO GROWTH, DEVELOPMENT AND SOCIAL PROGRESS 170 (2014). See, e.g., DAVID BOUD ET AL., PEER LEARNING IN HIGHER EDUCATION: LEARNING FROM AND WITH EACH OTHER 85–88 (David Boud et al. eds., 2014) (describing and providing examples of the management discipline of learning); JOHN HATTIE, VISIBLE LEARNING: A SYNTHESIS OF OVER

should tap this resource as well. We draw on social and cognitive psychology, behavioral game theory, and organizational science to show that vast gains in effectiveness and efficiency could be derived from an integration of scientific learning theory into regulatory and private law contexts.² We critically revisit past and

800 META-ANALYSES RELATING TO ACHIEVEMENT 2–3 (Routledge ed., 2009) (noting the importance of different learning strategies, particularly feedback); GREGORY L. MURPHY, *THE BIG BOOK OF CONCEPTS* 115–40 (2002) (describing category learning); PETER SENGE ET AL., *THE DANCE OF CHANGE: THE CHALLENGES TO SUSTAINING MOMENTUM IN LEARNING ORGANIZATIONS* 301 (2014) (advocating for the management theory of learning) [hereinafter PETER SENGE ET AL., *THE DANCE OF CHANGE*]; ELSEVIER *SOCIAL AND EMOTIONAL ASPECTS OF LEARNING* 251 (Sanna Järvelä ed., 2011) (providing further guidance on the management discipline of learning); Thorsten Chmura et al., *Learning in Experimental 2×2 Games*, 76 *GAMES & ECON. BEHAV.* 44, 44–45, 59–60 (2012) (describing and advocating for game theory discipline); Ido Erev & Ernan Haruvy, *Learning and the Economics of Small Decisions*, in *THE HANDBOOK OF EXPERIMENTAL ECONOMICS* (John H. Kagel & Alvin E. Roth eds., 2d ed. forthcoming) (providing information on the general economic theory); LUCAS, GALE M. ET AL., *AGAINST GAME THEORY* 16, 19 (2015) (“[T]he cognitive study of decision-making must include the study of learning within institutions.”); Laurent Lehmann et al., *Does Evolution Lead to Maximizing Behavior?*, 69 *EVOLUTION* 1, 28 (2015) (advocating for game theory discipline and providing specific examples of strategies); Emre Soyer & Robin M. Hogarth, *Learning from Experience in Nonlinear Environments: Evidence from a Competition Scenario*, 81 *COGNITIVE PSYCHOL.* 48, 49 (2015) (describing hurdles to successful learning from experience, and ways to overcome them through feedback); Robert J. Jackson et al., *How Quickly Do Markets Learn? Private Information Dissemination in a Natural Experiment* 3–4 (Colum. Bus. Sch. Res. Paper No. 15-6) (2016), <http://ssrn.com/abstract=2544128> (discussing the speed of the impounding of private information in stock prices as a case of “learning”).

² For an overview of the different disciplines, see John DeLamater & Amanda Ward, *Preface*, in *HANDBOOK OF SOCIAL PSYCHOLOGY* v–vi (John DeLamater & Amanda Ward eds., 2d ed. 2013) (noting that social psychology studies the interaction between the individual and collective entities, and investigates the causes of human social behavior); Nick Braisby & Angus Gellatly, *Foundations of Cognitive Psychology*, in *COGNITIVE PSYCHOLOGY* 1, 2 (Nick Braisby & Angus Gellatly eds., 2d ed. 2012) (“[C]ognitive psychology is the branch of psychology devoted to the scientific study of the mind.”); COLIN F. CAMERER, *BEHAVIORAL GAME THEORY* 4 (2003) (explaining that behavioral game theory uses experiments to investigate in how far people’s real actions match the mathematical predictions of traditional game theory); RICHARD M.

present experience with the use of behavioral regulation at the international level and, comparatively, in the United States and the European Union, and develop a comprehensive framework for implementing learning theory at the core of future behavioral regulation.

Scholarship in Law and Economics as well as behavioral law and economics³ has largely neglected the potential and the complexities of learning theory in decision-making contexts by disregarding long-run learning effects, i.e., the impermanence of behavioral interventions over time; by uncritically assuming that learning occurs; or by generally claiming that learning is

CYERT & JAMES G. MARCH, *A BEHAVIORAL THEORY OF THE FIRM* 225 (2d. ed., 1992) (introducing core features of decision making within organizations as a branch of organizational science); Nakiye Avdan Boyacigiller & Nancy J. Adler, *The Parochial Dinosaur: Organizational Science in a Global Context*, 16 *ACAD. MGMT. REV.* 262, 277 (1991) (noting that organizational science deals with managerial behavior and its impact on organizations). *See generally* Christoph Engel, *Learning the Law*, 4 *J. INSTITUTIONAL ECON.* 275 (2008) (discussing how individuals learn the law and how the law can introduce learning patterns in public and private law contexts).

³ *See* Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 *STAN. L. REV.* 1471, 1471 (1998) (arguing that law and economics should take note of findings in the behavioral sciences, particularly in cognitive psychology); Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 *CALIF. L. REV.* 1051, 1053–60 (2000) (noting that rational choice theory does not adequately capture human behavior and should not undergird legal reasoning); RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 8 (2008) (arguing that regulatory practice should harness heuristics and biases to advance individual and social welfare) [hereinafter THALER & SUNSTEIN, *NUDGE*]; OREN BAR-GILL, *SEDUCTION BY CONTRACT: LAW, ECONOMICS AND PSYCHOLOGY IN CONSUMER MARKETS* 15 (2012) (showing how contracts are framed to exploit cognitive biases); *NUDGE AND THE LAW: A EUROPEAN PERSPECTIVE* 1–2 (Alberto Alemanno & Anne-Lise Sibony eds., 2015) (suggesting European perspectives to behavioral law and economics). *See generally* *BEHAVIORAL LAW & ECONOMICS* (Cass R. Sunstein ed., 2000) (demonstrating a number of heuristics and biases relevant to legal scholarship); *EUROPEAN PERSPECTIVES ON BEHAVIOURAL LAW AND ECONOMICS* 3 (Klaus Mathis ed., 2015) (presenting European perspectives to Behavioral Law and Economics).

insufficient to overcome cognitive biases.⁴ This often reflects an academic bias, which leads scholars to unilaterally draw on often controversial interdisciplinary theories that support their normative intuitions.⁵ Such bias creates fatal path dependencies, which leads to neglect of fruitful fields of scientific inquiry in legal analysis.⁶ This narrative may hold true with respect to learning theory as well. Behavioral law and economics has almost uniquely focused on cognitive psychology, disregarding not only more heterodox phenomena within cognitive psychology, but also, crucially, of

⁴ Gregory Mitchell, *Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence*, 91 GEO. L.J. 67, 165–66 (2002); Joshua D. Wright & Douglas H. Ginsburg, *Behavioral Law and Economics: Its Origins, Fatal Flaws, and Implications for Liberty*, 106 NW. U. L. REV. 1039, 1044–45, 1050 (2012). *But see* Jeffrey J. Rachlinski & Cynthia R. Farina, *Cognitive Psychology and Optimal Government Design*, 87 CORNELL L. REV. 549, 615 (2002) (stating that authors “do not claim that the cognitive model ineluctably generates an exhaustive and determinative set of specifications for designing perfect regulatory institutions,” rather, they “suggest that it offers a new set of metaphors for understanding the vulnerabilities and the capabilities of public policymaking processes.”); Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 33–43 (2007) (developing similar concepts in the frame of judicial decision-making). Some public policy oriented scholarship has reflected on this aspect of behavioral regulation, see Kim Ly & Dilip Soman, *Nudging Around the World*, in RESEARCH REPORT SERIES, BEHAVIOURAL ECONOMICS IN ACTION, ROTMAN SCH. OF MGMT, UNIV. OF TORONTO 13 (2013) (“It is also recommended that policymakers measure the effect of the intervention after it is implemented and adapt policies as needed.”). *See also* PETE LUNN, REGULATORY POLICY AND BEHAVIOURAL ECONOMICS 58 (2014) (referencing Recommendation 5 of the OECD, RECOMMENDATION OF THE COUNCIL ON REGULATORY POLICY AND GOVERNANCE 12 (2012), <http://www.oecd.org/governance/regulatory-policy/49990817.pdf>).

⁵ For a similar claim, see Kathryn Zeiler, *Cautions on the Use of Economics Experiments in Law*, 166 JITE 178, 185–87, 91 (2010).

⁶ Georgios Dimitropoulos, *From Choosing to Learning: Path Dependencies of Nudging, and How to Overcome Them*, in CHOICE ARCHITECTURE IN DEMOCRACIES: EXPLORING THE LEGITIMACY OF NUDGING 339 (Alexandra Kemmerer et al. eds., 2016) (discussing the path dependencies of behavioral law and economics on traditional law and economics) [hereinafter Dimitropoulos, *From Choosing to Learning*].

social psychology, behavioral game theory, and organizational science—disciplines in which learning theory is mostly grounded.⁷

The addition of learning theory to the interdisciplinary sources used in legal analysis can be structured along two major questions.⁸ First, who should learn? Second, how should these actors learn? We answer these questions taking an international and comparative perspective, analyzing case studies from different fields of regulatory law and critically evaluating various regulatory strategies in the fields of international development and international trade law. Furthermore, this Article examines behavioral regulation from both sides of the Atlantic, such as President Obama's Executive Order 13,563 and related documents, novel initiatives implemented by the European Union, green nudging approaches, and smart consumer disclosures.⁹

This Article posits several novel propositions. First, while the existing legal literature has dealt to some extent with social learning by individual actors,¹⁰ the law must recognize both individuals *and* institutions as “learning actors” in an approach we label “systemic learning.” This includes coordination of learning efforts between individual actors, private companies, and regulatory agencies.

Second, this Article posits that in *legal* contexts, three institutional structures are crucial to implement learning theory

⁷ For differences between these disciplines, see discussion *supra* note 2. For an overview of learning theory grounded in the mentioned disciplines, see discussion *infra* Section I.

⁸ Cf. Colin J. Bennett & Michael Howlett, *The Lessons of Learning: Reconciling Theories of Policy Learning and Policy Change*, 25 POL'Y SCI., 275 (1992) (basing their analysis on the questions “who is learning,” “what is learned,” and to “what effect”).

⁹ See Improving Regulation and Regulatory Review, Exec. Order No. 13563, 76 Fed. Reg. 3821 (Jan. 18, 2011) (highlighting the importance of “flexible approaches” in regulation that maintain freedom of choice, thereby introducing nudging into the regulatory portfolio of U.S. agencies).

¹⁰ See, e.g., Jeffrey T. Checkel, *Why Comply? Social Learning and European Identity Change*, 55 INT'L ORG. 553 (2001) (highlighting the importance of social learning within international organizations to bring about normative compliance); Alan Schwartz, *Regulating for Rationality*, 67 STAN. L. REV. 1373, 1406–09 (2015) (suggesting that effective disclosure may facilitate social learning and efficient contracting).

insights: feedback loops, institutionalized systemic learning facilities, and a proposed Agency for Systemic Learning Management (“ASLM”).¹¹ Feedback loops help to integrate individual and institutional learning into systemic learning. When regulatory bodies roll out policies designed to help people learn, such as disclosures or default rules, continuous feedback on their effectiveness is necessary to stimulate institutional learning within the regulatory facility. Some regulatory agencies have already used this strategy in the form of “pretesting,” for example the Consumer Financial Protection Bureau and the British Financial Conduct Authority.¹² However, the Organisation for Economic Co-Operation and Development (“OECD”) Indicators of Regulatory Policy and Governance (“iReg”) show that the number of OECD member countries who practice *ex post* evaluation of regulatory policy is declining.¹³ Rather than relying only on cost-benefit analysis and impact assessment, regulatory agencies should increasingly adopt a feedback loop strategy. This first-order, feedback-driven learning effect at the institutional level can be used to improve regulatory strategies which, in turn, enhance second-order learning effects for the regulation’s intended subjects. Such a strategy can be designed, monitored, and guided by institutionalized systemic learning facilities including task forces within regulatory agencies or private companies. The insights of interdisciplinary learning theory, such as observational learning, learning by doing, reinforcement mechanisms, and structured thinking, should be fully incorporated into the legal design of these facilities.

¹¹ See *infra* Section III.B.

¹² See *infra* Sections II.C.2, II.D.2.

¹³ See Christiane Arndt et al., *2015 Indicators of Regulatory Policy and Governance: Design, Methodology and Key Results* 18 (OECD Regulatory Policy Working Paper, No. 1, 2015), <http://www.oecd-ilibrary.org/docserver/download/5jrnwqm3zp43-en.pdf?expires=1496797061&iid=id&accname=guest&checksum=87573E1A9B77D163CD78B106F78AC73D>; see also OECD, *BEHAVIOURAL INSIGHTS AND POLICY: LESSONS FROM AROUND THE WORLD* 43 (2017), https://people.kth.se/~gryne/papers/OECD_2017.pdf (deploring a lack of *ex post* evaluation of regulatory interventions) [hereinafter OECD, *BEHAVIOURAL INSIGHTS AND PUBLIC POLICY*].

Finally, to coordinate efforts to implement systemic learning facilities within both government agencies and private institutions, this Article recommends the establishment of an ASLM with a dual role. First, it would advise and control the government agencies and related institutions regarding the installation of continuous learning facilities, particularly to encourage the dissemination of learning across and between institutions. Second, it would identify best practices for dealing with systemic learning in private law settings to be distributed among private institutions, and warn them about dysfunctional practices that have proven ineffective elsewhere. In doing so, agencies can pay greater attention to cultural differences which mediate and alter behavioral effects of regulation. The ASLM could also be institutionally supported at the international level by a “meta-nudge unit.”¹⁴

These institutional features are examples of a novel category of learning that this Article terms “systemic learning.”¹⁵ Systemic learning stresses the necessary intersection of learning by institutions and individual actors in market and nonmarket settings (see Table 1).¹⁶ Thus, systemic learning comprises individual, social, and institutional learning in an attempt to facilitate generating and retaining knowledge in what Columbia economics professors Joseph Stiglitz and Bruce Greenwald have recently called a “learning society.”¹⁷

Table 1:¹⁸

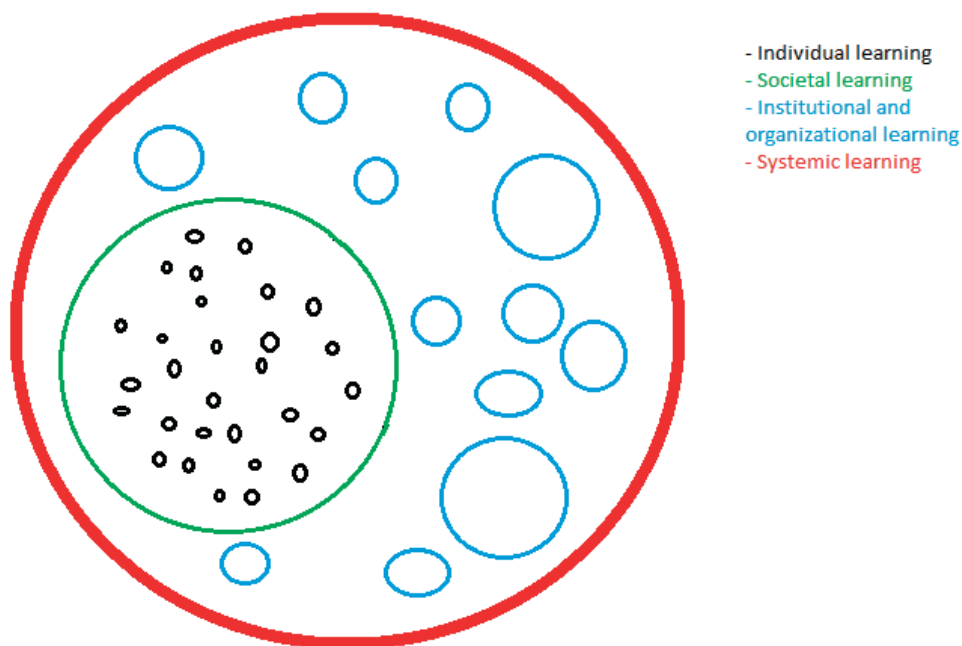
¹⁴ See *infra* Section III.B.3.

¹⁵ See *infra* Section III.A.2.

¹⁶ See *infra* Table 1.

¹⁷ STIGLITZ & GREENWALD, *supra* note 1.

¹⁸ Table 1 visualizes the relationship between the different types of learning. Individual learning, the smallest segment, deals with learning processes within individuals only. Societal learning is the aggregate of individual learning at a social level, that is, the sum of many individuals’ learning. Moreover, institutions and organizations are entities, distinct from individuals, that learn as well. Systemic learning encompasses learning at all these dimensions: individual, societal, institutional and organizational; most notably, it stresses the interrelations and feedback processes between these different levels of learning. See *infra* Section III.A.2.



This Article's contribution is threefold. At the methodological level, it draws on both cognitive *and* social psychology, as well as game theory and organizational science, to construct a more balanced approach in behavioral law and economics. Substantively, it shows how learning theory can be used to enhance the effectiveness of regulatory interventions and of private market actors. Structurally, it makes concrete proposals pertaining to regulatory agencies and private actors' organization to better facilitate gains from learning theory.

This Article is organized as follows: Part I presents the concept of learning in various disciplines—from economics to organizational behavior—and distills common prerequisites that can be used in legal analysis and in the application of learning theory to regulation. Moreover, it identifies a “black hole” concerning learning in the literature of traditional and behavioral law and economics. Part II examines international perspectives on behavioral regulation and learning, as well as compares and European legal regimes to highlight the absence of learning strategies in various regulatory settings. To close the gap of the

absence of learning in behavioral law and economics, Part III identifies a coherent legal framework for behavioral regulation through learning and identifies concrete policy tools for implementing learning in regulatory contexts.

I. LEARNING IN THE SOCIAL SCIENCES AND THE LAW

Disciplines other than the law have already recognized the importance of learning for individuals and institutions.¹⁹ We first consider psychology, which is already much used in interdisciplinary work in law,²⁰ followed by economics, which is the social science with the greatest contemporary influence on the law.²¹ From these perspectives, we aim to establish a nonexhaustive, yet comprehensive, picture of contemporary learning theory.²²

A. Psychology

Modern science develops the theory of learning from an empirical perspective, formulating precise conditions and

¹⁹ See *supra* note 1 and accompanying text.

²⁰ See, e.g., Jeffrey J. Rachlinski, *Processing Pleadings and the Psychology of Prejudgments*, 60 DEPAUL L. REV. 413, 413–14 (2011) (finding that, from a psychological perspective, judges are unable to implement the requirements of heightened pleading articulated by the Supreme Court); Yuval Feldman & Orly Lobel, *Behavioural Tradeoffs: Beyond the Land of Nudges Spans the World of Law and Psychology*, in *NUDGE AND THE LAW: A EUROPEAN PERSPECTIVE* 301 (Alberto Alemanno & Anne-Lise Sibony eds., 2015) (arguing that psychology should be tapped as a resource for the law, but that doing so necessitates a range of intricate trade-offs between different legal goals); Anne-Lise Sibony, *Can EU Consumer Law Benefit from Behavioural Insights? An Analysis of the Unfair Practices Directive*, 6 EUR. REV. PRIVATE L. 901, 917–927 (2014) (arguing that social psychology may help refine the notions of misleading advertisements and undue influence in unfair competition law).

²¹ See, e.g., RICHARD POSNER, *ECONOMIC ANALYSIS OF LAW* (9th ed., 2014); STEVEN SHAPELL, *FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW* (2004) (both providing ample evidence from scholarship and case law).

²² Learning theory has been used in many more disciplines. See, e.g., Jack S. Levy, *Learning and Foreign Policy: Sweeping a Conceptual Minefield*, 48 INT'L ORG. 279, 296–97 (1994) (for an account of learning in international relations). For further discussion, see also *supra* note 1 and accompanying text.

strategies conducive to learning processes. Psychology is a case in point. While much of behavioral law and economics has drawn on cognitive psychology,²³ we aim to use insights from both cognitive and social psychology to build our case.

1. Cognitive Psychology

Learning is not a traditional concept of inquiry in cognitive psychology. However, important insights can be gained from cognitive research pertaining to the central element of cognition: memory. While long-term memory has no significant storage limits, working memory capacity is clearly limited.²⁴ It can only process and store a limited amount of information at a time. This is the structural, cognitive basis for capacity and memory limits.²⁵ Where does this limit lie? Recent studies show that, depending on the context, the limit may already be reached at four pieces of information, so-called chunks.²⁶ The highest reported numbers, stemming from consumer choice tests, are up to fifteen simultaneously processable chunks.²⁷ In general, seven—the “magical number” introduced by George Miller’s famous essay²⁸,

²³ Jeffrey J. Rachlinski, *The Psychological Foundations of Behavioral Law and Economics*, 2011 U. ILL. L. REV. 1675, 1677–78 (2011) (noting that, given its indebtedness to cognitive psychology, it is a great anomaly that “Behavioral Law and Economics” is not called “Cognitive Psychology and Law”).

²⁴ For an early account, see James R. Bettman et al., *Cognitive Considerations in Designing Effective Labels for Presenting Risk Information*, 5 J. PUB. POL’Y & MARKETING 1, 9 (1986).

²⁵ See Alan Baddeley, *Working Memory: Theories, Models, and Controversies*, 63 ANN. REV. PSYCHOL. 1, 7 (Jan. 2012).

²⁶ See *id.* at 15; Nelson Cowan, *The Magical Number 4 in Short-Term Memory: A Reconsideration of Mental Storage Capacity*, 24 BEHAV. & BRAIN SCI. 87 (2000).

²⁷ Naresh K. Malhotra, *Information Load and Consumer Decision Making*, 8 J. CONSUMER RES. 419, 427 (1982) (reporting empirical studies that suggest information overload starts at “ten or more alternatives in the choice set or with information on 15 or more attributes”).

²⁸ George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity For Processing Information*, 63 PSYCHOL. REV. 81 (1956).

continues to be a good estimate for the maximum number of retainable chunks.²⁹

How can complex information consisting of more than four to fifteen pieces of data be processed and learned at all? The answer lies in a cognitive, automatic technique called “chunking.”³⁰ The working memory (sometimes also called short-term memory) is able to bundle smaller pieces of information into larger chunks.³¹ For example, the number 1914191819892016 can be broken down into 1914, 1918, 1989, and 2016. Importantly, information can be better retained in the memory when it is hierarchically structured.³² Nevertheless, capacity limits remain intact at every hierarchical level.³³ The simultaneous processing of more than four to fifteen chunks per level leads to a partial breakdown of cognitive capacities, so-called information overload.³⁴ This phenomenon not

²⁹ Robert S. Owen, *Clarifying the Simple Assumption of the Information Load Paradigm*, 19 *ADVANCES CONSUMER RES.* 770, 773 (1992) (noting that evidence supports Miller’s magical number as “a rough benchmark”).

³⁰ See, e.g., TORSEL KLINGBERG, *THE OVERFLOWING BRAIN* 55–56 (2009) (describing chunking as the combination of information into small bits). Herbert Simon, *How Big is a Chunk*, 183 *SCIENCE* 482 (1974) (noting that chunks organize input into familiar units). For an example, see *infra* Section I.A.1.

³¹ Nelson Cowan et al., *Models of Verbal Working Memory Capacity: What Does it Take to Make Them Work?*, 119 *PSYCH. REV.* 480, 481 (2012) (“[S]pecial attention has been paid to the possibility that verbal items can be combined mentally to form larger chunks of information.”).

³² STEPHEN K. REED, *COGNITION: THEORY AND APPLICATIONS* 211–13 (2006); Gordon H. Bower et al., *Hierarchical Retrieval Schemes in Recall of Categorized Word Lists*, 8 *J. VERBAL LEARNING & VERBAL BEHAV.* 323, 323 (1969).

³³ Cowan et al., *supra* note 31, at 481; Cowan, *supra* note 26, at 93 (discussing how bundling several chunks into new units gives rise to so-called compound short-term memory (STM) limits).

³⁴ See Angela Edmunds & Anne Morris, *The Problem of Information Overload in Business Organizations: A Review of Literature*, 20 *INT’L J. INFO. MGMT.* 17, 18 (2000); Martin J. Eppler & Jeanne Mengis, *The Concept of Information Overload: A Review of Literature from Organization Science, Accounting, Marketing, MIS, and Related Disciplines*, 20 *INFO. SOC’Y.* 325, 326 (2004); Owen, *supra* note 29, at 771.

only causes stress, but also a marked deterioration of decision-making quality.³⁵

2. Social Psychology

If cognitive psychology focuses on individual actors' mental dispositions and structures, social psychology analyzes the effects of the interactions between multiple individuals on those individuals.³⁶ In the 1960s, psychologists Albert Bandura and Richard Walters developed "social learning" or "social cognitive theory."³⁷ An important insight of social cognition research is that learning in social settings often occurs through observation and imitation,³⁸ even in the absence of reinforcement through reproduction of the action by the learner.³⁹ Knowledge in this context is acquired by observing a model, an exemplary person who performs a certain action in a specific way.⁴⁰ Importantly, knowledge can spread within and across groups by such forms of social learning.⁴¹

³⁵ Edmunds & Morris, *supra* note 34, at 18–19 (discussing how the quality of decisions declines once a threshold of information input that can be meaningfully cognitively processed has been reached); Eppler & Mengis, *supra* note 34, at 331; *see also* David Hirshleifer et al., *Driven to Distraction: Extraneous Events and Underreaction to Earning News*, 64 J. FIN. 2289, 2290 (2009) (arguing that distraction, provoked by information overload, leads to an underreaction to important news in securities markets).

³⁶ *See* sources cited *supra* note 2.

³⁷ *See* ALBERT BANDURA, *SOCIAL FOUNDATIONS OF THOUGHT AND ACTION: A SOCIAL COGNITIVE THEORY* 1 (1986).

³⁸ *See* ALBERT BANDURA & RICHARD H. WALTERS, *SOCIAL LEARNING AND PERSONALITY DEVELOPMENT* 47, 52 (1963).

³⁹ Joan E. Grusec, *Social Learning Theory and Development Psychology: The Legacies of Robert Sears and Albert Bandura*, 28 DEVELOPMENTAL PSYCHOL. 776, 781 (1992).

⁴⁰ *See, e.g.*, Albert Bandura et al., *Observational Learning as a Function of Symbolization and Incentive Set*, 37 CHILD DEV. 499, 500–502 (1966) (showing how children learn through observation and imitation) [hereinafter Bandura et al., *Observational Learning*].

⁴¹ *See id.*

Observational learning according to Bandura comprises four necessary requirements.⁴² First, the model must be attended to; individuals cannot learn if they do not take note of what the model does.⁴³ Second, the material needs to be stored in the observer's memory, in verbal or imaginal representations.⁴⁴ Third, there must be sufficient motivation to perform the observed actions.⁴⁵ Fourth, the observer must be able to conduct, that is, to motorically reproduce, the actions; complex actions, for example, are much harder to reproduce through observational learning than simple actions.⁴⁶

Throughout a day we experience all kinds of situations and observe a great variety of different behaviors. How do we decide then which ones to emulate? Reinforcement plays a crucial role here. We often reproduce actions from which we expect greater benefits, comfort, or other advantages.⁴⁷ This is what is known as anticipatory reinforcement. Reinforcement in social cognitive theory acts as a motivation device; it is not strictly necessary, but facilitative and effective.⁴⁸ Furthermore, reinforcement typically applies to actions a person has undertaken him or herself or observed in others.⁴⁹ These models are typically referred to as direct and vicarious reinforcement, respectively. Reinforcement thus functions as a sort of positive feedback loop.

All in all, a number of important insights emerge from this review of social cognition theory. First, learning is "inextricably

⁴² ALBERT BANDURA, SOCIAL LEARNING THEORY 6–8 (1971) [hereinafter BANDURA, SOCIAL LEARNING THEORY]; Grusec, *supra* note 39, at 781–82. Bandura labels these four essential processes as attention, retention, reproduction, and reinforcement. BANDURA, SOCIAL LEARNING THEORY 6–8 (1971).

⁴³ BANDURA, SOCIAL LEARNING THEORY, *supra* note 42, at 6–7.

⁴⁴ *Id.* at 7.

⁴⁵ *Id.* at 8.

⁴⁶ *Id.*

⁴⁷ Bandura et al., *Observational Learning*, *supra* note 40, at 505.

⁴⁸ *Id.* at 504–06.

⁴⁹ *Id.*

interwoven” with social relations.⁵⁰ It often most effectively takes place within and across groups.⁵¹ Second, learning often occurs through observing models, even in nonconscious ways.⁵² Third, since models play such an important role in the adaptive behavior of humans, legal theories of learning can take advantage of these insights by ensuring that the models observed are indeed worthwhile role models.⁵³ Social learning and social cognitive theory have thus become milestones in developmental psychology. The validity of its social-based concepts and theories is underscored by numerous empirical studies.⁵⁴ These findings should not be overlooked by the law.

B. Economics

Many social psychology concepts can be found in contemporary economic models of learning. For years, the acquisition and processing of new information in economics had been driven by a distinctly mathematical model: Bayesian updating.⁵⁵ This elegant theory posits that prior information is updated in a mathematically precise way as new information becomes known to the decision maker.⁵⁶

Behavioral decision theory has challenged the empirical accuracy of this view over the past few decades. A host of biases

⁵⁰ WM. THEODORE DE BARY, *THE GREAT CIVILIZED CONVERSATION: EDUCATION FOR A WORLD COMMUNITY* 127 (2013); see sources cited *supra* notes 38–40.

⁵¹ Bandura et al., *Observational Learning*, *supra* note 40 at 500.

⁵² *Id.*

⁵³ *See id.*

⁵⁴ Grusec, *supra* note 39, at 783.

⁵⁵ The theory of Bayesian updating dates back to Thomas Bayes. Bayes & Price, *An Essay towards solving a Problem in the Doctrine of Chances*, 53 *PHIL. TRANSACTION ROYAL SOC'Y LONDON* 370, 370–418 (1764), <http://rstl.royalsocietypublishing.org/content/53/370.short>. For a contemporary formulation and application, see Thomas L. Griffiths et al., *Bayesian Inference*, in *THE OXFORD HANDBOOK OF THINKING AND REASONING* 22 (Keith K. Holyoak & Robert G. Morrison eds., 2012).

⁵⁶ Griffiths et al., *supra* note 55, at 23.

such as confirmation bias,⁵⁷ the base rate fallacy,⁵⁸ or the availability heuristic⁵⁹ indicate that, more often than not, real decision makers do not follow mathematical principles: they do not update new information neutrally, but in ways that confirm their pre-conceived ideas; and they do not account for the statistical strength of the information, but adjust according to the readiness with which examples come to mind. Significantly, a recent case study by professors Lauge Poulsen and Emma Aisbett suggests that states as entities, mediated by government officials, learn in a boundedly rational rather than Bayesian way.⁶⁰

These biases, and behavioral decision theory in general, have received substantial attention in behavioral law and economics literature in the last fifteen years.⁶¹ However, economic theory has begun to develop learning theories that are still vastly underappreciated in the legal landscape. As a genuine economic concept, learning is studied first and foremost in game theory.⁶²

⁵⁷ See Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises*, 2 REV. GEN. PSYCHOL. 175, 175–77 (1998).

⁵⁸ See Maya Bar-Hillel, *The Base-Rate Fallacy in Probability Judgments*, 44 ACTA PSYCHOLOGICA 211, 211–215 (1980). For a critical perspective, see, Jonathan J. Koehler, *The Base Rate Fallacy Reconsidered: Descriptive, Normative, and Methodological Challenges*, in 19 BEHAVIORAL & BRAIN SCI. 1 (1996).

⁵⁹ Baruch Fischhoff et al., *Fault Trees: Sensitivity of Estimated Failure Probabilities to Problem Representation*, in 4 J. EXPERIMENTAL PSYCHOL.: HUM. PERCEPTION & PERFORMANCE 330, 332–33 (1978); Korobkin & Ulen, *supra* note 3, at 1087–91; Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, 5 COGNITIVE PSYCHOL. 207, 207–09 (1973); Amos Tversky & Daniel Kahneman, *Extensional Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment*, 90 PSYCHOL. REV. 293, 293–94 (1983).

⁶⁰ Lauge N. Skovgaard Poulsen & Emma Aisbett, *When the Claim Hits: Bilateral Investment Treaties and Bounded Rational Learning*, 65 WORLD POLITICS 273, 292–94, 297–300 (2013); *see also* Jack S. Levy, *supra* note 22, at 279 (presenting empirical evidence on boundedly rational behavior by diplomats and other agents in foreign policy).

⁶¹ *See* BAR-GILL, *supra* note 3, at 15; Jolls et al., *supra* note 3, at 1471; Korobkin & Ulen, *supra* note 3, at 1053.

⁶² *Cf.* DREW FUDENBERG & DAVID K. LEVINE, *THE THEORY OF LEARNING IN GAMES* 3 (1998) (arguing that “learning models that have been studied so far

1. Game Theory

Game theoretic models that capture learning effects will often explicitly draw on concepts of social psychology and turn them into mathematical and experimentally testable constructs.⁶³ There are three main models explaining learning in game theory:⁶⁴ reinforcement approaches, belief learning models, and experience-weighted attraction (“EWA”) learning.⁶⁵ While reinforcement learning only looks at an individual player’s⁶⁶ past experiences, players learn from *other* players’ alternative strategies in belief learning.⁶⁷ EWA learning, a leading theory of learning in contemporary game theory,⁶⁸ presents a synthesis of reinforcement

do not do full justice to the ability of people to recognize patterns of behavior by others.”).

⁶³ *Id.* at 3–4, 94, 139, 158–60.

⁶⁴ Further models can be found in the following: Chmura et al., *supra* note 1 (discussing action-sampling learning and impulse-matching learning); CAMERER, *supra* note 2, at 270–71, 288–92, 295–98 (describing also imitation, learning direction theory and rule learning).

⁶⁵ CAMERER, *supra* note 2, at 268–70. For a theoretical treatment of the connection between rational learning strategies and Nash equilibria, see Ehud Kalai & Ehud Lehrer, *Rational Learning Leads to Nash Equilibrium*, 61 *ECONOMETRICA* 1019 (1993).

⁶⁶ Individual actors are called players in game theory. See FUDENBERG & LEVINE, *supra* note 62, at 1.

⁶⁷ CAMERER, *supra* note 2, at 268–69. Reinforcement learning describes strategies in which previously successful choices by the agent “reinforce” these actions in future decision making situations. *Id.* at 268. If, for example, cooperating with B proved beneficial to A at one point, this raises the likelihood of A choosing cooperation when facing C in a future interaction. Belief learning models, by contrast, focus on choices by other agents. *Id.* at 268–269. If A cooperated successfully with B, but observed that D was even more successful by defecting vis-à-vis E, then A might choose defection in his future encounter with C. In one popular variety of belief learning, fictitious play, A keeps track of how often other players play certain strategies, update their beliefs on what their counterparty will do accordingly, and choose strategies that are likely to be successful given these beliefs. *Id.* at 269. In EWA learning, players can combine both strategies, using some reinforcement, and some belief learning, at varying ratios. *Id.*

⁶⁸ See, e.g., Chmura et al., *supra* note 1, at 60 (showing that EWA learning provides the best prediction of learning results at an individual level); Aric P. Shafran, *Learning in Games with Risky Payoffs*, 75 *GAMES & ECONOMIC*

and belief learning models.⁶⁹ EWA learning describes a whole family of learning strategies and comprises both reinforcement and belief learning as boundary cases.⁷⁰ In empirical studies, EWA learning shows great precision in predicting individual learning behavior; in fact, it fares better than any other comparable game theory model.⁷¹

At a structural level, it is important to see that EWA learning allows for both the reinforcement of one's own actions and for the observation of other players and their strategies. It is thus consonant with modern versions of social cognitive learning theory which, as we have seen, deal with the reinforcement effects both of one's own and others' actions (direct and vicarious reinforcement).⁷² The success of EWA learning suggests that humans use their own experience as well as observation of others when adapting to new circumstances. EWA learning further shows that advanced economic modeling and empirical testing vindicates the psychological findings that stress the relevance of both reinforcement and observation for learning. These two pillars should therefore guide legal processes of learning as well.

2. Organizational Learning

Private and public organizations are also a locus for learning. Organizational learning is the process of creating, retaining, and transferring knowledge within an organization with the aim of

BEHAVIOR 354, 357 (2012) (noting that EWA learning draws on features of belief and reinforcement learning and thus optimally adapts to real learning behavior in games).

⁶⁹ Colin Camerer & Teck-Hua Ho, *Experienced-Weighted Attraction Learning in Normal Form Games*, 67 *ECONOMETRICA* 827, 829 (1999). For more recent developments, see Teck-Hua Ho et al., *Self-Tuning Experience Weighted Attraction Learning in Games*, 133 *J. ECON. THEORY* 177 (2007).

⁷⁰ CAMERER, *supra* note 2, at 269.

⁷¹ *Id.* at 308, 332 (noting that EWA learning predicts best in 85-90% of the studies, with the exception of games with mixed equilibria); Chmura et al., *supra* note 1 (reporting on the self-tuning variety of EWA learning).

⁷² See BANDURA, *SOCIAL LEARNING THEORY*, *supra* note 42, at 3-5.

making an organization better, for example by increasing efficiency of production, accuracy, or profits.⁷³

a. Interconnections between Individuals and the Environment

The typical issue in organizational behavior is one that characterizes all fields of the social sciences, namely the interaction between the person and his or her internal cognition (agency), and environment (structure).⁷⁴ Four strands have been developed that give different weight to the importance of person and environment within an organization, and as a result yield different interpretations on how learning develops within an organization. First, some theories explain organizational behavior and learning mainly as a function of the person.⁷⁵ Second, other theories explain behavior and learning mainly as a function of the organization's environment.⁷⁶ Third, the compromise position adopts the stance that organizational behavior is a function of both the person and the environment.⁷⁷ Finally, a new theory has

⁷³ See CYERT & MARCH, *supra* note 2, at 172.

⁷⁴ See generally ANTHONY GIDDENS, *THE CONSTITUTION OF SOCIETY: OUTLINE OF THE THEORY OF STRUCTURATION* 5–28 (1984) (explaining the relationship between agency and structure); FRITZ W. SCHARPF, *GAMES REAL ACTORS PLAY: ACTOR-CENTERED INSTITUTIONALISM IN POLICY RESEARCH* 10–12 (1997) (discussing structure and agency as complementary rather than mutually exclusive explanatory approaches); DAVID SINGH GREWAL, *NETWORK POWER: THE SOCIAL DYNAMICS OF GLOBALIZATION* 44–69 (2008) (bringing the two concepts together and developing the ideas of “sociability” and “sovereignty”).

⁷⁵ See, e.g., ABRAHAM H. MASLOW, *MOTIVATION AND PERSONALITY* (1954) (dealing with the subject of the nature of human fulfillment and the significance of personal relationships, and implementing a conceptualization of self-actualization); VICTOR H. VROOM, *WORK AND MOTIVATION* (1964) (explaining why individuals choose to follow certain courses of action in organizations); Edwin A. Locke, *Toward a Theory of Task Motivation and Incentives*, 3 *ORGANIZATIONAL BEHAV. & HUM. PERFORMANCE* 157, 157–89 (1968) (dealing with the relationship between individuals' conscious goals and intentions and task performance).

⁷⁶ See B. F., SKINNER, *SCIENCE AND HUMAN BEHAVIOR* 129–141 (1953).

⁷⁷ See, e.g., LYMAN W. PORTER & EDWARD E. LAWLER, *MANAGERIAL ATTITUDES AND PERFORMANCE* (1968) (developing a multivariate model,

developed more recently: Tim Davis and Fred Luthans make social learning the center of an organizational behavior theory that complements the previously mentioned approaches and draws heavily on Bandura's social learning theory.⁷⁸ Hence, social learning, with its dual focus on reinforcement and observation, can be applied not only at the individual level, including in game theory, but also in organizations.

Beyond the interplay between the individual and environment, there are a number of other important aspects of "organizational learning." Three classical characteristics of learning organizations can be drawn from behavioral studies of organizations.⁷⁹ First, behavior within an organization is based on routines:⁸⁰ "forms, rules, procedures, conventions, strategies, and technologies around which organizations are constructed" that are "independent of the individual actors who execute them."⁸¹ Organizational learning is the result of "encoding inferences from history into routines that guide behavior."⁸² Second, "organizational actions are history-dependent," meaning that "routines are based on interpretations of the past more than [on] anticipations of the future."⁸³ Third, organizations are target-oriented.⁸⁴ Their behavior depends on the relation between observed outcomes and their aspirations. Thus, the individual, the environment, their interaction, routines, history, and targets determine organizations' learning capabilities.

according to which individual behavior is determined by a combination of factors in the individual and in the environment).

⁷⁸ See Tim R. V. Davis & Fred Luthans, *A Social Learning Approach to Organizational Behavior*, 5 ACAD. MGMT. REV. 281 (1980); see also *supra* Section I.A.2.

⁷⁹ Barbara Levitt & James G. March, *Organizational Learning*, 15 ANN. REV. SOC. 319, 320 (1988) (providing further references).

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *Id.*

b. Management Theory

Finally, management theory has also made a distinguished contribution to the study of learning. A seminal concept is that of Peter Senge, who developed a theory on the “learning organization” that draws on theories of organizational learning, but combines and adds to them in several respects.⁸⁵ In Senge’s work, the learning organization is juxtaposed to a “controlling organization” that is organized in a vertical command-and-control way; a style of organization and management which, according to Senge, still characterizes almost every organization.⁸⁶ The learning organization is distinguished by creating a community that learns to learn together.⁸⁷ This is precisely the development the law should seek to increasingly facilitate, both within companies and regulatory agencies.

The learning organization is based on five disciplines;⁸⁸ the two most important in this context are dialogue, and systems thinking.⁸⁹ Dialogue in the organization should involve a team genuinely thinking together given that the team, and not individuals, are the fundamental learning unit in modern organizations.⁹⁰ Systems thinking is the “Fifth Discipline” that also inspired the title of Senge’s book. Business and other human activities are, according to Senge, systems that are bound by

⁸⁵ PETER M. SENGE, *THE FIFTH DISCIPLINE: THE ART AND PRACTICE OF THE LEARNING ORGANIZATION* 3 (1990, 2d. ed 2006) [hereinafter *SENGE, THE FIFTH DISCIPLINE*]; *see also* SENGE ET AL., *THE DANCE OF CHANGE*, *supra* note 1 (showing how to accelerate success in organizations and avoid the obstacles that can stall the momentum of change).

⁸⁶ SENGE, *THE FIFTH DISCIPLINE*, *supra* note 85, at 5.

⁸⁷ *See id.* at 4; *see also* Levitt & March, *supra* note 79, at 332 (discussing the concept of learning to learn together).

⁸⁸ SENGE, *THE FIFTH DISCIPLINE*, *supra* note 85, at 129–216 (explaining that the five disciplines are: (a) personal mastery; (b) mental models; (c) building shared vision; (d) team learning; and (e) systems thinking; *see also* SOC’Y FOR ORGANIZATIONAL LEARNING: N. AM., (last visited July 12, 2017), http://www.solonline.org/?page=Abt_OrgLearning (providing rich material on the five disciplines of the learning organization).

⁸⁹ The other disciplines are personal mastery, mental models, and building a shared vision. SENGE, *THE FIFTH DISCIPLINE*, *supra* note 85, at 129–216.

⁹⁰ *Id.* at 236.

various interrelated actions. It is thus important for an organization to focus not on isolated parts of the system, but on the overall operations of the organization and on all the other disciplines at the same time. Systems thinking integrates the other disciplines, fusing them into a coherent body of theory and practice. At the same time, the other four disciplines should be conducive to realizing the organization's potential. This way of thinking should then eventually lead individuals to shape and change the organization.⁹¹

As such, learning within the learning organization goes well beyond "survival" or "adaptive learning" since it gives the organization the ability to not only excel at passive reception of external input, but also to continually expand its capacity to create its future. Adaptive learning must be joined by "generative learning" that enhances the capacity to create.⁹²

C. Individual and Social Learning: A Black Hole in the Legal Literature

How can the legal discipline make sense of and integrate these findings into specific legal analysis? To motivate this inquiry, we will first show that contemporary legal thought is missing a systematic approach to learning. Legal analysis is plagued by incoherent approaches to learning; it is either ignored, dismissed as irrelevant, or emphatically embraced in order to declare the irrelevance of behavioral biases.⁹³ We highlight law and economics and behavioral law and economics as examples.

1. Law and Economics

In law and economics, individual agents are generally assumed to learn, but there is no recognition of the prerequisites for and the limits of learning.⁹⁴ Learning is usually understood as individual

⁹¹ *Id.* at 11–12.

⁹² *Id.* at 14.

⁹³ TILMAN SLEMBECK, UNIV. ST. GALLEN DEP'T. ECON., LEARNING IN ECONOMICS: WHERE DO WE STAND? A BEHAVIORAL VIEW ON LEARNING IN THEORY, PRACTICE AND EXPERIMENTS, Discussion Paper no. 9007 1–19 (1999).

⁹⁴ Richard Posner, for example, drops an occasional, yet unqualified reference to the role of habits in "learning by doing" in order to downplay the

learning in a social context, often in terms of the game theoretic adaptation to an equilibrium strategy.⁹⁵ Richard Posner even cites “learning by doing” as a reason to punish repeat offenders more severely, since he assumes that criminals will get better at hiding their offenses by repeating criminal activity.⁹⁶

This unqualified understanding of human behavior has consequences for the paradigm of regulation promoted by classical law and economics. Social learning is undoubtedly a legitimate aim of any regulatory effort.⁹⁷ Thus, the question becomes “how can regulation facilitate social learning?”⁹⁸ However, it is at least equally important that regulators themselves improve their learning capabilities. As economist Friedrich Hayek rightly identified, governments might introduce substantively erroneous regulation simply because they lack sufficient information, a so-called knowledge problem.⁹⁹ Nonetheless, law and economics scholarship tends to underanalyze learning’s cognitive limits and intricate motivations while providing elegant formal models theoretically capturing the interaction between different agents.¹⁰⁰ Law and economics thus often fails to acknowledge that agents in practice must overcome a number of cognitive and motivational limitations

importance of the endowment effect. See Richard Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1566–67 (1998). For further examples of learning in the law and economics literature see, e.g., David M. Grether et al., *The Irrelevance of Information Overload: An Analysis of Search and Disclosure*, 59 S. CAL. L. REV. 277 (1986); Alan Schwartz & Louis L. Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630, 659 (1979).

⁹⁵ See, e.g., ROBERT COOTER & THOMAS ULEN, *LAW & ECON.* 36, 300 (6th ed. 2011) (suggesting that players “probably” learn from bad experiences and therefore adapt their behavior in future rounds of a game to approximate equilibrium strategies); see also *infra* note 96.

⁹⁶ RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 269 (9th ed., 2014).

⁹⁷ Cf. Cento Veljanovski, *Strategic Use of Regulation*, in THE OXFORD HANDBOOK OF REGULATION 87, 94 (Robert Baldwin, Martin Cave & Martin Lodge eds., 2010) (stressing “learning as an important feature of regulation in practice”).

⁹⁸ Schwartz, *supra* note 10, at 1407.

⁹⁹ Friedrich August von Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 519 (1945).

¹⁰⁰ Schwartz, *supra* note 10, at 1406–9.

to engage in learning.¹⁰¹ This literature also tends to overlook the interrelation between individual and organizational learning, and the latter's importance for effective regulation.¹⁰²

2. Behavioral Law and Economics

Learning is not thoroughly investigated in behavioral law and economics literature, either; it is either overlooked, or invoked to resist behavioral regulation *per se*.¹⁰³ Professor Cass Sunstein mentions learning as one of the five possible welfarist objections to libertarian paternalism.¹⁰⁴ Joshua Wright and Douglas Ginsburg, in their critique of behavioral law and economics, object to behavioral strategies on the basis that they impede learning by the involved actors.¹⁰⁵

The critiques of behavioral law and economics from a learning perspective thus take a dual shape. First, there is the banality argument, that learning does not matter at all for important decisions. There is also the cancellation argument, where critics claim that since learning does occur, it speaks against the ubiquity of biases sometimes postulated by the behavioral literature. We shall briefly take up these partly contradictory concerns in turn.

First, the *banality argument*: some of the most important decisions, such as going to college, the decision whether to get married and whom to marry, as well as major investments such as buying a house, are made so infrequently that there is little chance

¹⁰¹ See sources cited *supra* notes 43–46 and accompanying text.

¹⁰² For more on the importance of institutional learning, see Jon Stern, *The Evaluation of Regulatory Agencies*, in THE OXFORD HANDBOOK OF REGULATION 223 (Robert Baldwin et al. eds., 2010) (stressing evaluation as a tool of learning and improving regulatory outcomes); see also *supra* Section I.B.2.

¹⁰³ See Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism is not an Oxymoron*, 70 U. CHI. L. REV. 1159, 1170 (2003) [hereinafter Sunstein & Thaler, *Libertarian Paternalism*]; Wright & Ginsburg, *supra* note 4; Mario J. Rizzo & Douglas Glen Whitman, *The Knowledge Problem of New Paternalism* BRIGHAM YOUNG U. L. REV. 905, 943–946 (2009).

¹⁰⁴ Cass R. Sunstein, *The Storrs Lectures: Behavioral Economics and Paternalism*, 122 YALE L. J. 1826, 1869–70 (2013). The other four are information, competition, heterogeneity and public choice. See *id.* at 1868–72.

¹⁰⁵ Wright & Ginsburg, *supra* note 4, at 1070–1075.

for learning from these experiences.¹⁰⁶ Thus, learning is supposedly reduced to more banal, everyday actions. This argument, however, overlooks that many smaller decisions can add up to having a massive impact. For instance, if you lose ten dollars per month because you failed to adapt your cell phone contract to your actual calling behavior,¹⁰⁷ that will cost you \$1200 over ten years. And this is only one of many actions in which people regularly lose money or free time by not acting optimally.¹⁰⁸ Thus, the actions in which learning matters are not trivial but rather at the very heart of the daily economic decisions we make.

Second, the *cancellation argument* states that learning effectively cancels out biases over time in the cases in which they are relevant.¹⁰⁹ In real life, outside of laboratory experiments, people will learn over time, thus self-debias. Therefore, behavioral scholarship is wrong to claim that biases are likely to have a significant impact on behavior; they are “learned away.”¹¹⁰ While this is theoretically possible, empirical research suggests that learning is subject to some necessary conditions that are rarely

¹⁰⁶ Jeffrey J. Rachlinski, *The Psychological Foundations of Behavioral Law and Economics*, U. ILL. L. REV. 1675, 1686 (2011); see Sunstein & Thaler, *Libertarian Paternalism*, *supra* note 103, at 4–5, 9–12.

¹⁰⁷ See BAR-GILL, *supra* note 3, at ch. 4 (presenting a careful legal and empirical analysis of biases in cell phone contracting).

¹⁰⁸ See, e.g., *id.* at chs. 2–3 (discussing how individuals regularly lose money and time in the context of applying for mortgages and credit cards); GEORGE A. AKERLOF & ROBERT J. SHILLER, *PHISHING FOR PHOOLS: THE ECONOMICS OF MANIPULATION AND DECEPTION* (2015) (explaining how consumers are tricked into spending money in numerous contexts such as when buying homes, cars, tobacco, and alcohol).

¹⁰⁹ See John List, *Does Market Experience Eliminate Market Anomalies?*, 118 Q. J. ECON. 41, 71 (2003); Wright & Ginsburg, *supra* note 4, at 1045; see also Devin G. Pope & Maurice E. Schweitzer, *Is Tiger Woods Risk Averse? Persistent Bias in the Face of Experience, Competition, and High Stakes*, 101 AM. ECON. REV. 129 (2011) (showing how, in the real-world example of professional golf players, learning did not eradicate bias despite high stakes and competitive environments).

¹¹⁰ See, e.g., Rizzo & Whitman, *supra* note 103 (noting ways in which self-debiasing might overcome biases); Sunstein, *supra* note 104, at 1869–70 (discussing learning as a potential source of overcoming bias, and some nudges as preventing learning); Jeremy A. Blumenthal, *Expert Paternalism*, 64 FLA. L. REV. 721, 743–44 (2012) (describing limits to self-debiasing).

present.¹¹¹ The agents must be motivated to change their behavior. This can be unlikely, particularly in the case of biases that are conducive to enjoying life and coping with problems, such as optimism bias. People also fail to recognize the need for behavior change, and learning, if they believe that they are already pursuing an optimal strategy and that only others are subject to error and biases.¹¹² For the conscious pursuit of learning strategies, self-conscious insight is necessary. Moreover, even unconscious learning patterns are subject to constraints. For example, it has been shown that overconfidence is only diminished by learning if personalized, clear feedback is given on a number of occasions.¹¹³ In real life, these conditions are often unmet.¹¹⁴ In fact, many of the studies in the behavioral literature in which biases were identified were conducted with law and business students whose education had given them ample opportunity and incentives to develop optimal bargaining and decision-making procedures.¹¹⁵ Field studies with experts as participants confirm that even experience, and thus ample learning opportunities, do not guard against bias;¹¹⁶ even seasoned diplomats are subject to important

¹¹¹ See, e.g., Blumenthal, *supra* note 110, at 743–44.

¹¹² Timothy D. Wilson et al., *Mental Contamination and the Debiasing Problem*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT 185, 190 (Thomas Gilovich et al., eds., 2002).

¹¹³ Baruch Fischhoff, *Debiasing*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 422, 437 (Daniel Kahnemann et al., eds., 1982).

¹¹⁴ See Wilson et al., *supra* note 112, at 200. This holds particularly true for investment decisions on the stock market, see Stefano DellaVigna, *Psychology and Economics. Evidence from the Field*, 47 J. ECON. LIT. 315, 330, 365 (2009).

¹¹⁵ Linda Babcock & George Loewenstein, *Explaining Bargaining Impasse: The Role of Self-Serving Biases*, 11 J. ECON. PERSP. 109, 121–22 (1997) (discussing the self-serving bias).

¹¹⁶ See, e.g., Derek J. Koehler et al., *The Calibration of Expert Judgment*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT 686 (Thomas Gilovich et al., eds., 2002); Oren Perez, *Can Experts be Trusted and What Can be Done About It? Insights from the Biases and Heuristics Literature*, in NUDGE AND THE LAW: A EUROPEAN PERSPECTIVE 115 (Alberto Alemanno & Anne-Lise Sibony eds., 2015).

biases.¹¹⁷ Learning effects thus do not follow automatically from mistakes.¹¹⁸

Many lessons can be drawn from the treatment of learning in behavioral law and economics. First, learning does have the potential of debiasing actors; in situations in which this is deemed a normative goal, learning should be given a greater role. Second, learning is a tricky business; it is context-dependent and does not follow automatically from mistakes. Rather, some prerequisites such as clear and continuous feedback are necessary for successful learning. Generally, learning is an important, yet underrepresented, variable in achieving better outcomes in the real world. Behavioral scholarship thus stands to benefit from paying close attention to learning theory.

Learning matters, particularly if interdisciplinary law expands its narrow focus to include social psychology; but it is an intricate process that needs monitoring and institutionalization if it is to show legally tangible results. The remainder of the Article thus attempts to outline these structures and identify concrete opportunities for learning in the law, both in the international and national sphere.

II. INTERNATIONAL AND COMPARATIVE PERSPECTIVES TO BEHAVIORAL REGULATION AND LEARNING

The influence of behavioral law and economics on public policymaking has been so great that it has spread to international institutions. Behavioral regulation is relevant to international and regional organizations on two levels: they may be involved in behavioral regulation themselves, as the World Trade Organization is,¹¹⁹ or encourage behavioral regulation at the domestic level, as the World Bank does.¹²⁰ Behavioral regulation is subject to even more intense debate in domestic regulation in the United States and the European Union. Therefore, the following section visits several examples of behavioral regulation from an international and

¹¹⁷ See Poulsen & Aisbett, *supra* note 60, at 273.

¹¹⁸ Blumenthal, *supra* note 110; Wilson et al., *supra* note 112, at 189.

¹¹⁹ See discussion *infra* Section II.B.2.

¹²⁰ See discussion *infra* Section II.B.1.

comparative perspective to show how insights from learning theory are often missing.

A. Behavioral Regulation and Learning in International Law

There is surprisingly little literature on the influence of behavioral economics and cognitive psychology on international law.¹²¹ At the same time, the vast literature on international regulation and global administrative law shows that international law has long assumed a regulatory role with a major impact on the behavior of domestic governments and individuals at both the international and domestic governance level.¹²² International law preshapes several decisions of domestic governments, sometimes in the form of nudges.¹²³

International law analyses based on the assumption of perfect rationality dominate in the United States,¹²⁴ and more legal

¹²¹ See Anne van Aaken, *Behavioral International Law and Economics*, 55 HARV. INT'L L. J. 421 (2014); Tomer Broude, *Behavioral International Law*, 163 U. PA. L. REV. 1099 (2015). What little literature there is focuses on how behavioral law and economics research could have an influence on international law. However, the relevant literature is increasing; other literature introducing insights of behavioral law and economics into different aspects of international law and international relations includes: Georgios Dimitropoulos, *Behavioural Regulation in International Trade*, in NUDGING – POSSIBILITIES, LIMITATIONS, AND APPLICATIONS IN EUROPEAN LAW AND ECON. 263 (Klaus Mathis & Avishalom Tor eds., 2016) [hereinafter Dimitropoulos, *Behavioural Regulation in International Trade*]; Jean Galbraith, *Treaty Options: Towards a Behavioral Understanding of Treaty Design*, 53 VA J. INT'L L. 309 (2013) (taking a behavioral approach to international treaty formation); Poulsen & Aisbett, *supra* note 60; Lauge N. Skovgaard Poulsen, *Bounded Rationality and the Diffusion of Modern Investment Treaties*, INTERNATIONAL STUDIES QUARTERLY 1 (2013) (studying the effect of the availability bias in the diffusion of investment treaties).

¹²² See Benedict Kingsbury et al., *The Emergence of Global Administrative Law*, 68 LAW & CONTEMP. PROBS. 376 (2005).

¹²³ See *infra* Section II.B.2.

¹²⁴ See JACK L. GOLDSMITH & ERIC A. POSNER, THE LIMITS OF INT'L LAW 3 (2005); ANDREW T. GUZMAN, HOW INTERNATIONAL LAW WORKS: A RATIONAL CHOICE THEORY *viv* (2008); ERIC A. POSNER & ALAN O. SYKES, ECON. FOUNDATIONS OF INT'L LAW 3 (2013); JOEL P. TRACHTMAN, THE ECON.

approaches to international law are dominant in Europe.¹²⁵ In the same way that rational choice theory in domestic law assumes rationality for individuals, rational choice approaches of both international relations and law and economics usually assume that states are rational and unitary actors.¹²⁶ Accordingly, the behavioral law and economics paradigm can be transposed to the international level as well. Anne van Aaken identifies three pillars on which “Behavioral International Law and Economics” could draw: economic analysis of international law, behavioral economics, and political psychology in international relations.¹²⁷ It can be assumed also for states, individuals, and groups that act at the international level that their behavior is also bounded, and that biases and heuristics impact their choices and decisions. First, government decisions are made by agents that are subject to the same biases as the ones identified at the domestic level for individual decisionmakers; hence, states are acting in a boundedly rational manner.¹²⁸ Secondly, one could add that not all decisions in international law are taken by the states and for the states. There are several more individual and collective decisionmakers in international law like international judges and courts, heads of international organizations, nongovernmental organizations (“NGOs”), private governance regimes, and intergovernmental networks. Thus, even if *states* for some reason acted more rationally than the officials representing them, there would still be ample room for boundedly rational behavior by other, nonstate

STRUCTURE OF INT’L LAW 1 (2009); Jeffrey L. Dunoff & Joel P. Trachtman, *Economic Analysis of International Law: An Invitation and a Caveat*, 24 YALE J. INT’L L. 1, 4 (1999).

¹²⁵ See Georg Nolte, *Public International Law and Economics: Concluding Remarks to the Bonn Conference*, U. ILL. L. REV. 429 (2008) (contrasting U.S. and European approaches to international law).

¹²⁶ See van Aaken, *supra* note 121, at 441.

¹²⁷ *Id.* at 421.

¹²⁸ See Broude, *supra* note 121, at 1114; see also Brad L. LeVeck et al., *The Role of Self-Interest in Elite Bargaining*, 111 PNAS 18536 (2014) (showing that experienced diplomats, in negotiating international treaties, behave in a boundedly rational way); Poulsen & Aisbett, *supra* note 60 (showcasing cognitive biases in the field of international investment law).

actors. Finally, there is solid evidence that collectives, like states and NGOs, are subject to similar biases as individuals.¹²⁹

B. Case Studies from International Law

Various international organizations are currently considering how the insights from behavioral sciences could support policy making at the domestic and international level. In the field of international development especially, behavioral insights and policy design methods such as randomized control trials (“RCTs”) are proliferating.¹³⁰ This section discusses the role of behavioral law and economics in this discussion, using the World Bank and the World Trade Organization as examples.

1. The World Bank

The World Bank is leading the transposition of behavioral insights into international policymaking. The World Bank helped, for example, run an RCT in Guatemala.¹³¹ The United Kingdom Behavioural Insights Team (“UK BIT”) conducted the RCT, which

¹²⁹ See IRVING L. JANIS, VICTIMS OF GROUPTHINK: A PSYCHOLOGICAL STUDY OF FOREIGN-POLICY DECISIONS AND FIASCOES 1 (1972); CASS R. SUNSTEIN & REID HASTIE, WISER: GETTING BEYOND GROUPTHINK TO MAKE GROUPS SMARTER 7–9, 49–51 (2014); Cass R. Sunstein, *Deliberative Trouble? Why Groups Go to Extremes*, 110 Yale L.J. 71, 73–75 (2000) [hereinafter Sunstein, *Deliberative Trouble*]; David Schkade, et al., *When Deliberation Produces Extremism*, 22 CRITICAL REVIEW 227 (2010).

¹³⁰ See MARK WHITEHEAD ET AL., NUDGING ALL OVER THE WORLD, 28–29 (2014), <https://changingbehaviours.files.wordpress.com/2014/09/nudgedesignfinal.pdf>. RCTs are increasingly used in international development to compare cost-effectiveness of different interventions for boosting growth and tackling poverty.

¹³¹ For more information see Josh Howgege, *How Behavioural Science could Revamp Development*, SCI DEV NET (Dec. 22, 2014) <http://www.scidev.net/global/policy/feature/behavioural-science-development-policy-innovation.html>; Simon Ruda, *Results from BIT tax trial in Guatemala*, BEHAVIORAL INSIGHTS TEAM (Dec. 22, 2014), <http://www.behaviouralinsights.co.uk/international/results-from-bit-tax-trial-in-guatemala/>; BIT Staff, *BIT first trial in Latin America goes live!*, BEHAVIORAL INSIGHTS TEAM (May 29, 2014), <http://www.behaviouralinsights.co.uk/international/bit-first-trial-in-latin-america-goes-live/>.

was the first trial that BIT ran in the international development context.¹³²

Importantly, the subject of the 2015 World Development Report (“WDR”) is the introduction of behavioral insights into development policy.¹³³ The 2015 WDR, entitled “Mind, Society, and Behavior,” was launched in December 2014 by Jim Yong Kim, the President of the World Bank, and David Halpern of UK BIT.¹³⁴ The WDR’s purpose was to foster the improvement of development policies through an emphasis on understanding and changing human behavior.¹³⁵ It has a broader interdisciplinary approach than most other behavioral studies, and draws on neuroscience, cognitive and social psychology, behavioral economics, sociology, political science, and anthropology.¹³⁶ The WDR attempts to show how to address various development challenges and to shape a new agenda for the development community.¹³⁷ It introduces new ways of thinking and discusses new interventions that are relevant for development policy, and also deals with the behavior of development professionals.¹³⁸

Drawing on insights from various behavioral and social sciences concerning decision making, the WDR identifies three major ways of thinking that are relevant for the design and implementation of development policy: “thinking automatically,” “thinking socially,” and “thinking with mental models.”¹³⁹ Thinking automatically means that people make most of their

¹³² See Stewart Kettle et al., *Behavioural Insights to Improve Tax Compliance: Short-Term Impacts from a Randomised Experiment in Guatemala*, CMPO Working Paper (2015). The trial tested redesigned reminder letters to taxpayers in Guatemala who had failed to declare their income tax on time and reported an increase in payment by the behaviorally informed taxpayers of 43%.

¹³³ The World Development Report is an analysis of a specific aspect of economic development published each year by the World Bank. See generally WORLD BANK GRP., WORLD DEVELOPMENT REPORT 2015: MIND, SOCIETY, AND BEHAVIOR 1 (2015), <https://openknowledge.worldbank.org/handle/10986/20597>.

¹³⁴ *Id.*

¹³⁵ See *id.*

¹³⁶ See *id.*

¹³⁷ See *id.* at 2–3.

¹³⁸ See *id.* at 3.

¹³⁹ *Id.* at 3, 24–75

judgments and choices in a nondeliberative way;¹⁴⁰ thinking socially implies that people usually think and act based on what other people around them think and do;¹⁴¹ and thinking with mental models suggests that individuals within a society share common perspectives on making sense of the world around them and understanding themselves.¹⁴²

These insights are extremely important for the design of regulatory interventions. Understanding how people think and behave has an influence on the regulatory tools and strategies for promoting development and combating poverty. The WDR points to new tools for achieving development objectives, and new means of increasing the effectiveness and efficiency of existing interventions.¹⁴³ It facilitates connections between modes of decision making and new interventions that can help households to save more, firms to increase productivity, communities to reduce the prevalence of disease, parents to improve the cognitive development of children, and consumers to save energy.¹⁴⁴

The WDR also focuses on the internal operations of the World Bank and other international and domestic development organizations.¹⁴⁵ It recognizes that development professionals and policy makers, like other individuals, are subject to various biases stemming from preconceived frameworks of thinking.¹⁴⁶ The World Bank and similar organizations can introduce measures to mitigate these biases by, for example, diagnosing the mindsets of the people that they are trying to help in a more rigorous and

¹⁴⁰ See DANIEL KAHNEMAN, *THINKING, FAST AND SLOW* 20–22 (2011).

¹⁴¹ See Mark Granovetter, *Economic Action and Social Structure: The Problem of Embeddedness*, 91 AM. J. SOC. 481, 485 (1985).

¹⁴² See Arthur T. Denzau & Douglas C. North, *Shared Mental Models: Ideologies and Institutions*, 47 KYKLOS 3, 3 (1994); see also Paul DiMaggio, *Culture and Cognition*, 23 ANN. REV. SOC. 263, 265 (1997) (suggesting individuals behave in accordance with strategy of how they make sense of the world).

¹⁴³ See WORLD BANK GRP., *supra* note 133.

¹⁴⁴ See *id.*

¹⁴⁵ See generally *id.* at 179–201 (noting that the World Development Report studied World Bank employees and development professionals generally for biases).

¹⁴⁶ See *id.*

precise way and introducing processes to reduce the effect of biases on internal deliberations.¹⁴⁷

The 2015 WDR advances policy-related research by exploring the possible development of nontraditional regulatory interventions at the international and the domestic level. However, it fails to consider social science research on learning. The road taken thus leads in the right direction, but is incompletely built. Institutional support of these initiatives, as suggested in Part III of the article, could help operationalize these achievements and lead to the development of sustainable solutions in the field of international development.

2. The World Trade Organization

International trade law presents another interesting example of the interplay between behavioral regulation and international law. International trade law has employed some of the nudging instruments proposed by behavioral law and economics to encourage changes in behavior that commonly deviate from the predictions of rational choice theory. The World Trade Organization's ("WTO") Sanitary and Phytosanitary ("SPS") Agreement,¹⁴⁸ and the Technical Barriers to Trade ("TBT") Agreement¹⁴⁹ in particular go beyond addressing issues of antidiscrimination of foreign products in international trade and aim for positive market integration through harmonization of national standards¹⁵⁰ by using the instruments of behavioral

¹⁴⁷ See *id.* at xii.

¹⁴⁸ *The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement)*, WORLD TRADE ORG., https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm (last visited July 12, 2017) [hereinafter *SPS Agreement*].

¹⁴⁹ *Uruguay Round Agreement, Agreement on Technical Barriers to Trade*, WORLD TRADE ORG. (Apr. 15, 1994), https://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm [hereinafter *TBT Agreement*].

¹⁵⁰ See Gabrielle Marceau & Joel P. Trachtman, *The Technical Barriers to Trade Agreement, the Sanitary and Phytosanitary Measures Agreement, and the General Agreement on Tariffs and Trade: A Map of the World Trade Organization Law of Domestic Regulation of Goods*, 36 J. WORLD TRADE 811 (2002); Panagiotis Delimatsis, 'Relevant International Standards' and 'Recognized Standardization Bodies' under the TBT Agreement, TILBURG

regulation—such as disclosure of better information, legal default rules, and debiasing through law—to nudge governments towards specific regulatory policies. The SPS and TBT Agreements show a preference and nudge towards the use of science and the use of international standards in international trade.¹⁵¹ This happens even in the absence of a centralized social planner—as is the case in international trade. The SPS Agreement nudges governments towards the use of science over politics in decision-making, and towards the use of scientific reasoning over discursive or other types of reasoning.¹⁵² The TBT Agreement also uses nudges to steer governments towards the use of international technical standards as technical specifications for domestic products and towards the introduction of private administrative systems in the place of domestic legislation and domestic administrative systems.¹⁵³ This happens primarily with the use of disclosure obligations and legal default rules.¹⁵⁴

L.ECON. CTR., Discussion Paper 1, 11 (2014); *see also* Robert Howse & Joanna Langille, *Permitting Pluralism: The Seal Products Dispute and Why the WTO Should Accept Trade Restrictions Justified by Noninstrumental Moral Values*, 37 YALE J. INT'L LAW 367, 368 (2012) (discussing WTO trade restrictions and morality).

¹⁵¹ *See* GEORGIOS DIMITROPOULOS, ZERTIFIZIERUNG UND AKKREDITIERUNG IM INTERNATIONALEN VERWALTUNGSVERBUND 77–91 (2012). With the SPS and the TBT Agreements, the WTO has introduced a risk-assessment process and a type of science informed policymaking that is also favored in the nudge literature; *see, e.g.*, David A. Dana, *A Behavioral Economic Defense of the Precautionary Principle*, 97 Nw. U. L. Rev. 1315 (2003) (explaining the relationship between behavioral economics and science informed policymaking).

¹⁵² *See SPS Agreement, supra* note 148, at Article 5 (laying out the risk assessment procedure for the determination of the appropriate level of Sanitary or phytosanitary protection).

¹⁵³ *See* DIMITROPOULOS, *supra* note 151, at 77–91, 224–53.

¹⁵⁴ *See, e.g., SPS Agreement, supra* note 148, at Article 3(2) (“Sanitary or phytosanitary measures which conform to international standards, guidelines or recommendations shall be deemed to be necessary to protect human, animal or plant life or health, and presumed to be consistent with the relevant provisions of this Agreement and of GATT 1994”); *TBT Agreement, supra* note 149, at Article 2.5 (“A Member preparing, adopting or applying a technical regulation which may have a significant effect on trade of other Members shall, upon the request of another Member, explain the justification for that technical regulation

Altering legal default rules is one of the most important debiasing instruments that can be found in the behavioral regulation toolkit. For various reasons including laziness, procrastination, fear, and distraction, most people will take the options that require the least effort, or the least resistance. This is what is known as “status quo bias;” if there is a default option for the chooser, then we should expect that a large number of people will select that option regardless of whether it is good for them.¹⁵⁵ In the WTO, a paradigmatic case of changing defaults has been the change of the decision-making rule in the dispute settlement process from positive consensus, an opt-in rule, to negative consensus, an opt-out rule,¹⁵⁶ that completely changed the nature of the dispute resolution process.¹⁵⁷ The SPS and TBT Agreements make use of this regulatory approach by introducing several presumptions in favor of specific international regulatory solutions instead of domestic ones. A first presumption in the SPS Agreement, found in Article 2(4), concerns the obligations of the WTO members under the provisions of the General Agreement on Tariffs and Trade (“GATT”) 1994, especially Article XX(b), as the measures “necessary to protect human, animal or plant life or health” under Article XX(b) largely overlap with the relevant SPS measures. Domestic SPS measures that are in conformity with the SPS Agreement are presumed to be in accordance with the obligations of the WTO Members under the provisions of GATT 1994. A second presumption, directly related to the first, is found in Article 3(2), according to which SPS measures that “conform

in terms of the provisions of paragraphs 2 to 4. Whenever a technical regulation is prepared, adopted or applied for one of the legitimate objectives explicitly mentioned in paragraph 2, and is in accordance with relevant international standards, it shall be rebuttably presumed not to create an unnecessary obstacle to international trade”).

¹⁵⁵ The choice of defaults can of course be very controversial. See Richard H. Thaler et al., *Choice Architecture*, in *THE BEHAVIORAL FOUNDATIONS OF PUB. POLICY* 428, 430–431 (Eldar Shafir ed., 2012).

¹⁵⁶ Specifically, Articles 16.4 and Article 17.14 of the Agreement provide an opt-out rule with respect to the adoption of Panel and Appellate Body reports of the WTO. See *Understanding on Rules and Procedures Governing the Settlement of Disputes*, WORLD TRADE ORG., https://www.wto.org/english/tratop_e/dispu_e/dsu_e.htm (last visited July 12, 2017).

¹⁵⁷ See van Aaken, *supra* note 121, at 450.

to” international standards, guidelines, or recommendations are presumed to be necessary to protect human, animal, or plant life or health, and are also presumed to be consistent with the SPS Agreement and GATT 1994.¹⁵⁸

The TBT Agreement also includes many presumptions in favor of international trade. Per Article 2.5, when a domestic technical regulation is prepared, adopted, or applied for a legitimate objective and is “in accordance with” relevant international standards, it shall be rebuttably presumed not to create an unnecessary obstacle to international trade; it thus creates a safe harbor for such technical regulations.¹⁵⁹ Similar presumptions in favor of international standardization are found in relation to domestic standards and conformity assessment procedures.¹⁶⁰ Moreover, Article 2.8 and Paragraph I of the Code of Good Practice for the Preparation, Adoption and Application of Standards in Annex 3 to the TBT Agreement presume that product design requirements and descriptive characteristics of products are (potentially) more trade restrictive than requirements that relate to a product’s performance.¹⁶¹ For this reason, performance requirements for products are favored over design and descriptive characteristics.

The presumptions of both Agreements favor the use of international standards by domestic regulators and, as such, also international harmonization. But international harmonization may not always be the preferable regulatory solution for all states and for all cases of products given that producers in different countries may be using different production techniques. Still, as the relevant research on default rules shows, legal defaults can be extremely sticky;¹⁶² once a default rule has been established, the status quo bias makes individuals hesitant to deviate from the default option.

¹⁵⁸ *SPS Agreement*, *supra* note 148, at Article 3(2).

¹⁵⁹ See James H. Mathis, *The WTO Agreement on Technical Barriers to Trade*, 16 CONSUMER POL’Y REV. 14, 17 (2006).

¹⁶⁰ See *TBT Agreement*, *supra* note 149, at Articles 5, 7 and 8.

¹⁶¹ See Arkady Kudryavtsev, *The TBT Agreement in Context*, in RESEARCH HANDBOOK ON THE WTO AND TECHNICAL BARRIERS TO TRADE 17, 69 (Tracey Epps & Michael J. Trebilcock eds., 2013).

¹⁶² Omri Ben-Shahar & John A. E. Pottow, *On the Stickiness of Default Rules*, 33 FLA. ST. U. L. REV. 651, 651–52 (2006).

This is particularly relevant in the international legal order, where respect for state sovereignty is fundamental.¹⁶³ The SPS and TBT Agreements favor international solutions that may not always be considered legitimate, due to their balancing of governmental concerns in matters such as protection of health, the environment, and consumers, on the one hand, and the idea of a liberal economic order, on the other.¹⁶⁴ By setting technical but highly sticky defaults in favor of the international standards, the Agreements contemporaneously set a political default in favor of a more liberal economic order. This has added to the WTO's legitimacy crisis,¹⁶⁵ especially given the fact that the default rule in favor of international trade is an implicit one, which is very difficult to contest.

One possible solution could be to preserve the status quo by adding learning mechanisms that are currently largely absent from the WTO framework. The Trade Policy Review Mechanism ("TPRM") could develop into such a mechanism.¹⁶⁶ The TPRM includes a review that is based on a self-assessment of the WTO members and an assessment by the WTO Secretariat, which is then discussed in the Trade Policy Review Body in which all WTO members take part.¹⁶⁷ The TPRM could be reformed into a debiasing and continuous learning facility of the WTO by introducing some simple modifications in the institutional setup to integrate systemic learning.

¹⁶³ See U.N. Charter art. 2, para. 1 ("[T]he Organization is based on the principle of the sovereign equality of all its Members.").

¹⁶⁴ Markus Wagner, *Interpreting the SPS Agreement: Navigating Risk, Scientific Evidence and Regulatory Autonomy*, in RESEARCH HANDBOOK ON WTO DISPUTE SETTLEMENT (forthcoming 2017) (manuscript at 2).

¹⁶⁵ See, e.g., Daniel C. Esty, *The World Trade Organization's Legitimacy Crisis*, 1 WORLD TRADE REV. 7 (2002) (discussing WTO's legitimacy crisis).

¹⁶⁶ See *Trade Policy Review Mechanism ("TPRM")*, WORLD TRADE ORG., https://www.wto.org/english/tratop_e/tpr_e/annex3_e.htm (last visited July 12, 2017).

¹⁶⁷ See *id.* See generally Joseph F. Francois, *Trade Policy Transparency and Investor Confidence: Some Implications for an Effective Trade Policy Review Mechanism*, 9 REV. INT'L ECON. 303 (2001); Sam Laird, *The WTO's Trade Policy Review Mechanism – From Through the Looking Glass*, 22 WORLD ECON. 741 (1999).

C. *Learning in a Comparative Perspective: Behavioral Regulation in the United States and the European Union*

Increasingly, regulatory agencies in the United States and in the European Union use behavioral insights to design more effective regulation.¹⁶⁸ In theory, the agendas of behavioral regulation, both in the United States and the European Union, are committed to facilitating learning—a promise that is often not redeemed in concrete cases of regulation.

1. The United States: OIRA and Executive Orders 13563 and 13707

In the United States, a behavioral approach to regulation has been driven by the Office of Information and Regulatory Affairs (“OIRA”).¹⁶⁹ Furthermore, the Consumer Financial Protection Bureau¹⁷⁰ has spearheaded a number of studies that draw on

¹⁶⁸ For the U.S., see Philipp Hacker, *The Behavioral Divide. A Critique of the Differential Implementation of Behavioral Law and Economics in the US and the EU*, 11 EUR. REV. CONTRACT L. 299, 310–11 (2015) [hereinafter Hacker, *The Behavioral Divide*]. For the increasing uptake of behavioral economics in European regulatory policy, see JOANNA SOUSA LOURENCO ET AL., BEHAVIOURAL INSIGHTS APPLIED TO POLICY EUROPEAN REPORT 2016, EUROPEAN COMMISSION 4 (2016), http://publications.jrc.ec.europa.eu/repository/bitstream/JRC100146/kjna27726enn_new.pdf; KRISTEN ERTA ET AL., APPLYING BEHAVIOURAL ECONOMICS AT THE FINANCIAL CONDUCT AUTHORITY, OCCASIONAL PAPER NO. 1 1 (2013), <https://www.fca.org.uk/publication/occasional-papers/occasional-paper-1.pdf>; FINANCIAL CONDUCT AUTHORITY, ECONOMICS FOR EFFECTIVE REGULATION, OCCASIONAL PAPER NO. 13 3 (2016), <https://www.fca.org.uk/publication/occasional-papers/occasional-paper-13.pdf> [hereinafter FCA, ECONOMICS FOR EFFECTIVE REGULATION].

¹⁶⁹ Memorandum from Cass R. Sunstein, Administrator of the OIRA, for the Heads of Executive Departments and Agencies regarding Disclosure and Simplification as Regulatory Tools (June 18, 2010) (on file with Administrator Office of Information and Regulatory Affairs), https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/disclosure_principles.pdf [hereinafter Sunstein Memorandum].

¹⁷⁰ See Dodd-Frank Wall Street Reform and Consumer Protection Act, 12 U.S.C. § 5491 (2010); see also Pamela Foohey, *Calling on the CFPB for Help: Telling Stories and Consumer Protection*, 80 L. & CONTEMP. PROB. 177, 177–78

behavioral economics to improve the effect of regulation.¹⁷¹ This is a response to Executive Order 13563, signed by President Obama to integrate behavioral law and economics as a key tool for public policy in the United States within OIRA and the Office of Management and Budget (“OMB”).¹⁷² Moreover, Executive Order 13707, titled “Using Behavioral Science Insights to Better Serve the American People,” also alludes to a review of existing regulations in its Sections 1(b)(iv) and 1(c).¹⁷³

EO 13563, Section 4 adds behaviorally informed regulatory tools to the governmental toolbox under the rubric of “flexible approaches.”¹⁷⁴ Section 4 states in pertinent part:

[w]here relevant, feasible, and consistent with regulatory objectives, and to the extent permitted by law, each agency shall identify and consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public. These approaches include warnings, appropriate default rules, and disclosure requirements as well as provision of information to the public in a form that is clear and intelligible.¹⁷⁵

(noting that the Consumer Financial Protection Bureau (CFPB) has handled more than a million complaints “regarding consumer financial product and services” since its creation in 2011).

¹⁷¹ CONSUMER FIN. PROT. BUREAU, THE POWER OF LIGHT-TOUCH FINANCIAL EDUCATION: A DEMONSTRATION WITH CREDIT CARD REVOLVERS 5 (January 2017), <https://www.consumerfinance.gov/data-research/research-reports/power-light-touch-financial-education/>; KLEIMANN COMM’N GRP., INC., KNOW BEFORE YOU OWE: EVOLUTION OF THE INTEGRATED TILA-RESPA DISCLOSURES 1 (July 2012), http://files.consumerfinance.gov/f/201207_cfpb_report_tila-respa-testing.pdf; CONSUMER FINANCIAL PROT. BUREAU, CFPB STUDY OF OVERDRAFT PROGRAMS (2013), http://files.consumerfinance.gov/f/201306_cfpb_whitepaper_overdraft-practices.pdf.

¹⁷² See Exec. Order No. 13563, 76 Fed. Reg. 3821 (2011).

¹⁷³ Exec. Order No. 13707, 80 Fed. Reg. 56356 (2015); see Georgios Dimitropoulos, *Administrative Law 3.0*, INT’L J. CONST. L. BLOG (Dec. 18, 2015), <http://www.icconnectblog.com/2015/12/administrative-law-3-0/> [hereinafter Dimitropoulos, *Administrative Law 3.0*].

¹⁷⁴ See Exec. Order No. 13563, 76 Fed. Reg. 3821 (2011).

¹⁷⁵ *Id.* at § 4.

EO 13563, Section 6 requires government agencies to continually improve its learning capabilities,¹⁷⁶ and introduces retrospective analyses of regulations as part of the agency's mission.¹⁷⁷ Section 6(a) deals with retrospective analysis of existing regulations, but it also introduces learning as an objective of public policy:

To facilitate the periodic review of existing significant regulations, agencies shall consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them *in accordance with what has been learned*. Such retrospective analyses, including supporting data, should be released online whenever possible.¹⁷⁸

Section 6(b) further requires that agencies develop a plan for continuous learning based on their experience with implementing regulations.¹⁷⁹ This plan, which should be consistent with the agency's legal framework, resources, and regulatory priorities, must be submitted to OIRA.¹⁸⁰ The purpose of this process is to make the regulatory program of the agencies more effective and less burdensome in achieving regulatory objectives.¹⁸¹

EO 13563 thus uses the tools of behavioral economics in service of the continuous improvement of regulatory interventions. The same concept of learning-based regulation has been adopted by a Memorandum of the OMB entitled "Next Steps in the Evidence and Innovation Agenda" that further aims at promoting behaviorally inspired regulation.¹⁸² According to this document, the Executive Office of the President should help agencies develop

¹⁷⁶ *Id.* at § 6.

¹⁷⁷ *See id.* at heading, "Retrospective Analyses of Existing Rules".

¹⁷⁸ *Id.* at § 6(a) (emphasis added).

¹⁷⁹ *Id.* at § 6(b).

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

¹⁸² Memorandum to the Heads of Departments and Agencies, M-13-17, Next Steps in the Evidence and Innovation Agenda, OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT (July 26, 2013) [hereinafter OMB Memorandum].

and strengthen proposals that catalyze innovation and learn about policies that actually work.¹⁸³ In order to achieve these learning results, the OMB and White House policy councils have organized workshops for the development of “learning agendas” for the agencies;¹⁸⁴ moreover, they aim at creating “cross-agency learning networks” around specific policy issues to share relevant research and develop shared evaluation strategies.¹⁸⁵

2. The European Union: Test, Learn, Adapt

Behaviorally informed regulation has not yet developed in the European Union to the extent that it has in the United States.¹⁸⁶ However, behavioral insights are increasingly used by the European Commission and national regulatory agencies.

The European Union has been especially involved in the integration of behavioral economics in consumer and competition policymaking.¹⁸⁷ Some Directorate Generals (“DGs”) of the European Commission, like the DG for Health and Consumer

¹⁸³ *Id.* at 1, 8.

¹⁸⁴ *Id.* at 12–14.

¹⁸⁵ *Id.* at 10–11.

¹⁸⁶ See Alberto Alemanno & Anne-Lise Sibony, *The Emergence of Behavioural Policy-Making: A European Perspective*, in *NUDGE AND THE LAW: A EUROPEAN PERSPECTIVE* 1, 20–21 (Alberto Alemanno & Anne-Lise Sibony eds., 2015) (“As a (mass) producer of regulation, the EU is as yet making scarce use of behavioural insights. Besides a few isolated initiatives displaying some behavioural consideration . . . the EU has not yet shown a general commitment to integrate behavioural research into policy-making.”); Hacker, *The Behavioral Divide*, *supra* note 168, at 299; Philipp Hacker, *More Behavioral vs. More Economic Approach: Explaining the Behavioral Divide between the United States and the European Union*, 39 *HASTINGS INT’L & COMP. L. REV.* 355, 366–388 (2016) [hereinafter Hacker, *More Behavioral vs. More Economic Approach*].

¹⁸⁷ See generally EMANUELE CIRIOLO, *BEHAVIOURAL ECONOMICS IN THE EUROPEAN UNION: PAST, PRESENT AND FUTURE*, OXERA AGENDA 1, 1–5 (2011), http://www.oxera.com/Oxera/media/Oxera/downloads/Agenda/Behavioural-economics-in-the-EC_1.pdf?ext=.pdf (showing the increasing integration of behavioral economics at the European Commission and discussing a range of case studies).

Protection (“DG SANCO”), have pioneered efforts to develop and apply behavioral knowledge in policymaking and regulation.¹⁸⁸

Behavioral insights were first formally adopted by the European Union in 2009, when the Directive on Consumer Rights limited the right to use default options in consumer contracts.¹⁸⁹

Article 22 on additional payments reads:

Before the consumer is bound by the contract or offer, the trader shall seek the *express consent of the consumer* to any extra payment in addition to the remuneration agreed upon for the trader’s main contractual obligation. If the trader has not obtained the consumer’s express consent but has inferred it by *using default options* which the consumer is required to reject in order to avoid the additional payment, the consumer shall be entitled to reimbursement of this payment.¹⁹⁰

Sellers are required to obtain express consent from consumers for any payment in addition to payment for the main contractual obligation and cannot rely on default options requiring buyers to reject these options to avoid payment. For example, the Directive bans preticked boxes in online consumer contracts, to prevent consumers from inadvertently paying for unwanted services like priority airplane boarding and travel insurance.

In 2013, the European Commission published a paper discussing how behavioral insights can support regulatory efforts of the European Union as well as individual member states.¹⁹¹ As the Commission explains in the document, EU behavioral regulation is not nudging in the strict sense since it mentions that “the objective of a policy” may be “to change behavior [sic] for the common good”—such as getting people to recycle more—beyond

¹⁸⁸ *Id.* at 2–3.

¹⁸⁹ See Council Directive 2011/83/EU, 2011 O.J. (L 304) 64 [hereinafter Directive on Consumer Rights]. The Directive has been applicable since June 2014. *Id.* at art. 28.

¹⁹⁰ *Id.* at art. 22 (emphasis added).

¹⁹¹ RENÉ VAN BAVEL ET AL., JOINT RES. CTR., APPLYING BEHAVIOURAL SCIENCES TO EU POLICY-MAKING 3 (2013) <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/applying-behavioural-science-eu-policy-making>.

preventing citizens from behaving against their own best interest.¹⁹² It discusses adopting behavioral insights at three levels of policy making: design, implementation, and monitoring.¹⁹³ Behavioral insights can help design new policies, provide input for improvements to existing ones, and provide ex post explanations of why the policy's targeted group reacted in a particular way.¹⁹⁴ The document also gives guidelines on how the different services of the European Commission should commission behavioral studies.¹⁹⁵

DG SANCO paved the way for the application of behavioral economics to EU policymaking.¹⁹⁶ Other DGs have followed suit,¹⁹⁷ including DG Competition,¹⁹⁸ DG Information Society and Media,¹⁹⁹ DG Environment,²⁰⁰ DG Justice,²⁰¹ and DG Internal Market.²⁰² The European Union also established its nudge unit, the

¹⁹² *See id.*

¹⁹³ *See id.*

¹⁹⁴ *See id.* at 6.

¹⁹⁵ *See id.* at 13–19.

¹⁹⁶ CIRIOLO, *supra* note 187, at 2.

¹⁹⁷ *Id.* at 2–3.

¹⁹⁸ *Id.* at 3. *See generally* *Behavioural Economics, Competition and Remedy Design (Revisited)* OXERA (April 2015), <http://www.oxera.com/Latest-Thinking/Agenda/2015/Behavioural-economics,-competition-and-remedy-desi.aspx> (stating that DG Competition was a guest participant at a meeting to discuss behavioral economics and policy).

¹⁹⁹ CIRIOLO, *supra* note 187, at 2–3. *See generally* EUROPEAN COMM'N, CONSUMER 2020: FROM DIGITAL AGENDA TO DIGITAL ACTION (2010) (stating that DG Information Society was involved in the creation of a study using behavioral economics).

²⁰⁰ CIRIOLO, *supra* note 187, at 3. *See generally* POLICY STUDIES INSTITUTE, DESIGNING POLICY TO INFLUENCE CONSUMERS: CONSUMER BEHAVIOUR RELATING TO THE PURCHASING OF ENVIRONMENTALLY PREFERABLE GOODS 4 (2009).

²⁰¹ *See* Directive on Consumer Rights, *supra* note 189.

²⁰² *See generally* CIRIOLO, *supra* note 187; EUROPEAN COMM'N, CONSUMER DECISION-MAKING IN RETAIL INVESTMENT SERVICES: A BEHAVIOURAL ECONOMICS PERSPECTIVE 3 (November 2010), http://ec.europa.eu/consumers/financial_services/reference_studies_documents/docs/consumer_decision-making_in_retail_investment_services_-_final_report_en.pdf (jointly conducted by DG Internal Market and Services and DG Health and Consumers). For further Commission Consumer financial services, *Consumer Financial Services*, EUROPEAN COMM'N,

“Foresight and Behavioural Insights Unit” at the European Commission’s in-house science and research service, the Joint Research Centre (“JRC”), in order to coordinate efforts undertaken by other DGs.²⁰³ However, the JRC has not yet sufficiently integrated interdisciplinary learning theory, which would make policy interventions more effective at the regulatee level and encourage better regulation at the institutional level.²⁰⁴

The UK Behavioural Insights Team (“UK BIT”), the pioneer of behavioral public policy in the European Union, has employed the practice of institutional learning in its operations, especially in the context of RCTs,²⁰⁵ and accumulated this knowledge in a document entitled “Test, Learn, Adapt”²⁰⁶ which touts the relevance of learning.²⁰⁷ UK BIT has identified three broad categories that are required to set up any RCT:

Test: “Testing an intervention means that robust measures have been put in place enabling the evaluation of the effectiveness of the intervention.”²⁰⁸

Learn: “Learning is about analyzing the outcome of the intervention, so that “what works” can be identified and whether or not the effect size is sufficiently large to offer good value for money.”²⁰⁹

http://ec.europa.eu/finance/finservices-retail/investment_products/index_en.htm
(last visited July 12, 2017).

²⁰³ See LOURENCO ET AL., *supra* note 168, at 8; Alemanno & Sibony, *supra* note 186, at 89.

²⁰⁴ Cf. OECD, BEHAVIORAL INSIGHTS AND PUBLIC POLICY, *supra* note 13, at 43 (explaining how, for example, a lack of *ex post* evaluation of regulatory interventions hurts effective policy implementation).

²⁰⁵ See, e.g., Michael Abramowicz et al., *Randomizing Law*, 159 U. PA. L. REV. 929 (2011) (arguing that RCTs should be used to inform regulatory policy); see also RACHEL GLENNERSTER & KUDZAI TAKAVARASHA, *RUNNING RANDOMIZED EVALUATIONS: A PRACTICAL GUIDE* 191 (2014) (describing the conduct of RCTs).

²⁰⁶ LAURA HAYNES ET AL., CABINET OFF. & BEHAV. INSIGHTS TEAM, *TEST, LEARN, ADAPT: DEVELOPING PUBLIC POLICY WITH RANDOMISED CONTROLLED TRIALS* 4–5 (2013).

²⁰⁷ *Id.* at 5, 30.

²⁰⁸ *Id.* at 7.

²⁰⁹ *Id.*

Adapt: “Adapting means using learning to modify the intervention if necessary, so that the way in which the policy is designed and implemented is continually refined.”²¹⁰

This behavioral approach has already been adopted throughout the European Union, most prominently by the French government,²¹¹ the Dutch market supervision authority,²¹² and some regulatory agencies including the UK Financial Conduct Authority (“FCA”).²¹³ The Better Regulation strategy of the European Commission is bound to spur the impact of behavioral insights on regulation, both at the regional and domestic levels.²¹⁴ Indeed, a recent JRC report shows the increasing breadth and depth of behaviorally informed regulation in many different member states.²¹⁵ However, as the following case studies show, learning is still not adequately captured in regulatory reality.

D. Case Studies in Comparative Law

Behavioral regulation is thus strongly embedded in the regulatory framework both in the United States and in the European Union, with key documents from both jurisdictions

²¹⁰ *Id.*

²¹¹ RICHARD BORDENAVE ET AL., BVA, FRENCH GOVERNMENT: NUDGE ME TENDER 1 (2014), http://www.bva.fr/data/actualite/actualite_fiche/553/fichier_summary-nudge_me_tender-bva4f7be.pdf.

²¹² NETHERLANDS AUTH. FOR CONSUMERS AND MARKETS, BEHAVIOURAL ECONOMICS AND COMPETITION POLICY 1 (2013), <https://www.acm.nl/en/publications/publication/11610/ACM-publishes-study-into-behavioural-economics-and-competition-policy/>.

²¹³ ERTA ET AL., *supra* note 168, at 11; FCA, ECONOMICS FOR EFFECTIVE REGULATION, *supra* note 171, at 3.

²¹⁴ *Cf.*, e.g., RENÉ VAN BAVEL ET AL., *supra* note 191, at 3 (providing a comprehensive overview of case studies in which behavioral insights were used in the European Union); EUROPEAN COMM’N, BETTER REGULATION GUIDELINES 5 (2015) (providing guidelines on regulatory planning, impact assessment, monitoring and evaluation, inter alia, with a view to prompting effective behavior change among regulatees), http://ec.europa.eu/smart-regulation/guidelines/docs/swd_br_guidelines_en.pdf.

²¹⁵ LOURENCO ET AL., *supra* note 168, at 6.

making clear references to learning.²¹⁶ However, the way learning should proceed is not fully theorized in these regulations. More importantly, as the following case studies demonstrate, the exhortations to integrate learning procedures into regulation are often disregarded in practice, even in behaviorally guided regulation.

1. Green Nudging

In recent years, important applications of behavioral insights to regulation have been made in the environmental law context, where green nudges²¹⁷ are increasingly used to steer people toward environment-friendly behavior or alternatives.²¹⁸ By tapping the resources of behavioral economics in designing disclosures, choices, or default rules, green nudges can contribute toward overcoming global collective action problems in which individually optimal behavior does not lead to the social optimum due to the possibility of free riding, such as combating climate change.²¹⁹ Green nudges usually take one of three different forms: disclosures about product attributes, social comparison messages about product use, or default rules.²²⁰ However, each of these

²¹⁶ See *supra* Section II.C. (discussing Executive Orders in the United States and regulations passed by the EU and its member states designed to facilitate learning from behavioral insight).

²¹⁷ Green nudges are a type of nudges that seek to promote environmentally friendly (“green”) behavior, for example via disclosures, default rules, or references to social norms; examples are provided in this section. See ERTA ET AL., *supra* note 168, at 9 (explaining nudges as “small prompts that, if designed well, have low costs and can lead to better decisions by biased consumers without restricting choice”).

²¹⁸ See Cass R. Sunstein & Lucia A. Reisch, *Automatically Green: Behavioral Economics and Environmental Protection*, 38 HARV. ENVTL. L. REV. 127, 128–30 (2014).

²¹⁹ See generally Elinor Ostrom, *A Behavioral Approach to the Rational Choice Theory of Collective Action*, 92 AM. POL. SCI. REV. 1, 1–3 (1998) (discussing global collective action problems).

²²⁰ See *infra* Sections II.D.1.a–c; see also Philipp Hacker & Giorgos Dimitropoulos, *Behavioural Law & Economics and Sustainable Regulation*, in ENVIRONMENTAL. LAW AND ECONOMICS 155 (Klaus Mathis & Bruce R. Huber eds., 2017).

techniques fails to adequately consider the possibilities and necessities of learning, as examples from both sides of the Atlantic will show.

a. Disclosures about Product Attributes

The first set of green nudges uses disclosures to point consumers to the effects different products such as cars or household appliances may have on the environment.²²¹ Here, the problems from a learning perspective are twofold. First, disclosures may contain an excessive amount of information, leading to information overload.²²² Second, even if appropriate design avoids information overload, disclosures may have unintended consequences that the regulatory agency must guard against in order to evaluate and adapt regulation.²²³

Regarding the first concern, agencies have made efforts to design disclosures in ways that are easy for consumers to understand. For example, the environmental impact of some products must be disclosed. Consider the U.S. Fuel Economy and Environment label:²²⁴

²²¹ Hacker & Dimitropoulos, *supra* note 220, at 164–167; Renate Schubert, *Purchasing Energy Efficient Appliances – To Incentivize or To Regulate?*, in ENVIRONMENTAL LAW AND ECONOMICS 215 (Klaus Mathis & Bruce R. Huber eds., 2017).

²²² See Eppler & Mengis, *supra* note 34, at 326; Edmunds & Morris, *supra* note 34, at 18–19.

²²³ *Cf.* Schubert, *supra* note 221 (discussing a volume effect under which disclosures of energy efficiency may lead to the purchase of more energy-efficient, but larger appliances, with a negative total effect on energy consumption).

²²⁴ *Gasoline Vehicles: Learn More About the New Label*, U.S. DEP'T. OF ENERGY, <https://www.fueleconomy.gov/feg/label/learn-more-gasoline-label.shtml> (last visited July 12, 2017).



The disclosure's twelve parameters and many subparameters²²⁵ may induce information overload, particularly for consumers unfamiliar with its various abbreviations. Conversely, the European Commission has commissioned a study to test different disclosure formats in order to maximize the environmental impact of fuel labels.²²⁶ The results demonstrate that formats highlighting fuel economy—the running cost of cars—were more effective in guiding consumers towards environmentally friendly cars than formats focusing directly on emissions.²²⁷ The results further highlight the importance of using specific metrics, in this case monetary incentives, to motivate consumers to act in environmentally friendly ways.²²⁸ This is consonant with learning theory, which stresses the need for arousing the learner's intrinsic motivations to elicit a favorable response.²²⁹ Moreover, the European study also contributes to institutional learning by giving feedback on previous regulatory strategies and providing

²²⁵ *Id.*

²²⁶ CRISTIANO CODAGNONE ET AL., TESTING CO₂/CAR LABELLING OPTIONS AND CONSUMER INFORMATION 1 (2013), https://ec.europa.eu/clima/sites/clima/files/transport/vehicles/labelling/docs/report_car_labelling_en.pdf.

²²⁷ *Id.* at 9.

²²⁸ *Id.* at 53.

²²⁹ See BANDURA, SOCIAL LEARNING THEORY, *supra* note 42, at 8.

opportunities to adapt.²³⁰ Despite the study's promising results, it remains to be seen how future fuel labels will be affected.

Energy efficiency labels for household appliances require a different set of disclosures relating to product use, and serve to make consumers aware of environmentally friendly alternatives. In the United States, the Federal Trade Commission ("FTC")²³¹ developed the mandatory EnergyGuide, which provides estimated yearly operating costs.²³² In the European Union, by contrast, the Energy Efficiency Grade, which in the most popular one variation grades energy efficiency from D to A⁺⁺⁺, must accompany the sale of many household appliances.²³³ An experimental study showed that labels focusing on the monetary value of saving energy costs are more effective in steering consumers toward energy efficient appliances.²³⁴ Again, institutional learning could benefit from integrating these results when designing novel energy efficiency labels. However, learning is also about accounting for unintended

²³⁰ CODAGNONE ET AL., *supra* note 226, at 24–28, 86.

²³¹ See PETER C. WARD, FED. TRADE COMM'N. LAW, PRACTICE AND PROCEDURE §§ 6-31, § 10-30 (2005); Abhijit Banerjee & Barry D. Solomon, *Eco-Labeling for Energy Efficiency and Sustainability: A Meta-Evaluation of US Programs*, 31 ENERGY POL'Y 109, 112 (2003) (both describing the central role of the FTC in elaborating fuel economy labels).

²³² *Shopping for Home Appliances? Use the EnergyGuide Label*, FED. TRADE COMM'N (Jan. 2015), <https://www.consumer.ftc.gov/articles/0072-shopping-home-appliances-use-energyguide-label>; see also Banerjee & Solomon, *supra* note 231, at 111–12.

²³³ Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products, 2010 O.J. (L 153/1); see also *New EU En Energy Label*, CONSEIL EUROPÉEN DE LA CONSTRUCTION D'ELECTRO-DOMESTIQUES (CECED), <http://www.newenergylab el.com/index.php/uk/home/> (last visited July 12, 2017). The D–A⁺⁺⁺ scale, although popular, is certainly not the only method of labeling green energy products. In fact, the European Commission in 2015 proposed a return to the A–G label scale, arguing that a return to such a scale would help consumers more readily identify the most energy-efficient products. See *Energy Efficient Products*, EUROPEAN COMM'N, <https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products> (last visited July 12, 2017).

²³⁴ Richard G. Newell & Juha Siikamäki, *Nudging Energy Efficiency Behavior: The Role of Information Labels*, 1 J. ASSC'N ENV. & RESOURCE ECON. 555, 593 (2014).

consequences of regulation. As a recent field experiment shows, energy labels may induce a “volume effect,” which leads consumers to buy more energy-efficient, but larger appliances, which may result in greater net energy consumption.²³⁵ The best practice may be to require such labels only within certain classes of household appliances, defined by their absolute volume of energy consumption, so consumers do not trade off greater energy efficiency against greater net energy consumption.

All in all, the devil is in the detail when it comes to optimizing labels to encourage environmentally friendly choices. On the one hand, label addressees’ cognitive limitations and motivational factors must be acknowledged for learning effects to even start. On the other hand, institutional learning must be pursued to maximize the effectiveness of the labels for addressees and to guard against unintended consequences of disclosure.

b. Social Comparison Messages about Product Use

Another popular strategy to induce environmentally friendly behavior is the use of social comparison messages, which situate the recipients within a reference group and inform them about the prevailing choice of other members of this group.²³⁶ For example, some energy providers in the United States include comparative information about the average consumption of other households in the area on the electricity or water bills; furthermore, the message includes emoticons to indicate whether the recipient did “great,” “good” or “below average.”²³⁷ Such treatments led to a reduction of electricity consumption by about 2 percent²³⁸ and a decrease in water consumption by about 4 percent.²³⁹ The messages, importantly, make otherwise unobservable behavior by others

²³⁵ Schubert, *supra* note 221, at 215–234.

²³⁶ Hacker & Dimitropoulos, *supra* note 220, at 163–164.

²³⁷ Hunt Allcott, *Social Norms and Energy Conservation*, 95 J. PUBL. ECON. 1082, 1083–84 (2011).

²³⁸ *Id.* at 1083.

²³⁹ Paul J. Ferraro & Michael K. Price, *Using Nonpecuniary Strategies to Influence Behavior: Evidence from a Large-Scale Field Experiment*, 95 REV. ECON. & STAT. 64, 68–69 (2013).

available to the recipients, enabling learning by observation, reinforced by social norms.

A closer look at the results of such messages point to their ambivalent character from a learning perspective, however. On the one hand, they do enable quasi-observational learning; on the other hand, their effects decay over time.²⁴⁰ This points to a larger problem with informational nudges relating to choices which are repeated over time: the impermanence of their effects. While disclosures on product *attributes* result in choosing a product whose characteristics remain constant over time, messages about product *use* intend to inform behavior that is subject to change over time.²⁴¹ Learning theory, however, points to the importance of continuous, clear feedback in order to make behavior change permanent.²⁴² Therefore, from a learning perspective, it does not come as a surprise that messages addressing product use lose their effectiveness over time as the content of the most recent message fades from memory.²⁴³ The upshot is that institutional learning must not be based on the results of experimental studies which only capture the effect of social comparison messages immediately after their deployment; rather, continuous monitoring of their performance, and continuous feedback to learners, are necessary to ensure that the initial successes of reducing energy and water consumption, for example, are made sustainable over time.²⁴⁴

c. Default Rules

Default rules can be powerful tools for changing outcomes due to the status quo bias, which leads people to stick with

²⁴⁰ *Id.* at 70–71; Allcott, *supra* note 237, at 1087; Steffen Kallbekken et al., *Bridging the Energy Efficiency Gap: A Field Experiment on Lifetime Energy Costs and Household Appliances*, 36 J. CONSUMER POL'Y 1, 10 (2013).

²⁴¹ Allcott, *supra* note 237, at 1087; Ferraro & Price, *supra* note 239, at 70–1; Kallbekken et al., *supra* note 240, at 10.

²⁴² See Fischhoff, *supra* note 113, at 437.

²⁴³ See sources cited *supra* note 241.

²⁴⁴ OECD, BEHAVIOURAL INSIGHTS AND PUBLIC POLICY, *supra* note 13, at 43 (“It is also important to continue monitoring policies over time to assess whether the intervention causes a one-time effect or can enable habitual change.”).

predetermined options rather than changing them.²⁴⁵ These rules were leveraged in several interventions on both sides of the Atlantic to further green outcomes. At Rutgers University, for example, the default was changed from simplex to duplex printing, leading to a decrease in paper consumption by 44 percent.²⁴⁶ In Germany, some communities chose to default citizens into a green, rather than gray,²⁴⁷ energy provider.²⁴⁸ Hence, the green option became a default that people had to actively opt out of, instead of being required to opt in to green energy. In the green default scenario, the stickiness of the default rule led to a majority staying with the green energy provider, an option chosen only rarely when it was not the default.²⁴⁹ However, these results are unsatisfactory from a learning perspective as actors “choose” the green option only passively, hence mostly out of ignorance, inertia, procrastination or lack of interest.²⁵⁰ Therefore, the outcome desired by regulation (e.g., increased green behavior) is strictly limited to scenarios in which the default rule is applied. Learning

²⁴⁵ See William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 33, 41 (1988).

²⁴⁶ Sunstein & Reisch, *supra* note 218, at 133.

²⁴⁷ A green energy provider predominantly uses energy from renewable sources, while a gray provider uses traditional sources, such as coal, gas or nuclear energy, that tend to cause more environmental pollution or related environmental problems. See *id.* at 128, 134–36.

²⁴⁸ See generally Felix Ebeling & Sebastian Lotz, *Domestic Uptake of Green Energy Promoted by Opt-out Tariffs*, 5 NATURE CLIM. CHANGE 868, 868–71 (2015) (discussing the results of a controlled trial in Germany which found that “[s]etting the default choice to more expensive ‘green’ energy . . . increased purchases of such nearly tenfold”); Daniel Pichert & Konstantinos V. Katsikopoulos, *Green Defaults Information Presentation and Pro-Environmental Behaviour*, 28 J. ENVTL. PSYCHOL. 63 (2008) (discussing the results of natural studies and laboratory experiments supporting the hypothesis that people are more prone to use the type of electricity that is designated as the default).

²⁴⁹ Ebeling & Lotz, *supra* note 248, 868–71; Pichert & Katsikopoulos, *supra* note 248, at 66–70; see also Sebastian Berger, *The Power of the Nudge to Change our Energy Future*, SCI. AM. (December 29, 2015), <https://www.scientificamerican.com/article/the-power-of-the-nudge-to-change-our-energy-future/>.

²⁵⁰ Cf. Samuelson & Zeckhauser, *supra* note 245, at 10 (discussing, inter alia, convenience, habit and inertia as causes of default effects).

presupposes awareness, which is often lacking when mere default rules are employed to change outcomes.

This survey has shown that green nudging can make a meaningful contribution to the solution of global collective action problems.²⁵¹ However, from a learning perspective, all techniques need to be improved to make learning effective and lasting, at both the regulator and regulatee level. Eventually, putting learning center stage will be necessary for the reviewed techniques to unfold their full potential in the fight against climate change. However, “green” nudges are not the only regulatory tools available to policy makers that may bring about beneficial behavioral change in regulatees.

2. Consumer Disclosures

There are significant differences concerning the focus on learning in consumer disclosures on both sides of the Atlantic. While the U.S. Consumer Financial Protection Bureau (“CFPB”)²⁵² conducted serious empirical studies to make disclosures understandable and maximize learning outcomes for consumers, the recent EU Consumer Rights Directive prescribes a staggering amount of information for consumer disclosures which are likely to provoke information overload and hinder, rather than facilitate, learning.

a. CFPB: Mortgage Disclosures

In the wake of the 2007 financial crisis, President Obama created the CFPB²⁵³ following strong academic recommendations.²⁵⁴ One of the first tasks the CFPB took on was

²⁵¹ Cf. Berger, *supra* note 249 (discussing “default options” and a German study which concluded that setting the default to green energy, increases consumer participation). For global collective action problems, see Ostrom, *supra* note 219.

²⁵² See sources cited *supra* note 171 and accompanying text.

²⁵³ Formally, the CFPB was set up by the Dodd-Frank Act. See sources cited, *supra* note 171.

²⁵⁴ Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1, 98 (2008); see also the critical discussion in Joshua D. Wright, *The*

the revision of mandatory disclosures accompanying mortgage loans.²⁵⁵ The desire to find new solutions for informing consumers when making mortgage decisions was spurred by two observations.²⁵⁶ First, subprime mortgages were at the center of the financial crisis that started in 2007.²⁵⁷ Second, a study showed that in 2009 the vast majority of borrowers choosing a mortgage backed loan took less than one minute to peruse the complex disclosures they were given.²⁵⁸ The CFPB therefore engaged in an unprecedented series of rigorous testing of new disclosure formats and designs that would motivate people to read and understand them.²⁵⁹ Following up on a 2007 study by the Federal Trade Commission (“FTC”),²⁶⁰ a team of empirical scientists at the CFPB conducted several rounds of testing using one hundred different formats.²⁶¹ Those were repeatedly used and adapted in an iterative procedure involving consumer and industry representative groups from various regions and demographic backgrounds in the United

Antitrust/Consumer Protection Paradox: Two Policies at War with Each Other, 121 YALE L. J. 2216, 2220–21 (2012) (noting that “[b]ehavioral law and economics, as advocated by Professors Bar-Gill and Warren in an article laying out the blueprint for a new agency, played a significant role in the creation of the CFPB.”).

²⁵⁵ KLEIMANN COMMC’N GRP., INC., *supra* note 171, at xi.

²⁵⁶ *Id.* at 25.

²⁵⁷ *Cf. e.g.*, Emiliós Avgouleas, *The Global Financial Crisis and the Disclosure Paradigm in European Financial Regulation: The Case for Reform*, 4 EUR. COMPANY & FIN. L. REV. 440, 444 (2009) (discussing the failure of disclosures in preventing the financial crisis). On the case for global economic reform after the crisis, see, *e.g.*, WOLFGANG FIKENTSCHER ET AL., FAIRECONOMY: CRISES, CULTURE, COMPETITION AND THE ROLE OF LAW 1 (2013) (discussing the case for global economic reform after the crisis).

²⁵⁸ Jeff Sovern, *Preventing Future Economic Crises Through Consumer Protection Law or How the Truth in Lending Act Failed the Subprime Borrowers*, 71 OHIO ST. L. J. 761, 783–84 (2010).

²⁵⁹ KLEIMANN COMMC’N GRP., INC., *supra* note 171, at xxiii.

²⁶⁰ JAMES M. LACKO & JANIS K. PAPPALARDO, FED. TRADE COMM’N, IMPROVING CONSUMER MORTGAGE DISCLOSURES: AN EMPIRICAL ASSESSMENT OF CURRENT AND PROTOTYPE DISCLOSURE FORMS 1 (2007), <https://www.ftc.gov/sites/default/files/documents/reports/improving-consumer-mortgage-disclosures-empirical-assessment-current-and-prototype-disclosure-forms/p025505mortgagedisclosurereport.pdf>.

²⁶¹ KLEIMANN COMMC’N GRP., INC., *supra* note 171, at xxiii.

States.²⁶² After one and a half years, the team produced the disclosure format that combined a multilayered approach, featuring multiple layers of increasing complexity, with a standardized table design for better comparison.²⁶³ The same approach was later employed to improve disclosures for prepaid payment cards.²⁶⁴

This strategy epitomizes fruitful feedback loops that are crafted into rule generation. Disclosures are meant to help consumers learn about the options they have and the choices they make.²⁶⁵ Indeed, a key finding of the CFPB's study was that, equipped with the right forms of disclosure, consumers were making intricate trade-offs and calculations.²⁶⁶ The desire to continuously improve upon those individual learning results, however, led to significant empirical performance testing and qualitative interviews to find two final designs for disclosure forms.²⁶⁷ Those two components—individual and institutional learning—are of paramount importance for systemic learning. Taking the insights from the study one step further, one could make use of the findings to more generally and critically review the legal mandates upon which the disclosures and their formats are based. For example, empirical pretesting could be mandated for a large range of legal interventions,

²⁶² *Id.*

²⁶³ On the effectiveness of standardized table formats, see Patrick Gage Kelley et al., *Standardizing Privacy Notices: An Online Study of the Nutrition Label Approach*, in PROCEEDINGS OF THE 28TH INTERNATIONAL CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS 1573 (2010).

²⁶⁴ Eric Goldberg, *Prepaid Products: New Disclosures to Help You Compare Options* (Nov. 13, 2014), <http://www.consumerfinance.gov/blog/prepaid-products-new-disclosures-to-help-you-compare-options/>; CONSUMER FIN. PROTECTION BUREAU, MODEL FORM FOR SHORT FORM DISCLOSURES FOR GOVERNMENT BENEFIT ACCOUNTS (2014), http://files.consumerfinance.gov/f/201411_cfpb_prepaid-model-sample-disclosure-forms.pdf.

²⁶⁵ Sunstein Memorandum, *supra* note 169, at 8 (“ . . . [T]he best method for informing consumers at the point of decision. Full disclosure is the best method of allowing groups and individuals access to a broad range of information, allowing them to analyze and disseminate that information in creative ways, and to use it to inform private and public decisions or otherwise to promote statutory goals”).

²⁶⁶ KLEIMANN COMM’N GRP., INC, *supra* note 171, at xxiv.

²⁶⁷ *Id.* at xxiii.

establishing a routine of systemic learning in the legal system.²⁶⁸ The CFPB's study is thus one example of positive regulatory action intended to improve learning.

b. EU Consumer Information after the
Consumer Rights Directive

In stark contrast to the CFPB proceedings, the recent enactment of the EU Consumer Rights Directive²⁶⁹ is a prime example of information overload. It shows an unconstrained belief in almost infinite information processing and learning capabilities of consumers and a patent disregard for cognitive capacity limits.²⁷⁰ In its Article 6, for example, the Directive lists over twenty items, many with various subitems, that must be disclosed to consumers in online sales.²⁷¹ The list is slightly shorter for general consumer contracts (Article 5), but still long enough to likely provoke information overload for anyone trying to process all the information before signing a contract.²⁷² This already shows a substantial difference to the TILA-RESPA disclosures which were designed specifically to avoid information overload.²⁷³ More importantly, on a procedural level, before passing the Consumer Rights Directive the European Commission made no efforts to assess the effect of substantial and dense disclosures on consumers, to test alternative formats, or to improve learning outcomes for the millions of recipients of such disclosures.²⁷⁴

²⁶⁸ See *infra* Section III.B.

²⁶⁹ Directive on Consumer Rights, *supra* note 189.

²⁷⁰ Cf. Vanessa Mak, *Standards of Protection: In Search of the "Average Consumer" of EU Law in the Proposal for a Consumer Rights Directive*, 19 EUR. REV. PRIVATE L. 25, 28 (2011) (discussing the cognitive assumptions of the consumer type inherent in the Directive on Consumer Rights).

²⁷¹ Directive on Consumer Rights, *supra* note 189, at art. 6.

²⁷² Hacker, *The Behavioral Divide*, *supra* note 168, at 313. PHILIPP HACKER, VERHALTENSÖKONOMIK UND NORMATIVITÄT. DIE GRENZEN DES INFORMATIONSMODELLS IM PRIVATRECHT UND SEINE ALTERNATIVEN [Behavioral Economics and Normativity. The Limits of the Disclosure Paradigm in Private Law and Its Alternatives] (2017), under § 13 B.II.1.b).

²⁷³ See *supra* Section II.D.2.a.

²⁷⁴ Elizabeth Hall et al., *The Consumer Rights Directive – An Assessment of its Contribution to the Development of European Consumer Contract Law*, 8

While the revision of the mortgage disclosures by the CFPB may be viewed as a successful integration of learning-oriented regulatory processes, the revision of consumer disclosures in the European Union, which ironically are meant to strengthen consumer rights, illustrates the still rampant neglect of the importance of learning in many parts of the law. In sum, the case studies have shown that a focus on institutional learning through pretesting of proposed rules and formats may lead to substantial increases in the effectiveness of regulatory policies, such as the development of novel disclosures.²⁷⁵ Conversely, failure to do so may create missed opportunities for institutional learning within a regulatory agency and lead to ineffective policy implementations. The disregard of learning leads to disclosures that are prone to provoke information overload instead of helping consumers choose;²⁷⁶ to green nudges that are impermanent and merely temporary derive environmental benefits;²⁷⁷ and to default rules that govern through the harnessing of inertia rather than through stimulating conscious choice and learning.²⁷⁸

E. Lessons from the International and Comparative Perspective

Since behavioral scholarship puts a premium on the real effects of regulation, legal regimes that strive to improve the effectiveness of regulatory interventions should adopt new learning methods to bring about lasting and beneficial behavioral change in the law at different levels. Such a theory can contribute both to the methods and the substance of behavioral law and economics.

Although international and domestic regulatory agencies increasingly take behavioral findings into account when adopting policies, there are still exceptions to this trend, as identified in the European Consumer Rights Directive and its excessive disclosure

EUR. REV. CONT. L. 139, 141 (2012) (arguing that the Commission failed to draw more substantially on behavioral economics when crafting the directive).

²⁷⁵ See *supra* Section II.D.2.a.

²⁷⁶ See *supra* Sections II.D.1.a, II.D.2.b.

²⁷⁷ See *supra* Section II.D.1.b.

²⁷⁸ See *supra* Section II.D.1.c.

requirements.²⁷⁹ Even behaviorally informed regulation, however, remains often unsatisfactory from a learning perspective. Disclosures are often overly complex, leading to information overload; direct messages concerning product use have impermanent effects over time; and default rules neglect learning processes altogether.²⁸⁰ In some instances, rigorous pretesting of regulatory proposals can lead to enhanced learning outcomes for addressees and institutional learning procedures within regulatory agencies.²⁸¹ However, these cases are the exception rather than the rule.

III. OVERARCHING LESSONS: LEARNING TOOLS FOR INTERNATIONAL AND DOMESTIC BEHAVIORAL REGULATION

The preceding sections discussed case studies that highlighted how the absence of learning theory and practice leads to suboptimal regulatory outcomes. The remainder of the Article presents strategies to counter this by incorporating learning theory into regulatory processes. Integrating the interdisciplinary findings from learning theory into legal processes necessitates answering two questions. First, who should learn? And second, how can learning be achieved in institutional settings, both at the international and national level? In this final part of the Article, we take these questions up in turn. Our aim is to specifically show how behavioral law and economics and behavioral regulation can be informed by the different learning theories described in Part I to develop smarter, more scientific, and more effective regulation, both at the international and domestic level.

A. Who Should Learn? Uniting Individual, Social and Institutional Learning

In current behavioral law and economics literature, too much focus is placed on individual learning to the detriment of

²⁷⁹ See *supra* Section II.D.2.b.

²⁸⁰ See *supra* Sections II.D.1, II.D.2.b.

²⁸¹ See the discussion of the design of TILA-RESPA disclosures by the CFPB, *supra* Section II.D.2.a.

institutional learning and the interrelated processes between individuals and institutions. There are four types of learning that need be considered for a coherent approach to learning: individual, institutional, group, and systemic. Individual learning is neatly described by psychology and economics.²⁸² Institutional learning draws primarily on the literature from organization science. Group learning occupies an intermediate level between the individual and the institution or the individual and society at large; it features prominently both in social psychology and in organizational science.²⁸³ Finally, all these different learning approaches can be integrated and reinforced in a holistic perspective: systemic learning.

In this section, we first advance some proposals for an enhancement of *institutional learning*. Second, we elaborate on the integration of institutional and individual processes into what may be dubbed *systemic learning*. Thus, we explore the two dimensions that have been neglected most so far.

1. Institutional Learning

Because of the path dependence of behavioral law and economics on traditional law and economics, institutional learning has been largely disregarded in this newer field of research. Still, institutions play an important role both for traditional and behavioral law and economics, given that they create the conditions based on which regulatory decisions are made at the micro- and macro-level of government decision making. According to the “knowledge problem” developed by Hayek, governments might introduce substantively erroneous regulation simply because they lack sufficient information.²⁸⁴ This can be mitigated by developing forms of institutional learning through which government can learn. If institutions develop learning capabilities, this will also cut against the story of “behavioral bureaucrats,” which is often advanced as an argument against

²⁸² See *supra* Sections I.A, I.B.

²⁸³ See *supra* Sections I.A.2, I.B.2.

²⁸⁴ See von Hayek, *supra* note 99, at 520–21.

behavioral law and economics.²⁸⁵ Furthermore, if regulators improve their own learning capabilities, they will then be in a better position to improve social learning. Different theories stemming primarily from management and social psychology have developed the idea that organizations have the ability to develop and learn.²⁸⁶

Similarly, theories of democratic experimentalism propose new ways of government regulation. Learning plays a central role in “experimentalist governance” or “new governance” theories.²⁸⁷ Experimentalist governance creates a regulatory environment that is equipped to escape both the hierarchical imposition of rules and

²⁸⁵ See Jolls et al., *supra* note 3, at 1543–46; see generally Perez, *supra* note 116, at 121–123 (discussing evidence of biases affecting experts, such as regulators).

²⁸⁶ See *supra* Section I.B.2.

²⁸⁷ See generally Gráinne de Búrca, *New Governance and Experimentalism: An Introduction*, WIS. L. REV. 227 (2010) (explaining the similarities and differences between New Governance and experimentalist theories) [hereinafter de Búrca, *New Governance and Experimentalism*]; Charles Sabel & Jonathan Zeitlin, *Experimentalist Governance*, in THE OXFORD HANDBOOK OF GOVERNANCE (David Levi-Faur ed., 2012) (explaining experimentalist governance) [hereinafter Sabel & Zeitlin, *Experimentalist Governance*]. Experimentalist structures are proliferating at the domestic level, see, e.g., Charles F. Sabel & William H. Simon, *Minimalism and Experimentalism in the Administrative State*, 100 GEO. L.J. 53 (2011) (analyzing examples of experimental governance at the domestic level), the regional level, see Gráinne de Búrca, *The Constitutional Challenge of New Governance in the European Union*, 28 EUR. L. REV. 814 (2003) (analyzing examples of experimental governance at the regional level) [hereinafter de Búrca, *The Constitutional Challenge of New Governance in the EU*]; Charles F. Sabel & Jonathan Zeitlin, *Learning from Difference: The New Architecture of Experimentalist Governance in the EU*, 14 EUR. L. J. 271 (2008) (analyzing the EU Open Method of Coordination, which is a very commonly used example of experimentalist governance) [hereinafter Sabel & Zeitlin, *Learning from Difference*], and the international level, see Gráinne de Búrca et al., *New Modes of Pluralist Global Governance*, 45 N.Y.U. J. INT’L L. & POL. 723, 739 (2013) [hereinafter de Búrca et al., *New Modes of Pluralist Global Governance*]; Gráinne de Búrca et al., *Global Experimentalist Governance*, 44 BRIT. J. POL. SCI. 477 (2014) [hereinafter de Búrca et al., *Global Experimentalist Governance*] of governance. Strategic uncertainty is the basic background precondition of experimentalism. See William H. Simon, *New Governance Anxieties: A Deweyan Response*, WIS. L. REV. 727, 728–30 (2010).

the creation of disputes among the involved parties. This is achieved through a collaborative approach adopted at both the rulemaking and the implementation stages that accommodates the diversity of the participating actors.²⁸⁸ Participatory goal-setting, decentralized implementation, information gathering, performance monitoring, peer review, consultations, and deliberative comparison of experience are central characteristics of experimentalist regimes, and are all forms of institutional learning. Governance by experiment proceeds in four steps:²⁸⁹ 1) the involved actors collectively set framework goals like better government performance, good political governance, or improving efficiency; 2) the goals are further elaborated and implemented by local actors who may be private actors such as companies or territorial authorities; 3) the decentralized actors provide information and data including feedback on the implementation of the framework goals in return for autonomy of local implementation;²⁹⁰ and 4) the relevant actors periodically and reflexively revise goals in light of the knowledge gained.²⁹¹ However, learning is not only important at the institutional level; rather, improved institutional processes should lead to more effective learning at the regulatee level. This is where systemic learning comes in.

²⁸⁸ See Sabel & Simon, *supra* note 287, at 88–89 (discussing the advantages to experimentalism in the context of regulation).

²⁸⁹ *Id.* at 79; see also de Búrca et al., *New Modes of Pluralist Global Governance*, *supra* note 287, at 739; see also de Búrca et al., *Global Experimentalist Governance*, *supra* note 292, at 483–85 (mentioning five identifying features of experimentalist governance: inclusive stakeholder participation in a non-hierarchical process; articulation of agreed common problems, and establishment of a framework understanding, setting open-ended goals; devolution to lower level or local actors with contextualized knowledge, and implementation of the framework goals by them; continuous feedback, reporting, and monitoring; established practices, usually involving peer review, for revision of rules and practices).

²⁹⁰ The production of the data is usually based on instruments of quantification of the implementation results, like indicators. See HAYNES ET AL., *supra* note 209, at 30–31; see also *infra* Section III.B.1, (describing feedback loops). Monitoring of this type usually takes the form of a peer review of the decentralized units. Sabel & Simon, *supra* note 287, at 79–80.

²⁹¹ See Sabel & Simon, *supra* note 287, at 79–80.

2. Systemic Learning

Professors Richard Thaler and Cass Sunstein argue that behavioral interventions ought to increase either personal welfare, as judged by each individual's own preferences,²⁹² or social welfare.²⁹³ Despite partially substituting efficiency with choice preservation, behavioral law and economics has so far exhibited strong path dependence on classical law and economics in several respects.²⁹⁴ Even though improving regulation is a key objective, behavioral scholars have not systematically considered ways to improve regulatory intervention in case of market, government, or behavioral failure *after* the introduction of the behavioral intervention, namely the ability of government to learn through the nudging process and adapt to citizens' needs. The regulatory techniques of behavioral law and economics—following again the paths of traditional law and economics—have placed little emphasis on learning. Even in cases where learning is considered, it is following in the footsteps of law and economics by focusing on social learning.²⁹⁵ Academics often disregard the supposed major contribution of a behavioral intervention, namely whether the debiasing or nudging effect can be ultimately achieved *in the long run*,²⁹⁶ and what the exact contribution of the intervention is in the debiasing process. Even though the nudging literature focuses on the appropriate responses of government to individual biases, it patently disregards learning by the institutions that have initiated behavioral intervention.²⁹⁷ Conversely, the literature on institutional learning does not consider debiasing; it only acknowledges input by various actors—NGOs, businesses, implementing authorities—disregarding whether the forecasted output has been achieved. Regulatory practice in some fields is more advanced than scholarship:²⁹⁸ some agencies do put a

²⁹² Sunstein & Thaler, *Libertarian Paternalism*, *supra* note 103, at 1161–62.

²⁹³ See Sunstein, *supra* note 104.

²⁹⁴ See Dimitropoulos, *From Choosing to Learning*, *supra* note 6, at 339.

²⁹⁵ See *supra* Section I.C.1.

²⁹⁶ See sources cited *supra* note 256 and accompanying text.

²⁹⁷ See *supra* Section I.B.2.

²⁹⁸ See *supra* Sections II.C.-D.

premium on learning, but scholarship has not taken this up sufficiently. Furthermore, the interdependence of individual and institutional learning is neglected both by agencies and scholarship.

Taking the two approaches together, behavioral law and economics and behavioral regulation must consider learning at both social and institutional levels: first, whether the debiasing or learning outcome has been achieved, particularly in the long run, among the members of society; and secondly, whether the government has learned and improved *its* performance using input from society. For these reasons, institutional mechanisms must be implemented to help governments learn from the success and failure of any behavioral intervention in society. This integration of social and institutional learning produces a third category of learning: systemic learning.

Systemic learning is a case of a whole that produces more than the sum of its parts. It is the result of multiple interactions of market participants and the government, and has four main elements: horizontality, recursivity, spill-over effects, and future-orientation. First, the primary learning effect is at the individual level, namely at the level of the individual who has been debiased; but learning is also achieved horizontally for other individuals and society as a whole by learning through an exchange of views and experiences, successes and failures, and observation and action.²⁹⁹ Second, systemic learning involves institutional learning that integrates on-the-ground experiences in the implementation of regulation. In order to achieve systemic learning, social and institutional learning cannot be one-off events. Systemic learning is a continuous process that involves several learning cycles over time. As soon as one cycle ends, systemic learning demands that government institutions prepare, improve, and increase efforts so that they present better results for the next review cycle. Regulation is thus informed by the results of experiential, social, and institutional learning.

Third, systemic learning has a further spill-over component. It gathers societal and institutional knowledge, success, failure, and best practices from one sector, which is then diffused to other

²⁹⁹ See sources cited *supra* notes 36–49 and accompanying text.

fields, very much in the vein of the learning society imagined by Stiglitz and Greenwald.³⁰⁰ For systemic learning to be achieved, for instance, the lessons of consumer law must be transposed and adapted to competition law, from competition law to energy law, from energy law to environmental law, and so on. This is one component of learning that has been considered neither by the relevant scholarship, nor the learning practice that has started being developed by public authorities.

Finally, systemic learning involves learning from experience and learning by doing, but goes one step further by giving private actors and public institutions the capabilities to improve in the future. Systemic learning is not only recursive, as institutional learning is, but also generative: it engenders novel methods of implementation and evaluation, facilitates the revision of regulatory goals, and enhances an understanding of the behavioral effects on regulatees as the central yardstick of the effectiveness of policy interventions.³⁰¹

B. How Should We Learn? Concrete Policy Proposals

In all observed theories, learning is perceived as a process, rather than an output.³⁰² In the final section of this Article, we thus review different legal methods and institutional mechanisms that can be employed to facilitate a continuous systemic learning process: feedback loops, institutionalized systemic learning facilities, and finally a proposal for an Agency for Systemic Learning Management.

³⁰⁰ See STIGLITZ & GREENWALD *supra* note 1, at 170–80.

³⁰¹ Cf. Michael Stolleis, *Der lernfähige und lernende Staat, in* Wissenskulturen: Über die Erzeugung und Weitergabe von Wissen [*The State that is Capable of Learning and Does Learn*, in *Cultures of Knowledge: On the Generation and Dissemination of Knowledge*] 58, 64–65 (Johannes Fried & Michael Stolleis eds., 2009) (differentiating between “traditional knowledge” and “innovation knowledge”).

³⁰² See, e.g., Levitt & March, *supra* note 79, at 333 (discussing forms and limitations of learning processes in organizations); STIGLITZ & GREENWALD, *supra* note 1 (arguing that learning processes should be put center stage on a societal level).

1. Feedback Loops

Going beyond simple disclosure, it seems crucial to implement feedback loops at the individual and institutional levels.³⁰³ Feedback loops are an important tool of *ex post* evaluation in our systemic learning regime: the institution implementing a regulatory strategy is confronted with the results, and effectiveness, of the intervention and feeds these insights back into an updated version of the original strategy, creating recursivity at both the individual and the institutional level. Studies from psychology and behavioral economics tell us that learning does not occur on its own; rather, a crucial factor in any learning process is clear and steady feedback.³⁰⁴ In systemic learning, this insight cuts both ways. On the one hand, individual actors need feedback on their decisions to internalize and improve their performance. Individualized feedback has, for example, been shown to reduce framing effects, representativeness, and ambiguity aversion in future tasks.³⁰⁵ On the other hand, institutions also must be provided with feedback in order to adapt their strategies and structures. This holds particularly true for regulatory agencies concerned with improving the effect of their regulatory policies.³⁰⁶

³⁰³ Cf. Chris Argyris, *Double Loop Learning in Organizations*, HARV. BUS. REV. 115 (Sept.-Oct. 1977) (stressing the importance of feedback loops for learning in organizations); see generally FEEDBACK FOR LEARNING 1 (Susan Askew ed., 2000) (collecting contributions on the importance of feedback for learning).

³⁰⁴ See sources cited *supra* notes 113–118 and accompanying text.

³⁰⁵ Gokul Bhandari et al., *Debiasing Investors with Decision Support Systems: An Experimental Investigation*, 46 DECISION SUPPORT SYSTEMS 399, 406–7 (2008); see also Gokul Bhandari & Khaled Hassanein, *An Agent-Based Debiasing Framework for Investment Decision-Support Systems*, 31 BEHAV. & INFO. TECH. 495 (2012) (presenting an overview of the use of feedback-driven decision support systems to overcome bias); Soyer & Hogarth, *supra* note 1, at 49 (describing the importance of feedback for learning).

³⁰⁶ See, e.g., Claire A. Dunlop & Claudio M. Radaelli, *Overcoming Illusions of Control: How to Nudge and Teach Regulatory Humility*, in NUDGE AND THE LAW: A EUROPEAN PERSPECTIVE 139, 151 (Alberto Alemanno & Anne-Lise Sibony eds., 2015) (arguing for *ex post* evaluation of regulatory policies).

Taken together, this provides for a double learning necessity: individuals need to learn, and institutions need to assess whether the individual learning facilitated by their policies is effective.³⁰⁷ This generates a recursive feedback process: regulatory policies must be continually updated in order to enhance the individual learning effects they aim to generate.³⁰⁸ Thus, institutional and individual learning are interlocked in a framework of systemic learning.³⁰⁹ But systemic learning still has work to do. What is crucial in these strategies is the permanence of the learning effect over time, yet there is little empirical evidence of the dynamic side of debiasing interventions and the sustainability of debiasing effects.³¹⁰ Here, future research will need to invest time and effort into determining those strategies that yield not only short-term results but also long-term benefits. A systematic feedback loop strategy, as envisaged here, is a worthwhile starting point for such an endeavor.

The time is ripe for a greater focus on learning: the European Commission has recognized the need for effective *ex post* evaluation of policy in its attempt to provide for “Smart Regulation;”³¹¹ the same strategies feature prominently in the *Better Regulation Guidelines* published in May 2015.³¹² Greater

³⁰⁷ See, e.g., Fabiana Di Porto & Nicoletta Rangone, *Behavioural Sciences in Practice: Lessons for EU Policymakers*, in *NUDGE AND THE LAW: A EUROPEAN PERSPECTIVE* 29, 30–35 (Alberto Alemanno & Anne-Lise Sibony eds., 2015) (stressing the value of monitoring in behaviorally-informed regulation).

³⁰⁸ Cf. OECD, *BEHAVIORAL INSIGHTS AND PUBLIC POLICY*, *supra* note 13 (highlighting the importance of *ex post* evaluation for regulatory effectiveness).

³⁰⁹ The development of the mortgage and loan disclosures by the CFPB visited above provide vivid examples of incipient systemic learning strategies. See *supra* Section II.D.2.

³¹⁰ Scott O. Lilienfeld et al., *Giving Debiasing Away. Can Psychological Research on Correcting Cognitive Errors Promote Human Welfare?*, 4 *PERSP. PSYCHOL. SCI.* 390, 395 (2009); Hacker & Dimitropoulos, *supra* note 220, at 174–77; see also *supra*, Section II.D.1.b.

³¹¹ EUROPEAN COMM’N, *STRENGTHENING THE FOUNDATIONS OF SMART REGULATION—IMPROVING EVALUATION* 2 (2013), http://ec.europa.eu/smart-regulation/docs/com_2013_686_en.pdf.

³¹² See EUROPEAN COMM’N, *BETTER REGULATION GUIDELINES*, *supra* note 214, at 3, 48.

policy evaluation also stands at the core of recent OECD publications.³¹³ Feedback loops and systemic learning processes more broadly are crucial for this new endeavor of enhancing regulatory effectiveness.

2. Institutionalized Systemic Learning Facilities

To facilitate systemic learning, regulatory agencies should implement some form of structured review, feedback, and continuous learning processes. Ideally, a specific part of every organization—a systemic learning task force—should be tasked with establishing, implementing, developing, and controlling the use of systemic learning strategies within an institution. We call these distinct operational units “institutionalized systemic learning facilities,” designated and equipped with the necessary resources to establish coherent learning procedures. These task forces could thus play the role of both debiasing other bodies and members of the institution and of providing a platform for continuous learning approaches. In this way, existing institutions based on more traditional regulatory approaches could be gradually transformed into learning facilities by introducing simple modifications in their institutional setup. Institutionalizing cognitively optimized systemic learning facilities, for example in the form of feedback loops and systemic learning task forces, would most likely significantly enhance institutional learning capabilities for several reasons. First, institutionalized learning facilities give frequent and continuous feedback over a longer period, which is crucial for learning to occur.³¹⁴ Second, institutionalized learning facilities structure tasks in an organized manner, thus making it less likely for actors to feel overburdened and overloaded; the danger of information overload³¹⁵ can thus be mitigated. Third, if a systemic learning task force professionally develops and implements

³¹³ OECD, *BEHAVIORAL INSIGHTS AND PUBLIC POLICY*, *supra* note 13, at 43, 53–4; OECD, *OECD FRAMEWORK ON REGULATORY POLICY EVALUATION* 17 (2014), http://www.keepeek.com/Digital-Asset-Management/oecd/governance/oecd-framework-for-regulatory-policy-evaluation_9789264214453-en#page3.

³¹⁴ See sources cited *supra* notes 113–118 and accompanying text.

³¹⁵ See Baddeley, *supra* note 25, at 7; Bettman, *supra* note 24, at 9.

routines for systemic learning, this group can act as a role model for other parts of the institution. Observational learning and learning by imitation, as discussed in the social cognition and game theoretic literature,³¹⁶ can be used to leverage the intra-institutional diffusion of learning strategies. Fourth, using management theory, a systemic learning task force can be charged with the crucial task of developing new goals for the institution. Management theory tells us that steady evaluation of goals, and the creation of an atmosphere in which such critique is permitted and even fostered, is a precondition for generative learning, the effective production of knowledge.³¹⁷ In this way, the task force can make use of organizational theory to shape and change the organization according to a learning paradigm. Fifth, such a specialized task force would be made up of a team with diverse social science backgrounds, from economics to psychology to law, to take note of the most recent developments in the learning literature and to implement the most effective strategies to facilitate individual learning by citizens, consumers, clients, and customers. Finally, since social planners are not immune to making errors or exhibiting biases,³¹⁸ the existence of learning institutions may also help them identify and overcome their own possible biases. Institutionalized learning facilities thus have an important role to play in condensing the wisdom of learning theory into strategies that can be implemented at the institutional level.

3. Agency for Systemic Learning Management

Finally, we recommend the establishment of an Agency for Systemic Learning Management (“ASLM”) to better coordinate efforts within government agencies and private institutions to implement systemic learning facilities. In the United States, the ASLM would best be created at the federal level, and thus could potentially be integrated into OIRA.³¹⁹ In the European Union, the

³¹⁶ See sources cited *supra*, notes 38–41, 70–72 and accompanying text.

³¹⁷ See SENGE, *THE FIFTH DISCIPLINE*, *supra* note 85, at 14, 233–70.

³¹⁸ Edward L. Glaeser, *Paternalism and Psychology*, 73 U. CHI. L. REV. 133, 136 (2006).

³¹⁹ Cf. Cass R. Sunstein, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349, 1388–89 (2011) (discussing how OIRA shaped regulatory processes,

current tendency to review policy as part of the European Commission's better regulation initiative could be leveraged to affiliate the ASLM with the Regulatory Fitness and Performance ("REFIT")³²⁰ platform that was established in May 2015 to facilitate and coordinate efforts to reduce regulatory burden and to enhance the content of regulation in all areas of EU policy.³²¹

On both sides of the Atlantic, the agency would serve a dual role. First, it would advise and control government agencies in their efforts to install continuous learning facilities within their institutions. It would be entrusted with the task of creating spill-over effects across various regulatory policies and many regulatory fields. Thus, it would help to spread learning effects across and between institutions. For example, a policy that has worked in some areas, such as cognitive optimization of the portrayal of energy efficiency using monetary metrics,³²² could be communicated to regulatory bodies faced with similar problems in different fields. This does not relieve the agencies from testing whether the strategies can actually be transposed from one area to another, but it would provide important cues that can generate interinstitutional learning.

Second, the ASLM would develop best practices to be distributed among private institutions for dealing with systemic learning in private settings, where learning does not likewise occur automatically.³²³ The ASLM could therefore issue two types of recommendations to private actors. First, it should advise companies on how to implement learning facilities within their organizations. In doing so, the ASLM could draw on the multitude

particularly with a view to simplification and the integration of behavioral insights into rulemaking).

³²⁰ See EUROPEAN COMM'N, COMMISSION DECISION OF 19.5.2015 ESTABLISHING THE REFIT PLATFORM 2 (2015), http://ec.europa.eu/smart-regulation/better_regulation/documents/c_2015_3261_en.pdf (establishing REFIT).

³²¹ *Id.*

³²² See CODAGNONE ET AL., *supra* note 226, at 9, 53 and accompanying text.

³²³ See Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q. J. ECON. 505, 521 (2006).

of experiences from institutionalized systemic learning facilities in regulatory agencies. Additionally, it should encourage companies to pursue strategies that might educate customers in a meaningful way in the long-term by, for example, cognitively optimizing disclosures. This can be particularly helpful with small- and medium-sized enterprises that lack the resources to thoroughly research and implement learning strategies on their own.

All in all, the ASLM should coordinate and instigate the diffusion of learning strategies in both the public and the private sector, bundling knowledge and resources, and thus correcting for institutional and market failures alike. Organizational Behavioral Insights Teams, or Nudge Units, have started playing a similar role worldwide,³²⁴ and they could eventually be affiliated with or even transformed into the envisaged ASLMs.

Moreover, the diffusion of learning across borders is important for many different reasons, not least of which because the relatively new connections to behavioral law and economics and public policy are a young field of research and policy making. There are at least five uncertainties connected to behaviorally inspired policy making:³²⁵ uncertainty about the external validity of experiments; uncertainty about the existence of biases; uncertainty about the extent of biases; uncertainty about the effectiveness of regulatory tools; and context effects.³²⁶ The road towards greater certainty will need to be covered by real-life application of behavioral policies. This Article proposes ways in how to deal with the uncertainties beyond the mere conduct of research and using the learning experience of behavioral policy makers.

Learning about the impact of economic policies has been dealt with in the policy learning literature that seeks to understand the processes by which policy makers change their beliefs as a result of observing and interpreting their experiences, and the eventual

³²⁴ See HACKER, *supra* note 272, at 1–2 (describing the rise of nudge units in different countries); Philipp Hacker, *More Behavioral vs. More Economic Approach*, *supra* note 186, at 366–68 (describing nudge units in the EU and in the Obama administration); *supra* notes 211–15 and accompanying text.

³²⁵ See also LUNN, *supra* note 4, at 52–55.

³²⁶ See *id.* at 51–62.

corresponding policy changes.³²⁷ The most prominent learning model in the existing literature is Bayesian updating, namely that governments learn about policies by weighing prior beliefs against the quantity and quality of observed experience.³²⁸ Lately, political science and international relations theories inspired by behavioral insights have introduced new insights to the Bayesian learning model of policy diffusion.³²⁹

Given the global spread of behavioral public policy and nudge units, it becomes important to facilitate this process beyond informal meetings in an effort to avoid bounded learning in policy diffusion. As in other fields of public policy, an organization at the international level of governance, such as the OECD, should play an important role in the structured diffusion of knowledge on behavioral public policy.³³⁰ The first step should be the formation of a transnational network of nudge units, where nudge units could meet and exchange their views and experiences from the application of behavioral insights into policymaking.³³¹ Another step could be undertaken towards further institutionalization with the creation of an international ASLM, a “meta-nudge unit,” with an office within an international organization such as the United Nations.³³² The role of such an office would be as a continuous

³²⁷ Levy, *supra* note 22, at 279–84.

³²⁸ See Poulsen & Aisbett, *supra* note 61, at 274, n. 4 (defining ‘quality’ as “the variability, or consistency, of available outcome information”).

³²⁹ See *id.*; KURT WEYLAND, BOUNDED RATIONALITY AND POLICY DIFFUSION: SOCIAL SECTOR REFORM IN LATIN AMERICA 34–6 (2006).

³³⁰ See OECD, BEHAVIOURAL INSIGHTS AND PUBLIC POLICY, *supra* note 13, at 4.

³³¹ ANNE-MARIE SLAUGHTER, A NEW WORLD ORDER 4 (2004) (proposing international governance for global policymaking); Kal Raustiala, *The Architecture of International Cooperation: Transgovernmental Networks and the Future of International Law*, 43 VA. J. INT’L L. 1 (discussing benefits of transgovernmentalism and international cooperation in regulatory industries).

³³² See Beth A. Simmons et al., *Introduction: The International Diffusion of Liberalism*, 60 INT’L ORG. 781 (2006) (discussing policy diffusion through international organizations). Indeed, individual countries will tend to emulate the behavior of their peers within a larger group. *Id.* at 799 – 801. For example, upon the ratification of a United Nations convention on discrimination against women, it was found that “countries emulate others when they are party of a global political order promoted by non-governmental and inter-governmental

learning facility, namely an intermediary for the provision of information and the diffusion of best practice among nudge units and other government departments around the world that may have an interest in being informed about and adopting behavioral public policies. The meta-nudge unit should imitate the Scandinavian model³³³ of collaboration of actors involved in behavioral policymaking at the international level, and have a similar role as the “What Works Clearinghouses” recently proposed by the U.S. government,³³⁴ namely as “repositories that synthesize evaluation findings in ways that make research useful to decision makers, researchers and practitioners.”³³⁵

A cautious note should be sounded, though, on the unreflected adoption of nudging policies by various governments around the world. This has indeed been cause for concern with policy diffusion by international organizations like the International Monetary Fund and the World Bank in the past.³³⁶ The ASLM meta-nudge unit would also have the obligation to advise, and

agencies and groups . . .”. Beth A. Simmons et al., *Introduction: The Diffusion of Liberalization*, in *THE GLOBAL DIFFUSION OF MARKETS & DEMOCRACY* 1, 43–44 (2006).

³³³ The Scandinavian model of behavioral public policymaking is characterized by its bottom up and decentralized nature. See LUNN, *supra* note 4, at 35–6; LUCIE CERNA, ORG. FOR ECON. CO-OPERATION & DEV., *THE NATURE OF POLICY CHANGE AND IMPLEMENTATION: A REVIEW OF DIFFERENT THEORETICAL APPROACHES* 18–19 (2013) (describing the “bottom-up” approach). There are activities at the municipal level and networks promoting nudging that are comprised of actors from the public and the private sector. See LUNN, *supra* note 4, at 35–6. Denmark, for example, does not currently have a centralized nudge unit, but many government departments are part of the “Danish Nudging Network” founded in 2010 which is comprised of researchers, as well as public and private institutions with the aim of promoting the insights of behavioral sciences into policy making. *Id.* at 36–7 (describing various departments within the Danish Nudging Network); Ly & Soman, *supra* note 4.

³³⁴ OMB Memorandum, *supra* note 182, at 10–11.

³³⁵ *Id.* at 11 (showing that the same document mentions various examples of what works clearinghouses like the U.S. Department of Justice’s CrimeSolutions.gov, and the Department of Education’s What Works Clearinghouse).

³³⁶ EURODAD, WORLD BANK AND IMF CONDITIONALITY: A DEVELOPMENT INJUSTICE: EURODAD REPORT 3 (2006), http://www.eurodad.org/uploadedfiles/w_hats_new/reports/eurodad_world_bank_and_imf_conditionality_report.pdf.

debias, governments on the need to use a behavioral solution. As in other areas of public policy diffusion, the paths followed by first-movers may be very sticky.³³⁷ For this reason, it is important to see whether the right path has been followed in each case.³³⁸ Not every solution is appropriate for adoption in all cases, and in all situational and geographical contexts. The lesson of a 10 percent improvement of tax filling through electronic means by a government in Western Europe does not automatically mean that this is a good solution for an African, Asian, or South American country. It might be better for a country in these parts of the world to invest the relevant resources differently. This holds all the more true in the face of varying degrees of biases across cultures and continents.³³⁹ Systemic learning thus means not necessarily just the diffusion of best practice, but also “debiasing” through information provision on worst, or mediocre policy: in the realm of international and comparative law, taking cultural and economic differences into account is crucial to avoid regulatory error.³⁴⁰ The ASLM meta-nudge unit can, and should, make a contribution to such conscious, locally adapted policies.

CONCLUSION

Increasingly, the power of learning is used in psychology and economics. A number of regulatory agencies on both sides of the Atlantic and on the international level are following suit, capitalizing on learning processes to improve regulatory outcomes. What is lacking, however, is both a coherent normative account of learning theory in legal scholarship and the systematic application of such theory to regulatory contexts. This Article aims to fill both gaps. Based on an extensive review of learning theory in cognitive and social psychology, game theory, organizational science, and

³³⁷ See Alemanno & Sibony, *supra* note 186, at 14–16 (with reference to UK BIT).

³³⁸ See *supra* Section II.C.

³³⁹ See, e.g., Joseph Henrich et al., ‘Economic Man’ in *Cross-Cultural Perspective: Behavioral Experiments in 15 Small-Scale Societies*, 28 *BEHAV. & BRAIN SCI.* 795 (2005) (analyzing different biases across fifteen different “small-scale societies”).

³⁴⁰ See *WORLD BANK GRP.*, *supra* note 133, at 153.

management theory, this Article makes three distinct contributions. First, it identifies the agents that can benefit from and require greater learning. Unlike previous scholarship, this Article goes beyond the individual as a learning subject by bringing institutions, such as regulatory agencies, into the focus. Interlinking learning by individuals, institutions, and society at large, we provide an account of a new dimension of learning: systemic learning. Second, the Article demonstrates in a number of case studies how learning strategies are already beginning to be implemented in different legal contexts. On the one hand, existing patterns of pretesting, as encouraged by Executive Order 13563 and the UK BIT's "Test, Learn, Adapt" strategy, can be found in the revision of mortgage disclosures by the CFPB, for example.³⁴¹ On the other hand, many regulatory interventions still fail to tap the resources of learning; the elaboration of the EU Consumer Rights Directive provides a vivid example.³⁴² Against this background, third, the Article makes several concrete policy suggestions on ways in which learning can be brought to bear on international and domestic law in a systematic way. It argues for the use of feedback loops to stimulate systemic learning; advocates the design and control of learning strategies by institutionalized systemic learning facilities within agencies and private companies; and, finally, calls for the establishment of an Agency for Systemic Learning Management. As regulatory agencies are pressured to provide better outcomes in ever shorter timeframes, they increasingly do—and should—discover the power of learning. In the European Union, this trend is reflected in the European Commission's "Better Regulation" initiative.³⁴³ Taking Executive Order 13563 at face value, the same potentially holds true for the United States. Finally, behavioral strategies are also increasingly embraced by international organizations. Thus, there seems to be a present window of opportunity for the implementation of a coherent learning approach to regulatory theory and practice in the European Union, the United States, and at the international level.

³⁴¹ See *supra* Section II.D.2.a.

³⁴² See *supra* Section II.D.2.

³⁴³ See EUROPEAN COMM'N, BETTER REGULATION GUIDELINES, *supra* note 214, at 3.