
GOVERNMENT-TO-ROBOT ENFORCEMENT

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Automated legal systems occupy a central place in the administration of most regulatory regimes. Examples include banking, tax, environmental, copyright, consumer credit reporting, and wage and hour regulation. These systems, or compliance robots, produce centralized results which invite government examination and adjudication on a centralized, ex post basis. This is revolutionary. It means that the content of law, which now technically applies to individual regulated parties, might begin to be determined centrally by interactions between the government and the firms that make compliance robots. I call this possibility government-to-robot enforcement.

Government-to-robot enforcement could improve greatly the efficiency of compliance, which is vulnerable to underdetection and underenforcement. Government-to-robot enforcement could find mistakes, impose strict liability, use a damages multiplier, and resolve government claims against individual users collectively by dealing directly with a centralized compliance robot. It could free third parties from the negative externalities of noncompliance, like higher taxes because of others' tax avoidance or contaminated air because of illegal pollution.

But government-to-robot enforcement has other problems. These include the decline of individual claims against the government and the risk of reverse capture, meaning the development of pro-government bias in the law. Another disadvantage is a fairness concern, since more effective government-to-robot enforcement would not apply to those who chose not to use compliance robots.

TABLE OF CONTENTS

I.	INTRODUCTION	1498
II.	ROBOTS AND LEGAL COMPLIANCE	1501
	A. Compliance Systems as "Robots"	1501
	B. Compliance is Complicated	1502

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C.	<i>Legal Uncertainty and the “How” of Compliance</i>	1503
D.	<i>Underenforcement and the “Why” of Compliance</i>	1505
E.	<i>Problems with Underenforcement</i>	1507
III.	AN ENFORCEMENT OPPORTUNITY	1509
A.	<i>Robots Make Mistakes</i>	1509
B.	<i>Automated Systems are at the Center, but Have No Formal Place</i>	1511
C.	<i>Centralized Liability Design</i>	1512
D.	<i>Strict Liability</i>	1513
E.	<i>Damages Multiplier</i>	1516
F.	<i>Subrogation and Preclusion</i>	1519
IV.	ADVANTAGES OF GOVERNMENT-TO-ROBOT ENFORCEMENT	1520
A.	<i>Address Underenforcement</i>	1520
B.	<i>Market Differentiation</i>	1520
V.	DISADVANTAGES OF GOVERNMENT-TO-ROBOT ENFORCEMENT	1521
A.	<i>Reverse Capture and Pro-Government Law Creep</i>	1521
B.	<i>Decline of Individual Claims</i>	1523
C.	<i>Winners and Losers</i>	1524
IV.	CONCLUSION	1525

I. INTRODUCTION

Robots are sometimes presented as problems or challenges for law.¹ But this Article offers a thought experiment from a different perspective. I explore legal compliance robots not as developments that require regulation, but rather as opportunities that government could use to enforce separate and pre-existing law.

Even if an automated system produces the same legal decision as a human advisor, government has a special and different enforcement opportunity with respect to legal compliance robots. This is because the robot’s decisions are centralized. Centralization means that a single action—for instance, writing a bit of software code—produces legal decisions for many individuals at once.

Legal compliance robots are everywhere. They include software that evaluates bank solvency, determines welfare benefits, responds to copyright-based takedown requests, and generates consumer credit reports.² These examples may

1. See generally *ROBOT LAW* (Ryan Calo, A. Michael Froomkin & Ian Kerr eds., 2016).

2. For example, automated systems evaluate bank solvency. See Kenneth A. Bamberger, *Technologies of Compliance: Risk and Regulation in a Digital Age*, 88 *TEX. L. REV.* 669, 717–22 (2010) (describing private automated law systems that failed to recognize risks to bank capital reported leading into global financial crisis). They determine welfare benefits. See Danielle Keats Citron, *Technological Due Process*, 85 *WASH. U. L. REV.* 1249, 1256 (2008) (describing the Colorado Benefits Management System, which generates welfare eligibility decisions). They respond to copyright-based internet takedown requests. See Maayan Perel & Niva Elkin-Koren, *Accountability in Algorithmic Copyright Enforcement*, 19 *STAN. TECH. L. REV.* 473, 477 (2016) (describing internet service provider algorithms). They generate consumer credit reports regulated by the Consumer Finance

sound boring, but they are not. Legal compliance is the guts of the law. It is what puts boots on the ground to achieve policy goals (or not) on a daily basis.

To illustrate, consider timekeeping software as a legal compliance robot. This software records hourly workers' time in a manner that is supposed to comply with federal wage and hour laws. Say that the software omits scheduled breaks from the working time recorded for hourly employees at Walmart, McDonalds, and many other firms.³ Assume further that employees routinely work through their daily breaks, consistent with their supervisor's expectations. Their employer's timekeeping software omits this work time from their compensated time, which (let us assume) violates the law. The mistake is not small potatoes. It could shortchange each employee by \$1,000 a year.⁴ If the mistake affected equally 10 million hourly workers in the United States, it would amount to underpayment of these employees by \$10 billion annually.

Under our existing model of enforcement, this mistake would be corrected through a system that is individual, or at least compartmentalized.⁵ The legal violation might be corrected through the employee's claim of underpayment against the employer, or by the government's claim that the employer had violated wage and hour timekeeping rules.⁶ A court or other forum would decide whether the employee had been underpaid.⁷ It might award the employee thousands of dollars in back pay, and perhaps other damages. But it almost certainly would not assess damages as high as \$10 billion.

Legal compliance robots present the opportunity to turn this individualized model on its head. What if government enforcers could enforce the law directly against the centralized legal compliance robot—*i.e.*, the maker of the wage and hour software? What if the remedy could assess damages related to *all* employees at *all* employers who use the software—rather than only addressing the single dispute between the individual and Walmart? If this problem arose for 10 million minimum wage workers, annual damages could equal \$10 billion. The maker of the software would be liable for the damages and could pass on the cost to its users in the form of higher software license fees.

Protection Board. See Angela Littwin, *Escaping Battered Credit: A Proposal for Repairing Credit Reports Damaged by Domestic Violence*, 161 U. PA. L. REV. 381–83 (2013) (noting credit reports purchased by lenders as the “main revenue source” for credit reporting agencies). They also attract huge investment. See, e.g., Tom C. W. Lin, *Compliance, Technology, and Modern Finance*, 11 BROOK. J. CORP. FIN. COMM. L. 159, 167–68, 178–79 (2016) (“[B]etween 2012 and 2014, JPMorgan alone invested billions of dollars and added 13,000 new employees to its compliance efforts to better meet the demands of the new regulatory normal. . . . Governance, risk, and compliance (GRC) technology systems are now standard tools at major financial institutions. GRC systems allow compliance departments to automate and analyze large volumes of information . . .”).

3. See Elizabeth Tippet, Charlotte S. Alexander & Zev J. Eigen, *When Timekeeping Software Undermines Compliance*, 19 YALE J.L. & TECH. 1, 4–5 (2017).

4. Two fifteen-minute breaks, 200 working days per year, and \$10 minimum wage amounts to a wage loss of \$1,000, or about 6% of a minimum-wage worker's salary.

5. Class actions provide a somewhat broader mechanism for litigation, but the class action avenue is far narrower and more qualified than the government-to-robot enforcement idea considered here. See Daniel V. Dorris, *Fair Labor Standards Act Preemption of State Wage-and-Hour Law Claims*, 76 U. CHI. L. REV. 1251, 1251 (2009).

6. See *id.* at 1252 (noting private and public causes of action).

7. *Id.*

The idea of government-to-robot enforcement is that compliance robots would follow the law and/or charge more to insure against the risk of error. Some wage-and-hour software might establish measures to ensure that employers would not shortchange employees for their time worked. Other wage-and-hour products might allow employers to shortchange employees for their time, but these products would cost more because of the price of insuring the risk of error. The market would solve a currently intractable underenforcement problem.

Nevertheless, this Article does not advocate government-to-robot enforcement, but rather offers the idea as a thought experiment. Disadvantages of government-to-robot enforcement include that it reduces the importance of individual claims and that it may erode a healthy tension between private ordering and government enforcement. Also, government-to-robot enforcement does not increase enforcement for regulated parties who do not use compliance robots. These nonusers may be disproportionately wealthy and/or disproportionately lawbreakers. Thus, government-to-robot enforcement also raises issues of fairness.

Part II of this Article explains the phenomenon of regulatory compliance and illustrates its challenge of underenforcement. As Part II describes, features of regulatory compliance include limited government resources as well as irreducible legal uncertainty. Underenforcement results. Underenforcement allows the externalization of the costs of noncompliance to third parties. Underenforcement can also result in law creep, featuring the development of the law in a way that is biased against the government.

Part III outlines how government might address underenforcement through a centralized regime of direct liability for errors in automated centralized law systems, or compliance robots. Part III describes a regime with strict liability and a damages multiplier so that the dispute about an individual's compliance would decide the question for all similar positions. Part III also considers subrogation, meaning that the compliance robot, not its users, would control decisions in enforcement actions; and preclusion, meaning that the application of a damages multiplier would block some users with related cases from separately pursuing or defending them.

Part IV identifies advantages of government-to-robot enforcement, including the promise of improving enforcement and supporting internalization of costs by violators of the law. Part V identifies disadvantages. These include the possibility of reduced control of individuals over their own claims and the possibility that government-to-robot enforcement will work too well and cause the law to develop a pro-government bias. There is also a fairness concern, since not all regulated parties would experience increased enforcement under the government-to-robot proposal.

II. ROBOTS AND LEGAL COMPLIANCE

A. *Compliance Systems as “Robots”*

I propose that we should think of a compliance system that makes automatic legal decisions as a robot. This is a stretch relative to one leading definition of robot for purposes of law, which says that a robot is “a man-made object capable of responding to external stimuli and acting on the world without requiring direct . . . human control.”⁸ Software that measures and reports emissions, for instance, takes actions without direct human control, but it is not a “man-made object.”⁹ But the idea that robots are physical objects is narrower than necessary. If it is to capture the changes brought to law as a result of machine learning and other intelligent systems, a better-matched “robot” definition is “any hardware or software system exhibiting intelligent behavior.”¹⁰ Automated, centralized systems that produce legal decisions—compliance robots—fit better under this label.

Automatic production of legal decisions, without human intervention, is one key feature of a legal compliance robot. Consistent with the “robot” label, there is a distance between the compliance records generated by a compliance robot, such as a wage-and-hour software system, and the actions of users. True, employers provide the inputs that wage and hour software asks for. But the software automatically provides the questions, and the legal connection between the data input and the compliance records that results may not be transparent. In the case of tax compliance software, for instance, it is not necessary for taxpayers to be able to explain the connections among the data input and the tax liability (or refund) that results.¹¹ This gap presumably will grow as legal compliance robots use more complex methods, such as machine learning, to produce legal answers.¹²

Centralization is the other key feature of a legal compliance robot that may be targeted by government-to-robot enforcement. Compliance robots rely on a centralized system to produce legal results.¹³ The business model of automated legal compliance systems usually involves a one-time translation of law into, for instance, software code and then the selling of that translation many times to

8. A. MICHAEL FROOMKIN, *Introduction*, in *ROBOT LAW* x, xi (Ryan Calo, et. al. eds., 2016).

9. *See id.*

10. Mark A. Lemley & Brian Casey, *Remedies for Robots*, (Stan. Law & Econ. Online Working Paper No. 523, 2018), <https://ssrn.com/abstract=3223621> (advocating broader definition); cf. Rebecca Crootof, *War Torts: Accountability for Autonomous Weapons*, 164 U. PA. L. REV. 1347, 1349 (2016) (describing an “autonomous weapons system”).

11. *See* Rodney P. Mock & Nancy Shurtz, *The TurboTax Defense*, 15 FLA. TAX REV. 443, 448 n.13 (2014).

12. *See, e.g.*, Sandra Wachter, Brent Mittelstadt & Luciano Floridi, *Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation*, INT’L DATA PRIVACY L. 1, 4, 7 (2017) (sorting explainability issues by comparing information about “system functionality” and specific outcomes and by comparing ex ante and ex post approaches) (“[T]he provider’s ability to offer an explanation of the rationale of [even] a specific decision may be limited by several . . . technical factors, including the use of complex probabilistic analytics and decision-making methods.”).

13. *See* Bamberger, *supra* note 2, at 706 (noting “systematization” tendency of technology).

many users.¹⁴ The core business idea of a legal compliance robot is economies of scale. Likewise, the core idea of government-to-robot enforcement is to take advantage of economies of scale by penalizing not only the errors that it discovers a robot has made, but also the additional similar errors that it can impute to the robot on the strength of the one-time discovery.

B. Compliance is Complicated

An assumption of this Article is that legal compliance robots make mistakes. This sets up the problem of underenforcement and the government's incentive to develop a corresponding centralized method for discovering and correcting the mistakes. It seems worthwhile to briefly explain why compliance robots will inevitably produce mistakes.

"Compliance" here means the act or process of following and conforming to law, including statutes, regulations, and administrative guidance.¹⁵ Legal compliance robots typically produce the legal determination that a party is compliant with a regulatory requirement. Automated law systems¹⁶ produce wage and hour records,¹⁷ tax returns,¹⁸ and environmental reports.¹⁹ They also respond to requests for copyright-based takedown requests²⁰ and consumer credit reports.²¹ These compliance cases are the focus of the analysis.²²

14. Robots that provide a system for making legal decisions that requires individual user customization, such as systems designed to optimize tax planning for multinational corporations, may have relatively lower economies of scale, but centralized decisions about legal content likely will still be made by the firm that sells the robots.

15. See GEOFFREY PARSONS MILLER, *THE LAW OF GOVERNANCE, RISK MANAGEMENT AND COMPLIANCE* 2-3 (2014) ("'Compliance' refers to the processes by which an organization polices its own behavior to ensure that it conforms to applicable rules and regulations.>").

16. Rather than the law responding to the existence of a machine or other technology, the goal is to determine how machines can help the enforcement and making of law.

17. See Tippet et al., *supra* note 3, at 14 (providing a qualitative study of thirteen different timekeeping automated law systems).

18. See Mock & Shurtz, *supra* note 11, at 449 (describing tax preparation software).

19. Perillon Software Inc. provides an environmental law compliance automated law example. See *Environmental Data Management Software*, PERILLON, <http://www.perillon.com/environmental-data> (last visited Aug. 5, 2019) (stating, for instance, that "[o]ur customers use our environmental data management module for GHG MRR Reporting for Subpart A, C, D, W reporting requirements including evolving electronic submission standards (e.g. e-GGRT)"). e-GGRT is the EPA's reporting system for greenhouse gases. See *Greenhouse Gas Reporting Program (GHGRP)*, EPA, <https://www.epa.gov/ghgreporting/e-ggrr-news> (last visited Aug. 5, 2019).

20. See Perel & Elkin-Koren, *supra* note 2, at 477 ("[M]ajor online intermediaries use algorithms to filter, block, and disable access to allegedly infringing content automatically, with little or no human intervention."). These are often responses to robot-generated Digital Millennium Copyright Act takedown requests. In contrast to most of the other automated law systems considered here, they appear to be proprietary, *i.e.* developed, owned, and used by a firm such as Google or Facebook.

21. See Littwin, *supra* note 2, at 381-83 (discussing credit reports).

22. Automated law also includes private law examples, which are beyond this Article's scope. See generally Kevin D. Werbach & Nicholas Cornell, *Contract Ex Machina*, 67 DUKE L.J. 313 (2017). Smart contracts charge robots or computers with the responsibility of verifying the fulfillment of contract terms, such as delivery of goods, and with the responsibility of executing contract terms, such as transferring funds in payment. See also Trevor I. Kiviat, *Beyond Bitcoin: Issues in Regulating Blockchain Transactions*, 65 DUKE L.J. 569, 605 (2015) (discussing digital asset transfers, confirmation of authorship, title transfers, and contract enforcement).

Compliance might seem easy. It might seem that compliance just involves looking up the wage and hour regulation or the environmental reporting requirement and applying it, as one might look up an internet address and open the right browser window. But it is not so simple.²³ Compliance is neither boring nor straightforward.

Distinguishing between legal and illegal behavior presents one compliance challenge. This is the “how” of compliance. Deciding when it is in a person’s interest to comply presents another issue. This is the “why” of compliance.

C. *Legal Uncertainty and the “How” of Compliance*

The meaning of law is often unclear, and compliance involves judgment calls about what can be labeled or reported as compliant. Sometimes the uncertainty can arise from sources of law that fall outside the rules and regulations that appear to govern the conduct at issue, like the Constitution.²⁴ Consider, for instance, the question of promoting a drug for “‘off-label use,’ that is, for a purpose not approved by the U.S. Food and Drug Administration.”²⁵ The applicable food and drug law criminalizes the intentional promotion of off-label use.²⁶ But at least one Court of Appeals has blocked a criminal proceeding involving a salesperson pushing Xyrem, also known as the “date rape drug,” on First Amendment grounds.²⁷

Of course, regulatory uncertainty also comes in more mundane—but perhaps no less important—packages. Consider the question of compliance²⁸ with the Fair Labor Standards Act (“FLSA”), which requires employers to “make, keep and preserve” wage and hour records.²⁹ Timekeeping software is used to keep records for a large fraction of the 80 million hourly workers in the United States.³⁰ Yet the repeated issue of how to calculate hourly workers’ time raises legal questions as to which the answer is unclear.

One area of uncertainty has to do with how to calculate time worked under federal law when an employee arrives early or leaves late. The question is one of

23. Cf. Bryant Walker Smith, *Lawyers and Engineers Should Speak the Same Robot Language*, in *ROBOT LAW* 78, 85 (Ryan Calo, A. Michael Froomkin & Ian Kerr eds., 2016) (contrasting an engineering description’s omission of the word “control” with a regulatory standard’s frequent use of the word but refusal to define it) (“[A writer] should first describe the control system they actually intend: the goals, inputs, processes, and outputs to the extent they are determined by a human designer and the authority of the human or computer agents to the extent they are not . . .”).

24. U.S. CONST. amend. I.

25. *United States v. Caronia*, 703 F.3d 149, 152 (2d Cir. 2012).

26. 21 U.S.C. § 331(a) (2018) (prohibiting transaction in a “misbranded” drug in interstate commerce).

27. See *Recent Case: First Amendment—Commercial Speech—Second Circuit Holds that Prohibiting Truthful Off-Label Promotion of FDA-Approved Drugs by Pharmaceutical Representatives Violates First Amendment.—United States v. Caronia*, 703 F.3d 149 (2d Cir. 2012), 127 HARV. L. REV. 795, 800 (2013) (“Although *Caronia* is defensible as a matter of Constitutional doctrine, it is undesirable as a matter of policy.”).

28. The descriptions of errors and features of electronic timekeeping systems is based on a qualitative empirical examination of thirteen such systems. See Tippet et al., *supra* note 3.

29. 29 U.S.C. § 211(c) (2018).

30. Tippet et al., *supra* note 3, at 10.

rounding. FLSA regulations date back to the days of paper records.³¹ They accept the practice of “starting and stopping time . . . to the nearest . . . quarter of an hour” so long as “employees are fully compensated for all the time they actually work.”³² While this regulation concretely states that rounding time within seven minutes of the hour is generally acceptable, it subjects this rule to a mushy exception—the rounding will not be acceptable if it fails to “compensate the employees properly.”³³ That is the uncertain part, or the part that requires a judgment call. What if an employer’s policy effectively prevents tardiness so that employees are sometimes early, but never late, and therefore are systematically undercompensated by the rounding rule?

Rounding seven minutes to zero minutes may seem like a small thing. Why not let the machine resolve this minor regulatory uncertainty in favor of employers? Indeed, it is not unusual for specific compliance decisions to present as unimportant, small, and tedious—just the sort of decision one would want a machine to take care of.

But consider this: In 2016, there were about 80 million hourly workers in the U.S., representing almost 60% of all workers paid a wage or salary.³⁴ Say half of those workers lose six minutes of pay each working day because of the rounding error and that the six minutes would have been paid at \$10 per hour. That amounts to the underpayment of 40 million workers at \$1 per working day, or about \$200 underpayment per worker per year, or \$8 billion total annually. When an automated law system resolves a seemingly small uncertainty, it can add up to a big shift in resources or wealth. Compliance matters.

It may seem as if the problem is with the law. Why can’t it be more precise and logical?³⁵ Why can’t it figure things out ahead of time? Why can’t it be more like a rule and less like a standard? Then a robot could implement the law successfully and according to the law’s terms.

There are at least two kinds of answers to this. One is descriptive and the other is normative. The descriptive answer is that in fact the law is not a perfectly logical *ex ante* system, even if it wants to present itself that way.³⁶ The normative answer is that the law should not consist of perfect *ex ante* logic, because makers of law do not know what might happen in the future and have limited *ex ante* imagination and judgment.³⁷ For both of these two kinds of reasons, the law—

31. *Id.* at 9.

32. 29 C.F.R. § 785.48 (2018).

33. *Id.*

34. See U.S. BUREAU OF LABOR STATISTICS, *Characteristics of Minimum Wage Workers* (Mar. 2018), <https://www.bls.gov/opub/reports/minimum-wage/2017/home.htm> (providing statistics).

35. See generally Sarah B. Lawskey, *A Logic for Statutes*, 21 FLA. TAX REV. 60, 77–79 (2017) (suggesting that statutes might be structured as a formal system of default logic).

36. Consider the need for the *ex post* mechanism of equity to correct the shortcomings in the *ex ante* British common law system of writs of law. See Henry Smith, *Fusing the Equitable Function in Private Law* (forthcoming in *PRIVATE LAW IN THE 21ST CENTURY* (Kit Barker, Karen Fairweather, and Ross Grantham eds.)) (arguing that errors are an inevitable feature of law and that equity can be understood as a mechanism to correct them).

37. See, e.g., Cass R. Sunstein, *Problems with Rules*, 83 CALIF. L. REV. 953, 967–68 (discussing in the context of case law analysis, how analogical reasoning yields a result in which “the nature of the legal provision . . . is not known before the analogical process takes place”).

even the law that governs mundane compliance tasks—is uncertain.³⁸ Because law itself has irreducible uncertainty, even the highest-quality and best-intentioned compliance robot will get it wrong some of the time.³⁹ There are also reasons related to the design of legal compliance robots that result in mistakes.⁴⁰ Some of these are described in a later section of this Article.⁴¹

D. Underenforcement and the “Why” of Compliance

A separate question has to do with why regulated parties or compliance robots choose to comply. Often, they comply to avoid penalties for violating the law. In many areas of regulatory compliance, government enforcement provides the main source of penalties for legal violations. Yet the government often fails to find and sanction the mistakes. In other words, there is underenforcement.

Underenforcement facilitates undercompliance by regulated parties. This is true whether legal decisions about compliance are made in the traditional way—in other words by human beings—or whether they are made by robots. But the emergence of robots as centralized legal decision-makers may make it possible for government-to-robot enforcement to close underenforcement gaps.

Underenforcement causes people to act as if no one is watching. Consider, for instance, the two million bank accounts wrongfully opened by Wells Fargo employees without customer authorization between 2011 and 2015.⁴² Why did the employees do this? Because it would increase their bonuses,⁴³ and presumably because they thought they would not get caught. Or consider Volkswagen’s modifications to vehicles’ emission measurement systems, crafted specifically to evade environmental regulations but create the appearance of compliance.⁴⁴ Why did Volkswagen do this? Because it would increase their profit, and because they thought they would be able to fix the problem before they were caught.⁴⁵

Of course, in the cases that make it to the newspapers, the gamble on underenforcement did not pay off.⁴⁶ The Wells Fargo account-opening fraud was

38. *Id.* at 984.

39. *See, e.g.*, Saul Levmore & Frank Fagan, *The Impact of Artificial Intelligence on Rules, Standards and Judicial Discretion*, 93 S. CAL. L. REV. (forthcoming 2019) drafts at 14–29 (giving examples of when humans should overrule artificial intelligence decisions because of overreliance on prior data patterns); Eric Talley, *Is the Future of Law a Driverless Car?*, 183 J. INSTITUTIONAL & THEORETICAL ECON. 174, 203–04 (2018) (drawing on classic debates of legal philosophy to explain why law is necessarily dynamic and not static).

40. Bamberger, *supra* note 2, at 706–07.

41. *See infra* Section III.A.

42. *See* Emily Glazer, *Wells Fargo to Pay \$185 Million Fine Over Account Openings*, WALL ST. J. (Sept. 8, 2016), <https://www.wsj.com/articles/wells-fargo-to-pay-185-million-fine-over-account-openings-1473352548>.

43. *See* Emily Glazer, *How Wells Fargo’s High-Pressure Sales Culture Spiraled Out of Control*, WALL ST. J. (Sept. 16, 2016), <https://www.wsj.com/articles/how-wells-fargos-high-pressure-sales-culture-spiraled-out-of-control-1474053044>.

44. *See* Danny Hakim, Aaron M. Kessler & Jack Ewing, *As Volkswagen Pushed to Be No. 1, Ambitions Fueled a Scandal*, N.Y. TIMES (Sept. 16, 2015), <https://www.nytimes.com/2015/09/27/business/as-vw-pushed-to-be-no-1-ambitions-fueled-a-scandal.html>.

45. *See id.* (suggesting that VW hoped that its technology would catch up with emissions standards).

46. *See* Joel Slemrod, *The Economics of Corporate Tax Selfishness*, 57 NAT’L TAX J. 877, 884 (2004).

detected.⁴⁷ So was the Volkswagen effort to evade emissions regulations.⁴⁸ But the bigger problem of underenforcement remains below the surface, invisible.⁴⁹

Despite a less-than-100% probability of detection, theory suggests that penalty and enforcement practice could still effectively deter regulated parties and prevent noncompliance.⁵⁰ For instance, penalties might be subject to a damages multiplier.⁵¹ Penalties might equal the harm of the violation multiplied by the inverse of the probability of detection.⁵² This idea has been applied in regulatory scholarship, for example, in scholarship on tax avoidance or evasion,⁵³ and in scholarship on corporate misconduct.⁵⁴

But contrary to the idea of a penalty multiplier, regulated parties who commit legal violations can sometimes escape liability for reasons that are unrelated to the harm of the violation.⁵⁵ If a regulated party can show that it did not intend a certain harm, it can sometimes escape liability.⁵⁶ For example, a class action lawsuit against Wells Fargo in the unauthorized account scandal must show that the board negligently or intentionally allowed the fraud to continue.⁵⁷

If a regulated party has certain procedures in place, it may also escape liability in some circumstances.⁵⁸ For instance, the securities law includes a safe harbor that protects against supervisory liability for employees who commit legal

47. Glazer, *supra* note 42.

48. Hakim et al., *supra* note 44.

49. For instance, taxpayers experience underenforcement through the so-called “audit lottery.” See Linda M. Beale, *Tax Advice Before the Return: The Case for Raising Standards and Denying Evidentiary Privileges*, 25 VA. TAX REV. 583, 607–09 (2006) (explaining the audit lottery and related questions such as the attorney ethics of describing the odds of getting caught). Taking a chance on an aggressive (but nonfraudulent) reporting position is not thought of as bad behavior. It is simply how the game is played. See Slemrod, *supra* note 46, at 882 (stating that taking a position is not about honesty or dishonesty, but rather about “rational calculat[ion] of what is in [the taxpayers’] best interest”).

50. Beale, *supra* note 49, at 608–09.

51. *Id.* at 609–10.

52. See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. & ECON. 169, 185–86 (1968) (considering inverse relationship).

53. See, e.g., Michael G. Allingham & Agnar Sandmo, *Income Tax Evasion: A Theoretical Analysis*, 1 J. PUB. ECON. 323, 326 (1972) (stating function in terms of maximizing taxpayer utility, monetary, and otherwise).

54. See, e.g., Jennifer Arlen & Reinier Kraakman, *Controlling Corporate Misconduct: An Analysis of Corporate Liability Regimes*, 72 N.Y.U. L. REV. 687, 757 (1997) (explaining that corporate employees’ incentives to violate the law follow from less than 100% probability of detection and enforcement).

55. Geoffrey Miller, *Catastrophic Financial Failures: Enron and More*, 89 CORNELL L. REV. 423, 451 (2004).

56. The question of what an institutional regulated party “intends” is tricky. Compare *United States v. Bank of New England*, 821 F. 2d 844, 856 (1st Cir. 1987) (finding “collective intent” where head tellers at bank allowed transactions apparently structured to avoid currency transaction reporting requirements), with *United States v. Sci. Applications Int’l Corp.*, 626 F.3d 1257, 1274 (D.C. Cir. 2010) (holding that “collective knowledge” would not support knowledge under False Claims Act, 31 U.S.C. § 3729(b)(1)(A)).

57. See Jon Hill, *Judge Lets Most of Wells Fargo Derivative Suit Proceed*, LAW360 (Oct. 5, 2017), <https://www.law360.com/articles/971688/judge-lets-most-of-wells-fargo-derivative-suit-proceed>; Evan Weinberger, *Judge Allows Suit Against Wells Fargo’s Board to Press On*, LAW360 (May 5, 2017), <https://www.law360.com/articles/920791/judge-allows-suit-against-wells-fargo-s-board-to-press-on>.

58. Cf. Miller, *supra* note 55, at 451 (noting that Enron and other companies had textbook corporate governance systems on paper, but catastrophic failure in reality).

violations if certain institutional procedures are in place.⁵⁹ Some suggest that the existence of a corporate compliance program should be a mitigating factor more generally that should reduce applicable penalties, particularly criminal liability.⁶⁰

Law also sometimes assigns different penalties to a legal violation depending on whether there was a reasonable *ex ante* argument that the action in question did not violate the law.⁶¹ Rules governing so-called “reporting positions” in tax articulate this view.⁶² The idea of tax reporting positions is to attribute increased liability to taxpayers and tax preparers in the case of illegal tax positions.⁶³ But these extra penalties do not apply to a position for which there is “substantial authority,” meaning the balance of the authorities supports the position.⁶⁴ In other words, the tax law does not impose extra penalties on plausible positions that turn out to be wrong when later tested. If the law is uncertain, so that taxpayers and tax advisers could reasonably have believed the position could be correct *ex ante*, then penalties do not apply.

E. Problems with Underenforcement

Underenforcement encourages regulated parties to take positions that they think will not be detected, and/or that they think will not be punished harshly if they are detected.⁶⁵ Two problems that can arise from underenforcement are negative externalities and law creep.

Negative externalities from underenforcement result from inappropriate and uncorrected benefits claimed by regulated parties. Third parties bear the burden, or detriment, of this undercompliance.⁶⁶ In other words, undercompliance

59. See 15 U.S.C. § 78o(b)(4)(E)(i) (2018) (describing “procedures . . . which would reasonably be expected to prevent and detect, insofar as practicable, any such violation by such other person”).

60. See, e.g., Ellen S. Podgor, *A New Corporate World Mandates a Good Faith Affirmative Defense*, 44 AM. CRIM. L. REV. 1537, 1543 (2007) (arguing for an affirmative defense because of the growing threat of criminal liability, the complexity of compliance requirements, and reputation effects).

61. Sunstein, *supra* note 37, at 1022.

62. See, e.g., 26 C.F.R. § 301.6114-1(a)(2) (2018) (describing “return positions”).

63. See *id.* Taxpayer “substantial understatement” penalties, for instance, equal up to 20% of underreported liability. I.R.C. § 6662 (2018). Tax preparer liability can include penalties such as a prohibition on future practice before the IRS imposed by an IRS ethics office. I.R.C. § 6694 (2018).

64. Treas. Reg. § 1.6662-4(d)(3) (2003) (outlining approach to determining whether substantial authority is present). Extra penalties also do not apply to a weaker “reasonable basis” position that is disclosed.

65. See *supra* Section II.D.

66. This assumes that the law is correct, *i.e.*, that error-free compliance would properly measure time worked, impose tax liability, set environmental pollutants, and so forth. Analyzing the normative correctness of any particular existing regulatory regime falls outside the scope of this Article.

produces negative externalities.⁶⁷ Underreporting taxable income for one taxpayer results in higher taxes for other taxpayers.⁶⁸ Wage underreporting undercompensates hourly employees.⁶⁹ Underreporting environmental emissions produces more pollution for the general public and the environment.⁷⁰

To correct the problem of negative externalities, regulated parties who take aggressive reporting positions ought to be forced to internalize them.⁷¹ This is a classic application of the “single owner” principle.⁷² If the party that benefits from an action (like pollution) also must pay the costs of that action (like polluting in violation of environmental regulations), then an efficient amount of pollution—or at least the efficient amount of pollution according to the regulations—should result.⁷³

Law creep can also result from underenforcement. In other words, underenforcement allows the law to develop in favor of regulated parties.⁷⁴ To illustrate the problem of law creep, consider frequent flyer miles and loyalty programs. They present one example of a tax reporting position pushed to an extreme.⁷⁵

When an employee receives loyalty points from an airline, hotel, supermarket, department store, credit card company, or other vendor on a purchase made for work, those points should be taxable as income under generally accepted income tax principles.⁷⁶ But employees (and employers) rely on a 2002 Announcement stating that the IRS will not press the issue on benefits “attributable to . . . business travel.”⁷⁷ Everyone takes the position that loyalty points received in connection with employment are not taxable—even though such programs have spread far beyond travel, even though many employees may derive substantial

67. Cf. Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1185–86 (2008) (noting the problem of possible negative externalities resulting from the filtering and organizing of search results by algorithms).

68. See Linda Sugin, *Invisible Taxpayers*, 69 TAX L. REV. 617, 635–40 (2016) (contending that the tax-paying public suffers “real legal injury” as a result of undercompliance).

69. See *supra* Section II.C (discussing how time-keeping systems that underreport time worked can result in lost wages for workers).

70. See, e.g., Theo Leggett, *How VW Tried to Cover Up the Emissions Scandal*, BBC NEWS (May 5, 2018), <https://www.bbc.com/news/business-44005844> (discussing how Volkswagen underreported emissions).

71. See generally WARD FARNSWORTH, *THE LEGAL ANALYST* 37–46 (2007) (describing the single owner principle).

72. See generally *id.*

73. *Id.*

74. See *infra* Section V.A (discussing pro-government law creep).

75. The Tax Court has held that loyalty points constitute gross income if they replace an item of taxable income in a consumer transaction. See *Shanker v. Commissioner*, 143 T.C. 140, 147–48 (2014) (holding that “Thank You Points,” a “noncash award for opening a bank account” were gross income and noting that the facts did not raise the question of employee travel). Practitioners have treated this case as an exception to the general rule of exclusion. See, e.g. Lynn Comer Jones & M. Catherine Cleaveland, *The Receipt and Redemption of Rewards Program Points: Tax and Reporting Implications*, TAX ADVISER (Aug. 1, 2018), <https://www.thetaxadviser.com/issues/2018/aug/receipt-redemption-rewards-program-points.html>.

76. See generally Dominic L. Daher, *The Proposed Federal Taxation of Frequent-Flyer Miles Received from Employers: Good Tax Policy but Bad Politics*, 16 AKRON TAX J. 1, 4–11 (2001) (detailing the 1995 IRS attempt to tax miles, court cases dealing with miles, and technical doctrinal pathways to the taxation of miles).

77. IRS Announcement 2002-18 (“[T]he IRS will not assert that any taxpayer has understated his federal tax liability by reason of the receipt or personal use of frequent flyer miles or other in-kind promotional benefits attributable to the taxpayer’s business or official travel.”).

value from them, even though points often can be used to purchase a broad range of consumer goods, and even though selling points for cash produces taxable income.⁷⁸ There is little chance that the government would have the stomach to challenge taxpayers' reporting positions on loyalty points now. The law on employee loyalty points has crept far away from the theoretically correct answer of inclusion in income.⁷⁹

Other agencies with enforcement responsibilities that exceed their grasp likely fall into a similar pattern. Violations go undetected because resource constraints prevent the agency from auditing everyone.⁸⁰ The agency treats gently a position based on a plausible legal interpretation. Such aggressive positions are embraced by the market, and, perhaps silently, accepted by the administrative agency. Law creep happens.

III. AN ENFORCEMENT OPPORTUNITY

A. *Robots Make Mistakes*

In an earlier section of this Article,⁸¹ I argued that compliance law is irreducibly uncertain, and that therefore compliance mistakes are inevitable. The design of legal compliance robots also contributes to the inevitability of mistakes and helps set the stage for government-to-robot enforcement.⁸²

An increasing variety of technologies support automated law. These include logical algorithms,⁸³ machine learning and other artificial intelligence techniques,⁸⁴ and computer network approaches such as blockchain or distributed ledger systems.⁸⁵ These technologies are fallible. Documented errors in au-

78. See *Charley v. Commissioner*, 91 F.3d 72, 74 (9th Cir. 1996) (holding that taxpayer realized gross income when employee in effect sold airline upgrade credits back to employer).

79. See Lawrence Zelenak, *Custom and the Rule of Law in the Administration of the Income Tax*, 62 DUKE L. J. 829, 832 (2012) (explaining the consensus that frequent flyer miles and loyalty points earned by employees should be taxable).

80. See Michelle Nessa et al., *How Do IRS Resources Affect the Tax Enforcement Process?*, NAT'L TAX ASSOC. (Sept. 2016), <https://www.ntanet.org/wp-content/uploads/proceedings/2016/158-nessa-schwab-stomberg-towery-irs-resources-paper.pdf> (finding in study of corporate taxpayers that fewer IRS resources correlates with fewer audit and fewer and smaller proposed deficiencies).

81. See *supra* Section II.B.

82. Cf. Susan C. Morse, *When Robots Make Legal Mistakes*, 72 OKLA. L. REV. 213, 220 (2019) (offering a taxonomy of market and government robots' undercompliance and overcompliance mistakes).

83. See, e.g., Perel & Elkin-Koren, *supra* note 2, at 488–91 (explaining that “platforms[] such as Google, Facebook, and Twitter . . . appl[y] various algorithms to perform qualitative determinations, including the discretion-based assessments of copyright infringement and fair use” in order to respond to robot-generated takedown requests by copyright owners and suggesting that this results in over-enforcement of copyright rights).

84. See Benjamin Alarie, Anthony Niblett & Albert H. Yoon, *Using Machine Learning to Predict Outcomes in Tax Law* (Dec. 15, 2017), <https://ssrn.com/abstract=2855977> (describing AI technique applied to database consisting of the text of hundreds of cases to distinguish employee from independent contractor for tax purposes).

85. Blockchain technology might confirm and effect international payments. See Marcel T. Rosner & Andrew Kang, Note, *Understanding and Regulating Twenty-First Century Payment Systems: The Ripple Case Study*, 114 MICH. L. REV. 649, 651 (2016) (suggesting that the Federal Reserve would have an interest in this

tomated law systems range from the mundane, such as a miscalculation of depreciation,⁸⁶ to the heartbreaking, such as an erroneous denial of food stamp benefits;⁸⁷ to the macroeconomic, such as a failure to correctly recognize risks to bank capital on the eve of the global financial crisis.⁸⁸

There are several reasons for error. One is that humans design and build automated law, and people make mistakes.⁸⁹ Another reason is that law is a dynamic system, not a static system.⁹⁰ The idea that technology can automatically determine whether a worker is an employee or an independent contractor, for instance, depends on the technology's access to a database of worker-status determinations.⁹¹ Historical data cannot reliably predict answers in some new situations.⁹² The issue of worker classification in the gig economy provides an example of a novel new set of facts.⁹³

System designers also have an incentive to favor regulated parties who purchase and use their system.⁹⁴ For instance, an automated law system may be intentionally designed to avoid law, support aggressive reporting positions, or find loopholes.⁹⁵ There is an incentive to “redesig[n] behavior for legal advantage.”⁹⁶ Consider the tax preparation software feature that constantly updates a taxpayer on the status of his or her payment due or refund, encouraging taxpayers to input larger deductions and smaller income items.⁹⁷

regulatory solution). A proposed system based on blockchain has been built to reduce the cost of administering so-called know-your-customer regulations relevant to anti-money laundering and anti-tax evasion laws. *See* Jose Parra-Moyano & Omri Ross, *KYC Optimization Using Distributed Ledger Technology* (Aug. 4, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2897788. *See generally* Carla L. Reyes, *Conceptualizing Cryptolaw*, 96 NEB. L. REV. 384 (2017).

86. *See* Mock & Shurtz *supra* note 11, at 463 (describing TurboTax errors in 1994 and 1996); *see also* Choe v. Commissioner, T.C. Summ. Op. 2008-90, 2008 WL 2852249, at *1 (July 24, 2008); I.R.S. Rev. Rul. 85-187 (each involving erroneous software depreciation calculations).

87. Citron, *supra* note 2, at 1256 (describing a state government automated law system that incorrectly denied benefits to eligible welfare recipients).

88. Bamberger, *supra* note 2, at 717–22 (describing private automated law systems that failed to recognize risks to bank capital reported leading into global financial crisis).

89. Eric Bruno, *How Automation Can Translate Human Error Into Business Opportunity*, HEWLETT PACKARD ENTERPRISE (Sept. 7, 2016), <https://www.hpe.com/us/en/insights/articles/how-automation-can-translate-human-error-into-business-opportunity-1612.html>.

90. *See* Bamberger, *supra* note 2, at 706 (noting that technology bias “is not infinitely plastic, but through its systematization trends towards inflexibility”).

91. *See* Anthony J. Casey & Anthony Niblett, *The Death of Rules and Standards*, 92 IND. L.J. 1401, 1416–17 (2017) (giving driving example to illustrate how technology might generate “microdirectives”).

92. *See* Levmore & Fagan, *supra* note 39, draft at 14–29 (noting reliance of machine learning on pre-existing data).

93. *See, e.g.*, Cotter v. Lyft, Inc., 60 F. Supp. 3d 1067, 1082 (N.D. Cal. 2015) (allowing trial to proceed on classification issue); O'Connor v. Uber Techs., Inc., 82 F. Supp. 3d 1133, 1153 (N.D. Cal. 2015) (same); *see also* Shu-Yi Oei & Diane M. Ring, *Can Sharing Be Taxed?*, 93 WASH. U.L. REV. 989, 1028–38 (2016) (illustrating regulatory issues presented by the sharing economy with the example of information reporting).

94. *See* Littwin, *supra* note 2, at 381–83 (giving examples of credit reports).

95. Tim Wu, *When Code Isn't Law*, 89 VA. L. REV. 679, 707–09 (2003).

96. *Id.* at 707. Wu describes a “code designer act[ing] like a tax lawyer . . . look[ing] for loopholes or ambiguities in the operation of the law.” *Id.* at 708.

97. *See* Jay A. Soled & Kathleen D. Thomas, *Regulating Tax Return Preparation*, 58 B.C. L. REV. 151, 200–01 (2017) (recommending prohibition of the “prepayment-position status bar”).

Regulating a legal compliance robot can involve trying to influence it ex ante or ex post. It is like the project of adjusting the architecture of cyberspace so that it better reflects democratic values.⁹⁸ Some recommend government oversight to reduce mistakes.⁹⁹ Ex ante approaches are important and valuable tactics. But they cannot eliminate errors, as others have noted.¹⁰⁰ Government-to-robot enforcement—the subject of this paper—might provide an efficient way for government to correct mistakes.¹⁰¹

B. Automated Systems are at the Center, but Have No Formal Place

The idea that automated law systems could have liability for their errors would radically change the way in which law is enforced. Law is usually enforced on specific actors.¹⁰² In private law, a plaintiff claims that a defendant has violated the law. A court or other forum determines who is right and imposes and enforces penalties. Public law is also enforced on individual actors. The government, such as the agency responsible for a regulation, pursues enforcement directly against a regulated party.

As it stands now, legal compliance robots are at the center of activity practically, but not formally. As a de facto matter, the legal compliance robot sits directly between the regulated party and the government. As a de jure matter, a firm that makes an automatic legal compliance system has a contract relationship with the regulated party and no relationship with the government. Instead the law gives the regulated party a compliance obligation that bypasses the legal compliance robot and runs directly to the government.

For instance, assume that a maker of an automated law tax preparation program, like Intuit, sells a program, like TurboTax, to a taxpayer. As a practical matter, TurboTax sits at the center of the individual tax compliance ecosystem. It makes legal decisions that determine how tens of millions of federal income tax returns every year will be filed.¹⁰³

98. See generally LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999) (arguing that democratic mechanisms should oversee and edit the “architecture” of cyberspace).

99. See, e.g., Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 CALIF. L. REV. 513, 556 (2015) (recommending a “Federal Robotics Commission”); Rory Van Loo, *Rise of the Digital Regulator*, 66 DUKE L.J. 1267, 1327–28 (recommending oversight by an interdisciplinary “technology meta-agency”).

100. See, e.g., Citron, *supra* note 2, at 1305–13 (considering how to remedy mistakes in automatic welfare eligibility determination); Lemley & Casey, *supra* note 10 (focusing on private law remedies).

101. Cf. Becker, *supra* note 52, at 207–09 (articulating the questions of level of punishment and level of enforcement in economic terms).

102. See *id.*

103. See *How TurboTax Used Design and Emotion to Solve a Boring Problem and Dominate an \$11B Industry*, PRODUCT HABITS, <https://producthabits.com/how-turbotax-used-design-and-emotion-to-solve-a-boring-problem-and-dominate-an-11b-industry/> (last visited Sept. 8, 2019); Marsha Blumenthal & Joel Slemrod, *The Compliance Cost of the U.S. Individual Income Tax System: A Second Look After Tax Reform*, 45 NAT'L TAX J. 185, 190 (1992) (giving data re TurboTax return preparation); Rosemary Marcuss et al., *Income Taxes and Compliance Costs: How Are They Related?*, 66 NAT'L TAX J. 833, 845 (2013) (reporting average out of pocket costs).

But as a formal legal matter, TurboTax has no relationship with the tax system. TurboTax does not even have the status of an advisor, which would allow its advice to support a reporting position, or the status of a tax preparer, which would give it liability if it provided very bad advice.¹⁰⁴ It has only a contract with the taxpayer. The contract gives the taxpayer the right to use the tax preparation software in exchange for a fee. The tax software contract does not change the formal relationship between the government and the taxpayer, and the taxpayer remains directly liable for any errors on the tax return.¹⁰⁵

Government-to-robot enforcement would take advantage of the central place that legal compliance robots in fact occupy between regulated parties and the government by imposing legal liability for error directly on the robots rather than on the regulated parties.¹⁰⁶ If a legal compliance robot were directly liable for mistakes, the locus of disputes would change.¹⁰⁷ The adversarial parties would be the government, on the one hand, and the firms that make and sell automated law systems, on the other hand.¹⁰⁸ The details of a government-to-robot enforcement approach are explored below.

C. Centralized Liability Design

How would government design the centralized remedy of government-to-robot enforcement to solve its perennial underenforcement problem? It might work as follows:

1. Law assigns liability to the maker of a legal compliance robot for compliance errors made by its users.
2. Government alleges error, and notifies system and user.

104. See, e.g., Mock & Shurtz, *supra* note 11, at 490–505 (explaining case law that declines to waive penalties based on the “TurboTax defense” that the software facilitated an error and declines to treat software companies as possibly liable tax preparers); Soled & Thomas, *supra* note 97, at 177–79 (explaining lack of fit between existing tax preparer regulations and tax software companies and arguing that additional regulation is needed).

105. Private contracts have begun to bridge the gap between the formal exclusion of tax software programs from the tax system and the de facto place that tax software programs hold at the center of the tax system. Audit insurance is one development. See Mock & Shurtz, *supra* note 11, at 490–94 & nn.272–74 (noting tax preparation software “limited guarantees” of accurate calculations and advice including carveouts for errors due to taxpayer inputs of incorrect information or incorrect classification of information); Soled & Thomas, *supra* note 97, at 180 (describing tax preparation software audit insurance).

106. Others have recognized the legal design opportunity presented by centralized machine gatekeepers. See, e.g., Bobby Chesney & Danielle Citron, *Deep Fakes: A Looming Challenge for Privacy, Democracy, and National Security*, 107 CALIF. L. REV. (forthcoming 2019) (considering civil liability for online platforms that fail to take reasonable measures to avoid unlawful use); Susan Klein & Crystal Flinn, *Social Media Compliance Programs and the War Against Terrorism*, 8 HARV. NAT’L SEC. L.J. 53, 57 (2017) (recommending “criminalizing the failure of social media companies to institute programs that discover [and report] terrorism-related posts”); Yesha Yadav, *The Failure of Liability in Modern Markets*, 102 VA. L. REV. 1031, 1039–40 (considering strict liability and other regimes for harms generated by high-frequency algorithmic trading).

107. See Morse, *supra* note 82.

108. See *id.*

3. Strict liability: If penalties result from the controversy, the legal compliance robot (or the firm that makes and sells it) pays. The robot-user contract could require user to indemnify robot for false facts input by user.
4. Damages multiplier: The legal compliance robot also pays an additional amount determined by a damages multiplier. The idea is that the robot is settling not only this user's case, but also the liabilities of other users to the extent they arise from the same error.
5. Subrogation: Robot controls dispute, including decisions about settlement and appeal. Robot-user contract addresses issues of privacy and confidentiality and acknowledges possible conflict of interest.
6. Preclusion: The decision would apply to some group of filings prepared by the automated law system, such as all filings with this particular issue in a particular year.

This approach would fundamentally change the way in which enforcement of law operates. No longer would the regulated party-government relationship be the central or key compliance relationship. Rather, the legal compliance robot would have the primary relationship with the government. As a result, the legal compliance robot, or the firm that owns it, would be the decision-maker in terms of what positions to take, which to defend when challenged, how to settle them and so forth. Controversy practice between the firms that offer software and the government would become a primary avenue for the development of the law.¹⁰⁹

D. *Strict Liability*

What kinds of mistakes would government prefer to assign to a legal compliance robot under government-to-robot enforcement? One way to divide mistakes is to distinguish between negligent and non-negligent mistakes. This division separates, for instance, clear mistakes of law and unclear mistakes of law. Another way to divide mistakes is to distinguish between mistakes for which the

109. Making automated law systems liable for compliance violations presents an insurance framework, consistent with the observation that private intermediaries can serve a regulatory function. *See, e.g.*, Michael Abramowicz & Andrew Blair-Stanek, *Contractual Tax Reform*, WM. & MARY L. REV. (forthcoming 2019) (considering the possibility of private market "tax intermediaries" who might offer alternative tax systems and identifying insurance and solvency assurance issues); John Rappaport, *How Private Insurers Regulate Public Police*, 130 HARV. L. REV. 1539, 1607 (2017) (arguing that private liability insurance serves a regulatory function by "forc[ing] municipalities to pay for risky police activities"). This centralization of enforcement and liability is the opposite of the prediction of peer-to-peer insurance and "radical financial disintermediation" suggested elsewhere. *See* Michael Abramowicz, *Cryptoinsurance*, 50 WAKE FOREST L. REV. 671, 673 (2015). An automated law system is likely to be better able to pay a judgment compared to an individual user, which is another reason why a damages multiplier is a good fit for such a system. *Cf.* GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* 50–54 (1970) (identifying deep pockets as a possible reason supporting enterprise liability). A regulating agency might require evidence of the system's creditworthiness before allowing the automated law system to prepare compliance submissions or other legal determinations or filings, and self-insurance, bonding or reinsurance markets might emerge to support the good credit of automated law systems.

robot is directly responsible and mistakes for which the user is directly responsible. This might distinguish, for instance, mistakes of law and mistakes of fact.

If centralized liability is to solve the significant challenge of underenforcement, government would prefer to hold legal compliance robots strictly liable for all mistakes, including clear mistakes of law, unclear mistakes of law, and mixed errors of law and fact. This is consistent with theories of liability that frame the choice between strict liability and negligence as a choice between no-fault regulation and the fault-based concept of holding a defendant accountable for a wrong. Under this framework, many legal compliance robots present a classic case for strict liability.¹¹⁰ The automated law systems considered here generally cover matters of public regulation rather than bodies of law that mean to achieve corrective justice. The goal of ensuring the collection of the right amount of tax or the emission of the right level of air particles means to properly regulate. Success means a bureaucratic exercise that shifts costs of error until they fall on the right party—the user who enjoys the benefits of the aggressive legal position.¹¹¹ This is consistent with strict liability.¹¹²

As suggested above, we can distinguish among three types of mistakes: clear errors of law, unclear errors of law, and mixed errors of fact and law. Legal compliance robots can be said in some sense to “cause” each of these kinds of errors.¹¹³ To illustrate, let us return to timekeeping software products.¹¹⁴ These products are built to comply with the FLSA, which requires employers to “make, keep and preserve” wage-and-hour records.¹¹⁵ The products are used to keep records for a large fraction of the 80 million hourly workers in the United States.¹¹⁶

Timekeeping software might make clear errors of law. Let us assume that the law unambiguously states break and/or meal times count toward paid time. The robot, in contrast, omits this time from compensated time. The software’s mistake on this front would be a clear legal error.

A clear legal error is the kind of error that an advisor, like a lawyer, might be liable for under a malpractice theory. But note that the bounds of a lawyer’s liability need not limit the liability of an automated law system. Just as a legal self-help book does not amount to the practice of law, so too the use of a software program probably does not create such a relationship.¹¹⁷ The idea of government-

110. See, e.g., Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1, 3 (1980) (explaining that strict liability is appropriate for cases of “accidents between sellers and strangers” because if sellers must pay for harm to strangers, the market will cause an appropriate price adjustment so as to achieve an efficient outcome).

111. See John C.P. Goldberg & Benjamin C. Zipursky, *The Strict Liability in Fault and the Fault in Strict Liability*, 85 FORDHAM L. REV. 743, 764 (2016).

112. *Id.*; Alex Stein, *The Domain of Torts*, 117 COLUM. L. REV. 535, 594 (2017) (contrasting “public mechanism of accident regulation” and wrongs-based torts laws).

113. See *supra* notes 110–12 and accompanying text.

114. See Tippet et al., *supra* note 3, at 14.

115. 29 U.S.C. § 211(c) (2018).

116. See Tippet et al., *supra* note 3, at 16.

117. See TASK FORCE ON THE MODEL DEFINITION OF THE PRACTICE OF LAW, AM. BAR. ASS’N., DEFINITION OF THE PRACTICE OF LAW DRAFT (2002) (“[C]ourts have held that the publication of legal self-help books is not the practice of law.”).

to-robot enforcement does not rest on malpractice liability. Perhaps the relationship between a legal compliance robot and its user is more like the relationship between a bank and its customer. Third parties have strict liability, for instance, for certain failures to withhold taxes,¹¹⁸ and could be held liable for a failure to withhold even if the withholding rule carried some uncertainty at the outset.¹¹⁹

To illustrate unclear errors of law, consider the timekeeping software's interpretation of the time rounding rule. FLSA regulations accept the practice of rounding "starting time and stopping time . . . to the nearest quarter of an hour" so long as it does not cause "a failure to compensate the employees properly for all the time they actually worked."¹²⁰ Timekeeping software apparently implements this guidance with a default setting that rounds time to the hour if a punch-in or punch-out time is within seven minutes of an hour.¹²¹ But if employer rules effectively prevent tardiness, so that employees are sometimes early, but never late, then the software's rounding default may systematically reduce the time recorded for an employee. In this case, the software's default rounding rule encourages an employer to take an aggressive, but not clearly illegal, filing position.

A government-to-robot enforcement design focused on public regulation, rather than blame, would prefer strict liability, even for incorrect judgment calls in gray areas of law. That is, liability should not be limited to liability for a negligent or clear error of law, like the failure to research applicable wage and hour law. Instead, it should include liability for the close case that happens to come out in favor of the government and to the detriment of all the users who took the position. If a court invalidates the practice of rounding hourly workers' time according to the seven-minute rule, the automated law system should bear that liability even though it was not clear when the return was filed that the seven-minute rounding rule was illegal.

The reason for strict liability for unclear legal errors goes to the heart of the idea of government-to-robot enforcement. The system controls and makes these decisions as much as it makes the decisions that involve clear legal error. The idea is that legal questions relevant to public regulation will be debated, decided, and priced, and many interesting questions, those in need of development, are close questions. This centralized mechanism of discovering and discussing these questions will be of much less use unless it covers these matters.

Finally, mixed errors of law and fact may occur in timekeeping software systems. For instance, the software may prompt employers to enter scheduled break and/or meal times for employees and then automatically deduct that time from paid time. This connects with a legal error if some state laws do not allow break and/or meal times to be deducted from paid time. It connects with a factual error if an employer enters the wrong information, for instance if the employer

118. See I.R.C. § 3402 (2018) (requiring employers to withhold federal income tax from employee wages).

119. See I.R.C. § 3403 (2018) ("The employer shall be liable for the payment of the tax required to be deducted and withheld under this chapter.").

120. 29 C.F.R. § 785.48(b) (2018).

121. See Tippett et al., *supra* note 3, at 37 ("A common unit of rounding appears to be seven minutes.").

fails to correct scheduled break time even when the employee works through a break. An employer's incorrect data entry might seem to be the employer's fault, not the system's fault. But even in this case one can find mixed questions of fact and law. What if the system makes it hard to change entered time if it turns out that an employee works through a scheduled break? This could be cast as a legal error because the design of the system strongly suggests that scheduled time worked, not actual time worked, is the relevant input.

If government-to-robot enforcement failed to hold legal compliance robots liable for mixed errors of law and fact, it would significantly reduce the reach of the proposed approach. Regardless of whether legal errors are clear or unclear, the ultimate outcomes of a legal compliance system will almost always also depend on factual inputs. Meanwhile, the government will see an advantage in holding legal compliance robots liable for mixed errors of law and fact. This is because centralized legal systems have the capacity and incentive to manipulate or influence human users' responses through their design, as when a tax software system's "refund due" feature encourages a taxpayer to input larger deductions.¹²² Holding legal compliance robots strictly liable for errors that are mixed law and fact would encourage the system to build design features that promote user honesty.¹²³

Questions of mixed law and fact present a challenge for government-to-robot enforcement. The problem is that users as well as robots can influence outcomes. For instance, users can provide false information to reduce legal liability. Users should bear liability for their contribution to errors in order to incentivize honesty.¹²⁴ Because the designer of a government-to-robot enforcement system seeks centralized solutions (as these best address underenforcement and resource constraints) such a government designer might reply that the contract between the user and the robot is the right place to set forth the division of liability in these cases. For instance, the robot could negotiate a contract requiring the user to indemnify the robot if the user provided false information.

E. *Damages Multiplier*

A damages multiplier would also address the problem of underenforcement. In other words, government-to-robot enforcement penalties could increase according to a damages multiplier designed to account for violations across the

122. See Soled & Thomas, *supra* note 97, at 200–01 (recommending prohibition of the "prepayment-position status bar").

123. For instance, commentators have developed a catalog of proposals to modify tax preparation software in order to encourage taxpayer honesty in connection with tax filing is available. See Kathleen DeLaney Thomas, *Presumptive Collection: A Prospect Theory Approach to Increasing Small Business Tax Compliance*, 67 TAX L. REV. 111, 115–17 (2013) (suggesting modifications that would allow taxpayers to report honestly while expending less mental energy); see also Joseph Bankman, Clifford Nass & Joel Slemrod, *Using the "Smart Return" to Reduce Evasion and Simplify Tax Filing*, 69 TAX L. REV. 459, 460 (2016) (outlining recommendations relating to increasing the psychological cost of lying and designing customized conversation tools).

124. See, e.g., Shavell, *supra* note 110, at 8–9 (considering products liability situations where customer can influence accident losses and suggesting that a rule such as strict liability plus contributory negligence will be more likely to succeed in incentivizing customers to take care).

compliance robot system, not just for the user whose specific case is discovered. The compliance robot would act as an insurer and spread the cost of the penalties across all users.¹²⁵ This better accomplishes the goal of requiring internalization of the negative externalities of noncompliance.¹²⁶

A damages multiplier is a well-known tool suggested by literature including Gary Becker's foundational economic model of crime.¹²⁷ Say a person decides whether to comply by comparing the cost of compliance ("c") with the cost of noncompliance ("nc") multiplied by the probability of detection and liability ("p"). The person considers whether $c < nc * p$. Compliance will be the attractive answer only if nc (in other words, the penalty in the case of noncompliance) is greater than c by a factor of more than $1/p$. In other words, the damages multiplier should equal $1/p$.

There are a number of issues with damages multipliers.¹²⁸ Each of these issues is less problematic for government-to-robot enforcement. One challenge is that proportionality constraints limit the ability to vastly increase penalties imposed on a single person based on the idea that her transgression was difficult to detect.¹²⁹ A second consideration is that a fixed damages multiplier across different offenses fails to account for the variation in probability of detection and in particular for the likelihood that more serious offenses are more likely to be detected.¹³⁰ A third issue is the concern that fault-based factors ought to affect damages so as to avoid overdetering risk-averse defendants.¹³¹ Another issue is whether the defendant has deep enough pockets to pay the larger penalty.¹³²

A damages multiplier for automated law systems can sidestep each of these issues. First, the imposition of the penalty on the centralized system, not the individual violation, reframes the proportionality issue of ensuring that the punish-

125. See Kyle D. Logue, *Optimal Tax Compliance and Penalties When the Law Is Uncertain*, 27 VA. TAX REV. 241, 271–79 (2007) (considering a system of tax liability insurance with penalties based on strict liability and a damages multiplier like those proposed here).

126. See *id.* at 201; see also Allingham & Sandmo, *supra* note 53, at 330 (making similar point).

127. See, e.g., Allingham & Sandmo, *supra* note 53, at 323; see also Becker, *supra* note 52, at 172–74.

128. See, e.g., Logue, *supra* note 125, at 268 (noting problems of "ex post unfairness," judgment-proof defendants, over-deterrence, and administration). Another problem with a damages multiplier arises when a penalty in the case of undercompliance is multiplied but the refund in the case of overcompliance is not multiplied. This complexity is set aside for purposes of this paper. See Mark P. Gergen, *Uncertainty and Tax Enforcement: A Case for Moderate Fault-Based Penalties*, 64 TAX L. REV. 453, 458–59 (2011).

129. See, e.g., Michael J. Graetz & Louis L. Wilde, *The Economics of Tax Compliance: Fact and Fantasy*, 38 NAT'L TAX J. 355, 358 (1985) ("That an economic model analyzing the expected utility calculation of a would-be tax evader recommends large increases in the applicable sanction in light of the very low probability of its application quickly becomes irrelevant as a policy matter. In this country, at least, legal, moral and political constraints make this necessarily so. Coherence in our criminal law generally demands that 'punishment fit the crime' . . .").

130. See Richard Craswell, *Deterrence and Damages: The Multiplier Principle and its Alternatives*, 97 MICH. L. REV. 2185, 2192 (1999) (explaining multiplier when probability is constant).

131. See, e.g., Alex Raskolnikov, *Six Degrees of Graduation: Law and Economics of Variable Sanctions*, 43 FLA. ST. U. L. REV. 1015, 1025–34 (2016) (identifying factors that affect sanctions).

132. See, e.g., *id.* at 1019–20.

ment fits the crime. The idea is that the centralized system itself has the responsibility to correctly state the law or pay appropriate damages. The individual user's penalty is only the starting point for measuring the system's total error.

The idea of a damages multiplier based on other users of the system means a fundamentally different method for adjudicating claims of legal error in compliance systems. Now the litigants are the firm that makes the automated system and the government. In addition, this case is no longer just about the audited user. Instead it is a general test case that automatically will determine liability for dozens or hundreds or thousands of cases.

Second, the damages multiplier can be customized. As a starting point, the damages multiplier, calculated as $1/p$, might be based on p equal to a typical audit rate. But an automated law system might be allowed to prove out of the high damages by presenting its own data to rebut the calculation of the penalty multiplier. Customization of the damages multiplier is available in this case as for relatively few others,¹³³ because the information about all similar cases should be within the reach of the compliance robot.¹³⁴ A damages calculation might begin with a multiplier that assumes a large number of similar cases, but allows the robot to prove otherwise and gain access to a customized multiplier. Different factors might be taken into account in particular cases. As an example, if an issue splits circuits, thus raising the *Golsen*¹³⁵ rule, a tax compliance robot might argue for damages to be based only on the tax returns filed in a particular circuit.

Third, the penalty itself (aside from the multiplier) imposed on automated law systems would not consider fault. The idea of government-to-robot enforcement does not mean to use damages as a message that the system wronged or hurt someone, and the use of a centralized insurer should decrease risk aversion.¹³⁶ It is a "public mechanism of accident regulation."¹³⁷ Since the goal of the liability regime is to force automated law systems to internalize the costs of legal error,

133. One example of a torts case in which a damages multiplier may have been customized is a case in which the Seventh Circuit upheld an award of punitive damages against a defendant who operated a bedbug-infested 191-room hotel. Two hotel guests sued, and the total damages award was \$10,000 in compensatory damages plus \$372,000 in punitive damages—\$2,000 for every room of the hotel. *See Mathias v. Accor Econ. Lodging, Inc.*, 347 F.3d 672, 678 (7th Cir. 2003).

134. *Id.*

135. The *Golsen* rule provides that the Tax Court follows the law in a taxpayer's circuit of residence. *See Golsen v. Commissioner*, 54 T.C. 742, 756–57 (1970). The proper damages multiplier in a circuit split situation might be designed to calculate the total cost of the legal error for all tax returns filed for residents in the circuit that gave the pro-government answer, if another circuit had held for the taxpayer on the same issue. The automated law system could bear the burden of supplying the information necessary to determine its users' residence.

136. *See, e.g., Logue, supra* note 125, at 273 (suggesting that tax insurance could erase the over-deterrence problem that results from risk aversion).

137. Stein, *supra* note 112, at 594. A similar idea is of "licensing-based liability," distinct from "liability imposed on the basis of wrongdoing." *See* John C.P. Goldberg & Benjamin C. Zipursky, *The Strict Liability in Fault and the Fault in Strict Liability*, 85 *FORDHAM L. REV.* 743, 745 (2016). The proposal of automated law liability here stretches beyond the domains of inherently dangerous activities and the like in which common law tort imposes licensing-based liability. *See id.* at 784.

it should be appropriate to set the penalties equal to the total cost of legal error.¹³⁸ Because a centralized compliance robot would have deeper pockets than an individual user, the possibility of a judgment-proof defendant is minimized.

F. *Subrogation and Preclusion*

The use of a damages multiplier raises the issue of subrogation. If a legal compliance robot is directly liable for mistakes, it makes sense for the robot to control the decisions that arise during the controversy. Shifting the locus of disputes to a legal compliance robot means that an individual user gives up control of the determination of their case. This subrogation is similar to the contract practice of allowing an insurer to control litigation when damages will be paid out of insurance proceeds.¹³⁹

The use of a damages multiplier also raises the issue of preclusion. A damages multiplier allows the government to settle many users' disputes, not just the dispute of an individual user, with a legal compliance robot. It departs from existing law to suggest that the resolution of a liability associated with one regulated party's filing would also resolve and finalize a liability associated with a second regulated party's filing. Yet this is what government-to-robot enforcement would mean. If a damages multiplier applied, it would overcount the cost of error to again impose a penalty on the second user for the same error that has already been accounted for by multiplying the penalties for the first user's error. Thus, the government and the second user would be precluded from re-arguing that claim.

The question of what the "same" legal error is should tie back to the damages multiplier. In the case of tax software, for instance, the legal error might be present in the version of the software sold for a particular tax year. If the damages multiplier is accordingly set on an annual basis—for instance, by using the inverse of the annual rate of audit for the particular year—then no further liability should be imposed for errors resulting from the same legal errors in the same tax year.

138. Admittedly, this is easier to figure for some automated law systems as opposed to others. The cost of underpaid taxes equals the tax shortfall, although the appropriate discount rate might be controversial. In contrast, the cost of environmental noncompliance may be more difficult to calculate.

139. CHARLES A. WRIGHT ET AL., 6A FED. PRAC. & PROC. CIV. § 1546 (3d ed.) (explaining that the practice of subrogation, or substituting one person for another with respect to a legal claim, traces to equitable practice and that subrogation is common "when an insurer indemnifies its insured"). Another interesting model for this approach is the TEFRA partnership audit system, under which a partnership's "tax matters partner" is authorized to resolve matters relating to the tax treatment of partnership items with the government, and to bind certain partners to that treatment. *See, e.g.*, DAVID M. RICHARDSON, JEROME BORISON & STEVE JOHNSON, CIVIL TAX PROCEDURE 161–68 (2d ed. 2008) (explaining the powers of the tax matters partner, including the right to seek judicial review and to make a settlement agreement with the IRS that is binding on partners who "have less than a 1% profits interest in a partnership with more than 100 partners").

IV. ADVANTAGES OF GOVERNMENT-TO-ROBOT ENFORCEMENT

A. *Address Underenforcement*

The biggest advantage of government-to-robot enforcement is that it might solve underenforcement, a classic vulnerability that prevents legal compliance from functioning as it should.¹⁴⁰ Under the existing individualized enforcement model, many violations will go undetected and unpunished because of government resource constraints.¹⁴¹ When government does find a compliance violation, it may underpunish, relative to the strict liability goals of public regulation, by possibly reducing penalties to account for intent or fault or other mitigating factors. Government also generally assesses penalties based on the harm caused by the violation alone and does not multiply penalties to account for the low likelihood of detection.¹⁴² The result is that regulated parties do not pay for the social cost of all violations. They do not internalize the negative externalities of extra pollution, underpayment of wages, or tax avoidance.

Government-to-robot enforcement might solve this chronic problem of underenforcement. Centralized, cost-effective enforcement could find and pursue a single claim against an automated centralized system that has violated the law. Through the damages multiplier, government-to-robot enforcement could force the legal compliance robot to internalize the appropriate cost that results from related noncompliance. This is cheaper and more efficient than pursuing many claims against many individuals. It would make better use of government's limited enforcement resources.

In addition, the strict liability feature of government-to-robot enforcement could increase the chance that close cases, as well as egregious cases, would be considered in an adversarial fashion. This could make the development of law more transparent and thorough. It could help reverse the anti-government bias of the law creep that tends to result from the combination of underenforcement and legal uncertainty.

B. *Market Differentiation*

Addressing underenforcement and requiring internalization of costs could in turn support market differentiation among competing legal compliance robots. This would allow users to choose their desired level of noncompliance risk. A system that encouraged or required users to adopt a safer position would cost less because it would be cheaper to insure against the chance that the position turns out to be illegal. A system that took more aggressive reporting positions would

140. See, e.g., Arlen & Kraakman, *supra* note 54, at 757 (explaining that corporate employees' incentives to violate the law follow from less than 100% probability of detection and enforcement).

141. See, e.g., *id.* at 722 n.8.

142. See, e.g., Graetz & Wilde, *supra* note 129, at 358 (arguing that "moral and political constraints" make the idea of a damages multiplier "irrelevant as a policy matter").

cost users more. Government-to-robot enforcement would correctly price compliance risk, and the market could help differentiate between risk-seeking and risk-averse tax compliance products.

To illustrate, assume there are two tax software products. One, TaxDragon, takes aggressive positions. Another, CleanTax, takes conservative positions. TaxDragon will face a higher likelihood of liability for the errors made on returns it prepares. It will cost more to insure those errors. A TaxDragon customer will receive the benefit of a lower tax bill because of the aggressive positions, but will have to pay more for the product because of the high cost of insuring against the prospect of liability under the TaxDragon system. In contrast, a CleanTax customer will have a higher tax bill, but the product will cost less because the tax positions taken are not aggressive, so that insuring against noncompliance will not cost as much.¹⁴³

V. DISADVANTAGES OF GOVERNMENT-TO-ROBOT ENFORCEMENT

A. *Reverse Capture and Pro-Government Law Creep*

One concern with government-to-robot enforcement is that it might overshoot the mark of eliminating underenforcement. This Article so far has told a story about the possible impact of government-to-robot enforcement that depends on several assumptions. These assumptions include regulated parties' incentive to violate the law, legal compliance robots' incentive to help them undercomply, and government's resource-constrained struggle to solve the resulting problem of underenforcement.

But what if government-to-robot enforcement itself changes one or more of these assumptions? One vulnerable assumption is the incentive of legal compliance robots to help their users violate the law. The idea is that the robot's product will sell better if it takes more aggressive positions. But really the incentive of a legal compliance robot is more general. It is profit maximization.

With sufficient underenforcement, a legal compliance robot might expect to make a profit when it helps users violate the law. But the greater the robot's liability for error, the less profitable the business of helping users violate the law. The costs of insuring against government audit may begin to stack up against the increased revenue collected from users who prefer aggressive reporting positions. Of course, better enforcement is the main benefit of the government-to-robot proposal. But it could go too far.

Consider the possibility that a legal compliance robot might find that it can sell its software for the same price even if it takes more cautious positions. This might happen if the legal compliance robot is in a monopoly position. It might happen if users find it difficult or expensive to independently research the law.

143. A compliance robot could also charge different amounts for insurance based on different legal positions. For instance, an "audit insurance cost" bar, like the "refund due" bar might show a taxpayer when decrease in tax liability produced an increase in audit insurance cost.

Or users might prefer compliance, perhaps because they wish to avoid the hassle of a controversy with the government.

The term “reverse capture” can describe this risk.¹⁴⁴ In other words, industry—the firm that makes the legal compliance robot—might benefit if its legal compliance robots offered legal decisions that favored the government rather than its users.¹⁴⁵ Reverse capture might produce pro-government law creep.

There is some evidence that reverse capture has happened in the tax area, even without a formal government-to-robot framework. Tax software companies such as TurboTax make decisions about the meaning of substantive tax law for the tens of millions of federal income tax returns they file, and they often make decisions that carry a low risk of IRS audit.¹⁴⁶ There is a close relationship between the writing of tax law and the writing of tax software programs’ code. TurboTax directly copies government forms and instructions into its software—and these forms and instructions often offer safe advice, not the most aggressive positions allowed under the law.¹⁴⁷ Those in charge of writing tax laws in Congress readily admit that the audience for their work features the IRS employees who draft forms and instructions and the tax software developers who translate forms and instructions into computer code.¹⁴⁸ Meanwhile, both Intuit and H&R Block, who together dominate the individual tax preparation software market, treat the possibility of getting the law wrong as a material adverse risk in their securities law disclosures.¹⁴⁹ All of this suggests that tax compliance software makers benefit from reverse capture—that is, they benefit from embracing safe or conservative interpretations of law.

144. Susan C. Morse, *Government-to-Robot Enforcement*, OXFORD LAW (Apr. 30, 2018), <https://www.law.ox.ac.uk/business-law-blog/blog/2018/04/government-robot-enforcement>. The term “reverse capture” plays on the public choice idea that private interests such as industry “capture” government officials and cause government decisions that favor industry. See, e.g., John Shephard Wiley Jr., *A Capture Theory of Antitrust Federalism*, 99 HARV. L. REV. 713, 724–26 (1986) (giving a short intellectual history of capture).

145. Cf. Jody Freeman, *The Private Role in Public Governance*, 75 N.Y.U. L. REV. 543, 671–72 (2000) (noting that “interdependence among private and public actors” could increase government power or influence).

146. See Susan C. Morse, *When Will a Tax Compliance Robot Follow the Law?*, 1 OHIO ST. TECH. J. (forthcoming 2019) (draft at 6–9) (explaining how tax software programs apparently aim to reduce audit risk with their substantive tax law decisions).

147. See Joshua D. Blank & Leigh Osofsky, *Simplexity: Plain Language and the Tax Law*, 66 EMORY L.J. 189, 229–31 (2017) (giving examples of TurboTax copying legal explanations from tax forms).

148. See Shu-Yi Oei & Leigh Osofsky, *Constituencies and Control in Statutory Drafting: Interviews with Government Tax Counsel*, 104 IOWA L. REV. 1291, 1317–18 (2019) (reporting based on interviews with government counsel that statutory drafters aim to write a statute that the IRS can reduce to guidance and that TurboTax can reduce to software code).

149. See H&R Block, Inc., Annual Report (Form 10-K) 12 (Apr. 30, 2018) (“[O]ur clients expect high levels of accuracy . . .”); Intuit Inc., Annual Report (Form 10-K) 17 (July 31, 2018) (explaining that errors could adversely affect “our reputation, the willingness of customers to use our products, and our financial results”).

B. Decline of Individual Claims

If government-to-robot enforcement took hold, it would cause individual claims to decline. For instance, assume that the government challenges User A's compliance under a government-to-robot enforcement framework. Also assume that User B has taken the same position as User A.

User A's compliance robot would control the dispute through subrogation. If the government won, a damages multiplier would apply, so that User A's legal compliance robot would pay damages that represented both User A's undercompliance and all similar instances of noncompliance presented by the same robot, including the noncompliance of User B. The resolution of User A's claim would preclude the separate litigation of similar claims covered by the damages multiplier, including the claims of User B.

These features reduce both User A's rights to pursue User A's individual claim and User B's rights to pursue User B's individual claim. In some cases, this reduction in rights could prove costly. On the other hand, the central organizing mechanism of legal compliance robots and government-to-robot enforcement could help collectives of similar taxpayers engage directly with the government.

As an example of this, consider the interaction between the Constitution and the filing of tax returns for same-sex married couples.¹⁵⁰ In the 1990s, the government did not allow a same-sex couple married under state law to file a married joint tax return or claim other benefits (or accept related detriments) predicated on marriage.¹⁵¹ Tax software programs followed DOMA, the federal law that excluded same-sex couple from the federal law definition of marriage.¹⁵² DOMA turned out to be unconstitutional. The first Supreme Court case to so hold was a tax case, brought by Edith Windsor to claim the surviving spouse estate tax exemption upon the death of her wife, Thea Spyer.¹⁵³

Would a tax software firm have litigated vigorously a case like *Windsor* on behalf of its users? Probably not. Same-sex couples even had trouble persuading TurboTax to "let" them file as married. On the other hand, it is possible that same-sex couples could have used government-to-robot enforcement as an organizing tool. That is, they could have organized or patronized a firm that purposely took and defended tax return positions grounded in the DOMA's unconstitutional status.

150. Numerous tax issues arose under DOMA, making it a ripe area for potential litigation. *See generally* Patricia Cain, *DOMA and the Internal Revenue Code*, 84 CHI.-KENT L. REV. 481, 484–85 (2009) (noting tax determinations that turn on marriage).

151. *Id.* at 482.

152. *See* Patricia A. Cain, *Heterosexual Privilege and the Internal Revenue Code*, 34 U.S.F. L. REV. 465, 493–94 (2000) (noting lack of clarity on tax issues involving same-sex couples and explaining solutions such as "attaching riders to [the] return," which were not supported by tax software programs).

153. *See* *United States v. Windsor*, 570 U.S. 744, 751–52 (2013) (holding that Windsor could claim the surviving spouse estate tax exemption under federal law upon the death of her wife and ordering the IRS to issue a tax refund).

A related issue is that government-to-robot enforcement may anchor early precedents too firmly. The first case to decide an issue does not always get things right. Yet the preclusion feature of government-to-robot enforcement, plus the likelihood that legal compliance robots will change their systems to comply with the first decision, would help entrench that first decision under government-to-robot enforcement. The law could become less responsive and flexible as a result.¹⁵⁴

C. *Winners and Losers*

Government-to-robot enforcement also presents a troubling boundary problem. It would not improve enforcement for everyone. Instead, there would be winners and losers. The categories of winners and losers would have fairness implications.

Government-to-robot enforcement would not improve enforcement against regulated parties wealthy enough to stay away from compliance robots, like high-income taxpayers who use independent preparers rather than centralized tax compliance robots. It would also not improve enforcement for regulated parties determined not to comply, like an employer who pays workers in cash, under the table. Unless all regulated parties placed all of their activities under the monitoring of legal compliance robots subject to government-to-robot enforcement, this boundary issue would arise.¹⁵⁵

The result of more leniency for the wealthy and for determined lawbreakers is backwards from a fairness perspective. Yet recognizing this result also reveals that some measures could be taken to counterbalance its uneven enforcement results. Adjustments to enforcement resources or penalties might address the issue of winners and losers caused by government-to-robot enforcement. For instance, government could direct extra enforcement resources at regulated parties that do not use compliance robots. The overall fairness of government-to-robot enforcement would depend in part on these kinds of collateral measures.

154. That is, government-to-robot enforcement would further develop the close relationship between test cases and regulatory policy. See Abram Chayes, *The Role of the Judge in Public Law Litigation*, 89 HARV. L. REV. 1281, 1282–83 (1976) (contrasting public law litigation with the traditional features of private law litigation, including the interests of only two parties, who control the private litigation process; and the “retrospective” and “self-contained” nature of a private lawsuit).

155. In contrast, desirable distributive results could arise among compliance robot users. For instance, for tax compliance software users, government-to-robot enforcement would produce losers among risk-seeking taxpayers, since the newly conservative software might prevent risk-seekers from claiming aggressive tax positions. In contrast, winners might include risk-averse taxpayers, who would not claim aggressive positions regardless of the software’s features. Removing risk-seeking taxpayer’s ability to avoid taxes may be desirable from the perspective of distributive justice, if risk-seeking individuals are usually richer, and risk-averse individuals are usually poorer. Cf. John Rawls, *Some Reasons for the Maximin Criterion*, 64 AM. ECON. REV. 141, 144 (1974) (arguing that “considerable normal risk-aversion” supports the maximin principle).

VI. CONCLUSION

Disputes about legal compliance have historically been resolved on a case-by-case basis. But legal compliance robots, like tax filing or wage reporting software, make automated, centralized legal decisions in many areas of compliance. These systems provide an opportunity for the centralized government-to-robot enforcement idea explored in this Article. Government-to-robot enforcement would change the locus of disputes about the law so that they are between government, on one hand, and legal compliance robots, on the other hand.

Government-to-robot enforcement could overcome currently insoluble problems of underenforcement. It could require that regulated parties who break the law must pay for the negative externalities of noncompliance. It could facilitate market differentiation among products so that users pay for legal compliance risk.

But government-to-robot enforcement also has disadvantages. These include the decline of individual disputes and the possibility of reverse capture, meaning that the law might drift in favor of the government. In addition, government-to-robot enforcement may present fairness concerns, if those who choose not to use centralized compliance robots are disproportionately wealthy or disproportionately determined to break the law.

