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## Professionally Responsible Artificial Intelligence

Michael Hatfield

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# Professionally Responsible Artificial Intelligence

*Michael Hatfield\**

## ABSTRACT

*As artificial intelligence (AI) developers produce more applications for professional use, how will we determine when the use is professionally responsible? One way to answer the question is to determine whether the AI augments the professional's intelligence or whether it is used as a substitute for it. To augment the professional's intelligence would be to make it greater, that is, to increase and improve the professional's expertise. But a professional who substitutes artificial intelligence for his or her own puts both the professional role and the client at risk. The problem is developing guidance that encourages professionals to use AI when it can reliably improve expertise but discourages substitution that undermines expertise.*

*This Article proposes a solution, using tax professionals as a case study. There are several reasons tax professionals provide a good case study, including that tax practice has a long history of computerization and that AI is already being developed for tax professionals. Tax professionals, including not only lawyers but certified public accountants, are directly regulated by the Internal Revenue Service (IRS), in addition to their regulation by professional bodies.*

*This Article proposes a public-private cooperation in regulating the use of AI by professionals in ex ante tax planning. On the private side would be panels of experts testing new AI applications for reliability by running experiments. The panels would certify AI products determined to be substantively sound and designed to educate and engage the professional. On the public side, the IRS would provide a presumptive defense to professional responsibility-related penalties against professionals who used the certified AI. This should motivate tax planners to prefer purchasing certified tax*

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*planning AI applications, and thereby motivate tax AI application developers to seek certification.*

*Though this Article's proposal is specific for the use of AI by tax professionals, it illuminates a way forward for regulating AI use by other professions. The way would be for third parties such as government agencies, professional associations, or malpractice insurers to stimulate demand for certified AI products to be used by professionals. In general, these certifications should be provided to AI that augments the professional's intelligence, increasing his or her professional competence. By keeping professionals involved in the certification process, space is opened to shape the transformation AI is bringing to the professions, and by stimulating product demand for certified products, the odds of successfully shaping that transformation are improved.*

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*Our goal is augmenting intelligence. It is man and machine. This is all about extending your expertise. A teacher. A doctor. A lawyer. It doesn't matter what you do. We will extend it.*

IBM President and Chief Executive Officer Ginni Rometty  
speaking about IBM's Watson<sup>1</sup>

## I. INTRODUCTION

A young mother visited her obstetrician, hoping for help losing weight. Her doctor turned to a computer program to determine what should be prescribed. The prescription killed the mother. Is this a case of professional irresponsibility? Or is it a case of product liability? Who is at fault: the doctor or the program developers? The New Jersey courts are deciding.<sup>2</sup>

Life-and-death situations magnify the risks of computer use so that we easily take interest. But the rewards of doctors using computers should be magnified as well so that we can see the bigger picture. Artificial intelligence (AI) helps doctors diagnose and treat diseases; indeed, AI is so good at detecting facts not noted by human professionals that it can successfully predict the occurrence of disease in patients—remarkably, including diseases that human professionals cannot predict and do not understand how AI predicts.<sup>3</sup> The quality of AI judgments in these situations exceeds that of the professionals.

Judgment is the heart of professionalism. The professional has great expertise, uncommon experience, and high duties of care to use that intelligence in balancing risks and rewards when counseling patients or clients. The professional knows more and is obligated to help the patient or

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1. *IBM Think Ahead: Soon Watson AI Will Be Behind Every Decision*, CYBER SECURITY INTELLIGENCE (Nov. 7, 2016), <https://www.cybersecurityintelligence.com/blog/ibm-think-ahead-soon-watson-ai-will-be-behind-every-decision-1830.html> [<https://perma.cc/4ZHN-NJ52>].

2. *Skounakis v. Sotillo*, No. A-2403-15T2, 2018 WL 1370216, at \*2 (N.J. Super. Ct. App. Div. Mar. 19, 2018). See Charles A. Weiss, *Malpractice by a Computerized Decision-Support Tool?*, HOLLAND & KNIGHT HEALTHCARE BLOG (April 2, 2018), <https://www.hklaw.com/healthblog/malpractice-by-a-computerized-decision-support-tool-04-02-2018/> [<https://perma.cc/4EFH-KJ6A>].

3. For example, a program called “Deep Patient” uses a massive amount of data to discern patterns in order to predict when patients were likely to suffer from a variety of conditions. Will Knight, *The Dark Secret at the Heart of AI*, MIT TECH. REV. (Apr. 11, 2017), <https://www.technologyreview.com/s/604087/the-dark-secret-at-the-heart-of-ai/> [<https://perma.cc/E94Q-8SDB>]. Neural networks are being used to interpret X-rays. Curtis E.A. Karnow, *The Opinion of Machines*, 19 COLUM. SCI. & TECH. L. REV. 136, 147 (2017). Deep learning has also proven better at detecting diabetic retinopathy better than their human ophthalmologist counterparts. Sara Chodosh, *Google Is Using Its Deep Learning Tech To Diagnose Disease*, POPULAR SCI. (Nov. 29, 2016), <https://www.popsci.com/google-applied-technology-they-use-to-sort-photos-to-diagnose-diabetic-eye-problems> [<https://perma.cc/8SA7-LJAN>].

client learn more about the problem and the variety of (usually imperfect) solutions.

The ethical issue for a professional relying on a powerful computer application is whether it is being used to augment the professional's intelligence, as IBM President and Chief Executive Officer Ginni Rometty said about her corporation's AI programs, or it is being used as a substitute for the professional's intelligence. To augment the professional's intelligence would be to make it greater, that is, to increase and improve the professional's expertise. But a professional who over-relies on AI, who always defers and does not second-guess, substitutes artificial intelligence for his or her own.

The problem is how to develop guidance that encourages professionals to use AI when it can reliably improve their expertise but discourages over-reliance that risks their role as a professional and puts others at even more serious risks. This Article proposes a solution.

The case study of this Article is tax law. There are several reasons the practice of tax law makes a good case study. First, it involves a clear public good: the funding of government. Tax professionals' duties run both to the client and to the public.<sup>4</sup>

Second, tax practice has a long history of computerization, and considerable parts of the practice are already wholly computerized.<sup>5</sup> Researchers continue to pursue greater applications, and with the amount of money at stake in taxation, it is reasonable to predict the resources and incentives will help deliver advanced AI to tax professionals sooner rather than later.<sup>6</sup>

Third, the practice of federal tax law is interdisciplinary. No single profession monopolizes it.<sup>7</sup> Several professions share the expertise and privileges of practice at all levels.<sup>8</sup> Each profession has its own greater

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4. This is usually described as a duty to "the system" and to the client. *See, e.g.*, BERNARD WOLFMAN, JAMES P. HOLDEN & KENNETH L. HARRIS, STANDARDS OF TAX PRACTICE § 101.2 at 3 (5th ed. 1999); LINDA GALLER & MICHAEL B. LANG, REGULATION OF TAX PRACTICE 1 (2nd ed. 2016). Professor Deborah Schenk claims the self-reporting nature of the tax system means that the tax system cannot permit the "absolute adversarial" relationship that lawyers might have in other situations. Deborah H. Schenk, *Tax Ethics*, 95 Harv. L. Rev. 1995, 2005 (1982) (reviewing BERNARD WOLFMAN & JAMES P. HOLDEN, ETHICAL PROBLEMS IN FEDERAL TAX PRACTICE (1981)).

5. *See infra* text accompanying notes 55–81.

6. *See infra* text accompanying notes 88–93.

7. Attorneys, certified public accountants (CPAs), enrolled agents, enrolled actuaries, and enrolled retirement plan agents may all represent clients in some capacity in front of the Internal Revenue Service (IRS). 31 C.F.R. § 10.3 (2019). As discussed below, this includes providing written tax advice but, surprisingly to some, does not include preparing tax returns. *See infra* text accompanying notes 94–100.

8. Non-attorneys (such as CPAs) who pass an examination will be admitted to practice before the Tax Court. TAX CT R. 200(a)(3) (2012).

specialization, but they share the practice and routinely work together and rely on one another.<sup>9</sup> Often the investigation of AI ethics in the practice of law devolves into fruitless argument as to where the practice of law ends and the unauthorized practice of law begins.<sup>10</sup> But, as the practice of federal tax law is not limited to lawyers, defining the practice of law is not a distraction.

Fourth, there is a single and overarching regulator of tax professionals: the federal government.<sup>11</sup> It has the power to impose financial and criminal penalties, and the power to disqualify someone from practice.<sup>12</sup> It has unique force in professional regulation.<sup>13</sup>

Fifth, the body of rules and standards for regulating tax professionals is detailed and technical. This allows discussing the professional use of AI in a precise and practical way.<sup>14</sup> It prevents substituting a discussion of the essence of human intelligence or the coming age of our robot overlords for a discussion of professional ethics.<sup>15</sup>

The greatest potential for AI development is customized business tax planning. This is the *ex ante* work of tax professionals. It is advising clients on creating events so as to achieve the client's non-tax goals in tax efficient ways. In contrast is the work of reporting completed events to the government

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9. The National Conference of Lawyers and Certified Public Accountants has recognized both professions as qualified but have articulated principles that roughly divide the work. NAT'L CONFERENCE OF LAWYERS AND CPAs, LAWYERS AND CERTIFIED PUBLIC ACCOUNTANTS: A STUDY OF INTERPROFESSIONAL RELATIONS 5–10 (1981). The Conference recognizes that both lawyers and CPAs are qualified to determine the probable tax effects of a transactions, but CPAs are encouraged to consult lawyers as to the interpretation or application of laws, and lawyers are encouraged to consults with CPAs as to describing the transaction in money terms or interpreting financial results. *Id.* at 15. Preparing legal documents is the special expertise of lawyers while preparing financial statements and similar reports is the special expertise of CPAs. *Id.* While both lawyers and CPAs are entitled to represent clients in Tax Court, the Conference advises CPAs to consult with lawyers when doing so. *Id.* at 16.

10. The practice of law is surprisingly difficult to define. Not surprisingly, the current approach to unauthorized practice of law (UPL) rules is not very useful in policing the use of computerized applications in this area. Dana Remus & Frank Levy, *Can Robots Be Lawyers? Computers, Lawyers, and the Practice of Law*, 30 GEO. J. LEGAL ETHICS 501, 542 (2017).

11. See *infra* text accompanying notes 181–91.

12. See *infra* text accompanying notes 181–91.

13. See *infra* text accompanying notes 181–91.

14. See *infra* text accompanying notes 229–43.

15. My colleague Ryan Calo wrote, “Some set of readers may feel I have left out a key question: does artificial intelligence present an existential threat to humanity? If so, perhaps all other discussions constitute the policy equivalent of rearranging deck chairs on the Titanic. Why fix the human world if AI is going to end it?” Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C. DAVIS L. REV. 399, 431 (2017). As Calo has pointed out, focusing on the more remote risks distracts us from the more immediate ones. I do accept there is some chance that AI will end the human world. But I know there is a much greater chance that doctors will kill patients through the irresponsible use of AI long before it poses a risk to the entire world.

and the work resolving controversies with the government. The *ex post* reporting (i.e., completing and filing forms) has long been computerized (e.g., TurboTax), as the tax controversy resolution work has long been practically dependent on computerized assistance (e.g., Westlaw and LexisNexis). Highly customized tax planning as such, however, is the field with the highest harvest potential for computerization.

In tax planning, the events have yet to occur, and the professional's advice is both creative and predictive. It creates the blueprint for events. It is predictive as to the client's prevailing if a controversy arises after the events are completed and reported to the government. The potential is AI gathering detailed facts on the client's operations and goals, and perhaps even to continuously gather operating facts in real time, and then detecting patterns that are legally relevant and patterns that provide planning opportunities, even though those patterns may not have been spotted by the professional. This would mimic the human advisor's role in tax planning: detecting the relevant facts and laws, making appropriate assumptions and estimations, applying the law, inferring opportunities, and assessing the risks. The product in aim would be a well-tailored, legally sustainable tax plan with risks and rewards well explained. What this Article considers is the professional responsibility of tax professionals using what is, in some sense, their technological substitute and that, in some cases, might perform not only as well as but better.

This Article divides its discussion of the professional ethics of AI use by tax professionals as follows. The first Part introduces the public importance of tax and brings the reader up to date on AI in the practice of law generally and the history of computer use in tax law specifically. The second Part explains who tax professionals are and what they do and then describes the potential use of AI for *ex ante* business tax planning. Part three explores the professional responsibility concerns for professionals using tax planning AI and then relates how specific professional responsibility standards illuminate the way forward for encouraging professionally appropriate AI use. The fourth Part proposes a public-private cooperation to encourage tax professionals to use AI that can reliably improve their understanding but discourage substituting AI for their own. This involves the Internal Revenue Service (IRS) providing defenses to penalties and professional sanctions for professionals that use certified AI (but make mistakes), thereby creating product demand for the certification. It is proposed that the IRS would authorize panels of private experts to certify tax planning AI, including certifying that the AI functions so as to improve the professional's understanding. The Article concludes with a reflection on how this specific solution can illuminate the way for other professions to encourage the



development and use of AI that improves professional intelligence rather than undermining the profession with substitutions for intelligence.

## II. ARTIFICIAL INTELLIGENCE, PROFESSIONAL RESPONSIBILITY, AND TAX

### A. *AI and the Legal Profession*

Defining AI is difficult.<sup>16</sup> And, unlike Justice Potter Stewart's view of illegal obscenity, we probably do not know it when we see it.<sup>17</sup> We so quickly adapt to technological innovations that we quickly forget how marvelous an innovation first seemed and keep looking for something more marvelous to come. Our twentieth-century ancestors would marvel at machines that

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16. Merriam-Webster defines AI as “the capability of a machine to imitate intelligent human behavior.” *Artificial Intelligence*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/artificial%20intelligence> [<https://perma.cc/UE7A-UJZB>] (last visited Oct. 20, 2019). Dictionary.com defines it as “the capacity of a computer to perform operations analogous to learning and decision making in humans.” *Artificial Intelligence*, DICTIONARY.COM, <https://www.dictionary.com/browse/artificial-intelligence?s=t> [<https://perma.cc/REQ4-SESS>] (last visited Oct. 20, 2019). Similarly, the Oxford Dictionary defines AI as “[t]he theory and development of computer systems able to perform tasks normally requiring human intelligence.” *Artificial Intelligence*, OXFORD DICTIONARY, [https://en.oxforddictionaries.com/definition/artificial\\_intelligence](https://en.oxforddictionaries.com/definition/artificial_intelligence) [<https://perma.cc/33T2-G52T>] (last visited Oct. 20, 2019). Amazon, Inc. has propounded their own definition of AI as “the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, problem solving, and pattern recognition.” *What is Artificial Intelligence?*, AMAZON WEB SERVICES, <https://aws.amazon.com/machine-learning/what-is-ai/> [<https://perma.cc/3326-92WC>] (last visited Oct. 20, 2019). According to one scholar: “AI is best understood as a set of techniques aimed at approximating some aspect of human or animal cognition using machines.” Calo, *supra* note 15, at 403. According to another scholar: AI “refers to machines that are capable of performing tasks that, if performed by a human, would be said to require intelligence.” Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, And Strategies*, 29 HARV. J.L. & TECH. 353, 362 (2016).

17. See *Jacobellis v. Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J., concurring) (“I have reached the conclusion, which I think is confirmed at least by negative implication in the Court's decisions since Roth and Alberts, that, under the First and Fourteenth Amendments criminal laws in this area are constitutionally limited to hard-core pornography. I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description; and perhaps I could never succeed in intelligibly doing so. But I know it when I see it, and the motion picture involved in this case is not that.”).

recognize faces<sup>18</sup> and voices,<sup>19</sup> speak and translate multiple languages,<sup>20</sup> diagnose diseases,<sup>21</sup> invest fortunes,<sup>22</sup> suggest to us books<sup>23</sup> and friends,<sup>24</sup> play and beat us at games,<sup>25</sup> tell us where we are and how to get to where we should

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18. Facebook has been sued for its use of facial recognition technology. *Patel v. Facebook Inc.*, 290 F. Supp. 3d 948 (N.D. Cal. 2018). *See also* Karnow, *supra* note 3, at 146–47 (AI trained itself to recognize cats by examining thousands of images and finding the commonalities). There have however been some serious issues in facial recognition technology. For example, photos of African Americans have identified as photos of gorillas rather than people. Jessica Guynn, *Google Photos Labelled Black People “Gorillas,”* USA TODAY (July 1, 2015, 1:15 PM), <https://www.usatoday.com/story/tech/2015/07/01/google-apologizes-after-photos-identify-black-people-as-gorillas/29567465/> [<https://perma.cc/93U7-3X85>]. For a discussion of this and related problems, see Calo, *supra* note 15, at 411.

19. Digital assistants, such as Alexa, are helping drive voice recognition technology and represent possible avenues for increasing office efficiency in the future. Gordon K. Eng, *The Potential of New Digital Assistants for Office Use*, 40 L.A. LAW. 34, 34 (2017).

20. Google Translate uses a deep neural network to discern “patterns of patterns” to make probabilistic translations rather than its old method of phrase-based translation. Alexandra Johnson, *Don’t Get Lost in Translation: How Google Translate and Other AI Tools Are Transforming Trademark Law*, ACC DOCKET, September 2017, at 74, 76 (quoting Gideon Lewis-Kraus, *The Great A.I. Awakening*, N.Y. TIMES MAG. (Dec. 14, 2016), <https://www.nytimes.com/2016/12/14/magazine/the-great-ai-awakening.html> [<https://perma.cc/E3SE-EFXV>]).

21. Deep Patient uses a massive amount of data to discern patterns in order to predict when patients were likely to be suffer from a variety of conditions. Knight, *supra* note 3, at 148.

22. The “robo-advice” market has expanded rapidly and can lower the cost of such services dramatically. Megan Ji, *Are Robots Good Fiduciaries? Regulating Robo-Advisors Under the Investment Advisers Act of 1940*, 117 COLUM. L. REV. 1543, 1544 (2017).

23. Amazon has a relatively simple system that recommends books based on your past purchases. Daniel M. Katz, *Quantitative Legal Prediction—Or—How I Learned To Stop Worrying and Start Preparing for the Data-Driven Future of the Legal Services Industry*, 62 EMORY L.J. 909, 954 (2013). The same sort of inductive reasoning is used for recommending music through Pandora or shows/films through Netflix. *Id.* Meanwhile, LIBRA recommends books by content based on information gleaned from the web used to create a user profile. F.O. Isinkayea, Y.O. Folajimib, & B.A. Ojokohc, *Recommendation Systems: Principles, Methods and Evaluation*, 16 EGYPTIAN INFORMATICS J. 261, 265 (2015).

24. Gizmodo has created a tool which elucidates the cryptic “People You May Know” feature of Facebook. Kashmir Hill & Surya Mattu, *Keep Track of Who Facebook Thinks You Know with This Nifty Tool*, GIZMODO (Jan. 10, 2018, 11:50 AM), <https://gizmodo.com/keep-track-of-who-facebook-thinks-you-know-with-this-ni-1819422352> [<https://perma.cc/XSH3-XMD2>].

25. By 1997, Deep Blue had beaten the world’s top human chess player. Peter Tillers, *Introduction: A Personal Perspective on “Artificial Intelligence and Judicial Proof,”* 22 CARDOZO L. REV. 1365, 1368 (2001). By 2016, AI had achieved what was once thought impossible. AlphaGo defeated the world’s top human Go player. Karnow, *supra* note 3, at 137. Watson has wiped the floor with many a contestant on Jeopardy! even without access to the internet. Katz, *supra* note 23, at 926–27.

be,<sup>26</sup> and not only answer most of our daily questions but tell us which question we are asking and correct our spelling when it does so.<sup>27</sup> But this all strikes us now as routine and unremarkable.

As with AI outside of professional lives, professionals become so quickly accustomed to relying on technological innovations, we cease noticing. Consider how habituated lawyers are to computer applications sorting through thousands of case decisions and identifying the ones most relevant. Imagine how impressed Justice Potter Stewart would be with today's Westlaw or LexisNexis.<sup>28</sup> Consider how law firm associates from two decades ago would react to the extent to which law firms today can use AI rather than associates to review documents.<sup>29</sup> Lawyers today can use AI for

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26. GPS technology has the power to guide us where we want to go but also creates issues for those who would rather remain undetected. See Tim Kolesk, *At the Intersection of Fourth and Sixth: GPS Evidence and the Constitutional Rights of Criminal Defendants*, 90 S. Cal. L. Rev. 1299, 1324–26 (2017).

27. Apple's integration of autocorrect and suggestive words into its iPhones uses trained pattern recognitions to correct our mistakes or save valuable moments in typing. Calo, *supra* note 15, at 407. The Google search bar has mastered the art of spell check and exemplifies the benefit of machine intelligence: by cataloguing each instance that users search for phrases and words, the system can now single out and predict commonly misspelled words. Katz, *supra* note 23, at 923–24.

28. Lexis was designed to fulfill the Ohio Bar Association's desire to create an electronic database for searching through opinions. See John O. McGinnis & Russell G. Pearce, *The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services*, 82 FORDHAM L. REV. 3041, 3048 (2014). Westlaw followed soon after. *Id.* Though both of these platforms were initially hamstrung by a lack of available opinions and a lack of the ability to search the full text of opinions, these issues were addressed over time and both are now virtually indispensable to modern legal research. *Id.*

29. With the rapid expansion of electronically stored information in the 1990s, a need for computerized search led to early attempts at navigating the huge volume of information. Remus & Levy, *supra* note 10, at 515. Initially the keyword focused search methods were far too over or under inclusive to solve the issue because often content and specific meanings did not correlate with the search terms. *Id.* It was not until predictive coding methods were used that the practice gained widespread acceptance. *Id.* at 515–16. "Predictive coding" initially entailed a supervising lawyer reviewing a sample set of documents and then classifying them as responsive or not. *Id.* They would then have the software review the training sample in order to estimate a learning model. It would then apply this model to the rest of the documents for relevancy. *Id.* After a federal court approved of predictive coding as a method of dealing with discovery, the practice expanded and more variations came into use. *Id.* at 516. Currently the most effective protocol sees a supervising attorney starting with a keyword search to identify possibly relevant documents. *Id.* They then rank these documents in order of relevancy. *Id.* This subset is then used to create a statistical model to predict responsiveness. *Id.* This sophisticated method has been shown to often be more accurate and timely than human lawyers. *Id.* The end result is that the demand for human lawyers in document review is on the decline. *Id.* See also Harry Surden, *Machine Learning and Law*, 89 WASH. L. REV. 87, 88–91 (2014).

contract review,<sup>30</sup> predicting what judges or opposing counsel will do,<sup>31</sup> and even identifying which lateral applicants should be hired.<sup>32</sup> A few decades from now, there may be few lawyers who remember what it was like to review contracts, ponder opposing counsel's next move, or even review resumes, much like today there are few lawyers who know how to research the law using books. Still, no doubt, those lawyers of the future will be anticipating the technological innovations that will lighten their professional load.

There is significant literature about AI and the law written by scholars, lawyers, and journalists. One strand of this literature is focused on predicting the impact of AI on the legal profession itself. How will it affect employment

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30. "Machine learning" has been integral to the uptick in performance in AI. "Machine learning refers to a subfield of computer science concerned with computer programs that are able to learn from experience and thus improve their performance over time." Surden, *supra* note 29, at 89. This improvement in performance and recognition may be colloquially referred to as "learning." *Id.* at 95. Diligen uses machine learning and automated intelligence to sort and summarize contracts while flagging important provisions. *Diligen*, NAT'L L.J., Feb. 2018, at 47 (special supplement). Aptus uses machine learning to build pattern recognition on the fly, which enables real-time decision-making when reviewing contracts. *Aptus*, NAT'L L.J., Feb. 2018, at 35 (special supplement). The AI builds its library to provide alternative provisions that are the most likely to be used. *Id.* LawGeex provides a contract review framework where the program uses a "playbook" set up as a firm would give an attorney. *Lawgeex*, NAT'L L.J., Feb. 2018, at 53 (special supplement). The playbook is set up so that the program knows items they always want to see, some they will not accept, and others which are largely irrelevant to their concerns. *Id.* The AI then uses this playbook to test contracts and if it should be approved based on the criteria they set forth; an email will be generated which tells them they can approve the contract. *Id.*

31. Docket Alarm "create[s] a statistical model of the ways that judges and courts decide cases" by discerning patterns and developing predictive analytics from millions of court and agency documents. *Docket Alarm*, NAT'L L.J., Feb. 2018, at 47 (special supplement). Gavelytics uses natural language and guided machine learning to evaluate state court documents and provide metrics about trial court judge behavior, including judicial speed, by providing a "gavel score." *Gavelytics*, NAT'L L.J., Feb. 2018, at 49 (special supplement).

32. Alphaserve gives law firms a brief introductory workshop to demonstrate the potential of AI in a variety of in-house uses. *Alphaserve*, NAT'L L.J., Feb. 2018, at 36 (special supplement). For example, Alphaserve can provide systematic resume review to help firms decide which lateral associates they should hire in the place of summer and first-year associates. *Id.*

of lawyers?<sup>33</sup> How will the practice of law change?<sup>34</sup> Is there some category of lawyer tasks that can never be computerized?<sup>35</sup> Closely related is the literature addressing how AI may affect the delivery of legal services and

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33. Some scholars believe the logical end point is a “post-professional” society where lawyers are all but entirely displaced. *See generally* RICHARD SUSSKIND & DANIEL SUSSKIND, *THE FUTURE OF THE PROFESSIONS: HOW TECHNOLOGY WILL TRANSFORM THE WORK OF HUMAN EXPERTS* (2015); Jennifer Miller, *The Future of the Professions: How Technology Will Transform the Work of Human Experts by Richard Susskin and Daniel Susskin*, LSE REV. OF BOOKS (2016) (book review), <https://blogs.lse.ac.uk/lsereviewofbooks/2016/02/02/book-review-the-future-of-the-professions-how-technology-will-transform-the-work-of-human-experts-by-richard-and-daniel-susskind/> [<https://perma.cc/74Q3-4A69>]. Others have taken a more moderate and data-driven approach and argued that some areas of law, such as document review, will be seriously affected while other areas, such as legal writing, do not face such serious AI disruption in the near future. Remus & Levy, *supra* note 10, at 515, 519; Tanina Rostain, *Robots Versus Lawyers: A User-Centered Approach*, 30 GEO. J. LEGAL ETHICS 559, 563 (2017). It seems inevitable that software with predictive coding technology will strongly affect the future of discovery practice because it consistently achieves higher rates of recall and precision in document review than human lawyers. Remus & Levy, *supra* note 10, at 515–16. It is not entirely clear that the conventional wisdom that junior lawyers will see a larger impact than partners actually bears out when examining the data. *Id.* at 532.

34. There is some scholarship which suggests that the extensive use of AI in discovery will lead to parties focusing on developing unanticipated contingencies and using the time saved by using AI to devote to other activities. Remus & Levy, *supra* note 10, at 541. For years, lawyers have used software programs for document storage and shared document access. *Id.* at 513. Now, software aids lawyers with templating, billing, account management, and document review. *Id.* AI has the potential for practical use in the courtroom to determine the admissibility of computer-generated evidence. Karnow, *supra* note 3, at 163–65. A computer can be programmed to learn and assess in the same way that a judge assesses the facts, in light of variant circumstances (or degrees of truth), and then present a result with a level of certainty. *Id.* at 144–45. It has been predicted that in the near future nearly all first drafts of most transactional documents will be drafted by AI. McGinnis & Russell, *supra* note 28, at 3051. In the future, AI may create evidence which may be used in the court, for example, to identify a suspect using facial recognition technology in which no human could come to a definitive conclusion. Karnow, *supra* note 3, at 140.

35. “There are certain tasks that appear to require intelligence because when humans perform them, they implicate higher-order cognitive skills such as reasoning, comprehension, meta-cognition, or contextual perception of abstract concepts.” Surden, *supra* note 29, at 95. Some such tasks are likely safe from imminent computerization. It has been suggested that tasks requiring unstructured communication are still a long way off from being within the realm of AI competence. Remus & Levy, *supra* note 10, at 537–38. For example, reasoning, which involves common sense, is unavailable to AI until it has been programmed to do so because it involves assumptions which will not be gleaned by analyzing and comparing documents. *Id.* These assumptions need to be programmed into the AI before it would be able to understand the underlying assumptions. *Id.* Brief writing, for example, often contains this sort of unstructured communication. *Id.* Further, where there are contingencies present that are markedly different from the model estimated by the machine, the AI will have difficulty processing in the face of such difference. *Id.*

justice.<sup>36</sup> A third type of writings addresses how substantive areas of the law, such as evidence, need to be adapted to accommodate the use of AI.<sup>37</sup> A fourth collection of scholarship directly addresses legal ethics issues. The duty to be familiar with emerging technologies<sup>38</sup> and whether the developers of such

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36. AI has the potential to help clients with unmet legal needs. For example, LegalZoom, Rocket Lawyer, and other for-profit ventures are developing automated web-based processes in straightforward areas of the law to offer customized legal documents for less. Rostain, *supra* note 33, at 570. Other programs offer a range of legal help including a game that helps pro se litigants prepare for a court appearance and apps that deliver information on legal rights in different contexts. Remus & Levy, *supra* note 10, at 552 n. 206; John Biggs, *HelpSelf Uses Simple AI To Help Those in Legal Trouble*, TECHCRUNCH (Apr. 12, 2018, 7:10 AM) <https://techcrunch.com/2018/04/12/helpself-uses-simple-ai-to-help-those-in-legal-trouble/> [<https://perma.cc/UPJ6-5TCM>] (last visited Feb. 15, 2019).

37. For example, AI could assign different degrees of certainty and uncertainty to various inputs and then churn out a result with a corresponding level of certainty. Karnow, *supra* note 3, at 163–65. This process would also produce decision trees which would show the importance of factors on the various decisions made. *Id.* Experts would then provide to the judge, to determine admissibility, and the jury, to determine weight, a step-by-step analysis of how the program works, state the assumptions and underlying scientific theories, and explain the logic used to arrive at the results. *Id.* Karnow also recognizes that there must be a different standard for the use of AI in generating admissible evidence than there is for AI's use in society at large. *Id.* at 177. Karnow draws a red line in the use of unvalidated software which, while used all the time in the world, "has no place in court." *Id.*

38. In 2012, the American Bar Association (ABA) modified Comment 8 to Rule 1.1 to say that a lawyer should stay abreast of changes in relevant technology. MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 2012). The ABA has thus pointed out the importance of technology in the field. Though very vague in its direction, this was by design in order to ensure that the lawyer's skill changes with each new iteration of technology. Further, it is not possible to know what advances will come in the future that would challenge a more specific set of duties. See Andrew Perlman, *The Twenty-First Century Lawyer's Evolving Ethical Duty of Competence*, 22 PROF. LAW., 24, 25 (2014). Despite the vague instructions, the majority of state bars to date have adopted the commentary. Robert Ambrogi, *Tech Competence*, LAWSITES <https://www.lawsitesblog.com/tech-competence> [<https://perma.cc/6KWC-ZWKV>] (last visited Oct. 20, 2019). Thus far, the duty has mainly been applied to storage of electronic data, social media, discovery, and the cloud. Jamie J. Baker, *Beyond the Information Age: The Duty of Technology Competence in the Algorithmic Society*, 69 S.C. L. REV. 557, 557–58 (2018). Algorithms have been noticeably absent. *Id.*

may be engaged in the unauthorized practice of law (UPL)<sup>39</sup> are the two most commonly discussed issues.<sup>40</sup>

What has yet to be addressed is the extent to which it is (or will be) professionally appropriate for a lawyer to rely on AI. To return to the initial story above, in what circumstances would it have been appropriate for the obstetrician to rely on the computer program when prescribing medications?<sup>41</sup> Though it may not occur to us at first, we might also ask, in what circumstances would it have been appropriate to rely on Internet searches rather than personal knowledge or physically published drug manuals rather than personal knowledge to prescribe?

How deeply should technological innovations be scrutinized to determine their reliability for professional use? Lawyers have long relied on commercial publishers of statutes and cases with little anxiety that the texts might incorporate publishers' mistakes.<sup>42</sup> And despite the well-documented different search results yielded in different databases by the same research query, no one has alleged it is professionally inappropriate to rely on only

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39. It has been suggested that the current approach to UPL rules is not very useful in policing this area. Remus & Levy, *supra* note 10, at 542. For starters, judges have to make normative judgments about whether a given program is closer to a legal services provider or a scrivener because the rules are applied to people in the same way as they are programs which does not reflect the true state of affairs. *Id.* There are also tasks which AI may be better suited at in a particular context but which may not extend to every other context. *Id.* at 543. Therefore, treating them the same as a person may not be the most efficient approach in determining whether there was a UPL violation. *Id.* Nevertheless, regulation is necessary to avoid unintended consequences which would likely largely fall on the poorest users of such legal technologies. *Id.* at 544–45.

40. Of course, legal ethics scholars have considered other digital technology issues, such as the duty to provide cybersecurity for client information. See Eli Wald, *Legal Ethics' Next Frontier: Lawyers and Cybersecurity*, 19 CHAP. L. REV. 501 (2016); Natasha Babazadeh, *Legal Ethics and Cybersecurity: Managing Client Confidentiality in the Digital Age*, 7 J.L. & CYBER WARFARE 85 (2018). The issue of being paid in cryptocurrency is also a topic increasing in relevancy. See Lisa Miller, *Getting Paid in Bitcoin: Attorneys Accepting Cryptocurrency as Payment Should Be Sensitive to the Fact That the Regulatory Landscape Is Likely To Change in the Near Future*, L.A. LAW., Dec. 2018, at 19. The lack of regulatory specificity in its application to algorithms has been noted as a particular blindspot. Baker, *supra* note 38, at 558.

41. *Skounakis v. Sotillo*, No. A-2403-15T2, 2018 WL 1370216, at \*2 (N.J. Super. Ct. App. Div. Mar. 19, 2018).

42. Perhaps some anxiety is warranted. See, e.g., Robert Ambrogi, *Thomson Reuters Says Glitch Left Out Text From 600 Cases Since 2014*, LAW SITES (Apr. 16, 2016) <https://www.lawsitesblog.com/2016/04/thomson-reuters-says-left-text-600-cases-since-2014.html> [<https://perma.cc/3UC4-RN3T>] (discussing the fact that Thompson Reuters Westlaw had to send out an email to its clients informing them that over 600 cases had text missing due to a conversion error). See generally Paul Hellyer, *Evaluating Shepard's, KeyCite, and BCite for Case Validation Accuracy*, 110 L. LIBR. J. 449 (2018) (discussing issues with the citators used by Lexis, Westlaw, and Bloomberg Law in identifying when cases have received negative treatment).

one of those databases when researching the law.<sup>43</sup> But these tools help the lawyer develop her judgment on any given issue. Advanced AI, however, has the potential to render judgment itself on professional issues.

The art of good judgment is the heart of professionalism. The emerging risk is that a professional substitutes the judgment of AI for his or her own. What makes the professional responsibility questions about emerging AI particularly hard is that a judgment of AI may, in fact, be superior to that of the professional's. The belief that it is likely to be better is what would lure a professional into substitution. Of course, this temptation would arise only when the professional believed the computer knew better than he or she did, but we can anticipate that those situations will be increasingly common as AI develops. The concern then is that a lawyer may come to rely on the judgments of AI in situations in which the lawyer's own professional understanding is too limited to judge the quality of the AI. In the long run, this is a concern for the existence of the profession: if AI becomes sufficiently impressive, non-lawyers may adequately handle the work once reserved for lawyers and those who once were clients may run the AI programs themselves.<sup>44</sup> More practically, and more quickly, the concern will be determining the line between professional reliance on AI and unprofessional over-reliance on AI.

### B. Tax: Money, Government, and Computer Science

Tax law is a good case study for the professional responsibility issues related to AI. It is a professional area that seems quite likely to be leveraged by AI sooner rather than later due to its political and financial importance and due to its long history and current state of computerized assistance.

All governments need revenue to function, and in this is the unique importance of tax law. Tax law sets forth terms on which a government has the right to compel contributions for its purposes, and there is a long, at times

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43. In comparing six different legal databases using data from 2015, the exact same inquiry was used to compare each database. Susan Nevelow Mart, *Results May Vary*, 104 A.B.A. J. 48, 49 (2018). Only 7% of cases appeared in all of them, and over 40% of the overall cases were unique to a particular database. *Id.* The author also found that more established databases (e.g., Lexis Advance and Westlaw) found more cases that were relevant and unique compared to other databases even when limited to reported cases in one jurisdiction. Susan Nevelow Mart, *Every Algorithm Has a POV*, 22 AALL SPECTRUM 40, 42 (2017). In looking at the relevance of the top five search results in each database, only Lexis (64.4%) and Westlaw (77.6%) produced over 50% relevant cases in the identical inquiries. Susan Nevelow Mart, *The Algorithm as a Human Artifact: Implications for Legal [Re]Search*, 109 L. LIBR. J. 387, 414 (2017).

44. See *supra* text accompanying notes 28–34.



bloody, history of disputes over these terms.<sup>45</sup> The American War for Independence was rooted in the claim that that it was “the undoubted rights of Englishmen, that no taxes should be imposed on them” without their consent or representation.<sup>46</sup> This type of dispute between the taxing and the taxed is not an Anglo-American peculiarity, of course: across time and around the globe, citizens have violently demanded government respect limits on compelling contributions.<sup>47</sup> And in countless more commonplace and less dramatic incidents the would-be taxed and the taxing authorities conflict and resolve their conflicts on the amounts to be taken.<sup>48</sup> In tax law, the political relationship between government and citizen becomes most practical. On the one hand, as Oliver Wendell Holmes explained it, taxpayers should accept that taxes “are what we pay for civilized society.”<sup>49</sup> But, on the

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45. Arthur J. Cockfield & Jonah Mayles, *The Influence of Historical Tax Law Developments on Anglo-American Laws and Politics*, 5 COLUM. J. TAX. L. 41, 57 (2013).

46. The English Bill of Rights of 1689 recognized the authority of Parliament (exclusive of the Monarch) to levy taxes. Cockfield & Mayles, *supra* note 45, at 57. It was their claim of the right to no taxation without representation that led to the First Congress of the American Colonies, also known as the Stamp Act Congress, to make several resolutions. *Id.* at 58–59. The three key resolutions were the third: “That it is inseparably essential to the Freedom of a People, and the undoubted Right of Englishmen, that no Tax be imposed upon them, but with their own Consent, given personally, or by their Representatives.” Resolutions of the Stamp Act Congress, October 19, 1765, reprinted in DAVID F. BURG, *THE AMERICAN REVOLUTION* 373 (2d ed. 2007). The fourth: “That the People of these Colonies are not, and from their local Circumstances, cannot be represented in the House of Commons in Great-Britain.” *Id.* And finally, the fifth: “That the only Representatives of the People of these Colonies, are the Persons chosen therein by themselves; and that no Taxes ever have been, or can be, constitutionally imposed on them but by their respective Legislatures.” *Id.*

47. Several hundred tax rebellions from ancient times to the twenty-first century and in places across the globe hundreds of tax protests, uprisings, rebellions, and revolutions are well documented. See DAVID F. BURG, *A WORLD HISTORY OF TAX REBELLIONS: AN ENCYCLOPEDIA OF TAX REBELS, REVOLTS, AND RIOTS FROM ANTIQUITY TO THE PRESENT*, at vi (2004).

48. In fiscal year 2017, IRS Chief Counsel received 70,632 cases and closed 73,632 cases, including some received in prior years. INTERNAL REVENUE SERV., 2017 DATA BOOK 59 (2018), <https://www.irs.gov/statistics/soi-tax-stats-individual-income-tax-returns-publication-1304-complete-report> [<https://perma.cc/K6KH-84CL>]. There is a significant difference between what the IRS considers audits in its reports and what may be deemed “unreal” audits which take into account other forms of action that require taxpayers to give the IRS information, but which do not technically constitute audits under the IRS definition in 26 U.S.C. § 7602(a)(1) (West 2019). Compare *id.* at 21, with 26 U.S.C. § 7602(a)(1) (West 2019). Therefore, the National Taxpayer Advocate’s position is that there are 9.1 million audits when combining “real” and “unreal” audits. Ashlea Ebeling, *IRS Official Audit Rate Down but the “Real” Audit Rate Is the Problem*, FORBES (Mar. 29, 2018), <https://www.forbes.com/sites/ashleaebeling/2018/03/29/irs-official-audit-rate-down-but-the-real-audit-rate-is-the-problem/#7701047c1f92> [<https://perma.cc/KN3C-W6J4>].

49. *Compania General de Tabacos de Filipinas v. Collector of Internal Revenue*, 275 U.S. 87, 100 (1927) (Holmes, O., dissenting) (rejecting the Court’s holding that a state may not impose a tax on contracts, or the money used to secure them, which are made and performed outside of the state).

other hand, as Learned Hand explained, the government must accept that any taxpayer has the right to “so arrange his affairs that his taxes shall be as low as possible.”<sup>50</sup> The professional duties of the tax professional inhere in articulating both the government’s right to compel contribution and the taxpayer’s right to contribute no more than necessary.<sup>51</sup>

There is also good reason to anticipate that tax law will be a field in which substantial AI advances emerge sooner rather than later. Tax is, of course, the place the money is: with 3.4 trillion dollars passing from private hands to U.S. government coffers each year,<sup>52</sup> both the government and taxpayers have not only the financial interest but the financial resources to develop AI. The demand for AI advances also can be measured in the number of taxpayers and not just their dollars: more than two hundred million individuals file income tax returns each year, and nearly eleven million business entities.<sup>53</sup> Filing and processing these returns is one of the greatest undertakings of data management on the planet each year. Tax compliance and administration, and even *ex ante* tax planning, are, ultimately, tasks of collecting and analyzing data.<sup>54</sup> The tax field is tailored for help from AI advances, which is one reason to anticipate its development.

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50. *Bullen v. Wisconsin*, 240 U.S. 625, 630 (1916) (holding that in order to receive the benefit of the law, a taxpayer must still conform to the purpose of the tax law which means more than simply meeting statutory definitions contained within the law) (“We agree with the Board and the taxpayer that a transaction, otherwise within an exception of the tax law, does not lose its immunity, because it is actuated by a desire to avoid, or, if one choose, to evade, taxation. Any one may so arrange his affairs that his taxes shall be as low as possible; he is not bound to choose that pattern which will best pay the Treasury; there is not even a patriotic duty to increase one’s taxes.”); *Helvering v. Gregory*, 69 F.2d. 809, 810 (2nd Cir. 1934) (citing *U.S. v. Isham*, 84 U.S. 496, 505 (1873)).

51. In tax parlance, a taxpayer arranging “his affairs that his taxes shall be as low as possible” is known as tax avoidance and is legitimate. See INTERNAL REVENUE SERV., THE DIFFERENCE BETWEEN TAX AVOIDANCE AND TAX EVASION [https://apps.irs.gov/app/understandingTaxes/whys/thm01/les03/media/ws\\_ans\\_thm01\\_les03.pdf](https://apps.irs.gov/app/understandingTaxes/whys/thm01/les03/media/ws_ans_thm01_les03.pdf) [<https://perma.cc/9M6P-4EKC>]. What is illegitimate is not paying the tax rightly due; this is known as tax evasion. *Id.*

52. INTERNAL REVENUE SERV., *supra* note 48, at 11.

53. 204,405,851 for individuals (doubling the amount for married filing jointly and surviving spouses), INTERNAL REVENUE SERV., PUBLICATION 1304 at 48 (2018); 10,939,213 business entities in 2017, INTERNAL REVENUE SERV., *supra* note 48, at 4.

54. Former IRS Commissioner Doug Shulman said that what “really matters” to the IRS is “the organization of data and ultimately the knowledge and intelligence we extract from the information.” Press Release, Internal Revenue Serv., Prepared Remarks of IRS Commissioner Doug Shulman to the Leaders & Legends Series, Johns Hopkins Carey Business School, Baltimore (May 18, 2011) (<https://www.irs.gov/pub/irs-news/ir-11-055.pdf>) [<https://perma.cc/J8D2-EZ69>]. Though the use of data analytics in the tax realm has been primarily concerned with hindsight, there is a push to drive the applications further for predictive and prescriptive uses to enable organizations to have a better understanding of likely tax burdens

Tax professionals have long thought the field ready for computerization. By 1958, there were two committees of the Taxation Section of the American Bar Association (ABA) that were tasked with exploring the use of computers in the tax field.<sup>55</sup> The tax bar was following the lead of the IRS. In 1955 the IRS had begun testing computers for two different purposes: one, processing returns, and two, analyzing data.<sup>56</sup> As for processing returns, the IRS was successful in its first experiment: over one million returns were processed this way in 1955.<sup>57</sup> In 1958, the IRS began installing computers in various centers around the country.<sup>58</sup> By 1965, all business return processing was computerized, and, two years later, all returns nationwide were.<sup>59</sup> By 1967, the IRS had a computerized file on every taxpayer in the nation.<sup>60</sup>

As to analyzing statistics, the IRS early realized the value of what today is called “Big Data.”<sup>61</sup> This data was used to provide timely reports on income and economic activity for the government.<sup>62</sup> It also was used to determine the best methods of collection, the most common causes of errors, and how the IRS might better facilitate voluntary compliance.<sup>63</sup> Very importantly, on the basis of the data, the IRS developed a mathematical technique to select returns for audit.<sup>64</sup> This technique—the Discriminant Index Function (DIF)—used algorithms developed by sampling returns to identify returns having a high probability of error.<sup>65</sup> To this day, the DIF score is used to determine

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in normal operations and in hypothetical situations when they are weighing options as well as using analytics to test for the potentiality of errors within a sample group. *See Tax Data Analytics: A New Era for Tax Planning and Compliance*, DELOITTE 6 (2016), <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/Tax/us-tax-data-analytics-a-new-era-for-tax-planning-and-compliance.pdf> [<https://perma.cc/Z7T3-37P9>]. Machine learning can be used to build heuristics over time through inferences found in analyzing data patterning. Harry Surden, *Machine Learning and the Law*, 89 WASH. L. REV. 87, 91 (2014). This is easily translated into the realm of tax law.

55. *Report on the Special Committee on Electronic Data Retrieval*, 86 ANN. REP. A.B.A. 669, 669 (1961).

56. INTERNAL REVENUE SERV., DEP’T OF THE TREASURY, IRS HISTORICAL FACT BOOK: A CHRONOLOGY 161 (1993) [hereinafter IRS HISTORICAL FACT BOOK].

57. These returns were Form 1040As filed in the Omaha Region. *Id.*

58. The IRS installed IBM 650 computers in the Northeast Service Center, the Kansas City Service Center, and the Ogden Service Center. *Id.* at 164.

59. Sheldon S. Cohen, *Automation and Tax Administration*, 28 OHIO ST. L.J. 69, 69 (1967).

60. *Id.* at 70; Mortimer M. Caplin, *Commissioner Caplin Reviews His Record as IRS Chief*, 29 VA. TAX REV. 177, 178 (2009).

61. *See* Caplin, *supra* note 61, at 179.

62. Cohen, *supra* note 59, at 70.

63. *Id.* at 72.

64. Singleton B. Wolfe, *The Use of Computers in Tax Administration*, 17 JURIMETRICS J. 215, 215 (1977); IRS HISTORICAL FACT BOOK, *supra* note 56, at 191.

65. *Id.*

whether the tax return should be given closer review.<sup>66</sup> How this scoring works is a closely guarded secret.<sup>67</sup>

While the IRS was focused on using algorithms for audit purposes, and generally improving its processing of hundreds of millions of returns each year, the emerging focus of tax professionals was using computers for business tax planning. Beginning in 1971, a recent graduate of Harvard Law School, L. Thorne McCarty combined his education in mathematics and philosophy with his legal training as a Law and Computer Fellow at Stanford Law School.<sup>68</sup> With funding provided by the IBM Corporation and computers provided by the Stanford Artificial Intelligence Laboratory, McCarty began experimenting with AI's ability to assess the tax consequences of corporate reorganization plans and, thereby, also to address fundamental and philosophical issues about the nature of law and legal reasoning.<sup>69</sup> His experiment in the tax field caught the attention of others interested in computerized legal reasoning.<sup>70</sup> McCarty published his programming techniques and his reflections on its potential and limitations in the Harvard Law Review in 1977, predicting that a prototype useful for corporate tax planning might be developed before the end of the 1980s.<sup>71</sup>

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66. See *infra* note 107.

67. Michael B. Lang & Jay A. Soled, *Disclosing Audit Risk to Taxpayers*, 36 VA. TAX REV. 423, 432–33 (2017); See INTERNAL REVENUE SERV., INTERNAL REVENUE MANUAL 4.19.11.1.5.1(8)–(9) (Nov. 9, 2007) (explaining that “DIF mathematical formulas are confidential in nature and are distributed to IRS personnel only on a need-to-know basis” and that “DIF formulas are for official use only and will not be discussed with unauthorized personnel”). See 26 U.S.C. § 6103(b)(2) (2019). See also *Buckner v. IRS*, 25 F. Supp. 2d 893, 898 (N.D. Ind. 1998) (DIF scores are exempt from FOIA).

68. L. Thorne McCarty, *Reflections on Taxman: An Experiment in Artificial Intelligence and Legal Reasoning*, 90 HARV. L. REV. 837, 837 n.\* (1977).

69. *Id.* at 837 n.\*, 839, 849.

70. See, e.g., PHILIP SLAYTON, RADICAL COMPUTER USE IN LAW 67–68 (drft. Report, June 1974); H el ene Bauer-Bernet & Ejan Mackaay, *Effect of Information Science on the Formation and Drafting of Law*, 14 JURIMETRICS J. 235, 248 n.14 (1974); William E. Boyd, *Law in Computers and Computers in Law: A Lawyer's View of the State of the Art*, 14 ARIZ. L. REV. 267, 286–87 n.107 (1972); Walter G. Popp & Bernhard Schlink, *JUDITH, A Computer Program to Advise Lawyers in Reasoning a Case*, 15 JURIMETRICS J. 303, 313–14 (1975); Philip Slayton, *Electronic Legal Retrieval*, 15 JURIMETRICS J. 108 (1974) (prepared for the Canadian Department of Communications).

71. McCarty, *supra* note 68, at 892. About the time this article was published, the use of computers for word processing was only emerging. See David S. Dunkle, *The ERISA: The Attorney and the Computer*, 17 LAW OFF. ECON. & MGT. 378 (1976) (touting a plan for ERISA, a computerized document assembly services). The attorney need take no more than one hour to select from the seven pages of options available, and then only another half hour reviewing the final document when it was delivered. *Id.* at 380. The service had a “[n]ormal turnaround time” of “ten to fifteen days,” though under special “prearranged conditions” the documents could be available within forty-eight hours. *Id.* at 379. Within that context, McCarty's prediction was remarkably bold.

Not long after McCarty published his article, Professor Robert Hellawell of Columbia Law School published a similar article in the *Columbia Law Review*.<sup>72</sup> He considered McCarty's technical methodology to be too "ambitious," and so set out to write a corporate tax planning program that used a different methodology.<sup>73</sup> The following year, Hellawell published his efforts to computerize tax planning for U.S. taxpayers investing in foreign mines.<sup>74</sup> Throughout the 1980s and early 1990s, the potential to computerize tax planning continued to lure experts into the field.<sup>75</sup> But no prototype useful for tax planning emerged.<sup>76</sup>

But while tax planning was not transformed by computerization in the 1980s, as McCarty had hoped it might be, tax compliance was. Tax form preparation software began emerging in the early 1980s.<sup>77</sup> In 1982, Jackson Hewitt Tax Services took a radical step in requiring its form preparers to use software.<sup>78</sup> By 1987, about 13% of paid preparers used software.<sup>79</sup> The forerunner of TurboTax was designed in 1983, and by 1990 earned \$19 million in annual revenue, though well into the 1990s fewer than 10% of

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72. See Robert Hellawell, *A Computer Program for Legal Planning and Analysis: Taxation of Stock Redemptions*, 80 COLUM. L. REV. 1363 (1980).

73. *Id.* at 1365 n.5.

74. See Robert Hellawell, *CHOOSE: A Computer Program for Legal Planning and Analysis*, 19 COLUM. J. TRANSNAT'L L. 339 (1981) (for U.S. tax planning of foreign mining investments).

75. See, e.g., Dean A. Schlobohm & L. Thorne McCarty, *EPS II: Estate Planning with Prototypes*, PROC. OF THE 2D INT'L CONF. ON ARTIFICIAL INTELLIGENCE AND L. 1, 1–10 (1989) (EPS II for U.S. testamentary tax planning); Kathryn E. Sanders, *Representing and Reasoning About Open-Textured Predicates*, PROC. OF THE 3D INT'L CONF. ON ARTIFICIAL INTELLIGENCE AND L. 137, 137–44 (1991) (CHIRON system that structures real estate transactions to generate most favorable tax consequences); David B. Skalak & Edwina L. Rissland, *Arguments and Cases: An Inevitable Intertwining*, 1 ARTIFICIAL INTELLIGENCE & L. 3 (1992) (CABARET system for U.S. home office tax deduction). In the 1980s, interest in computerized tax planning was also gaining ground outside the U.S. See, e.g., J. R. Mace & P. F. Pope, *Tax Planning and Computer Simulation*, 1980 BRIT. TAX REV. 45, 45 (1980).

76. Sanders, *supra* note 75.

77. Rodney P. Mock & Nancy E. Shurtz, *The TurboTax Defense*, 15 FLA. TAX REV. 443, 455 (2014). There were multiple news articles detailing the rise of such software. See, e.g., Don Nunes, *Computer Programs Aid Tax Return Preparation*, WASH. POST (Feb. 14, 1983), <https://www.washingtonpost.com/archive/business/1983/02/14/computer-programs-aid-tax-return-preparation/e2f94291-4ef8-40b5-b900-22a0dd34d7c8/?noredirect=on> [<https://perma.cc/XPF4-U2KH>]; Ellen Benoit, *The Tax Preparation Revolution*, FORBES, Jan. 17, 1983, at 69. See also John W. Hazard, *Doing Your Taxes by Computer*, U.S. NEWS & WORLD REP., Mar. 19, 1984, at 86; William D. Marbach, *Now, the Electronic Tax Man*, NEWSWEEK, Mar. 19, 1984, at 106; David E. Sanger, *Software for Doing Your Own Return*, N.Y. TIMES, Mar. 4, 1984, § 12, at 76.

78. Mock & Shurtz, *supra* note 77, at 456.

79. Jackson Hewitt helped pave the way for the fast growth by requiring all its preparers to use tax software, which helped lead to the 13% figure by 1987. *Id.*

individuals used return preparation software.<sup>80</sup> Today, of course, virtually all professional preparers use return preparation software,<sup>81</sup> as do over one-third of individual taxpayers.<sup>82</sup> And the majority of the other individual taxpayers use preparers who, of course, use return preparation software.<sup>83</sup> The result is that virtually all U.S. tax returns are prepared with computers.

While computerized tax form preparation is remarkable, it is not as remarkable in terms of computerized legal reasoning as it may seem.<sup>84</sup> As Northwestern Law Professor Sarah Lawsky has pointed out: these programs computerize tax forms—not tax law.<sup>85</sup> As Lawsky explains it:

Tax forms are extraordinary in that they are designed so that people who do not know or understand the law can still comply with the law. Indeed, people may have absolutely no idea why they are filling out certain lines, or what the legal implications of those lines are. And yet they do fill out the forms, and they do thus comply with the law.<sup>86</sup>

While the form preparation programs make it easier for taxpayers to prepare their returns, the difficulties in computerizing legal reasoning are

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80. *Id.* at 455–56.

81. *Id.* at 456.

82. INTERNAL REVENUE SERV., *supra* note 48, at 5, 8, tbls.3 & 4.

83. *Id.*

84. Indeed, as popular as such programs are, there are shortcomings documented. *See, e.g.*, Bryan Camp, *Lesson for Tax Day: When Tax Prep Software Gets It Wrong*, TAXPROF BLOG (Apr. 15, 2019), [https://taxprof.typepad.com/taxprof\\_blog/2019/04/lesson-for-tax-day-when-tax-prep-software-gets-it-wrong.html](https://taxprof.typepad.com/taxprof_blog/2019/04/lesson-for-tax-day-when-tax-prep-software-gets-it-wrong.html) [<https://perma.cc/B2AW-2UK2>] (discussing how he has had to correct tax preparation software while doing his taxes); Tobie Stranger, *Can You Trust Online Do-It-Yourself Tax Prep? CR's Evaluation Raises Questions*, CONSUMER REP. (Mar. 15, 2019), <https://www.consumerreports.org/taxes/can-you-trust-online-do-it-yourself-tax-prep-cr-evaluation-raises-questions/> [<https://perma.cc/D39K-54RN>] (discussing several issues with the most popular programs including mistakes regarding the Tax Cuts and Jobs Act, using old tax laws, and not discovering an input error that was intentionally made).

85. Professor Lawsky has worked with the MIT Lab to propose changes to the I.R.C. to help AI grasp with the semantic difficulties inherent in the code. Marcos Pertierra, Sarah Lawsky, Erik Hemberg & Una-May O'Reilly, *Towards Formalizing Statute Law As Default Logic Through Automatic Semantic Parsing*, ASAIL 2017: 2nd Workshop on Automated Semantic Analysis of Information in Legal Texts, 2017 (available at [http://groups.csail.mit.edu/EVO-DesignOpt/groupWebSite/uploads/Site/ASAIL\\_2017\\_Pertierra.pdf](http://groups.csail.mit.edu/EVO-DesignOpt/groupWebSite/uploads/Site/ASAIL_2017_Pertierra.pdf)) [<https://perma.cc/B95K-Z5DT>]. In her upcoming paper, she discusses the issue of software as computerizing forms rather than the law. *See* Paul Caron, *Lawsky Presents 'Form As Formalization' Today at Wayne State*, TAXPROF BLOG (Jan. 28, 2019), [https://taxprof.typepad.com/taxprof\\_blog/2019/01/lawsky-presents-form-as-formalization-today-at-wayne-state.html](https://taxprof.typepad.com/taxprof_blog/2019/01/lawsky-presents-form-as-formalization-today-at-wayne-state.html) [<https://perma.cc/C9RE-FAWX>].

86. Sarah B. Lawsky, Comment, *Form As Formalization*, J. OF L. AND POL'Y FOR THE INFO. SOC'Y (forthcoming 2019); *see also* Caron, *supra* note 85.

avoided by the form preparation program developers: the developers merely follow the lead of the form's instructions.<sup>87</sup>

There has yet to be developed a computerized application that would transform professional tax planning in the sense of a program that proposes customized tax solutions. That is, computerized applications for the *ex ante*, creative, predictive professional work focused on the unique situation and aspiration of a taxpayer. That is not to say that there have not been significant innovations. Not only has tax research benefitted from the same types of advances all legal research has, but one of the first legal field-specific uses of IBM's AI program, Watson, was tax.<sup>88</sup> There are also programs to guide tax professionals to determine the most tax advantageous choice in routine situations.<sup>89</sup> While we can easily imagine programs that would do more, we should notice how far into the process we are by noting how bedazzled our twentieth-century professional ancestors would be by what is already commonplace in tax practice.

Both scholars and tax professionals are at work on further advancing the computerization of the tax field. For example, Lawsky's research into the logic of the tax code and the potential for Congressional formalization of statutes continues the foundational, conceptual, and philosophical work that first appeared in the 1970s and 1980s.<sup>90</sup> Computer scientists continue to

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87. Lawsky, *supra* note 86.

88. Blue J was founded by law faculty at the University of Toronto in 2015 after one member was inspired while judging an IBM Watson competition. While initially focused on tax law in Canada, the company has since branched out into employment law and seeks to expand into other areas of U.S. law. Chris Sorensen, *U of T startup Blue J Legal raises US\$7 million, plans cross-border expansion*, U OF T NEWS (Nov. 29, 2018), <https://www.utoronto.ca/news/u-t-startup-blue-j-legal-raises-us7-million-plans-cross-border-expansion> [<https://perma.cc/R6WV-SWHU>]. Blue J uses AI to predict the outcome of tax cases by essentially conducting an interview and comparing the facts to previous cases and outputs a legal memo. *The National Law Journal 2018 Ai Leaders*, NAT'L L. J. 33, 39 (2018).

89. See, e.g., BLOOMBERG INCOME TAX PLANNER, <https://www.bna.com/bna-income-tax-p17179917939/> [<https://perma.cc/LXK9-KYZ3>]; CCH PROSYSTEM FX PLANNING, <https://taxna.wolterskluwer.com/professional-tax-software/prosystem-fx/planning> [<https://perma.cc/7XF9-RBF5>]; THOMSON REUTERS PLANNER CS, <https://tax.thomsonreuters.com/us/en/cs-professional-suite/planner-cs> [<https://perma.cc/E6WZ-QU2K>].

90. See generally Sarah B. Lawsky, *A Logic for Statutes*, 21 FLA. TAX REV. 60 (2018) (arguing for an alternative understanding of rule-based legal reasoning in some contexts which abandons formal logic following from deductive reasoning in favor of default logic using defeasible reasoning); Sarah B. Lawsky, *Formalizing the Code*, 70 TAX L. REV. 377 (2017) (arguing that lawmakers should more thoroughly address definitional scope in the I.R.C. by logically defining terms in order to alleviate problems in interpreting statutes and help lay the groundwork for AI to more fully develop an understanding of the Code); Pertierra, Lawsky, Hemberg & O'Reilly *supra* note 85.

pursue topics in AI and taxation.<sup>91</sup> And the world's "Big 4" accounting firms tout their AI and related consulting services.<sup>92</sup> The confluence of advances in this research and the commercialization of expertise occurring in a well-financed field that is already substantially penetrated by computerization make tax a very interesting—and perhaps uniquely interesting—AI horizon.<sup>93</sup>

### III. AI AND TAX PROFESSIONALS

#### A. Planning, Compliance, Audit, and Litigation

To view the AI horizon in tax practice, one must see what the practice of tax law is and who is involved. The practice of tax law involves four types of services, which are provided by a half dozen types of practitioners: certified public accountants (CPAs), lawyers, enrolled agents, enrolled actuaries, enrolled retirement plan agents, and tax return preparers.<sup>94</sup> The four types of services are planning, compliance, audit representation, and litigation.<sup>95</sup> These services may be performed for all types of taxpayers and across all

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91. For example, several computer scientists at the MIT Computer Science & Artificial Intelligence Lab are working on the STEALTH (Simulating Tax Evasion And Law Through Heuristics) project to apply AI to identify tax non-compliant partnership behavior. See THE STEALTH PROJECT, <http://stealth.csail.mit.edu/index.html> [<https://perma.cc/KFJ8-7XG5>] (last visited Sept. 21, 2019).

92. See ARTIFICIAL INTELLIGENCE (AI), DELOITTE, <https://www2.deloitte.com/insights/us/en/tags/artificial-intelligence.html> [<https://perma.cc/4USP-ZJAK>] (last visited Sep. 5, 2019); ARTIFICIAL INTELLIGENCE CONSULTING SERVICES, EY, [https://www.ey.com/en\\_gl/advisory/artificial-intelligence-consulting-services](https://www.ey.com/en_gl/advisory/artificial-intelligence-consulting-services) [<https://perma.cc/G2WF-SN4M>] (last visited Aug. 24, 2019); ARTIFICIAL INTELLIGENCE, KPMG, <https://advisory.kpmg.us/services/data-analytics/artificial-intelligence.html> [<https://perma.cc/B4C6-3A95>] (last visited Aug. 24, 2019); TAX ANALYTICS AND DATA VISUALIZATION COURSES: PWC, <https://www.pwc.com/us/en/services/tax/tax-innovation.html> [<https://perma.cc/5QYE-2SHF>] (last visited Aug. 24, 2019). On PwC, see also Michael Cohn, *Tax Professionals Expected To Use AI More in the Future*, ACCOUNTINGTODAY.COM (May 1, 2017), <https://www.accountingtoday.com/news/tax-professionals-expected-to-use-ai-more-in-the-future> [<https://perma.cc/ZD4R-A6CU>].

93. See Steven K. Rainey, Brad Brown & David B. Kirk, *Bots, Natural Language Processing, and Machine Learning*, TAX EXECUTIVE (Sept. 21, 2017), <http://taxexecutive.org/bots-natural-language-processing-and-machine-learning/> [<https://perma.cc/8MHN-FHVJ>] (discussing the impact of bots, natural language processing, and machine learning on tax practice and arguing that the real power of cognitive computing is its ability to ingest massive amounts of data).

94. 31 U.S.C. § 10.3(a)–(f) (2019). Even though tax return preparer registration is contemplated by § 10.3(f), the IRS has been denied the authority to regulate return preparers in these regulations. *Loving v. IRS*, 742 F.3d 1013 (D.C. Cir. 2014) (holding that the IRS did not have authority to promulgate the regulations). See also *infra* text accompanying notes 192–94.

95. *Id.*



income levels: low-income individuals and multi-national corporations, small business and large charities, and trusts and partnerships of all sizes and purposes.<sup>96</sup>

Tax planning is developing *ex ante* strategies to accomplish business or personal goals with the least tax costs.<sup>97</sup> The tax plan is Learned Hand's taxpayer arranging his affairs so that his taxes shall be as low as possible.<sup>98</sup> Plans may range from the straightforward and uncontroversial, such as the benefits of converting one type of retirement account into another,<sup>99</sup> to complicated and controversial tax shelter plans, which are aimed to lower tax costs without regard to true economic costs or true business or personal goals.<sup>100</sup>

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96. According to the most recent statistics available from the IRS on income tax returns, there were 150,690,787 individual returns, 2,050,182 C or other corporation returns, 4,842,706 S corporation returns, 4,046,325 partnership returns, and 2,994,547 trust and estate returns filed in fiscal year 2017. INTERNAL REVENUE SERV., *supra* note 48, at 15–17, tbl.3.

97. Tax planning is designing transactions that “lessen tax liability and maximize after-tax income” when compared to alternatives. WORKSHEET: THE DIFFERENCE BETWEEN TAX AVOIDANCE AND TAX EVASION, <https://apps.irs.gov/app/understandingTaxes/whys/thm01/les03/.pdf> [<https://perma.cc/UF3B-PCKZ>] (last visited Sep. 5, 2019). Tax avoidance is the minimization of taxes; the evasion of taxes is illegal. *Id.* The IRS offers a publication on the differences between the two. *Id.*

98. *Helvering v. Gregory*, 69 F.2d 809, 810 (2nd Cir. 1934) (“We agree with the Board and the taxpayer that a transaction, otherwise within an exception of the tax law, does not lose its immunity, because it is actuated by a desire to avoid, or, if one choose, to evade, taxation. Any one [sic] may so arrange his affairs that his taxes shall be as low as possible; he is not bound to choose that pattern which will best pay the Treasury; there is not even a patriotic duty to increase one’s taxes.”).

99. For example, it may be advisable to a client facing imminent death to convert an IRA to a Roth IRA in order to facilitate tax exempt withdrawals by heirs later while using the immediate tax consequences to offset income liability on the estate. John J. Scroggin, *Income Tax Planning for Clients with Shorter Life Expectancies*, 92 PRAC. TAX STRATEGIES 197, 204 (2014).

100. “Tax shelters” are usually considered abusive. However, the technical definition includes “any plan or arrangement, if a significant purpose of such . . . plan or arrangement is the avoidance . . . of Federal income tax.” 26 U.S.C. § 6662(d)(2)(C) (West 2019). This definition of “tax shelter” technically seems to include legitimate tax planning, such as determining when it is tax advantageous to convert an IRA into a Roth IRA. Separating an abusive “tax shelter” from a non-abusive tax plan is notoriously difficult. Former IRS Commissioner Jerome Kurtz contrasted abusive and non-abusive tax shelters. Michael Hatfield, *Committee Opinions and Treasury Regulation: Tax Lawyer Ethics, 1965-1985*, 15 FLA. TAX REV. 675, 700 (2014). Non-abusive tax shelters “admittedly reduced ‘the equity of the tax system by reducing the taxes . . . of upper income taxpayers,’ but for non-abusive shelters, Congress had decided this was a ‘tolerable side effect of a special tax provision’ to encourage particular investments.” *Id.* (quoting Jerome Kurtz, *Commissioner’s Remarks on Abusive Tax Shelter Issues*, 55 TAXES - THE TAX MAG. 774, 774 (1977)). In contrast, “[a]busive tax shelters were the ones in which the loss of equity was not offset by intended greater benefits and that, accordingly, decreased the fairness of and respect for the tax system.” *Id.*

Tax *planning* aims to create tax-advantageous transactions, while *compliance* reports transactions after they occur.<sup>101</sup> These reported transactions may be as straightforward as compensation payments from employers to employees,<sup>102</sup> or cash donations by individuals to charities,<sup>103</sup> or may be as complicated as corporate mergers and acquisitions.<sup>104</sup> All taxpayers report their tax relevant transactions to the IRS at least once a year, though many taxpayers report more frequently.<sup>105</sup>

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Historically, there has been a struggle to develop a consensus definition of tax shelters. Shannon Weeks McCormack, *Tax Shelters and Statutory Interpretation: A Much Needed Purposive Approach*, 2009 U. ILL. L. REV. 697, 703 (2009). However, there is broad agreement that they are carefully designed transactions to derive unintended benefits from the Code while technically following the letter of the law. *Id.* at 699. There have been several difficulties in trying to target tax shelters. *Id.* at 703–10. To begin with, tax laws are prospective in nature, which means that even when targeted behavior is later regulated, the ill-gotten gains are left untouched. *Id.* Even as Congress works to remedy the issues, new ones can arise with each fix and the more time that passes allows more taxpayers to take advantage of the loophole. *Id.* After efforts to curb the practice in the 70s and 80s, tax shelter structures became more and more complicated and varied, which makes regulation more difficult in the first place. *Id.* To make matters worse, more players entered the tax shelter game and the aggressiveness of positions increased, which further makes regulation harder. *Id.* Because courts are not limited by retroactivity in the way lawmakers are, they have played an important role in curbing tax shelters. *Id.* Courts utilize several tests to determine whether the transaction fails as a tax shelter. *Id.* However, these have also proved inadequate in dealing with the problem of tax shelters because there are issues of subjectivity and the inability to address the target directly. *Id.*

101. With respect to compliance, the professional “takes ‘the facts as he finds them’ and claims a position, functioning principally as an advocate.” *See, e.g., Hatfield, supra* note 100, at 694 n.151 (2014) (citing Paul J. Sax, *Lawyer Responsibility in Tax Shelter Opinions*, 34 TAX LAW. 5, 37–38 (1980)).

102. As a sole proprietor filing for 2018, the amount paid as compensation to employees is reported on the 2018 Schedule C, line 26. INTERNAL REVENUE SERV., *Schedule C (Form 1040-2018)*, <https://www.irs.gov/pub/irs-pdf/f1040sc.pdf> [<https://perma.cc/H8ML-LPNV>].

103. Charitable contributions are entered on Schedule A, lines 11–14. INTERNAL REVENUE SERV., *Schedule A (Form 1040-2018)*, <https://www.irs.gov/pub/irs-prior/f1040sa--2018.pdf> [<https://perma.cc/EGB2-B8M9>].

104. For example, in a C corporate stock acquisition where a consolidated return will be filed, the entity must attach a Form 1122 and 851 to the Form 1120 on which it must elect that it is a consolidated return on line A. INTERNAL REVENUE SERV., *U.S. Corporation Income Tax Return Form 1120 (2018)*, <https://www.irs.gov/pub/irs-pdf/f1120.pdf> [<https://perma.cc/DP6R-LWWL>]. In such a situation, the tax attributes of the purchased stock carryover and require the consolidated corporation to account for these attributes and ensure § 382 and § 383 limitations on such tax attributes are considered. This is just a snippet of the complications involved in a corporate acquisition.

105. 26 U.S.C. § 6012 requires annual reporting for all those required to prepare a return under the income tax under Schedule A. 26 U.S.C. § 6012 (2019). 26 U.S.C. § 6654 requires those taxpayers required to make estimated tax payments to do so multiple times a year. *Id.* § 6654. Likewise, 26 U.S.C. § 3102 requires that employers deduct payroll taxes whenever they pay employees. *Id.* § 3102.

Regardless of the type of taxpayer, any report to the IRS may prompt questions as to the accuracy or completeness of the report. These questions to the taxpayer may be automated inquiries prompted by mathematical errors on the report or inconsistencies between one taxpayer's reporting and another's.<sup>106</sup> The questions may also be prompted by suspicion of the return reflected in a DIF score or some other curiosity.<sup>107</sup> Of course, tax professionals often represent taxpayers when the IRS questions the accuracy or completeness of the reporting.<sup>108</sup>

If an audit is completed by the IRS but a dispute remains, then the taxpayer has recourse to the courts. This final type of tax practice is *litigation* against the government in these situations. The litigation may be in federal district court, the Court of Claims, or the Tax Court, and may involve not only civil

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106. The National Taxpayer Advocate points out that the audit process includes both “real” and “unreal” audits. 2017 ANNUAL REPORT TO CONGRESS, IRS TAXPAYER ADVOC. SERV., 49, 50–55 (2018), [https://taxpayeradvocate.irs.gov/Media/Default/Documents/2017-ARC/ARC17\\_Volume1\\_MSP\\_04\\_AuditRates.pdf](https://taxpayeradvocate.irs.gov/Media/Default/Documents/2017-ARC/ARC17_Volume1_MSP_04_AuditRates.pdf) [<https://perma.cc/4QKB-E4M3>]. “Real” audits include correspondence audits (done through the mail and typically dealing with only a few issues), field exams (which include face to face meetings with the taxpayer and dealing with more complicated issues), and office audits (which are conducted at the local office and typically split the difference in complexity with the other two). *Id.* “Unreal” audits are other investigative functions which are not part of a formal audit, but which nevertheless require the taxpayer to respond to IRS inquiries. *Id.* These are wide-ranging and include statutory authority to circumvent normal deficiency procedures in certain cases involving math/clerical errors, the Automated Underreporter Program which automatically matches informational returns and tax returns, a program which seeks out possible fraud and requires the taxpayer to verify information, and the Automated Substitute for Return (ASFR) process for taxpayers with significant tax liability but who have failed to file a return. *Id.* Because these “unreal” audit functions do not count as an “audit,” they are not constrained by some of the protections built into the formal audit process. For example, a person subject to ASFR would still be eligible for a formal audit later. *Id.* See CAROLINE RULE, IRS PROCEDURES: EXAMINATIONS AND APPEALS (PORTFOLIO 623), § IB (3d ed. 2013) (describing the mostly automated review of all tax returns). For discussions on DIF scores, see Allen Madison, *The IRS’s Tax Determination Authority*, 71 TAX LAW. 143, 148 (2017); Lang & Soled, *supra* note 67, at 432–33; INTERNAL REVENUE SERV., I.R.S. FACT SHEET 2 (2006), available at <https://www.irs.gov/pub/irs-news/fs-06-10.pdf> [<https://perma.cc/T6PL-3AWG>] (“Some returns are selected for examination on the basis of computer scoring. Computer programs give each return numeric ‘scores.’ The Discriminant Function System (DIF) score rates the potential for change, based on past IRS experience with similar returns.”); see also *supra* text accompanying notes 64–67.

107. Madison, *supra* note 106.

108. Note that attorneys, CPAs, and enrolled agents in good standing may “represent[] a client at conferences, hearing, and meetings” with IRS officers and employees. 31 C.F.R. §§ 10.2(a)(4), 10.3(a)–(c) (2019). Enrolled actuaries, enrolled retirement plan agents, and registered tax return preparers may also represent clients but only in specific situations. *Id.* § 10.3(d)–(f).

claims about the correct characterization of the transaction, but also criminal claims about the taxpayer's knowledge, intentions, and behavior.<sup>109</sup>

The tax field is shared not only by multiple professionals but also by non-professionals.<sup>110</sup> Any individual may prepare another's tax return. While the Internal Revenue Code (I.R.C.), located at Title 26 of the United States Code (26 U.S.C.), prescribes penalties for improper reporting by a return preparer,<sup>111</sup> there are no education or qualification requirements or other types of regulation for tax return preparers.<sup>112</sup> While lawyers and CPAs who

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109. ROBERT E. MCKENZIE, 1 REP. AUDITED TAXPAYER § 10:1 (2019). *See generally*, ROBERT E. MCKENZIE, 1 REP. AUDITED TAXPAYER (2019). If the taxpayer cannot pay the tax up front, the only available forum is the Tax Court (or bankruptcy court for certain issues). *Id.* at § 10:3. Certain I.R.C. sections impose criminal liability. For example, in a case where there is intent to evade alleged rather than mere mistake, 26 U.S.C. § 7201 (2019) imposes criminal penalties.

110. Attorneys, CPAs, enrolled agents, enrolled actuaries, and enrolled retirement plan agents may all represent clients in some capacity in front of the IRS. 31 C.F.R. §§ 10.2–10.3 (2019).

111. 26 U.S.C. § 6694 (prescribing penalties for preparers who take an unreasonable position which leads to understatement or who act recklessly/willfully which results in an understatement); 26 C.F.R. § 1.6694-1 (2019) (clarifying requirements in § 6694, including who counts as a return preparer); *Id.* § 1.6694-2 (providing special rules and clarifications for the penalty for understatements due to unreasonable positions).

112. For well over a decade, the National Taxpayer Advocate has called for regulating these unregulated tax preparers. NAT'L TAXPAYER ADVOC., 2019 PURPLE BOOK, 10–12 (2018) (ebook). Citing to numerous studies, the National Taxpayer Advocate states that these preparers produce inaccurate returns and damage both taxpayers and the public. *Id.* The recommendation is for Congress to amend 31 U.S.C. § 330 in order to allow the IRS to resume regulating them. *Id.* The issues stemming from this lack of regulation are broad and well documented. It has been suggested that such lack of regulation has led to an explosion in unqualified tax preparers that are able to gain income from low-income taxpayers otherwise unable to pay through the EITC, which was designed to help these same taxpayers who must use a portion of the credit to pay the preparer. Jay A. Soled & Kathleen DeLaney Thomas, *Regulating Tax Return Preparation*, 58 B.C. L. REV. 151, 154 (2017). Though there are minor requirements that software companies update tax rates and ensure accuracy of computations, there is virtually no testing to determine whether the substantive advice provided by these companies is accurate. *Id.* at 164. While some returns are undoubtedly simple, even the most complicated of returns can be completed by untrained and unregulated tax preparers, whether they are done accurately or not. *Id.* at 171. There is evidence to show that such unregulated return preparers are more likely to over-claim on EITC returns than individuals preparing the return themselves. *Id.* If discovered, the potential harm that could befall the taxpayer in these situations is considerable, including the loss of the ability to claim the EITC for as long as 10 years in cases of fraud. *Id.* at 172. If the harm to the tax system isn't enough, many of these preparers charge customers hidden, and sometimes exorbitant, fees and issue high-interest loans. *Id.* at 173. Some authors contend that although there are serious issues with such unregulated tax preparers, the same issues are also found in preparers that are already regulated. Steve R. Johnson, *Loving and Legitimacy: IRS Regulation of Tax Return Preparation*, 59 VILL. L. REV. 515, 521–23 (2014). The largest effort to date of the IRS attempting to regulate this sector of tax preparers was shot down in *Loving v. IRS*, 742 F.3d 1013 (D.C. Cir. 2014) (holding that

prepare returns are subject to regulation by their professional bodies, the vast majority of tax return preparers are not subjected to similar oversight.<sup>113</sup> The problems of unregulated tax preparers are predictable, well-documented, and often discussed.<sup>114</sup>

The other tax services—planning and representation in audit and litigation—are restricted to certain professionals. As discussed more fully below, all written advice for avoiding taxes is considered to be “practice before the IRS” and is limited to CPAs, lawyers, enrolled agents, and, in limited ways, to enrolled actuaries and enrolled retirement plan agents.<sup>115</sup> No doubt tax planning advice is given by many others, including tax return preparers, bookkeepers, business and financial advisors, friends, and family members. But there are no practical means for the IRS to prevent such, and with respect to many transactions, such as contributions to education, health, and retirement savings accounts, the planning advice may be unproblematic.<sup>116</sup> In contrast, the IRS does have the practical means to limit who represents a taxpayer in an audit, and that representation is limited by the rules of the IRS.<sup>117</sup> If the representation before the IRS becomes

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the IRS did not have authority to promulgate the regs). However, some states do in fact regulate such tax preparers. California requires paid preparers to post a bond, take a qualifying educational course, and obtain a Preparer Tax Identification Number (PTIN) from the IRS. *Registered Tax Preparers*, CAL. FRANCHISE TAX BOARD, [ftb.ca.gov/tax-pros/california-tax-education-council.html](http://ftb.ca.gov/tax-pros/california-tax-education-council.html) [<https://perma.cc/2XFF-U4AN>] (last visited Sept. 21, 2019). Likewise, Oregon also requires completion of educational courses, obtaining a PTIN, and passing an exam. OR. REV. STAT. § 673.625 (2019).

113. Lawyers are regulated by their respective jurisdictions, and CPAs are regulated by their state accountancy boards. AICPA members are regulated by it, though ABA members are not regulated by the ABA. GALLER & LANG, *supra* note 4, at 7–8.

114. *See supra* note 112.

115. 31 C.F.R. §§ 10.2(a)(4), 10.3. Unlike enrolled actuaries and enrolled retirement plan agents, attorneys, CPAs, and enrolled agents have general authorization to engage in tax practice.

116. The bases for such advice are frequently found in popular media. Jamie Hopkins, *Understanding Tax Benefits Of 529 Plans*, FORBES (Sept. 15, 2016, 9:09 AM), <https://www.forbes.com/sites/jamiehopkins/2016/09/15/understanding-the-tax-benefits-of-529-plans/#4cc084b319aa> [<https://perma.cc/3L8J-YLC2>] (discussing the tax benefits of qualified tuition plans authorized under 26 U.S.C. § 529); Sarah Max, *Millions of Americans Ignore This Ultra-Valuable Tax Break. Here's How to Get It.*, MONEY (Apr. 13, 2018), <http://money.com/money/5238579/millions-of-americans-ignore-this-ultra-valuable-tax-break-heres-how-to-get-it/> [<https://perma.cc/6D59-JH2H>] (discussing the tax benefits of contributing money to a Health Savings Account); Teresa Mears, *7 Retirement Accounts You Should Consider*, U.S. NEWS AND WORLD REP. (Jan. 23, 2019, 10:40 AM), <https://money.usnews.com/money/retirement/articles/retirement-accounts-you-should-consider> [<https://perma.cc/C54M-QK4F>] (discussing and explaining various retirement savings options and attendant tax benefits).

117. The Annual Filing Season Program (AFSP) replaced the mandatory structure rendered void in *Loving* with a voluntary system aimed at the same group of generally unregulated return

representation before a court, then it is the rules of the courts, rather than the rules of the IRS, that apply. In Tax Court, non-attorneys who pass an examination may represent clients,<sup>118</sup> though, in the other courts, only attorneys may represent clients.<sup>119</sup>

Of the four tax services that CPAs and lawyers provide,<sup>120</sup> the greatest AI potential is with respect to planning. Compliance and dispute resolution programs are already progressing steadily. As mentioned above, tax compliance work has been computerized for decades now, and indeed

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preparers. Kelly Phillips Erb, *Congress Again Considers Licensing Tax Preparers*, FORBES (Aug. 2, 2018, 11:12 AM), <https://www.forbes.com/sites/kellyphillipserb/2018/08/02/congress-again-considers-licensing-tax-preparers/#131d0f392731> [<https://perma.cc/B8D2-AZYT>]. The IRS has a tool which allows users to look for a return preparer based on multiple credentials including participation in the AFSP. INTERNAL REVENUE SERV., DIRECTORY OF FEDERAL TAX RETURN PREPARERS WITH CREDENTIALS AND SELECT QUALIFICATIONS, <https://irs.treasury.gov/rpo/rpo.jsf> [<https://perma.cc/5BQT-U3R7>] (last visited Sept. 21, 2019).

118. 20 T.C.R. § 200(a)(3) (2012).

119. R.C.F.C. Rule 83.1 governs admission to the Court of Federal Claims and requires the applicant to be a member of the bar of the highest court in their territory or state. Admission to practice before district courts are governed by local rules, all of which require the applicant to be a practicing attorney. *See, e.g.*, N.D. CAL. CIV. L. R. § 11-1.

120. Of the various professionals and non-professionals who work in the tax field, the remainder of this article will be devoted to considering CPAs and lawyers. As the two dominant tax professions, CPAs and lawyers have long competed for tax work. In the 1950s and 1960s, concerns over how the tax field ought to be divided between lawyers and accountants became substantial. Whether or not accountants who engaged in tax-related work were engaging in the practice of law was a common question. *See, e.g.*, *Agran v. Shapiro*, 273 P.2d 619 (Cal. App. Dep't Super. Ct. 1954). In 1961, the ABA prohibited lawyers who were accountants from practicing in both professions, and the following year the ABA prohibited lawyers who were accountants from holding themselves out as accountants. Michael S. Ariens, *American Legal Ethics in an Age of Anxiety*, 40 ST. MARY'S L.J. 343, 436 (2008). Maintaining the division between lawyers and accountants was a high priority for many lawyers. *Id.* Harvard Law Dean Erwin Griswold said of this time that "the two great professions of law and accountancy were squared away for a battle royal." Erwin N. Griswold, Comment, *Role of Lawyer in Tax Practice*, 10 U.S.C. SCH. L., MAJOR TAX PLANNING 1, 1 (1958) (commenting on the consequence of the *Agran* case creating strife between lawyers and accountants); *see also* Erwin N. Griswold, *Lawyers, Accountants and Taxes*, 10 REC. ASS'N B. CITY N.Y. 52 (1955), reprinted in 18 TEX. B. J. 109 (1955); Erwin N. Griswold, *The Tax Practice Problem I: A Further Look at Lawyers and Accountants*, J. ACCT. 29 (1955). The National Conference of Lawyers and Certified Public Accountants has recognized both professions as qualified but have articulated principles that roughly divide the work. The Conference recognizes that both lawyers and CPAs are qualified to determine the probable tax effects of a transaction, but CPAs are encouraged to consult lawyers as to the interpretation or application of laws, and lawyers are encouraged to consult with CPAs as to describing the transaction in money terms or interpreting financial results. Preparing legal documents is the special expertise of lawyers while preparing financial statements and similar reports is the special expertise of CPAs. While both lawyers and CPAs are entitled to represent clients in Tax Court, the Conference advises CPAs to consult with lawyers when doing so. Nat'l Conference of Lawyers and Certified Pub. Accountants, *A Study of Interprofessional Relationships*, 56 A.B.A. J. 776, 778-80 (1970).

virtually no compliance remains uncomputerized.<sup>121</sup> Advances in computerizing this aspect of tax practice seem likely to be persistent and incremental. What seems most likely are advances in data gathering and reporting that may make real-time reporting of transactions commonplace.<sup>122</sup>

Professional services in audit representation and litigation will benefit as computer applications for resolving disputes of all types are improved. Whether the controversy is still within the audit stages or in the later litigation stages, the professional tasks are largely the same: devising and assessing legal arguments that fit the facts as they are. For these purposes, the computerization advances that benefit all litigators benefit the CPA and the tax lawyer. As AI advances improve the results of database search results, speed document review,<sup>123</sup> and reliably predict what judges or opposing counsel will do,<sup>124</sup> litigators in all fields will benefit.

### B. AI in Tax Planning

The greatest twenty-first-century potential for AI for tax professionals remains as predicted in the 1970s: computerized tax planning for businesses. The earliest attempts to computerize business tax planning were to minimize taxes in corporate reorganizations, stock redemptions, and specific foreign investments.<sup>125</sup> Today's cutting-edge work in AI and taxation has attempted to apply the technological advances since the 1970s to achieve a considerably more technically complex goal: creating previously undetected tax

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121. See *supra* text accompanying notes 68–92.

122. Peter Horadan, *The Future of Tax Compliance: Real-Time and Extensive Data Sharing*, ACCT. TODAY (Nov. 7, 2017, 9:00 AM), <https://www.accountingtoday.com/opinion/the-future-of-tax-compliance-real-time-and-extensive-data-sharing> [<https://perma.cc/Q492-QCCU>]. For an example of a system that has been operating and improving for almost two decades, see the Streamlined Sales Tax Project. *What is the Streamlined Sales Tax Project (SSTP)?*, SALES TAX INST., [https://www.salestaxinstitute.com/sales\\_tax\\_faqs/streamlined\\_sales\\_tax\\_project\\_sstp](https://www.salestaxinstitute.com/sales_tax_faqs/streamlined_sales_tax_project_sstp) [<https://perma.cc/3HV9-GPKC>] (last visited Sept. 21, 2019).

123. See Remus & Levy, *supra* note 10, at 515–16 (explaining the development of computerized research from keyword searches to statistically-based predictions of results).

124. See, e.g., *Docket Alarm*, *supra* note 31, at 47 (“creat[ing] a statistical model of the ways that judges and courts decide cases” by discerning patterns and developing predictive analytics from millions of court and agency documents); *Gavelytics*, *supra* note 31, at 49 (using natural language and guided machine learning to evaluate court documents and provide metrics about trial court judge behavior, including judicial speed, by providing a “gavel score”).

125. See Hellowell, *supra* note 72, at 1363 (a computer program for efficient stock redemption tax planning); Hellowell, *supra* note 74, at 339 (for U.S. tax planning of foreign mining investments); and Thorne McCarty, *supra* note 68, at 837 (a program for corporate reorganization tax planning).

shelters.<sup>126</sup> For almost fifty years there has been interest in applying cutting-edge computer programming to the business tax planning that is the bailiwick of CPAs and lawyers. With the exponential growth in processor speeds, the continuing reductions in data storage costs, and the ongoing advances in AI techniques, these aspirations presumably will be met.<sup>127</sup>

The allure of using AI in *ex ante* business tax planning is two-fold. First is obvious: the money. The total receipts of U.S. businesses each year exceeds \$37 trillion,<sup>128</sup> and U.S. businesses are subject to federal income tax rates up to 37%.<sup>129</sup>

Second is the complexity of the taxation of that money. Those businesses are organized as sole proprietorships, partnerships, S corporations, and C corporations.<sup>130</sup> While all businesses are subject to overlapping sections of the I.R.C., each of the entities has its own specific subchapter of the I.R.C. with the result that the taxation of any given business is determined with potential reference to hundreds of separate sections. There are about 25 million (non-farm) sole proprietorships, 3.5 million partnerships, 4.3 million S corporations, and 1.6 million C corporations.<sup>131</sup> The income of the first three is passed through to their owners' returns, and the owners are liable for the taxes, while the income of a C corporation is reported on its own return, and it is liable for the taxes.<sup>132</sup>

Adding to that complexity are the various non-tax aspects of businesses. First, the federal tax characterization and the state law characterization of an organization may not align. For example, a state law limited liability company may be characterized as a sole proprietorship, a partnership, an S

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126. See THE STEALTH PROJECT, *supra* note 91 (computer scientists at the MIT Computer Science & Artificial Intelligence Lab are working to generate new Subchapter K tax shelters so that the IRS can detect the shelters).

127. See Katz, *supra* note 23, at 922 (on the non-linear development of AI).

128. INTERNAL REVENUE SERV., 1980–2013 SOI TAX STATS – INTEGRATED BUSINESS DATA, <https://www.irs.gov/uac/soi-tax-stats-integrated-business-data> [https://perma.cc/YH9W-MWHZ] (look to “Table 1: Selected financial data on businesses” and then follow the “1980–2013” hyperlink).

129. 26 U.S.C. § 1 (West 2019) (the highest marginal rate for any taxpayer is that of individuals: currently, 37%.); see, e.g., Scott Greenberg, *Pass-Through Businesses: Data and Policy*, TAX FOUND. (Jan. 17, 2017) <https://taxfoundation.org/pass-through-businesses-data-and-policy/> [https://perma.cc/3JGM-8TPY] (an overview of the taxation of pass-through businesses). Since the income of pass-through businesses is taxed to its owners, the income is taxed at the owners' rates.

130. See Greenberg, *supra* note 129.

131. INTERNAL REVENUE SERV., *supra* note 128.

132. See Greenberg, *supra* note 129.



corporation, or a C corporation for federal tax purposes.<sup>133</sup> A second complication is the non-tax relationship between the business owners and the organization: many businesses are closely-held with a close overlap between management and ownership, while many other (and usually larger) businesses have little to no overlap between management and ownership.<sup>134</sup> A related complication is the relationship between the business and employees: in many closely held businesses the owner-managers are also employees, but in more widely held businesses there are few employees who are significant owners or managers.<sup>135</sup> And the most obvious non-tax complication for planning is the indescribable variation in business models, locations, and histories. For some estimation of the varieties of businesses, consider that the list of North American Industry Classification System code numbers the IRS requires taxpayers to use in categorizing their businesses runs over 900 pages.<sup>136</sup>

In order to speculate on the future of AI in *ex ante* business tax planning, it is useful to have a rough grasp of how tax planning occurs. Though in practical reality the steps are not cleanly distinct and sequential, there are five logical parts to a tax plan. First, the tax professional notices a potentially relevant tax issue either in a business goal presented by the client or in the professional's review of the client's operations. The issue is relevant to the extent it may impact the client's tax liability. Second, the tax professional researches the facts and the law, identifying uncertainties in either. This research is similar to a litigator's research: reviewing documents; talking to witnesses; and reading statutes, regulations, and case law. Third, in a step not available to those forced to try the case on the facts before them, the *ex ante* planner determines what the future facts should be and determines how best to create them; that is, the professional determines what actions the client should take and, perhaps, what actions the client should attempt to cause others to take. The plan is refined by further interactions with the client and others. Fourth, either formally or informally, the planner advises the client on

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133. See INTERNAL REVENUE SERV., FORM 8832: ENTITY CLASSIFICATION ELECTION AND GENERAL INSTRUCTIONS (2013), <https://www.irs.gov/pub/irs-pdf/f8832.pdf> [<https://perma.cc/97D4-WW88>].

134. DAVID L. GIBBERMAN & GERALYN A. JOVER-LEDESMA, 2019 PRINCIPLES OF BUSINESS TAXATION ¶ 601.02 (Jennifer Schencker et.al. eds., 2018).

135. *Id.*

136. OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, N. AM. INDUS. CLASSIFICATION SYS. MANUAL (2017), [https://www.census.gov/eos/www/naics/2017NAICS/2017\\_NAICS\\_Manual.pdf](https://www.census.gov/eos/www/naics/2017NAICS/2017_NAICS_Manual.pdf) [<https://perma.cc/8CBT-9QZZ>]; *My NAICS Code*, U.S. CENSUS BUREAU (last visited Aug. 24, 2019), <https://www.census.gov/smallbusiness/html/naics.html> [<https://perma.cc/JR26-MVPS>] (explaining the North American Industry Classification System).

the appropriate characterization of the plan on the client's future return, which may or may not be prepared by the planner. Finally, the plan is implemented through the series of actions, transactions, and documents advised by the planner.

How might AI applications change this process? The greatest transformation of tax planning by AI would be eliminating the need of the tax professional to identify the potentially relevant tax issues. Instead, the process would begin with as much information about the client's situation as is available being delivered into the AI system. An impressive feat of AI is its ability to detect patterns and identify relevance by searching for connections in the data provided to it by the human users—patterns and connections not previously identified by, or perhaps even noticed by, the human users.<sup>137</sup> Within this information the AI system would detect patterns and connections, and from those identify relevant law and planning opportunities. The information to be delivered would include a full description of the client's taxpaying and state law status and relationship with other businesses (e.g., a state law limited liability company taxed as a S corporation with overlapping ownership with another S corporation); past, present, and projected financial information; personal information on shareholders and employees (e.g., overlap between the two, relationships, ages, financial information); and the short-, mid-, and long-term goals of the client.<sup>138</sup> The AI could be expected to generate better results with access to a greater quantity and quality of information. The AI system would assess the information, adjusting for uncertainties and missing information and making estimates and predictions when useful.<sup>139</sup>

With the relevant legal issues identified and the facts duly assessed, AI could then generate a customized tax plan, drawing not only on the I.R.C., Treasury Regulations, case law, and IRS announcements, rulings, and publications but also on the vast number of secondary sources on tax and business planning, as well as from the AI system's own prior suggestions.<sup>140</sup>

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137. See, e.g., Karnow, *supra* note 3, at 147 (describing programs that take a large amount of data and then makes conclusions concerning common features without either labelling the data or human correction); Rostain, *supra* note 33, at 562–63 (in contrast to expert systems that embed rules to sort data, data-driven systems infer relations in unstructured data).

138. To begin understanding the vast range of factors that should be considered in business planning, see, for example, Dwight Drake, BUSINESS PLANNING: CLOSELY HELD ENTERPRISES 23–47 (Jesse H. Chopper et al. eds., 4th ed. 2013).

139. See, e.g., Karnow, *supra* note 3, at 142 (AI fuzzy logic).

140. AI has not yet proven itself able to “suggest new and promising combinations of existing arguments tailored to a client's factual circumstances,” even though it has proven itself in predicting how issues will be resolved in the courts. See Remus & Levy, *supra* note 10, at 549. Much contemporary AI is designed to learn from its own operations. See Calo, *supra* note 15, at 405; Karnow, *supra* note 3, at 174; Rostain, *supra* note 33, at 562–63.

As to the legal uncertainties, AI could research and resolve those uncertainties to an acceptable degree of confidence. As even the first available tax-specific legal research AI provided the user with the probability of a particular tax characterization being successful, it is easy to expect future AI to generate not only a plan but an assurance of the degree of confidence as to its appropriate characterization on the client's future return.<sup>141</sup> As described below, technically specified degrees of confidence are necessary to protect the taxpayer from penalty if the characterization is determined incorrect.<sup>142</sup> Those degrees of confidence include the position having a reasonable basis, substantial authority, or it being reasonable to believe the position was more likely than not to sustain scrutiny.<sup>143</sup> Often not only the last level of confidence but also the first ones are expressed, at least informally, as probabilities of success on the merits if the position is ultimately tested in court.<sup>144</sup>

One of the most useful functions of tax planning AI might be its ability to answer factual, not just legal, questions. Getting the facts in place is essential for the success of any tax plan. For example, whether or not a particular employee's compensation is reasonable is a fact issue shared by many tax plans and an issue often audited by the IRS.<sup>145</sup> On the most fundamental level, compensation is not deductible by an employer if it exceeds a reasonable amount.<sup>146</sup> But the issue also comes up in planning with both closely held C corporations and S corporations.<sup>147</sup> For C corporation clients with shareholders that are also employees, a common tax plan is to minimize the

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141. See *supra* text accompanying note 88.

142. See *infra* text accompanying notes 181–93.

143. *Id.*

144. *Id.*

145. For a discussion of the importance of determining reasonableness of compensation and methods for determining and defending such levels, see Robert J. Grossman, *The Reasonable Compensation Job Aid*, 98 PRAC. TAX STRATEGIES 308 (2017); Edward R. Rataj & Priya J. Kapila, *Reasonable Compensation Series: Part One*, 97 PRAC. TAX STRATEGIES 209 (2016); Edward R. Rataj & Priya J. Kapila, *Reasonable Compensation Series Part Two: Elements of Compensation*, 97 PRAC. TAX STRATEGIES 269 (2016); Edward R. Rataj & Priya J. Kapila, *Reasonable Compensation Series Part Three: Market Analysis Considerations*, 98 PRAC. TAX STRATEGIES 330 (2017); Edward R. Rataj & Priya J. Kapila, *Reasonable Compensation Series Part Four: Market Competitive Compensation Data*, 98 PRAC. TAX STRATEGIES 27 (2017); Edward R. Rataj & Priya J. Kapila, *Reasonable Compensation Series Part Five: Fundamental Compensation-Related Statistics*, 98 PRAC. TAX STRATEGIES 91 (2017); Edward R. Rataj & Priya J. Kapila, *Reasonable Compensation Series Part Six: Standard Methodology*, 98 PRAC. TAX STRATEGIES 154 (2017).

146. 26 U.S.C. § 162 (2018) (permits only reasonable compensation to be deducted from the gross income of a business). See also GIBBERMAN & JOVER-LEDESMA, *supra* note 134, at ¶ 601.02; Grossman, *supra* note 145, at 308.

147. See GIBBERMAN & JOVER-LEDESMA, *supra* note 134, at ¶ 601.02.

distributions to the shareholder-employees that can be characterized as dividends and to maximize the distributions that can be characterized as compensation.<sup>148</sup> But for S corporations with shareholder-employees, the plan is to minimize the compensation characterizations and maximize the dividend characterizations.<sup>149</sup> In both cases, the tax minimization success depends upon the dollar amounts characterized as compensation being reasonable, in fact.<sup>150</sup> AI could generate not only the appropriate plan for the S corporation shareholder-employee, for example, but it could also determine the best dollar amount to be characterized as compensation and the best dollar amount as dividends by drawing on information about the employee's qualifications, experience, duties, compensation history, and information on compensation in relevant industries.<sup>151</sup> Similar issues, which today are handled by human experts, could be handled by AI as an integral part of its advice-generation. A tax planning AI that could address similar factual issues, such as the valuation of assets, for example, of equity capital interests in business enterprises, including corporations, partnerships, and limited liability companies, and whether or not a transaction has non-tax economic substance, which is essential to avoiding the penalties for transactions that lack such substance, would be extraordinarily valuable.<sup>152</sup>

The value of AI would be amplified by its speed and ease. In the most obvious way, speed and ease benefit the client. The transformative potential is at the extremes of speed and ease where tax planning ceases to be an occasional process, a process prompted by a business life cycle event, transaction, or other extraordinary occasion. Instead, tax planning could become a continuous process: the continuous, even real-time delivery of information to AI with continuous, even real-time tax minimization planning being delivered by AI.<sup>153</sup>

The great appeal of tax planning AI would be its ability to quickly and perhaps continuously resolve legal and factual issues in generating a tax plan

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148. A dividend paid by a C corporation is not deductible by the corporation, but reasonable compensation is deductible. Thus, for shareholder-employees it is more advantageous to the corporation's ultimate tax liability to pay compensation than it is to pay dividends. Both are taxable the shareholder-employee's income. *Id.*

149. A dividend paid by an S corporation is not taxable to a shareholder's income though compensation paid to a shareholder-employee is. Thus, unlike the situation with the C corporation shareholder-employees, those in an S corporation benefit from having payments characterized as dividends rather than compensation. *Id.*

150. *Id.*

151. *Id.*

152. On the importance of the valuation of equity capital interests in business enterprises, including corporations, partnerships and limited liability companies, see, for example, Robert J. Grossman, *Enterprise Valuation After the TCJA*, 101 PRAC. TAX STRATEGIES 19 (2018).

153. *See supra* note 122 and accompanying text.

and assessing the probability of its enduring audit and litigation. AI could be used to address the tax planning opportunities in the initial organization, subsequent reorganizations, and final liquidation of a business, and the comings and goings of its owners and employees, its payment of expenses, receipt of income, distributions of profits, its borrowing and lending, its expanding and contracting, and all transactions both within and beyond its ordinary course of business. Some of the opportunities spotted by AI, and some of the plans generated, would be well known to experienced business tax professionals. But, the great potential of tax planning appeal is that, at least sometimes, AI might be better at spotting opportunities and generating plans than those same experienced professionals. Along with speeding and easing the tax planning, it is this potential for AI to deliver a better plan that would lure professionals into AI.

#### IV. PROFESSIONALISM, AI, AND TAX PLANNING

##### A. Professional Responsibility Concerns

What are the professional responsibility concerns of tax professionals working with AI as imagined above? The potential as imagined is for AI to function itself as a tax planner. Identifying relevant facts and laws, making appropriate assumptions and estimations, applying the law to the facts, and then inferring opportunities and assessing the legal risks of pursuing those opportunities is, in short, what CPAs and tax lawyers do. What needs to be considered is the professional responsibility of tax professionals working with what is, in some sense, their technological substitute and that, in some cases, performs not only as well as but better than the professionals.

Setting aside concerns that direct taxpayer use of tax planning AI could displace tax planning professionals in many situations, the concern at hand is articulating the right use of tax planning AI by professionals. Tax professionals are often said to have two duties: one to the system and one to the client.<sup>154</sup> This duty to the system has been described variously as the duty

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154. See, e.g., GALLER & LANG, *supra* note 4; Schenk, *supra* note 4, at 2005 (claims the self-reporting nature of the tax system means that the tax system cannot permit the “absolute adversarial” relationship that lawyers might have in other situations). The idea that the professional responsibility of tax professionals must be framed within the self-reporting nature of our tax system, seems the most common argument for tax lawyers’ duty to the system. *Id.*; see also WOLFMAN, HOLDEN, & HARRIS, *supra* note 4, at § 101.2; Infanti, *supra* note 4. However, some have criticized this conception of the tax lawyer. See, e.g., David J. Moraine, *Loyalty Divided: Duties to Clients and Duties to Others—the Civil Liability of Tax Attorneys Made Possible by the Acceptance of a Duty to the System*, 63 TAX LAW. 169, 190–91 (2009).

to the government, the Treasury, the public interest, and the duty to our self-assessing tax system.<sup>155</sup> This duty has been premised on the alignment of patriotism, professionalism, respect for democratic government funded by taxes, and the need of each citizen to pay his or her share.<sup>156</sup> It is the recognition that the government needs revenue to fund the public good, and that the professional must not lose sight of her and her client's benefit from government services when advising the client on tax minimization. It is, at the least, the recognition that professionally responsible advising protects the interest of the public and not just those of the client and the professional. It means, in the most practical terms, that the advice not be too aggressive or ever premised on its likelihood of escaping detection and question.<sup>157</sup> It is within this context of the tax professional as gatekeeper that the professional pursues her duty to minimize her client's tax liabilities without exposing the client to undue risk of controversy, litigation, and penalties. The bottom line for tax professionals is found in balancing cleverness with caution, accepting that what is at stake is both the public's good and the client's good.

This balancing requires the CPA or tax lawyer to understand the facts and law well enough to be able to adequately advise the client. If the tax professional does not understand, then she cannot balance the risks and rewards with good judgment. If she does not understand, then she cannot explain the risks and rewards to the client in a way that allows the client to understand and weigh and choose the way forward.<sup>158</sup> The client's relative lack of understanding is an important part of the relationship with a professional. A patient's inability to understand what stage three non-Hodgkins lymphoma is relative to the oncologist's understanding is part of what makes the oncologist the professional. A professional relationship is

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155. *E.g.*, Edmond Cahn et al., *Ethical Problems of Tax Practitioners: Transcript of Tax Law Review's 1952 Banquet*, 8 TAX L. REV. 1, 10 (1952) ("treasury" was used in the statements by Thomas N. Tarleau); Norris Darrell, *Conscience and Propriety in Tax Practice*, 17 N.Y.U. ANN. INST. ON FED. TAX'N 1, 2 (1959) (using the term "self-assessing income tax system"); Mark H. Johnson, *Does the Tax Practitioner Owe a Dual Responsibility to his Client and to the Government?—the Theory*, 15 U.S.C. L. SCH. INST. ON MAJOR TAX PLAN. 15 (1963) (using the term "government"); John M. Maguire, *Conscience and Propriety in Lawyer's Tax Practice*, 13 TAX L. REV. 27, 44 (1957) (using the term "public interest"); Milton Young, *Does the Tax Practitioner Owe a Dual Responsibility to His Client and to the Government?—the Practice*, 15 U.S.C. L. SCH. INST. ON MAJOR TAX PLAN. 39 (1963) (using the term "government").

156. *See* Merle H. Miller, *Morality in Tax Planning*, 10 N.Y.U. ANN. INST. ON FED. TAX'N 1067, 1083 (1952).

157. The taxpayer and return preparer penalty regimes described below are aimed to constrain aggressive advice. The requirement that the advice is not premised on escaping audit is described by various authorities. *See, e.g.*, 26 C.F.R. § 1.6662-4(d)(2) (2019); 26 C.F.R. § 1.6694-2(b)(1) (2019); 31 C.F.R. § 10.37(a)(vi) (2014).

158. The unstructured communication involved in client counseling is likely to long remain beyond the functionality of AI. *See* Remus & Levy, *supra* note 10, at 538.

always an unequal one. It requires trust and deference by the patient/client, and it requires an expert understanding of the situation by the professional—an understanding that, by definition, surpasses that of the patient/client. A professional with an irresponsibly low understanding might encourage a patient/client to assume greater risks or forego greater rewards than the patient/client would choose if she had an expert's understanding of the risks and rewards. A tax professional with an irresponsibly inadequate understanding either might induce the client to claim overly aggressive tax benefits with unacceptably high risks of legal defeat and financial penalties or, equally irresponsibly, might preclude the client from claiming tax benefits to which she is certainly entitled.

A professionally adequate understanding of the facts and laws benefits not only the client by enabling her to minimize her taxes without undue risks but also the public good. When public resources are spent enforcing laws that adequate professional advice would have kept the taxpayer from violating, the efficiency of the taxing system is diminished by the increased administrative costs. And when the taxpayer with an illegally low tax liability escapes detection or enforcement, then the total revenue that should have been collected for the public good is diminished.<sup>159</sup> Either through the increased costs or decreased revenue, the public good is harmed. Thus, the duty of the tax professional to understand well enough to advise and explain reflects the professional duty to both the system and the client.

With the potential for the tax planning AI used by the professional to become a technological substitute for the professional's understanding, the temptation will be for the professional to defer to the AI analysis in every instance. This temptation will be as strong as the AI seems good. But by deferring, the professional would make the AI into a substitute for the professional. The heart of professionalism lies in asserting judgement, not in

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159. Periodically, the IRS estimates the level of compliance with federal revenue laws by estimating the tax gap. From its most recent report: "The gross tax gap is the amount of true tax liability that is not paid voluntarily and timely. The estimated gross tax gap is \$458 billion. The net tax gap is the gross tax gap less tax that will be subsequently collected, either paid voluntarily or as the result of IRS administrative and enforcement activities; it is the portion of the gross tax gap that will not be paid. It is estimated that \$52 billion of the gross tax gap will eventually be collected resulting in a net tax gap of \$406 billion. The voluntary compliance rate (VCR) is a ratio measure of relative compliance and is defined as the amount of tax paid voluntarily and timely divided by total true tax, expressed as a percentage. The VCR corresponds to the gross tax gap. The estimated VCR is 81.7 percent. The net compliance rate (NCR) is a ratio measure corresponding to the net tax gap. The NCR is defined as the sum of 'tax paid voluntarily and timely' and 'enforced and other late payments' divided by 'total true tax', expressed as a percentage. The estimated NCR is 83.7 percent." INTERNAL REVENUE SERV., *TAX GAP ESTIMATES FOR TAX YEARS 2008–2010* at 1 (2016), <https://www.irs.gov/pub/newsroom/tax%20gap%20estimates%20for%202008%20through%202010.pdf> [<https://perma.cc/979X-2QN5>].

substituting another's judgment for one's own, even when the other's competence may equal or exceed one's own, and even when the other is not human.

In articulating the standards of professional responsibility for CPAs and tax lawyers, the hard problem is that AI will be useful to them exactly to the extent it approaches or exceeds their quality of function. In other words, AI will be useful to the extent they can rely on it as a substitute for their own work. But the problem is not as novel as it may seem. No one suggests that professionalism requires accountants to work out by hand or abacus the calculations in their Excel spreadsheets. Nor does anyone suggest lawyers second-guess their Lexis or Westlaw search results by double-checking their research with library books.

These and countless other technologies professionals rely upon without controversy because, due to the reputation of these products and their long-term and wide-spread use, reliance on the products is professionally appropriate. That no one marvels at their wizardry is not evidence that the products are not marvelously powerful and useful, but, rather simply, that they have become commonplace. Perhaps in fifty years, our professional descendants will no more marvel at what AI has become than we marvel at Excel or Lexis. That seems likely once we consider that our professional ancestors fifty years back would no doubt marvel at what we can do in our palms.

Yet the burden to begin articulating appropriate standards for using AI is on this generation because we will be the first to use it. The starting point is recognizing what AI has in common with technologies that are indisputably reasonable for professionals to use. We do not doubt it is appropriate for professionals to use spreadsheets and databases, though we expect them to use ones with good reputations for quality and to use them correctly and to understand something of their designs and limits. And this is what we should expect of professionals using AI.

AI as imagined and predicted is, however, distinguishable from the technologies currently used. It is not merely that the shine and novelty has worn off those technologies. The promise of AI is to do more: it is to deliver advice almost equivalent, if not equivalent, to a human expert's. The concern at hand is to articulate how tax professionals should use it. But the problem may not be as novel as it first seems. CPAs and tax lawyers have professional standards for how to use advice given them by other humans. Ignoring the temptation to focus on the source of the completed work product being either human or digital, the standards for determining when it is reasonable for a professional to rely upon another professional's advice are the most analogous to the use of AI we expect—and hope or fear—will emerge.



## B. Professional Responsibility Standards

### 1. Federal Standards: Taxpayer Penalties

To discuss the professional duties of tax professionals, it is useful to introduce the legal duties of their clients, the taxpayers. The U.S. federal income tax system is one of self-reporting. The government does not provide taxpayers with bills, but rather taxpayers are obligated to file a return they believe to be true and correct in all material matters.<sup>160</sup> The taxpayer is responsible for gathering the relevant facts and applying the relevant law to determine and report the liability for the year. Generally, the annual return does not describe the legal argument behind a taxpayer's characterization (e.g., that the expense is deductible).<sup>161</sup> Nor, generally, does it require providing underlying information (e.g., receipts) with the return, though the taxpayer has the duty to keep adequate books and records to substantiate what was reported.<sup>162</sup> Once the return is filed, it is subject to an automated review, which checks for mathematical errors and compares the information on the return with information the IRS has obtained elsewhere, and also assesses the likelihood of errors on the return.<sup>163</sup>

If the review by the IRS determines the taxpayer understated the liability due, and the taxpayer acquiesces in the determination or a court upholds it, the taxpayer must pay the additional tax along with interest.<sup>164</sup> However, the taxpayer may not necessarily be subjected to penalties. A taxpayer who was

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160. On the government providing ready returns to taxpayers, see Joseph Bankman, *Simple Filing for Average Citizens: The California ReadyReturn*, 107 TAX NOTES 1431, 1431 (2005); Mock & Shurtz, *supra* note 77, at 529. *But see* Lawrence Zelenak, *Justice Holmes, Ralph Kramden, and the Civic Virtues of a Tax Return Filing Requirement*, 61 TAX L. REV. 53 (2007); William Ahern, "ReadyReturn" a Bad Idea That's Hard To Kill, TAX FOUND. (2009), <https://taxfoundation.org/readyreturn-bad-idea-thats-hard-kill/> [<https://perma.cc/54UG-43W5>].

161. For example, a sole proprietor would deduct reasonable compensation in the expenses line on their Schedule C, line 26. The 2018 Schedule C instructions for line 26 only require the taxpayer to reduce the amount by enumerated credits where applicable. No analysis on the amount is otherwise required. INTERNAL REVENUE SERV., 2018 INSTRUCTIONS FOR SCHEDULE C, C-9 (2018).

162. 26 U.S.C. § 6001 (2018) requires taxpayers to maintain records to substantiate their returns though they don't necessarily have to turn those records in with their return. For example, a person claiming a charitable deduction would enter the amount they gave in cash on Schedule A, line 11. The instructions for Schedule A, however, explicitly state that the taxpayer should not attach receipts to substantiate the amount, but rather, merely keep the records. INTERNAL REVENUE SERV., 2018 INSTRUCTIONS FOR SCHEDULE A, A-10 (2018).

163. *See* INTERNAL REVENUE SERV., *supra* note 106, at 2.

164. 26 U.S.C. §§ 6651–63 provide for non-penalty additions to tax. For an explanation, see MERTENS LAW OF FEDERAL INCOME TAXATION § 55:1, 55:7–8 (Hersel Shadian ed., 2018).

not negligent in the return-filing process and whose understated liability was not substantial will not be penalized.<sup>165</sup>

Internal Revenue Code section 6662 provides the penalty structure for taxpayers who were negligent, substantially understated the income tax liability, or claimed tax benefits from a transaction that lacked economic substance.<sup>166</sup> There are exceptions to the penalties for both negligence and substantial understatement of liabilities, but the penalty for claiming benefits from transactions without economic substance cannot be avoided.<sup>167</sup>

If the taxpayer's position has a "reasonable basis," even though it was incorrect, then the taxpayer will not be considered negligent.<sup>168</sup> The Treasury Regulations describe the reasonable basis standard as "a relatively high standard of tax reporting, that is, significantly higher than not frivolous or not patently improper."<sup>169</sup> Informally, a position with a reasonable basis is often said to have a 10% to 20% chance of success on the merits, if litigated.<sup>170</sup>

The taxpayer is at risk of an understatement penalty only if the understatement is substantial.<sup>171</sup> But even if the understatement is substantial, the taxpayer will be protected from penalty in several situations. First is if the position had a reasonable basis and was disclosed to the IRS when the return was filed. Second is if the position had "substantial authority," even if it was not disclosed to the IRS.<sup>172</sup> "Substantial authority" is as an objective measure of the weight of authorities in favor of the position.<sup>173</sup> Informally, positions with substantial authority are often said to have at least a 40% chance of

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165. MERTENS LAW OF FEDERAL INCOME TAXATION, *supra* note 164, § 55:6.

166. 26 U.S.C. § 6662(b)(1) (2018) (indicating negligence and disregard of rules or regulations), (2) (indicating substantial understatement), and (6) (indicating tax benefits claimed from transaction lacking economic substance). *Id.* § 6662 imposes several other penalties. For example, 26 U.S.C. § 6662(b)(3) penalizes substantial valuation misstatements. *Id.* § 6663(a) imposes a hefty penalty where an underpayment is due to fraud. *Id.* § 7206 imposes monetary and criminal sanctions for fraud in some circumstances.

167. The penalty for claiming tax benefits from transactions that lack economic substance cannot be avoided once the transaction has been determined to lack economic substance. 26 U.S.C. § 6664(c)(2), (d)(2) (2018). On the codification into the penalty regime of this long-time, court-created doctrine, see Richard M. Lipton, 'Codification' of the *Economic Substance Doctrine—Much Ado About Nothing?*, 112 J. TAX'N 325, 325 (2010).

168. 26 C.F.R. § 1.6662-3(b)(1) (2018) provides that a return position with a "reasonable basis" is not attributable to negligence.

169. 26 C.F.R. § 1.6662-3(b)(3) (2018).

170. See Jasper L. Cummings, Jr., *The Range of Legal Tax Opinions, with Emphasis on the 'Should' Opinion*, 98 TAX NOTES 1125 (2003).

171. Generally, 26 U.S.C. § 6662(d)(1) (2018) defines an understatement as substantial if it is greater than 10% of the correct amount or \$5,000, except in the case of corporations. For corporations, the understatement exceeds the lesser of (i) 10% of the correct amount (or \$10,000, if greater) or (ii) \$10,000,000.

172. CUMMINGS, *supra* note 170.

173. *Id.*

success on the merits.<sup>174</sup> Neither a disclosed position with a reasonable basis nor a position with substantial authority will protect the taxpayer if a tax shelter was involved.<sup>175</sup> If a tax shelter was involved, then the position must have had substantial authority, and the taxpayer must have believed the position was more likely than not to prevail (i.e., had a greater than 50% chance of success) in order for the taxpayer to avoid the penalty.<sup>176</sup>

There is another defense for the taxpayer whose understatement did not involve a tax shelter or a transaction without economic substance. Even if there was negligence or a substantial understatement, the taxpayer will not be penalized if “it [can be] shown that there was a reasonable cause” and “the taxpayer acted in good faith.”<sup>177</sup> The Treasury Regulations provide this is determinable on “a case-by-case basis, taking into account all pertinent facts and circumstances,” including the “experience, knowledge, and education of the taxpayer” and, most importantly, “the extent of the taxpayer’s effort.”<sup>178</sup> Reliance on information, such as W-2 forms or valuation provided by others, may have been reasonable and in good faith, as reliance on the advice or opinion of a professional may have been.<sup>179</sup> With respect to the last, the taxpayer’s “education, sophistication and business experience” is relevant as is whether the taxpayer should have known the advisor lacked appropriate knowledge of tax law and the facts (e.g., if the taxpayer failed to inform the advisor of certain facts).<sup>180</sup>

## 2. Federal Standards: Tax Return Preparer Penalties

The standards for tax return preparers reflect the penalty standards for taxpayers.<sup>181</sup> Generally, if a tax return preparer prepares a return resulting in an understatement, then the position causing the understatement needs to have had a reasonable basis and been disclosed or have had substantial

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174. *See id.*

175. 26 U.S.C. § 6662(d)(2)(C) (2018). A tax shelter includes any plan if a significant purpose is the avoidance or evasion of federal income tax. *Id.* This definition of tax shelter has been criticized. *See Hatfield, supra* note 100, at 700–05.

176. 26 C.F.R. § 1.6662-4(g)(1), (f)(1) (2018). For corporate taxpayers, establishing this is necessary but insufficient to avoid the penalty while for non-corporate taxpayers it is sufficient. This regulation appears based on a prior but not the current statute. Both of these exceptions are part of the reasonable cause exception for underpayments, and a corporate taxpayer must prove the reasonable cause exception applies. GALLER AND LANG, *supra* note 4, at 53–54.

177. 26 U.S.C. § 6664(c)(1) (2018).

178. 26 C.F.R. § 1.6664-4(b)(1) (2018).

179. *Id.*

180. *Id.* § 1.6664-4(c)(1) (2018).

181. For a discussion of the development of the standards and the changes from the professional standards, see GALLER & LANG, *supra* note 4, at 150–58.

authority so that the preparer escapes penalty.<sup>182</sup> If the position involved a tax shelter, then the preparer needs to have reasonably believed it was more likely than not to succeed in order to escape penalty.<sup>183</sup>

As with taxpayers, there is also a reasonable cause exception: even if the incorrect return position did not satisfy the appropriate standard, the preparer will not be penalized so long as the understatement was due to reasonable cause and the preparer acted in good faith.<sup>184</sup> In determining whether or not there was reasonable cause and good faith, the Treasury Regulations provide that all the facts and circumstances are relevant, including whether the provision was “complex, uncommon, or highly technical,” and whether the normal office procedures of the preparer promoted accuracy and consistency in such a way that errors like the one in question would be rare.<sup>185</sup> The Treasury Regulations explicitly provide that a preparer may, with reasonable cause and good faith, rely on the advice of another return preparer or other advisor without verifying the advice or information so long as: (i) the preparer had reason to believe the other party was competent to give the advice or information; (ii) the advice or information is not unreasonable on its face; (iii) the other party was aware of all relevant facts (so far as the preparer knew or should have known); (iv) there were no intervening developments of the law that would make the advice unreliable; and (v) the return preparer makes reasonable inquiries if what is provided (or its implications) appears incorrect or incomplete.<sup>186</sup>

These penalties apply to “tax return preparers,” but that definition is sufficiently broad to include professionals who never see the return.<sup>187</sup> The division between planner and preparer is the time at which advice is given.<sup>188</sup>

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182. 26 U.S.C. § 6694(a) (2018). The return preparer may also be penalized in more egregious situations too, of course. For example, anyone who prepares tax-related documents that are “fraudulent” or “false as to any material matter” may be committing a felony under 26 U.S.C. § 7206(2), even if the false statement is not material to calculating the tax liability. *United States v. Abbas*, 504 F.2d 123, 126 (9th Cir. 1974). There are many I.R.C. sections that impose criminal sanctions. *See* 26 U.S.C. §§ 7201–17 (2018).

183. 26 U.S.C. § 6694(a)(2)(C) (2018). This also applies to “reportable transactions” under 26 U.S.C. § 6662A.

184. 26 U.S.C. § 6694(a)(3) (2018).

185. 26 C.F.R. § 1.6694-2(e)(1), (4) (2018).

186. *Id.* §§ 1.6694-1(e)(1), -2(e) (2018).

187. If less than 5% of the aggregate time incurred by the advisor with respect to the position is after the events have occurred, he or she will not be considered a non-signing preparer. This is a *de minimis* safe harbor. 26 U.S.C. § 7701(a)(36) (2018); 26 C.F.R. § 301.7701-15(b)(2)(i) (2018). It is also necessary that the position is related to a financially substantial amount. 26 C.F.R. § 301.7701-15(b)(3) (2018). For a discussion, see BORIS BITTKER, MARTIN MCMAHON & LAWRENCE ZELANAK, *Tax Return Preparers*, in *FEDERAL INCOME TAXATION OF INDIVIDUALS* ¶ 46.03 (2018).

188. BITTKER, MCMAHON & ZELANAK, *supra* note 187.

So long as the tax advice is given before the relevant transaction occurs, the professional is an *ex ante* tax planner and not an *ex post* return preparer.<sup>189</sup> However, a material amount of tax advice after the transaction occurs may make the *ex ante* advisor into a “non-signing return preparer,” even if he or she never sees the return.<sup>190</sup>

Indirectly, however, the return preparer penalty standards guide all responsible *ex ante* tax planning professionals. First, of course, sometimes the tax planner will prepare and file the return. Second, even if an advisor will not prepare the return and does not anticipate providing advice after the plan is implemented, there is always the chance that follow-up advice will be needed by the client or the return preparer. And this can transform an advisor into a non-signing return preparer. Finally, when giving tax advice, a planner presumes his or her advice will be eventually reflected on the client’s return, and the client will be subjected to penalties if there is an understatement and the position did not meet the requisite confidence (and perhaps disclosure) level.<sup>191</sup>

### 3. Federal Standards: Circular 230

It is not only through these I.R.C. provisions and their regulation of return preparers that the federal government regulates tax professionals. Congress has authorized the IRS to regulate all who “practice before” it.<sup>192</sup> As mentioned above, this includes CPAs and lawyers who give written tax advice, even though, perhaps counter-intuitively, it does not cover return

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189. *Id.*

190. *Id.*

191. AICPA Statement on Standards for Tax Services (SSTS) No 7, Form and Content of Advice to Taxpayers: Statement 3 (“A member should assume that tax advice provided to a taxpayer will affect the manner in which the matters or transactions considered would be reported or disclosed on the tax return. Therefore, for tax advice given to a taxpayer, the member should consider, when relevant (a) return reporting and disclosure standards applicable to the related tax return position and (b) the potential penalty consequences of the return position.”).

192. 31 U.S.C. § 330 provides the Secretary of the Treasury this authority with respect to those practice before the Department of the Treasury. The IRS is an agency within the Treasury Department.

preparers as such.<sup>193</sup> The Treasury Regulations governing these tax professionals is known as “Circular 230.”<sup>194</sup>

While, for the most part, Circular 230 imposes standards for return preparation that reflect those the I.R.C. imposes on taxpayers and return preparers, practitioners only violate those standards through willfulness, recklessness, or gross incompetence.<sup>195</sup> However there is nothing in the I.R.C. similar to Circular 230’s regulation of written advice. Circular 230 regulates written advice on any “federal tax matter,” which is any “matter concerning the application or interpretation of” any law or regulation administered by the IRS.<sup>196</sup> In writing its advice, the tax professional must use reasonable efforts to ascertain all the relevant facts and take them into consideration when relating the law to the facts, making reasonable assumptions, as appropriate, and not relying on information provided by others, if it would be unreasonable.<sup>197</sup> There is a specific provision regarding

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193. 31 C.F.R. § 10.2(a)(4) (2018) (“Practice before the Internal Revenue Service comprehends all matters connected with a presentation to the Internal Revenue Service or any of its officers or employees relating to a taxpayer’s rights, privileges, or liabilities under laws or regulations administered by the Internal Revenue Service. Such presentations include, but are not limited to, preparing documents; filing documents; corresponding and communicating with the Internal Revenue Service; *rendering written advice with respect to any entity, transaction, plan or arrangement, or other plan or arrangement having a potential for tax avoidance or evasion*; and representing a client at conferences, hearings, and meetings.”) (emphasis added).

194. For a history of Circular 230, see Bryan T. Camp, ‘Loving’ Return Preparer Regulation, 140 TAX NOTES 457, 457–62 (2013).

195. See 31 C.F.R. § 10.34 (2018) (standards with respect to tax returns). After the IRS was denied the authority to regulate tax return preparers as such, see *Loving v. IRS*, 742 F.3d 1013 (2014), it is not clear how the return preparation standards apply to CPAs and lawyers who, other than by preparing the return would not be considered to be practicing before the IRS under § 10.2(a)(4). GALLER & LANG, *supra* note 4, at 96.

196. 31 C.F.R. § 10.37(d) (2019) (“A Federal tax matter, as used in this section, is any matter concerning the application or interpretation of (1) A revenue provision as defined in § 6110(i)(1)(B) of the Internal Revenue Code; (2) Any provision of law impacting a person’s obligations under the internal revenue laws and regulations, including but not limited to the person’s liability to pay tax or obligation to file returns; or (3) Any other law or regulation administered by the I.R.S.”).

197. *Id.* § 10.37(a)(2) (2018) (“The practitioner must—(i) Base the written advice on reasonable factual and legal assumptions (including assumptions as to future events); (ii) Reasonably consider all relevant facts and circumstances that the practitioner knows or reasonably should know; (iii) Use reasonable efforts to identify and ascertain the facts relevant to written advice on each Federal tax matter; (iv) Not rely upon representations, statements, findings, or agreements (including projections, financial forecasts, or appraisals) of the taxpayer or any other person if reliance on them would be unreasonable; (v) Relate applicable law and authorities to facts; and (vi) Not, in evaluating a [f]ederal tax matter, take into account the possibility that a tax return will not be audited or that a matter will not be raised on audit.”).

the professional's reliance on the advice of others.<sup>198</sup> It allows reliance when it is reasonable and in good faith.<sup>199</sup> It will not be in good faith if the practitioner knows or reasonably should know that the advice is unreliable or that the person is not competent.<sup>200</sup> In applying these requirements, the IRS will consider what a reasonable practitioner would have done.<sup>201</sup>

Echoing codes of professional responsibility, Circular 230 imposes requirements of due diligence (§ 10.22) and competence (§ 10.35). As for the latter, the practitioner must have “the appropriate level of knowledge, skill, thoroughness, and preparation,” and can acquire such through consultation with others or study.<sup>202</sup> Practitioners are required to exercise due diligence, but they will be presumed to have done so when relying on the work of another person so long as “the practitioner used reasonable care in engaging, supervising, training, and evaluating the person.”<sup>203</sup>

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198. *Id.* § 10.37(b) (2018) (“Reliance on advice of others. A practitioner may only rely on the advice of another person if the advice was reasonable and the reliance is in good faith considering all the facts and circumstances. Reliance is not reasonable when—(1) The practitioner knows or reasonably should know that the opinion of the other person should not be relied on; (2) The practitioner knows or reasonably should know that the other person is not competent or lacks the necessary qualifications to provide the advice; or (3) The practitioner knows or reasonably should know that the other person has a conflict of interest in violation of the rules described in this part.”).

199. *Id.*

200. *Id.*

201. 31 C.F.R. § 10.37(c)(1) (2018) (“(c) Standard of review. (1) In evaluating whether a practitioner giving written advice concerning one or more [f]ederal tax matters complied with the requirements of this section, the Commissioner, or delegate, will apply a reasonable practitioner standard, considering all facts and circumstances, including, but not limited to, the scope of the engagement and the type and specificity of the advice sought by the client.”).

202. 31 C.F.R. § 10.35(a) (2018) (“A practitioner must possess the necessary competence to engage in practice before the Internal Revenue Service. Competent practice requires the appropriate level of knowledge, skill, thoroughness, and preparation necessary for the matter for which the practitioner is engaged. A practitioner may become competent for the matter for which the practitioner has been engaged through various methods, such as consulting with experts in the relevant area or studying the relevant law.”).

203. 31 C.F.R. § 10.22 (2018) (“(a) In general. A practitioner must exercise due diligence—(1) In preparing or assisting in the preparation of, approving, and filing tax returns, documents, affidavits, and other papers relating to Internal Revenue Service matters; (2) In determining the correctness of oral or written representations made by the practitioner to the Department of the Treasury; and (3) In determining the correctness of oral or written representations made by the practitioner to clients with reference to any matter administered by the Internal Revenue Service. (b) Reliance on others. Except as modified by §§ 10.34 and 10.37, a practitioner will be presumed to have exercised due diligence for purposes of this section if the practitioner relies on the work product of another person and the practitioner used reasonable care in engaging, supervising, training, and evaluating the person, taking proper account of the nature of the relationship between the practitioner and the person.”).

#### 4. Professional Association Standards: ABA and AICPA

CPAs and lawyers are also regulated by their professional associations. For lawyers, the ABA has issued its Model Rules of Professional Conduct, which have been adopted (in some form or another) in almost every jurisdiction.<sup>204</sup> It is the jurisdiction that has the authority to regulate and discipline lawyers, not the ABA, though the ABA does issue opinions on professional responsibility situations that may be persuasive to the local bars.<sup>205</sup>

For lawyers, the first rule for professional conduct is competence: “A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation.”<sup>206</sup> This includes using “methods and procedures meeting the standards of competent practitioners.”<sup>207</sup> In some situations, the competent lawyer may need to involve the services of another lawyer.<sup>208</sup> This is permitted if the lawyer “reasonably believe[s] that the other lawyers’ services will contribute to the competent and ethical representation of the client.”<sup>209</sup> The reasonableness will depend, in part, upon the education, experience, and reputation of the other lawyer and the nature of the services assigned to him or her.<sup>210</sup> A lawyer is also required to “act with reasonable diligence and promptness.”<sup>211</sup> This latter requirement has been taken to mean that not only will the lawyer be

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204. RONALD D. ROTUNDA & JOHN S. DZIENKOWSKI, *LEGAL ETHICS: THE LAWYER’S DESKBOOK ON PROFESSIONAL RESPONSIBILITY* § 1-1(e)(4) (2018–2019 ed.).

205. GALLER & LANG, *supra* note 4, at 7.

206. MODEL RULES OF PROF’L CONDUCT r. 1.1 (AM. BAR ASS’N 2018).

207. MODEL RULES OF PROF’L CONDUCT r. 1.1 cmt. 5 (AM. BAR ASS’N 2018) (“Competent handling of a particular matter includes inquiry into and analysis of the factual and legal elements of the problem, and use of methods and procedures meeting the standards of competent practitioners.”).

208. MODEL RULES OF PROF’L CONDUCT r. 1.1 cmt. 6 (AM. BAR ASS’N 2018) (“Before a lawyer retains or contracts with other lawyers outside the lawyer’s own firm to provide or assist in the provision of legal services to a client, the lawyer should ordinarily obtain informed consent from the client and must reasonably believe that the other lawyers’ services will contribute to the competent and ethical representation of the client. See also Rules 1.2 (allocation of authority), 1.4 (communication with client), 1.5(e) (fee sharing), 1.6 (confidentiality), and 5.5(a) (unauthorized practice of law). The reasonableness of the decision to retain or contract with other lawyers outside the lawyer’s own firm will depend upon the circumstances, including the education, experience and reputation of the nonfirm lawyers; the nature of the services assigned to the nonfirm lawyers; and the legal protections, professional conduct rules, and ethical environments of the jurisdictions in which the services will be performed, particularly relating to confidential information.”).

209. *Id.*

210. *Id.*

211. MODEL RULES OF PROF’L CONDUCT r. 1.3 (AM. BAR ASS’N 2018) (“A lawyer shall act with reasonable diligence and promptness in representing a client.”).



timely but also exhibit an appropriate zealousness, and “devote the resources needed to complete the job.”<sup>212</sup>

Not surprisingly, given that tax is a specialization of a small number of lawyers, the Model Rules do not explicitly address the role of tax planners. In the past, the ABA has issued formal opinions on the duties of tax lawyers when advising as to return positions.<sup>213</sup> However, the last such opinion was issued in 1985 and substantial changes to the penalty regimes over the past three decades have not prompted a revision.<sup>214</sup> Accordingly, as a practical matter, tax lawyers are guided by the I.R.C. return preparer regime and Circular 230 rather than the Model Rules when providing return position or planning advice.<sup>215</sup>

### 5. Professional Association Standards: The AICPA

Like the ABA, the American Institute of Certified Public Accountants (AICPA) has issued a code of professional responsibility.<sup>216</sup> However, unlike the ABA, the AICPA has authority to discipline its members, which it usually does in conjunction with relevant state accountancy boards.<sup>217</sup>

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212. ROTUNDA & DZIENKOWSKI, *supra* note 204, at § 1-3.1; *see also* MODEL RULES OF PROF'L CONDUCT r. 1.3 cmt. 1, 3 (AM. BAR ASS'N 2018) (“A lawyer should pursue a matter on behalf of a client despite opposition, obstruction or personal inconvenience to the lawyer, and take whatever lawful and ethical measures are required to vindicate a client's cause or endeavor. A lawyer must also act with commitment and dedication to the interests of the client and with zeal in advocacy upon the client's behalf. . . . [3] Perhaps no professional shortcoming is more widely resented than procrastination.”).

213. *See generally* Hatfield, *supra* note 100, at 683–98, for the history of ABA Formal Opinions 314 and 85–352.

214. *See* ABA Comm. on Ethics & Prof'l Responsibility, Formal Op. 85–352 (1985) (requiring positions on a return to have a realistic possibility of success on the merits). This position is understood to be greater than the reasonable basis standard but lesser than the substantial authority standard applied by 26 U.S.C. § 6694 (2018) and 31 C.F.R. § 10.34 (2014). GALLER & LANG, *supra* note 4, at 154–55.

215. GALLER & LANG, *supra* note 4, at 155.

216. *Id.*

217. The only states in which enforcement is not joint are Arizona, California, Florida, Iowa, and New Mexico. AICPA/State Board of Accountancy Cooperative Enforcement available at <https://www.aicpa.org/content/dam/aicpa/interestareas/professionalethics/resources/ethicsenforcement/downloadabledocuments/aicpa-state-board-cooperative-enforcement.pdf> [<https://perma.cc/JEV7-GTCZ>]. *See generally*, AICPA JOINT ETHICS ENFORCEMENT PROGRAM (AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, 2019) (Joint Ethics Enforcement Program § 1.8 “The purpose of the JEEP [(Joint Ethics Enforcement Program)] agreement between the AICPA and a state society is to permit a single investigation of a joint member to enforce the respective codes and, if warranted, have a single settlement agreement or joint trial board hearing. JEEP also permits state societies to allow the AICPA to investigate state society members who are not also AICPA

CPAs are obligated to provide “due care” for their clients.<sup>218</sup> This obligation requires both competence and due diligence.<sup>219</sup> However, unlike the model rules for lawyers, the AICPA provides specific guidance for return preparation and tax advice. With respect to return preparation, a CPA is to comply with the reporting and disclosure standards of the applicable taxing authority, which would be the I.R.C. penalty regime and Circular 230 when preparing a federal income tax return.<sup>220</sup> As to tax advice that is not return preparation, the CPA is supposed to ensure that the advice “reflects competence and serves the taxpayer’s needs” and complies with the requirements of the taxing authority.<sup>221</sup> The CPA is told to assume that tax advice will affect how the return is prepared, so the return preparation standards should be considered.<sup>222</sup> The AICPA guides CPAs in their use of other professionals’ opinions when giving tax advice: consider the knowledge and expertise of other professionals, as well as the relevance and

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members.”) available at <https://www.aicpa.org/content/dam/aicpa/interstareas/professional-ethics/resources/ethicsenforcement/downloadabledocuments/jeepmanual.pdf> [<https://perma.cc/JTF6-CYMC>].

218. AICPA CODE OF PROFESSIONAL CONDUCT 0.300.060 (AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, 2014) (“Due Care. 01 *Due care principle*. A member should observe the profession’s technical and ethical standards, strive continually to improve competence and the quality of services, and discharge professional responsibility to the best of the member’s ability. 02 The quest for excellence is the essence of due care. Due care requires a member to discharge professional responsibilities with competence and diligence. It imposes the obligation to perform professional services to the best of a member’s ability, with concern for the best interest of those for whom the services are performed, and consistent with the profession’s responsibility to the public.”).

219. *Id.*

220. AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, STATEMENT ON STANDARDS FOR TAX SERVICES (SSTS), NO. 1, *Tax Return Positions*: STATEMENT 4 (2019) (“A member should determine and comply with the standards, if any, that are imposed by the applicable taxing authority with respect to recommending a tax return position, or preparing or signing a tax return.”).

221. AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, STATEMENT ON STANDARDS FOR TAX SERVICES (SSTS), NO. 7, *Form and Content of Advice to Taxpayers*: STATEMENT 2 (2019) (“A member should use professional judgment to ensure that tax advice provided to a taxpayer reflects competence and appropriately serves the taxpayer’s needs. When communicating tax advice to a taxpayer in writing, a member should comply with relevant taxing authorities’ standards, if any, applicable to written tax advice. A member should use professional judgment about any need to document oral advice. A member is not required to follow a standard format when communicating or documenting oral advice.”).

222. *Id.* at 3 (“A member should assume that tax advice provided to a taxpayer will affect the manner in which the matters or transactions considered would be reported or disclosed on the taxpayer’s tax returns. Therefore, for tax advice given to a taxpayer, a member should consider, when relevant (a) return reporting and disclosure standards applicable to the related tax return position and (b) the potential penalty consequences of the return position. In ascertaining applicable return reporting and disclosure standards, a member should follow the standards in Statement on Standards for Tax Services No. 1, *Tax Return Positions*.”).

persuasiveness of the opinion, assessing whether the conclusion of the opinion is supported by the authorities.<sup>223</sup>

## 6. Malpractice Standards

When a tax professional fails to fulfill an appropriate standard, the consequences may include not only discipline by the relevant authority but, if the client is injured, a potential malpractice suit.<sup>224</sup> As a practical matter, in tax malpractice suits, CPAs and tax lawyers are held to the same standard.<sup>225</sup> The standard is the level of care normally exercised by professionals in similar circumstances.<sup>226</sup> Even though the rules of professional associations are drafted for professional discipline, courts may consider them in malpractice litigation initiated by aggrieved (former) clients.<sup>227</sup> In litigation, whether or not the tax professional met the standard will be determined by experts testifying as to what competent professionals in similar circumstances would have done.<sup>228</sup>

### *C. The Professional Standard for Using AI in Tax Planning*

Having surveyed the professional standards for tax planning, we can turn again to considering how AI for tax planning might function in the future. Being fed as many facts as available on the client's situation, and perhaps itself continuously gathering those facts in real time, AI would detect patterns that are legally relevant and patterns that provide planning opportunities, even though those patterns may not have been spotted by the professional.<sup>229</sup>

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223. AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, *supra* note 220 at 6 (“A member should determine and comply with the standards, if any, that are imposed by the applicable taxing authority with respect to recommending a tax return position, or preparing or signing a tax return.”).

224. While civil actions for tax malpractice may be based in either tort or contract, the two standards are practically the same. See Jacob L. Todres, *Tax Malpractice Damages: A Comprehensive Review of the Elements and the Issues*, 61 TAX LAW. 705, 708 (2008) (exploring the elements and the proper measure of damages in tax malpractice litigation).

225. “While there might be some theoretical benefit in attempting to analyze the professions separately, the pragmatic truth is that the dividing line between the professions with respect to tax work has never been clear.” *Id.* at 707.

226. *Id.* at 709.

227. Some courts have held that the ethics rules define professional duties as a matter of law, though a violation of those rules does not give rise to a cause of action in and of itself. RESTATEMENT (THIRD) OF LAW GOVERNING LAWYERS § 52(2) cmt. f (AM. LAW INST. 1986).

228. DAMIAN D. CAPOZZOLA, EXPERT WITNESSES IN CIVIL TRIALS: EFFECTIVE PREPARATION AND PRESENTATION § 2:36 (2018).

229. See *supra* text accompanying notes 136–40.

AI would similarly sort through the legal authorities and planning commentaries to determine relevance and opportunities, and relate the laws and facts, estimating and generating and predicting facts when need be, to devise a tax minimization plan.<sup>230</sup> As part of the process, AI would be able to determine the probability of success if litigated, as, indeed, even the earliest generation of tax research AI does this.<sup>231</sup> The result would be delivered to the tax professional along with a conclusion that it has no more than a reasonable basis (and should be disclosed) or as much as substantial authority or even that it is reasonable to believe the plan is more likely than not to succeed.<sup>232</sup> Ideally, the AI would also determine if the plan has economic substance.<sup>233</sup>

We concluded earlier that considering when it is professionally appropriate for tax professionals to rely upon another professional's advice would be revealing for determining how they should use AI in tax planning.<sup>234</sup> In reviewing the professional obligations of CPAs and tax lawyers, we read that standards for competence and diligence, as well as the I.R.C. taxpayer and return preparer penalty regimes, acknowledge the propriety of relying on the advice or opinions of others.<sup>235</sup> Tax return preparers may rely on the advice of other professionals and escape penalties even when the incorrect positions they advised lacked so much as a reasonable basis.<sup>236</sup> Circular 230's standards for competence and diligence both consider it appropriate to use others: competence can involve consulting with other professionals, and diligence can involve relying on the work of others.<sup>237</sup> The first rule of ethics for lawyers, competence, may require the lawyer to involve the services of another lawyer.<sup>238</sup> As for CPAs, it is presumed they may work with other professionals in advising clients.<sup>239</sup>

In sum, the tax professional is permitted to rely on the advice of another when doing so would be reasonable and good faith. But what does that mean? First, it means that the professional has no reason to doubt the adequacy of the advice.<sup>240</sup> The advice does not appear unreasonable on its face; it considers the relevant facts and law; and the professional has no reason to

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230. See *supra* text accompanying notes 136–40.

231. See *supra* text accompanying notes 122–24; see also Sorenson, *supra* note 88.

232. See *supra* text accompanying notes 140–44.

233. See *supra* text accompanying notes 140–44.

234. See *supra* Part IV (A).

235. See *supra* text accompanying notes 206–09 and note 223.

236. See *supra* text accompanying notes 206–09 and note 223.

237. See *supra* text accompanying notes 198–201.

238. See *supra* text accompanying notes 206–09.

239. See *supra* text accompanying note 223.

240. See *supra* text accompanying note 223.

consider it unreliable.<sup>241</sup> Second, it means that the source of the advice is reasonably believed to be qualified and competent.<sup>242</sup> This can be due to the professional's care in engaging the person, or in assessing the person's education, experience, and reputation.<sup>243</sup>

Note why it is that a professional would be in the position of relying on another. First, it could be that the other professional is a member of the client's team. For example, a client's CPA and lawyer work together simply because the client has chosen each of them. Two other illustrations however are more apropos. A professional might engage another out of the duty of diligence. Due to workload or deadline pressure, for example, one lawyer may need another lawyer's help. Or one might engage another out of the duty of competence. A competent professional knows his or her own limits of competence and qualification and knows when it is necessary to consult someone with greater expertise.

The requirements for tax professionals using AI in tax planning should be articulated to reflect these standards. It is in the same situations that a CPA or tax lawyer would want to rely on AI: either out of need to be diligent or a lack of expertise. Just as with human experts, the tax professional should be able to rely on the AI even when he or she is unable to deliver as expert an opinion, or unable to do so without devoting a great deal more time which he or she may not have or for which the client may not be willing to pay.

Just as with the rules for relying on the advice of another human professional, the tax professional should believe the AI to be reliable, generally, and the professional should have no reason to believe the AI's work on a specific plan is unreasonable. But there are two practical difficulties. One is knowing that an AI application is reliable. If a tax professional is supposed to consider the education, experience, and reputation of a human professional before relying on his or her advice, what is analogous to consider for a computer program? This problem will be especially difficult for the early generations of AI adopters, and remain difficult as AI applications proliferate insofar as there most always will be a new application and one that may promise benefits unavailable with others and especially suited for the client's needs.

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241. 26 C.F.R. §§ 1.6694-1(e)(1), -2(e); 31 C.F.R. § 10.37(b); SSTS INTERPRETATION NO. 1-2, *supra* note 223.

242. SSTS INTERPRETATION NO. 1-2, *supra* note 223.

243. 31 C.F.R. § 10.22; AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, *supra* note 220; AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, STATEMENT ON STANDARDS FOR TAX SERVICES (SSTS), NO. 2, *Answers to Questions on Returns* 8 (2019); MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 6 (AM. BAR ASS'N 2018).

The second practical problem is knowing whether the AI-generated plan is unreasonable. This problem is one of degree, varying to the extent the AI's expertise surpasses the professional. The professional may be unable to second-guess the AI. Of course, when relying on another human expert's opinion, the professional may also be unable to second-guess it. That may be, after all, exactly why the second professional is being used—to provide a valuation or other specific expertise, for example. However, the tax professional is able to ask questions of the other professional, questions that reflect the professional's education and experience as well as uncertainty; indeed, it is expected that the two professionals will discuss the opinion due to their having the same client objectives and familiarity with the facts but different professional perspectives. However, a CPA or lawyer using AI to generate a tax plan will not have the opportunity for that type of human dialogue, which is really an opportunity to have one's questions answered and to learn from the greater expert and, indirectly, thereby improve one's own competence. And if the professional is unable to do that, then he will be unable to adequately advise clients on the potential risks and rewards of the plan, having substituted artificial intelligence for his own. And, unlike, for example, when the lawyer can arrange for the valuation expert to discuss the opinion directly with the client, the tax professional presumably will not be sending the client directly to the computer for a better explanation.

## V. PROPOSAL FOR RESPONSIBLE USE OF AI IN TAX PLANNING

### A. Three Problems

While the professional standards for using AI should be those for using another expert, the practical problems differ. One problem is the need to assess the reliability of the AI application, generally. The reasonableness standard for professionals refers to the practices of reasonable professionals: a competent and diligent professional is one that complies with the professional customs of competence and diligence.<sup>244</sup> This is not problematic so long as there are, in fact, established customs. However, pioneers are always at risk. The early adopters of AI applications will be unable to comply with professional norms for determining the reliability of an applications as there will have been no widespread experience with those applications, much less customs for sorting the reliable from the unreliable. And individual professionals will never be in the position to sort all available applications.

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244. See MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 6 (AM. BAR ASS'N 2018).

Individual professionals have limited time and energy and opportunities for doing so. The fundamental issue is how a duly cautious, self-regulating profession grows, adapting to new tools by articulating appropriate standards.

A second problem is the need to assess the reasonableness of the specific AI-generated plan. To the extent the AI's expertise exceeds the professional's, the professional simply may be unable to spot weaknesses in the plan. If the professional is unable to do this, then he or she will be unable to accurately convey the potential risks and rewards to the client, which means the client will either forego near certain tax benefits or plunge itself forward with near certain tax penalties. When a tax professional considers the opinion of another human expert, the two discuss the opinion and its bases and the tax professional can ask and answer questions and, indeed, learn and be better able to advise the client.

Thus, in order to use AI in a professionally responsible way, the tax professional needs three things. First: a means by which to determine the general quality and reliability of the AI application. Second is a means by which to identify weaknesses in the AI-generated plan when the plan extends beyond the professional's current expertise. Third is a means by which to extend the professional's understanding on the matters raised by the plan. The second and third problems need to be resolved so that the tax professional can appropriately advise the client, though, the resolution of these problems also benefit the tax professional by improving his or her own professional competence.

### *B. Who Should Solve?*

Who should solve these three problems? Insofar as individual professionals are unable to do so, it is reasonable to consider the professional associations. Indeed, the professions are premised upon a substantial degree of self-regulation. The professions have an interest and a defining right to articulate their own standards of professional responsibility.

But there are practical difficulties with the professional associations solving these problems. While both the ABA and the AICPA have produced comprehensive codes of professional conduct, neither is in the position to test AI tax planning programs and provide guidance on their appropriate use. For lawyers, tax is a relatively small specialization. And it is one in which the ABA Standing Committee on Ethics and Professional Responsibility has

shown little interest or understanding.<sup>245</sup> This is the committee charged with issuing opinions to guide lawyers, and the committee that has not even updated its guidance on return preparation to reflect decades of changes in the laws.<sup>246</sup> It is a committee whose previous applications of professional responsibility standards to tax lawyers have ignored the nature of tax practice and the suggestions of tax lawyers on what those standards should be.<sup>247</sup> Even if the committee were to develop the capacity, inclination, and specialized expertise, the need to sort AI applications as they become available is not the type of work that the committee does.<sup>248</sup> The committee issues formal opinions deduced from general principles; it does not opine very specifically, much less as specifically as would be useful for lawyers considering which AI applications to buy.<sup>249</sup> While the tax committee may have both the inclination and expertise for this work, it does not have the capacity to undertake testing programs. It also lacks the authorization to issue formal ethics opinions. However, regardless of the committee jurisdiction, capacity, inclination, and expertise, the ABA as such has no disciplinary authority. While the ABA can articulate potentially persuasive professionalism positions, it is the IRS and state bars that regulate tax lawyers.<sup>250</sup> And, at the state bar level, there are the same problems of limited interest in tax specialization and a greater lack of capacity to undertake the work, not to mention the risk that the dozens of state bars could adopt dozens of approaches.

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245. See ABA Comm. On Ethics & Prof'l Responsibility, Formal Ops. 314 and 85-352 (1985), for a discussion of the tensions between the ABA professional responsibility committee and tax sections on issues related to the ethics of tax lawyering. See also Hatfield, *supra* note 100, at 683-699.

246. The Standing Committee on Ethics and Professional Responsibility is the committee authorized to issue ethics opinions interpreting the Model Rules of Professional Conduct. These are called the "ABA Formal Opinions." The last Formal Opinion for tax lawyers was 85-352. The Committee has since left tax lawyers without practical guidance. GALLER & LANG, *supra* note 4, at 155.

247. See GALLER & LANG, *supra* note 4, at 155.

248. See *Id.* at 7-8.

249. With respect to emerging technologies, the ABA has been circumspect. In 2012, it modified Comment 8 of Rule 1.1 of the Model Rules (competence). The modification said that lawyers should stay abreast of changes in technology. In 2017, ABA Comm. on Ethics & Prof'l Responsibility, Formal Op. 477R (2017) was issued: lawyers should use (unspecified but) reasonable efforts to secure communications about client matters. In 2018, ABA Comm. on Ethics & Prof'l Responsibility, Formal Op. 477R (2018) was issued to advise lawyers they have duties to current clients in the event of a data breach (though the opinion took no position on the ethical duties of lawyers to former clients and non-clients). While there is some function to these types of opinions, the louder message is that (for, perhaps, very good reasons) the ABA is not going to commit itself to providing specific and practical advice.

250. GALLER & LANG, *supra* note 4, at 7-8.



The AICPA and the state accountancy boards, on the other hand, do have considerable interest and expertise in tax services provided by their CPAs. And, unlike the ABA, the AICPA does have disciplinary authority over its members.<sup>251</sup> But, like the ABA, the AICPA has done a thorough job of producing a code of professional conduct but has never taken on the job of opining as to the grade of specific commercial products available for professionals to use, which is what CPAs would need to guide their AI purchases to ensure that their use would be professionally reasonable.

The AICPA and the state accountancy boards also suffer from the same obvious limit of the ABA and state bars: none cover the scope of federal tax professionals. While both CPAs and lawyers may engage in advising on federal tax matters, it is only the IRS that regulates both. From the federal regulatory perspective, CPAs and tax lawyers comprise a single tax profession. The I.R.C. penalty provisions and Circular 230 make no distinction between CPAs and lawyers, and they apply the same standards and authorize the same penalties for failing to meet the standards.<sup>252</sup> While the ABA professional committee's indifference to these standards and penalties reflects its indifference to the peculiarities of tax practice, the AICPA acknowledges the authority of the IRS as federal taxing authority, requiring its members to adhere to the federal professional standards.<sup>253</sup>

Though the IRS has the relevant legal authority to regulate the use of AI by tax professionals, there are significant obstacles. First is that it has an extraordinary range of tasks and extraordinarily limited resources.<sup>254</sup> But even if it were granted sufficient resources for this particular task, its undertaking would be unavoidably and understandably controversial. It is undeniable that the IRS has the authority to regulate tax professionals, but it is undeniably problematic: the professionals responsible for arranging their clients' affairs so as to pay the least tax are regulated by the agency responsible for collecting those taxes. After all, think of the criminal defense bar's use of AI for defense planning being subject to the local police and prosecutors approving the particular AI program. The potential for AI to be extraordinarily good at

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251. *Id.* at 8.

252. Circular 230 makes no distinction between professions. It uses the term "practitioner." See, e.g., 31 C.F.R. §§ 10.22, .34–.35, .37 (2018).

253. AM. INST. OF CERTIFIED PUB ACCOUNTANTS, *supra* note 220.

254. On the current budget woes of the IRS, see, for example, Emily Horton, *2018 Funding Bill Falls Short for the IRS*, CENTER ON BUDGET POLICY AND PRIORITIES: OFF THE CHARTS (Mar. 23, 2018), <https://www.cbpp.org/blog/2018-funding-bill-falls-short-for-the-irs> [<https://perma.cc/A5GA-8HGK>]. See also Jonathan Barry Forman & Roberta F. Mann, *Making the Internal Revenue Service Work*, 17 FLA. TAX REV. 725, 759–72 (2015), which describes suggestions to improve IRS performance in a time of deeper and seemingly never-ending budget cuts.

implementing the taxpayer's right to contribute no more than necessary makes the regulation of AI by the agency authorized to compel those contributions inherently suspect. While tax advising and return preparation are not considered adversarial acts, the two may put the client on the course to controversy and litigation with the IRS, which is adversarial.<sup>255</sup> This is a long discussed professional regulation problem in the tax field and not unique to the AI context.<sup>256</sup>

### C. The Proposal

#### 1. The Solution

The solution to these problems could be delivered through a public-private professional certification regime.<sup>257</sup> Tax planning AI developers would submit their applications to one or more privately organized panels that, for a fee, would test the application for reliability. These panels would be comprised of CPAs and tax lawyers. This would acknowledge the customary right of professionals to articulate professional norms, as well as the need of actual experts to determine if the products are, in fact, reliable. The panels would provide the AI with simulated problems and then assess its performance. Just as in malpractice cases where experts opine on what the established professional standards require in the instance case, the panel professionals would ultimately opine on whether the AI application is reliable. By investing significant time, running multiple scenarios, debating the results with one another, and consulting with computer and other experts, as necessary, the panel could accomplish what individual professionals never could, especially given that these panels would test multiple AI products over time. The panel reviews would feed back into the AI developers' works, thereby increasing the quality of products as they are being developed.

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255. Of course, as described in ABA Formal Opinion 85-352, the return may be the first step in a relation that becomes adversarial. ABA Committee on Ethics & Professional Responsibility, *supra* note 214.

256. As the Treasury Department increased its regulation of tax professionals in the 1980s, the New York State Bar Association Tax Section claimed the conflict-of-interest was unjustifiable and undermined the fundamental American right to adversarial challenges to the government. Tax Section, N.Y. State Bar Ass'n, *Circular 230 and the Standards Applicable to Tax Shelter Opinions*, 12 TAX NOTES 251, 261 (Feb. 9, 1981). Others agreed. Hatfield, *supra* note 100, at 710-11.

257. The need for AI software used in court to be validated has been discussed. See Karnow, *supra* note 3, at 177.

The panels can be envisioned to function somewhat as Underwriter's Laboratory has with respect to fire safety and the Orthodox Union has with kosher food in the U.S.<sup>258</sup> The demand for fire safety certification was fueled by insurance companies, local governments, the construction industry, and manufacturers.<sup>259</sup> The result was the development of the Underwriter's Laboratory to test products for fire safety.<sup>260</sup> The demand for packaged foods in the 1950s translated into demands by religiously observant Jewish households for kosher certification agencies.<sup>261</sup> The Orthodox Union provided rabbis to inspect industrial processing and packaging of foods and certify compliant products as kosher.<sup>262</sup> Both the Underwriter's Laboratory and the Orthodox Union were funded by fees paid by the manufacturers, and those fees covered the costs of developing, implementing, and enforcing regulations in situations in which the government was less equipped.<sup>263</sup>

The manufacturers were willing to pay the fees only because there was a product demand for the certification. Product demand is essential for private certification to be funded and, thus, to succeed.<sup>264</sup> The IRS would stimulate product demand for certification by providing a penalty defense for those

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258. William Merrill founded the Underwriters Lab (UL) after an initial study of building materials and electrical appliances funded by the National Board of Fire Underwriters in the wake of a series of fires throughout American cities. Timothy D. Lytton, *Competitive Third-Party Regulation: How Private Certification Can Overcome Constraints that Frustrate Government Regulation*, 15 THEORETICAL INQ. L. 539, 543 (2014). The results of the study were put forth in an "approved fittings and electrical devices" list and distributed to fire underwriters and municipal fire service officers. *Id.* at 544. The UL was founded shortly thereafter in 1901. *Id.* By 1916, it was financially independent and deriving income from companies paying for the testing to be done. *Id.* Eventually, insurance companies were conditioning policies on using UL approved materials and municipalities used UL standards in developing building codes. *Id.* at 544–45. In order to ensure continuing success, Merrill insisted on hiring the best experts and focusing on professionalism. *Id.* at 545. By employing a mix of people from insurance, government, and industry, the UL ensured that standards remained high. *Id.* In order to respond to competition and assuage any fears about the testing process, the UL took steps to be transparent by sharing complete reports with industry clients, producing lists of approved products, and allowing the public to visit their facilities. *Id.* at 547. On top of all of the organizational safeguards, Merrill also incubated a strong sense of mission that many employees and customers bought into. *Id.* at 546. Today, over 22,000,000,000 products carry the UL logo. *Id.* at 548.

The Orthodox Union (OU) turned the Kosher certification process into a highly organized operation from its roots as a part-time job for many rabbis. *Id.* at 550–51. To round out their personnel, OU trains them in food chemistry, food technology, customer relations, and professional ethics in addition to the necessary underlying Jewish dietary laws. *Id.* at 551. The OU gained dominance in the field by employing a multi-tiered structure. *Id.* at 552.

259. *Id.* at 544–47.

260. *Id.*

261. *Id.* at 549.

262. *Id.* at 550–51.

263. *See id.* at 543–44, 549–50.

264. *Id.* at 540.

professionals who used certified AI in good faith, though the resulting advice proved deficient. Providing this protection to tax professionals who used certified products would encourage both commercial AI developers and tax professionals to value the certification. This protection would be assured by the IRS for products that met the approval of the panel experts for substantive reliability and also for product requirements, such as product features aimed at aiding the tax professional in understanding the weaknesses and limits of the AI-generated advice.

The integrity of the certification process would be guarded in two ways. The first is qualifying for panel membership only those with demonstrated substantial expertise and ethical propriety in their professional affairs. The panelists would be professionals with an extraordinary understanding and commitment to federal tax law, the self-reporting tax system, and the right regulation of tax practice. Second is that this certification regime would be overseen by the IRS Office of Professional Responsibility (OPR), which is the IRS office on which Circular 230 confers exclusive responsibility for disciplining practitioners (including financial penalties, suspension, and disbarment).<sup>265</sup> OPR investigates tax professionals when the IRS has assessed tax return preparer penalties as well as in situations in which IRS employees or others have provided information that justifies an investigation.<sup>266</sup> Accordingly, OPR will be in the best position to identify problems with AI being used as tax professionals, including detecting when AI certified by a particular panel should not have been.

## 2. Implementing the Solution

This proposal would be implemented by the Treasury Department through regulations under 26 U.S.C. § 6694 (return preparer regulations) and modifications to the Circular 230 regulations. As part of the process of issuing regulations, the Treasury Department, like all federal agencies, provides notice and receives comments.<sup>267</sup> Through the notice and comment process, the ABA, AICPA, and state bars and accountancy boards would be encouraged to articulate concerns and provide suggestions so that the resulting penalty protection would be acceptable to professional disciplinary

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265. 31 C.F.R. § 10.1(a)(1) (2018) (authorizing OPR); 31 C.F.R. § 10.50 (2018) (sanctions available to OPR).

266. On referrals to OPR, see Bryan E. Gates, IRM Abr.& Ann. § 4.11.55.5.1 (May 29, 2018).

267. For an explanation of this process for federal agencies, see LEE MODJESKA, ADMINISTRATIVE LAW PRACTICE AND PROCEDURE § 4:3 (2018).

authorities.<sup>268</sup> Ideally, a panel certification sufficient to protect tax professionals from IRS-imposed penalties would also protect them from sanctions by professional associations. The notice and comment process would be the opportunity for the professional associations and the federal government to cooperate. It also would be an opportunity for the ABA and other lawyers to provide suggestions to the Treasury Department that would make panel certification more likely to be relevant in professional malpractice litigation as well. A coordinated effort of these interested parties should stimulate product demand for the certification.

In broad outline, what would these Treasury Regulations require? These Regulations would modify the I.R.C. § 6694(a)(3) reasonable cause and good faith exception to the return preparer penalties for understating tax liability.<sup>269</sup> This would expand Treasury Regulation § 1.6694-2(e).<sup>270</sup> The modifications would provide that a return preparer's good faith reliance on a certified AI application would be deemed reasonable. The return preparer would bear the burden of establishing the good faith use but would not bear the burden of establishing the quality of the AI. Similar modifications protecting any tax professional from using AI in his or her practice before the IRS, specifically including providing written advice on federal tax matters, would need to be made to Circular 230. These modifications would expand the reliance-on-others provisions found in 31 C.F.R. § 10.22, which is the diligence obligation applicable to all aspects of practice before the IRS; 31 C.F.R. § 10.35, which sets forth standards for all returns, documents, and other papers; and 31 C.F.R. § 10.37, which sets forth the requirements for written advice.<sup>271</sup>

These new Treasury Regulations would create a registry of certified AI applications. OPR would establish an advisory committee of authorized practitioners under Circular 230 § 10.38, which authorizes OPR to establish advisory committees.<sup>272</sup> This committee would function as the liaison between the certification panels and OPR, and also, as necessary, the ABA, the AICPA, other relevant professional associations, and the AI developers. This committee would monitor the certification activities of the panels and also the disciplinary proceedings against tax professionals who used AI certified products, making recommendations to improve the processes.

The Treasury Regulations would establish the guidelines for the composition of panels. Panel members would be required to have certain

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268. Of course, the professional associations might also modify their codes of conduct or issue guidance to reflect the use of AI.

269. 26 U.S.C. § 6694(a)(3) (2015).

270. 26 C.F.R. § 1.6694-2(e) (2009).

271. 31 C.F.R. §§ 10.22, .35, .37 (2018).

272. *Id.* § 10.38.

credentials, substantial experience, and an excellent reputation among other professionals and OPR. The panel members should meet the requirements to be experts in malpractice litigation in the jurisdictions in which they practice. Panels should have expertise in tax planning, compliance, audit, and litigation. The panels should have as consultants qualified appraisers, enrolled actuaries, and others commonly involved in tax practice, as well as computer scientists. Panels should include a mix of professionals with private tax experience and experience working within the IRS. The panels should reflect a geographical mix of experts, as well as experts from local, regional, and national firms.

The Treasury Regulations would authorize the panels to charge fees for testing any computer program that is marketed on the basis of its ability to generate tax minimization plans customized to specific facts.<sup>273</sup> Each panel would have wide discretion in determining the best way to test these programs, though the opinion of each panel member would need to be recorded and available to OPR.<sup>274</sup> No panel would be permitted to certify an AI program unless a super-majority of its members voted to do so. Ideally, any dissent would be taken quite seriously with the aim of arriving at a consensus through further testing, review, and discussion.

While the panels would have considerable operational discretion, certification would require a positive vote on five specific functions. The first would be substantive accuracy.<sup>275</sup> For example, an AI program might generate a plan for a shareholder-employee of an S corporation to receive a certain dollar amount characterized as compensation and a certain dollar amount as a non-taxable dividend.<sup>276</sup> The strategy of the plan would be to minimize total tax liability but without penalty risk. The AI program might conclude the plan is more likely than not to succeed.<sup>277</sup> Each panel member would then vote on whether he or she would consider the advice appropriate and whether it would be reasonable to believe it to be more likely than not to succeed.

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273. This approach avoids the need to define AI. This approach is premised on the AI developer's marketing claims. This approach may include products that may not usually be considered AI. However, any over-inclusiveness would not be problematic as the products would still be within the expertise of the panels, and it would allow product demand to develop for certifying less dazzling as well as more dazzling products. Defining AI is difficult and, in this situation, unnecessary. On the difficulty of defining AI, see *supra* notes 16–17 and accompanying text.

274. If an AI application became involved in serious disciplinary cases prosecuted by the OPR, the identities of the particular panel members who voted to certify the application could become useful for disqualifying those individuals from panel membership.

275. See *supra* text accompanying notes 230–32.

276. See *supra* text accompanying notes 149–50.

277. See *supra* text accompanying notes 182–83.

The second requirement is that the AI programs provide more than a bare conclusion. It would need to identify the facts it determined to be relevant and provide an assessment of how important certain facts are to its analysis.<sup>278</sup> For example, perhaps a very low compensation level to the shareholder-employee was justified in large part because of the low educational credentials of the shareholder-employee.<sup>279</sup> The critical nature of those facts to the tax plan would be highlighted and appropriately visualized.<sup>280</sup> This would improve the professional's understanding of the AI program and the plan and allow the professional to double-check important facts and have important conversations with the client.<sup>281</sup> It may be, for example, that the

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278. Depending upon the design of the AI, this and related functions may be difficult to achieve. Some very powerful AI designs achieve remarkable results but are unable to effectively communicate to users how those results are achieved. The operations are within a black box. Efforts to make the processes more transparent may reduce the achievements. See Calo, *supra* note 15, at 415; Karnow, *supra* note 3, at 142; Katz, *supra* note 23, at 918; Knight, *supra* note 3.

279. See *supra* note 145.

280. When data is visualized, it can have a large effect on our interpretation and even our mood. Something as simple as what type is used can have an impact on the ability to comprehend and engage with the words being written. KEVIN LARSON ET AL., PEOPLE AND COMPUTERS XX—ENGAGE: MEASURING THE AESTHETICS OF READING 41, 49 (Nick Bryan-Kinns et al. eds., 2007). Data visualization has the ability to speed up the process by which our brains comprehend data in part because we can perceive patterns in a graph or series of graphs better than my looking at the data by which the graphs are drawn from. *How Data Visualization Helps Your Brain Absorb Information*, MTab (last visited Oct. 15, 2019), <https://www.mtab.com/data-visualization-helps-brain-absorb-information/> [<https://perma.cc/Z633-UMMS>]. Graphs and pie charts are great tools for visualizing data in a format easy to grasp when looking at data sets. However, in the age of Blue-J and that program's ability to render, and visualize, a prediction by pumping out a simple percentage, it is important to understand how the data visualization used can affect user decisions. For example, in a Yale School of Management study looked at perceptions and choices based on the visualization of data on restaurant reviews. Even where the mean distribution was lower, participants favored a restaurant whose distribution of 1–5 star ratings was top heavy over a restaurant with a higher mean score but heavy lower distribution. Visually speaking, the top heavy distribution appealed to users despite the lower overall average of the score. Matthew Fisher, George E. Newman & Ravi Dhar, *Seeing Stars: How the Binary Bias Distorts the Interpretation of Customer Ratings*, 45 J. OF CONSUMER RES. 471, 474 (2018). When they were given only the average score and not a visualization of the underlying data, they chose the one with the higher mean. *Id.* at 479. Thus, a feature like TurboTax's display of your current refund could ostensibly inform one's decision on how to answer questions in order to attain the maximum refund as opposed to the most accurate return.

281. Data visualization can help increase user confidence in decision making, but whether that confidence actually coincides with accuracy is a separate question. Data suggests that visualization alone, while increasing confidence, can actually undermine accuracy of decision making while visualization combined with the ability to interact with the data can lead to an increase of accuracy as well as confidence in the financial context. Fengchun Tang et al., *The Effects of Visualization and Interactivity on Calibration in Financial Decision-Making*, AMCIS 2011 PROC.—ALL SUBMISSIONS (2011). Confidence is easier to manipulate than accuracy meaning that while certain factors may increase a person's confidence in decision-making, their

low credentials should have been offset by many years of experience. Panel members would have to determine the adequacy of this part of the AI program's function.

A third requirement would be that the AI program communicate its uncertainty.<sup>282</sup> For example, an AI program might generate a novel corporate tax minimization plan but alongside it would report the degrees of uncertainty on the substantive issues. It would need to highlight any estimations or predictions it generated and relied upon, as well as its reliance on legal issues for which there is a split among circuits, or disagreement among expert commentators, or non-acquiescence by the IRS, or other indicia of uncertainty.<sup>283</sup> The AI program would need to highlight the weaknesses of its analysis so that the professional notices the weaknesses and is better able to advise the client.

A fourth requirement would be that the AI program engage the professional. The ideal AI would not function so much as an oracle but as a colleague that engages in conversation and argument both learning from and teaching the professional.<sup>284</sup> The idea that conversation with a computer could be equivalent with that of a human has long animated the pursuit of AI.<sup>285</sup> But, at the least, the AI should include some function to test the professional's understanding of what the AI has suggested. For example, if the program has indicated some uncertainty on a substantive issue, does the professional understand what that means to the overall plan? By forcing the professional to demonstrate his or her own understanding of certain important

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accuracy in doing so may remain consistent or even fall even when aided by a computer. *Id.*; Jeffrey E. Kottemann, Fred E. Davis & William E. Remus, *Computer-Assisted Decision Making: Performance, Beliefs, and the Illusion of Control*, 57 ORGANIZATIONAL BEHAV. AND HUM. DECISION PROCESSES 26, 32–33 (1994). In a study which used XBRL (eXtensible Business Reporting Language) to measure the effects of visualization and interaction, it was found that either factor alone did not increase accuracy but when combined they did. See Fengchun Tang et al., *supra* note 281 at 5–8. This suggests that in designing a program, the user should be given visual representations of the data underlying the output but also the ability to interact with the various pieces used to produce the output in order to better develop accuracy. Perhaps the ability to see results while choosing pieces to ignore could be a good solution to increase understanding on the user's part and help them better identify things which will increase accuracy in the long run. A level of confidence given by the program is simply not a substitute for the user being able to dive into key points to understand where the reasoning came from.

282. Knight, *supra* note 3.

283. For a discussion of tax law research and the meaning of non-acquiescence, see GIBBERMAN & JOVER-LEDESMA, *supra* note 134, at Chapter 2.

284. AI systems may be designed to benefit from interaction with human experts. See Karnow, *supra* note 3, at 174; Rostain, *supra* note 33, at 562.

285. Philip Ball, *The Truth About the Turing Test*, BBC (July 24, 2015), <http://www.bbc.com/future/story/20150724-the-problem-with-the-turing-test> [<https://perma.cc/TY43-EJQE>].



parts of the plan, if not being technologically enabled to converse with the professional about the plan, the program would provide one of the important benefits of consulting with human experts: increasing the professional's own expertise and ability to assess and counsel clients on potential risks and rewards.

Fifth, the AI program would need to maintain records of its use so that the tax professional could establish good faith use in the event of a penalty allegation. Under the Treasury Regulations, the program itself would be deemed reliable by its certification but the professional would bear the burden of proving good faith use.<sup>286</sup> Thus, the need for the AI program to maintain records that would enable the professional to prove such use. The program would record the facts delivered to it. It would record what the AI provided the professional, such as the plan, the facts critical to the plan, and the uncertainties of the plan.<sup>287</sup> It also would record its interactions with the professional, including the degree to which the professional demonstrated his or her understanding of the plan.<sup>288</sup> The panel would assess the adequacy of the program on these points, as well as how easy it would be for the professional to access those records, and how the records would be stored.<sup>289</sup>

### 3. Solving the Three Problems

The solution discourages the development of AI that provides bare conclusions. It encourages AI that explains itself and engages with the professional with the aim of improving her understanding and increasing her expertise and competence. It should improve not only the professional's understanding of the legal and practical issues but the professional's ability to counsel the client.

The panels of professionals would do what no isolated professional could do, which is determine the reliability of AI across many scenarios. No single individual will have the time, resources, or incentives to test an AI application this way before using it for a particular client. Involving high quality professionals in scrutinizing an AI product is the most likely way to determine if, as a matter of fact, the AI works as it should. It need not be

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286. *See supra* text accompanying notes 184–86.

287. *See supra* text accompanying notes 278–83.

288. *See supra* text accompanying notes 284–85.

289. The storage of the records (e.g., in the cloud) is a practical and technological issue but also raises professional responsibility issues if third parties have access to confidential information. *See, for example, Wash. State Bar Ass'n, Op. 2215 (2012)*, which describes the lawyer's duty to take reasonable steps to ensure that confidential information stored in the cloud remains confidential.

infallible, but only a product that a reasonable, competent, diligent professional would use.

The panels of professionals would keep professionalism as the touchstone for their assessments. But the panels need the IRS to create the demand for their work. The ongoing IRS oversight of professionals who use AI should protect the process. But the most important protection would be the work of those experts who understand the complexities of law and contemporary practices and have a commitment to high standards. The panels will function the best to the extent the panelists function like Orthodox Union rabbis whose understanding of their law and the complexities of modern food practices is joined with such a high commitment that it is not only professional but personal.

## VI. CONCLUSION

Tax law provides a good case study for encouraging professionally responsible AI use. Tax professionals are responsible for divining the line between the government's right to take and the client's right to keep, giving due care not to err. It is a profession with a long history of computerization and potential for much more. It is a profession comprised of professionals united by a shared expertise and regulator. The technical guidance of its shared regulator guides the AI discussion into practicalities and solutions rather than the abstractions and distractions that mention of "artificial intelligence" often spur.

Though the solution for tax professionals is technical and specifically for them, it illuminates a way forward for other professions. It will be practical for third parties (such as government or insurers) to stimulate product demand for professionals to use certain types of AI. It will be useful to establish that the use of certified AI will protect a professional from sanctions when the advice fails. It may be most useful to aim that certification at protecting professionals from the malpractice claims related to failed advice.

In general, these certifications should be provided to AI that augments, that is, improves professional intelligence rather than functions as a bare substitute for it. Encouraging the development of this type of AI, one that functions to educate and develop the professional, increasing his or her competence, is key. At some point, given the potential power of AI to improve professional judgement, it may become a matter of malpractice for a professional not to use it.

Also key is keeping professionals as the arbiters of what is professional. What is professionally responsible is always an issue of the norms of the profession. Burdening fellow professionals with the responsibility of

certifying professionally appropriate AI creates a space for the professions to remain self-regulating, even as they open themselves to the transformations AI will bring.