AI, Taxation, and Valuation

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ABSTRACT: Virtually every tax system relies upon accurate asset valuations. In some cases, this is an easy identification exercise, and the exact fair market value of an asset is readily ascertainable. Often, however, the reverse is true, and ascertaining an asset's fair market value yields, at best, a numerical range of possible outcomes. Taxpayers commonly capitalize upon this uncertainty in their reporting practices, such that tax compliance lags and the IRS has a difficult time fulfilling its oversight responsibilities. As a by-product of this dynamic, the Treasury suffers.

This Article explores how tax systems, utilizing artificial intelligence, can strategically address asset-valuation concerns, offering practical reforms that would help obviate this nettlesome and age-old problem. Indeed, if the IRS and Congress were to take advantage of this new and innovative technological approach, doing so would bode well for more accurate asset valuations and thereby foster greater tax compliance. Put somewhat differently, in the Information Era in which we exist, it is simply no longer true that accurate asset valuations are unattainable.

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INTRODUCTION

Valuation is a prevalent problem in the realm of taxation.[1] In order to minimize their tax burdens, taxpayers routinely overvalue those assets for which they can claim a tax deduction and undervalue those assets on which they owe tax.[2] Based upon the number of adjudicated cases in this sphere of jurisprudence, this practice is widespread.[3] Taxpayers' employment of valuation stratagems is not simply a trivial computational artifice; instead, such ploys significantly deplete the United States Treasury ("Treasury") of much-needed tax revenue,[4] leading Congress to search for other ways to raise funds or, alternatively, to curtail spending.

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1. The Supreme Court observed long ago that, "[a]t best, evidence of value is largely a matter of opinion, especially as to real estate." Mont. Ry. Co. v. Warren, 137 U.S. 348, 353 (1890). *See, e.g.*, Leandra Lederman, *Valuation as a Challenge for Tax Administration*, 96 NOTRE DAME L. REV. 1495, 1496 (2021) ("Valuation issues remain challenging today."); Chelcie C. Bosland, *Tax Valuation by Compromise*, 19 TAX L. REV. 77, 77 (1963) ("One of the most difficult problems in federal tax administration is the determination of the value of ownership interests where there is no ascertainable market quotation, as in the case of the stock of closely-held business enterprises."); James R. Repetti, Commentary, *It's All About Valuation*, 53 TAX L. REV. 607, 608 (2000) ("An ideal income tax would measure income on the basis of accretions to wealth, thereby eliminating the distortions created by the realization requirement. Many have observed, however, that the complexity of the annual valuation process makes a comprehensive accretion tax impractical." (footnote omitted)).

2. *Compare* Legg v. Comm'r, 145 T.C. 344 (2015) (taxpayers claimed a $1,418,500 charitable deduction related to a charitable contribution they had made related to a conservation easement; however, the IRS averred the fair market value of such contribution to be $0), *with* Cavallaro v. Comm'r, 108 T.C.M. (CCH) 287 (2014) (with respect to a merger transaction between married taxpayers' tool and machine manufacturing company and a company formed by their sons, taxpayers claimed not to have made a taxable gift when, indeed, the fair market value of the gift was deemed by the IRS to be $29.6 million).

3. There are literally tomes of valuation tax cases annually adjudicated by the courts. By way of illustration, the Bureau of National Affairs regularly publishes comprehensive portfolios that touch directly upon valuation issues (e.g., CAROL A. KELLEY, VALUATION: GENERAL AND REAL ESTATE (2003); LOUIS A. MEZZULLO, VALUATION OF CORPORATE STOCK (2006)) and others that indirectly do so (e.g., BRIAN D. LEPARD, SECTION 482 ALLOCATIONS: GENERAL PRINCIPLES IN THE CODE AND REGULATIONS (2005)). Further support for this proposition is evidenced by the fact that one of the ten most litigated tax issues is the fair market value of property qualifying for the charitable deduction. *See, e.g.*, TAXPAYER ADVOC. SERV., NATIONAL TAXPAYER ADVOCATE ANNUAL REPORT TO CONGRESS 2018, at 76 (2019), https://www.taxpayeradvocate.irs.gov/wp-content/uploads/2020/07/ARC18_ExecSummary.pdf [https://perma.cc/R583-MUG7] (listing charitable deductions as the eighth most litigated issue).

4. *See, e.g.*, Joshua D. Blank, *The Timing of Tax Transparency*, 90 S. CAL. L. REV. 449, 516 (2017) ("In response to recent popular press news stories regarding the low effective U.S. tax rates of major U.S. corporations, some have branded Advance Pricing Agreements as 'generous dealmaking,' where the 'IRS loses revenue by cutting deals for substantially less than would result from a transfer pricing adjustment.'" (footnote omitted)).

Although this problem has plagued tax collectors throughout many millennia,[5] not all asset valuations are inherently troublesome. For example, asset values can be readily identified in cases involving an arm's-length sale (i.e., a sale or exchange between unrelated parties), or in the case of marketable securities.[6] However, when transactions are not at arm's length (e.g., gifts or bequests) or the assets in question are nonfungible (e.g., real estate or closely held business interests), the valuation process is far more challenging, affording leeway to taxpayers who wish to take aggressive valuation positions to save money on taxes.

Currently, when assets have no readily available fair market value, both taxpayers and the Internal Revenue Service ("IRS") rely on expert appraisers to produce dollar estimates.[7] Taxpayers are naturally inclined to hire those experts who will engineer an estimate that will result in a lower tax bill, while the IRS often counters with an agency-expert estimate that will yield a higher tax liability. Because vying experts may rely on different models, formulas, and assumptions, valuation estimates frequently vary across the board. When courts are then faced with competing expert appraisals, a common practice is to split the parties' differences. This judicial practice, in turn, incentivizes each side to start with an extreme, even if unrealistic, valuation position based on the rational assumption that the ultimate outcome will be somewhere in the middle. Inherent in this flawed process is an unnecessary amount of time spent and money wasted to produce valuation estimates that are not apt to reflect economic reality.

The fact that valuation issues have defied tax computational ease for thousands of years makes the problem appear unsolvable. Yet, in the current era, in which the internet provides accessible data within milliseconds of a simple keystroke, there are innovative tools now available that can facilitate the tax administration process and, at the same time, yield more accurate valuation determinations.[8] In other words, in the Information Era, in which

5. *See, e.g.*, Wallace E. Oates & Robert M. Schwab, *The Window Tax: A Case Study in Excess Burden*, 29 J. ECON. PERSPS. 163, 164–66 (2015) (in 1696, England imposed a tax based upon the number of windows a dwelling had as a proxy for the property's fair market value (the more windows a dwelling possessed, the higher the tax); in response, taxpayers boarded up their windows and constructed homes with fewer windows); Maureen B. Cavanaugh, *Democracy, Equality, and Taxes*, 54 ALA. L. REV. 415, 458 (2003) (pointing out that the Romans instituted "the *tributum soli* (a flat tax based on the assessed value of property)"); Joshua J. Mark, *Ancient Egyptian Taxes & the Cattle Count*, WORLD HIST. ENCYCLOPEDIA (Feb. 7, 2017), https://www.worldhistory.org/article/1012/ancient-egyptian-taxes—the-cattle-count [https://perma.cc/QT6Z-UUMR] (noting that in ancient Egypt, as a proxy to ascertain one's net worth and ability to pay, monarchs would count cows (and other items of value) and assess taxes accordingly).

6. *See* United States v. Cartwright, 411 U.S. 546, 551 (1973) (noting that "[t]he willing buyer-willing seller test of fair market value is nearly as old as the federal income, estate, and gifts taxes themselves").

7. *See infra* Section I.A.

8. *See infra* Part III.

there is a growing trend to harness artificial intelligence ("AI"),[9] the problem of valuation can be approached far more systemically and uniformly than ever before, producing valuation determinations that would have been impossible to secure decades or even years ago.

Advances in machine learning have proven effective in valuing many types of nonfungible assets, including closely held business interests and works of art.[10] Compared to their human counterparts, machine learning programs operate more efficiently, can sift through larger amounts of data, and can stay more up to date on changing market conditions.[11] As a result, machine learning has the capacity to produce asset valuations that are more accurate, and to do so at far less cost.[12] While machine learning programs are no panacea, they are a worthwhile investment that would vastly reduce tax administration costs, improve tax compliance, and simplify the tax system.

AI thus has important implications for (1) the nation's existing income and transfer tax systems, in which asset valuations often are an important metric to ascertain tax liabilities[13]; and (2) the wealth tax currently under consideration,[14] for which accurate asset valuations would be a critical component of its viability.[15] Now, Congress and the IRS must act boldly to tap into these accessible tools.

This Article proceeds as follows. Part I provides background on why asset valuations are commonplace in the existing tax arena and why they would become even more prevalent were Congress to institute a wealth tax. Next, Part II explores the administrative and resource burdens that explain why accurate asset-valuation determinations have historically proven so daunting. In recognition that the information era has made critical data pertaining to

9. *See generally* N. B. Chaphalkar & Sayali Sandbhor, *Use of Artificial Intelligence in Real Property Valuation*, 5 INT'L J. ENG'G & TECH. 2334 (2013) (describing how AI has begun to transform the real estate valuation process and its prospects for revolutionizing the field).

10. *See infra* Section III.A.

11. *See infra* Section III.B.

12. *See infra* Section III.B.

13. *See, e.g.*, Ralph E. Lerner, *Valuing Works of Art for Tax Purposes*, 28 REAL PROP., PROB. & TR. J. 593, 594 (1993) ("A fair market appraisal of a work of art is critical for income tax purposes if the work is transferred during life to a charitable donee, for gift tax purposes if it is transferred during life to a noncharitable donee, and for estate tax purposes if it is owned at death.").

14. Edward J. McCaffery, *Taxing Wealth Seriously*, 70 TAX L. REV. 305, 375 (2017); David J. Shakow, *A Wealth Tax: Taxing the Estates of the Living*, 57 B.C. L. REV. 947, 949 (2016); Douglas Hopkins, *A Business Case for a Wealth Tax*, INEQUALITY (Mar. 2, 2016), https://inequality.org/business-case-annual-wealth-tax [https://perma.cc/SX79-NJ9L]; Ronald McKinnon, *The Conservative Case for a Wealth Tax*, WALL ST. J. (Jan. 9, 2012, 12:01 AM), https://www.wsj.com/articles/SB10001424052970203462304577139232881346686 [https://perma.cc/CTH4-Z65U]; Deborah H. Schenk, *Saving the Income Tax with a Wealth Tax*, 53 TAX L. REV. 423, 474 (2000).

15. *See* Brad Dillon, *Wealth Taxation in America: Policy, Problems, and Perspective*, 132 J. TAX'N 7, 10 (2020) ("The difficulty of valuing assets on an annual basis is often presented as the primary reason a wealth tax would be administratively infeasible."); Repetti, *supra* note 1, at 607 (noting that "the problem" of asset valuations "is endemic to the concept of a wealth tax, that is, the requirement of annual valuations").

valuation readily available, and that AI has the capacity to process and refine such data, Part III then offers important reform measures. These are concrete and practical proposals for integrating this new technology into the tax system that Congress and the IRS should consider instituting. Finally, we conclude our discussion of how policymakers can capitalize on AI to greatly improve tax administration in the realm of asset valuation.

I. BACKGROUND ON ASSET VALUATIONS AND THEIR PIVOTAL ROLE IN THE TAX SYSTEM

As a fundamental starting point, valuation is a critical element of the nation's tax system. The federal income tax is imposed on "all income from whatever source derived."[16] Importantly for this purpose, this broad definition of *income* encompasses not just cash or liquid assets. As the U.S. Supreme Court clarified in *Commissioner v. Glenshaw Glass Co.*, income includes all "undeniable accessions to wealth, clearly realized, and over which the taxpayers have complete dominion."[17] In other words, when the taxpayer prospers economically, she has income, unless an exception applies. This means that all kinds of accessions to wealth—beyond cash—are taxable, including the receipt of property. The Treasury regulations further clarify that taxpayers generally must include in income "the fair market value of" any property they receive by way of compensation.[18]

The tax law is replete with exceptions to the general rule that all accessions to wealth are income. For example, gifts are not taxable to the recipient,[19] nor are certain fringe benefits provided by employers (e.g., free meals).[20] But absent a specific exception, the default under the tax law is that the receipt of property—including that which is nonfungible and possibly hard to value—is a taxable event.[21] Because taxpayers receiving property as income must report it at its fair market value,[22] asset valuation is of fundamental importance to the tax system.

Even more commonplace are valuation issues relating to federal transfer taxes, namely, the gift and estate taxes. While the recipient of a gift or inheritance is not taxable,[23] the donor (or decedent in the case of the estate tax) may be

16. I.R.C. § 61(a) (2018).

17. Comm'r v. Glenshaw Glass Co., 348 U.S. 426, 431 (1955).

18. Treas. Reg. § 1.61-2(d) (2021).

19. *See* I.R.C. § 102.

20. *See id.* §§ 119, 132.

21. *See, e.g.*, Kathleen DeLaney Thomas, *Taxing Nudges*, 107 VA. L. REV. 571, 591 (2021) ("Thus, if a taxpayer has received something of value that makes them better off economically and there are no contingencies involved, they are generally subject to tax (unless an exception applies).").

22. Treas. Reg. § 1.61-2(d) (property received as compensation for services). Property received in other contexts, such as property that is won as an award or prize, is also taxed at fair market value. *See id.* § 1.74-1(a).

23. *See* I.R.C. § 102.

taxable if the fair market value of the gift or inheritance exceeds certain thresholds.[24] Further, while the United States has not enacted a wealth tax, such a tax has been the subject of numerous recent proposals for reducing wealth inequality.[25] As discussed further below,[26] a wealth tax would also require valuing assets subject to the tax.

Due to the central role that asset valuations play in helping to calibrate taxpayers' tax liabilities, tax authorities have been universally sensitive to the need for their accuracy. Section A discusses the current valuation landscape from the vantage points of the taxpayer and the IRS; Section B then highlights those carrots and sticks that Congress has instituted to produce more precise asset values.

A. *CURRENT APPROACH TO ASSET VALUATION*

Determining an asset's fair market value is often a nonevent. This may be because there is a willing buyer and seller who negotiate an asset's purchase price, or because the transaction in question involves a fungible item traded on an open market. In either case, the fair market value (that is, the amount reportable for tax purposes) is easy to determine.

As an example, consider a housepainter who typically charges $10,000 to paint the exterior of a house. Assume that the housepainter negotiates with a homeowner, who is short on funds, to be paid in property instead of cash. If the homeowner pays the housepainter with one thousand shares of stock trading publicly for $10 per share, the housepainter would have $10,000 of income (the fair market value of the shares). Similarly, if the homeowner and the housepainter negotiated an agreement where the housepainter would paint the house in exchange for the homeowner's collection of baseball cards, the cards would be presumed to equal the price of the painting services ($10,000) because the parties engaged in an arm's-length exchange.[27]

However, in a healthy minority of cases, (1) there is neither a willing buyer nor a willing seller for the property, or (2) the asset in question is of the sort

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24. *See infra* note 66 and accompanying text.

25. *See infra* Section III.D.3.

26. *See infra* Section III.D.3. As a practical matter, state and local governments already impose wealth taxes of sorts on their citizenry. More specifically, state and local governments rely on property taxes—imposed upon both real property and personal property—as important revenue sources. *See* Janelle Fritts, *To What Extent Does Your State Rely on Property Taxes?*, TAX FOUND. (Jan. 19, 2021), https://taxfoundation.org/state-property-taxes-reliance-2021 [https://perma.cc/8HUZ-DHNT]. Such taxes are generally calculated by applying a set rate (or rate schedule) to the value of the property. *See* Laura McCamy, *Knowing How to Calculate Property Tax Is Crucial When Owning or Buying a Home. Here's How You Do It*, BUS. INSIDER (Dec. 23, 2021, 1:38 PM), https://www.businessinsider.com/personal-finance/calculate-property-tax [https://perma.cc/659X-C7PE] ("Property tax assessments are based on your home's assessed value multiplied by a millage tax, which is a certain amount for every $1,000 of property value.").

27. *See* Phila. Park Amusement Co. v. United States, 130 Ct. Cl. 166, 173 (1954) (concluding that properties exchanged in an arm's-length transaction are presumed to be of equal value).

that is not regularly sold or exchanged in an open marketplace. Either circumstance generates a broad range of possible fair market values. So how does one go about valuing an asset for tax purposes if there is no market or arm's-length sale transaction? Currently, both taxpayers and the IRS tend to rely upon expert appraisals to establish an asset's tax value.[28] These appraisals generally use formulaic methods that depend partially on the type of asset being valued. For example, home real estate appraisals are generally based on prices from recent sales of "comparable" properties, with similar characteristics like geographic location, age, and size.[29]

The harder the asset is to value, often the more complicated the appraisal methods. For example, in the case of closely held businesses, if there are no comparables on which to base value, an appraiser might use an "income approach," which estimates the present value of the future projected cash flows of the enterprise[30] or an "asset approach," which values an enterprise's underlying assets and liabilities.[31]

Obviously, taxpayers have an incentive to value assets in a way that minimizes their tax burden; and, conversely, the IRS is inclined to value assets in a way that maximizes revenue, ostensibly seeking to safeguard the tax base. As a result, taxpayers and the IRS often arrive at greatly disparate appraisals for the same asset, each produced by their own expert. Compounding the issue is the fact that experts can employ a wide variety of methodologies, models, and assumptions to value assets, each of which may lead to a different outcome.[32]

B. TAX RULES THAT ADDRESS VALUATION ISSUES

Congress is not oblivious to the problem of asset valuation. It recognizes taxpayers' propensities to take aggressive reporting postures—in particular, to undervalue assets on which they owe tax and to overvalue assets that might yield a tax deduction. To steer taxpayers toward greater compliance, Congress accordingly uses a traditional carrot-and-stick approach.

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28. *See, e.g.*, Anthony J. Casey & Julia Simon-Kerr, *A Simple Theory of Complex Valuation*, 113 MICH. L. REV. 1175, 1206 (2015) ("Experts are typically the only people in the case with the experience and the often-specialized education required to perform appraisals . . . ."); Michael Gregory & Renée Marino, *IRS Oversight of CPAs Who Provide Valuation Services*, THE TAX ADVISER (Nov. 1, 2013), https://www.thetaxadviser.com/issues/2013/nov/gregory-nov2013.html [https://perma.cc/YNJ9-XXWA] ("IRS examiners often request the assistance of valuation experts to analyze an appraisal.").

29. THE APPRAISAL FOUND., A GUIDE TO UNDERSTANDING A RESIDENTIAL APPRAISAL 4, https://www.nar.realtor/sites/default/files/migration_files/A-Guide-to-Understanding-Residential-Appraisal-03-28-13.pdf [https://perma.cc/KMU2-LX7R].

30. *See, e.g.*, DAVID LARO & SHANNON P. PRATT, BUSINESS VALUATION AND TAXES 12 (2005).

31. *See id.*

32. *See* Casey & Simon-Kerr, *supra* note 28, at 1178–80.

1. Carrots

When it comes to valuation and administrative concerns, Congress seeks to entice taxpayers to be compliant through a series of measures designed to clarify and simplify their reporting obligations. Three of such strategies are described below.[33]

i. Statement of Value for Art Appraised at $50,000 or More

To authenticate the deductibility of charitable contributions, the Internal Revenue Code ("Code") imposes rigid substantiation requirements.[34] The Treasury regulations further amplify these requirements.[35] In the case of charitable deductions that exceed $5,000 in value, a taxpayer must secure and submit a qualified appraisal.[36] If the fair market value of a donation of charitable artwork equals or exceeds $50,000, taxpayers may submit a $2,500 user fee and then request a Statement of Value from the IRS.[37] This Statement of Value authenticates the proffered price of contributed artwork, and taxpayers may rely upon it in computing the amount of their charitable deductions.[38]

ii. Advance Pricing Agreements

When "two or more organizations, trades, or businesses" under common control or ownership engage in intracompany transactions, 26 U.S.C. § 482 authorizes the IRS to "distribute, apportion, or allocate gross income, deductions, credits, or allowances between or among such organizations, trades, or businesses . . . to prevent evasion of taxes or clearly to reflect the[ir] income."[39] How does the IRS accomplish this feat? The agency attempts to

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33. The main thrust of these so-called carrots is twofold in nature. On the one hand, because the IRS can play a participatory role in these valuation processes (dealing directly with the taxpayer in question or indirectly by establishing a reasonable valuation figure for all taxpayers to use), taxpayers know that, absent fraud or deceit, their reporting positions should be upheld. On the other hand, the agency is a benefactor of these processes because such processes relax the agency's need to play an oversight role.

34. *See* I.R.C. § 170(f)(8).

35. *See* Treas. Reg. § 1.170A-13(c)(3)(i)–(iii) (as amended in 2020).

36. *Id.* § 1.170A-13(c)(1)–(2) (as amended in 2020).

37. Rev. Proc. 96-15, 1996-1 C.B. 627, §§ 3.01, 5.01(2).

38. *See id.* § 13.01.

39. The statute further elaborates:

> In the case of any transfer (or license) of intangible property . . . the income with respect to such transfer or license shall be commensurate with the income attributable to the intangible. For purposes of this section, the Secretary shall require the valuation of transfers of intangible property (including intangible property transferred with other property or services) on an aggregate basis or the valuation of such a transfer on the basis of the realistic alternatives to such a transfer, if the Secretary determines that such basis is the most reliable means of valuation of such transfers.

I.R.C. § 482.

calibrate how the transaction would have been handled had the parties in question not been related and had their business affairs been conducted at arm's length; it then compares this imaginary tax outcome with the taxpayer's reporting position.[40] In the past, discrepancies between taxpayers and the IRS led to expensive and prolonged litigation battles.[41] In order to obviate these controversies, the IRS developed a program involving advance pricing agreements, providing a voluntary process through which the agency and taxpayers may amicably resolve pricing issues.[42] When the IRS and taxpayers are successful, this "increases the efficiency of tax administration by encouraging taxpayers to come forward and present to the Service all the facts relevant to a proper transfer pricing analysis and to work towards a mutual agreement in a spirit of openness and cooperation."[43]

iii. Home Office Deduction

When taxpayers utilize a dedicated part of their home for business, they are supposed to track and retain records of those expenses that they wish to deduct.[44] Deductible business-related expenses for home offices include, but are not limited to, "mortgage interest, insurance, utilities, repairs, and

40. Treas. Reg. § 1.482-1(b)(1) (2015); *see e.g.*, InverWorld, Inc. v. Comm'r, 71 T.C.M. (CCH) 3231, 3231 (1996) (applying an arm's-length charge based on fees paid to unrelated clients when determining the appropriate fee charged between related companies).

41. *See, e.g.*, Jonathan L. Mezrich, *International Tax Issues of the U.S. Pharmaceutical Industry*, 10 AKRON TAX J. 127, 163 (1993) ("The pro-litigation stance of the IRS (with respect to § 482) also makes the conducting of an international business dealing in intangibles (such as drug patents) more risky than other multinational ventures, as advantageous transfers between related companies tend to result in lengthy court disputes."); Robert A. Green, *The Future of Source-Based Taxation of the Income of Multinational Enterprises*, 79 CORNELL L. REV. 18, 55 n.150 (1993) (see sources therein).

42. Rev. Proc. 2004-40, 2004-29 I.R.B. 50 (detailing the conditions that must be met for a satisfactory advanced pricing agreement); *see, e.g.*, Diane M. Ring, *On the Frontier of Procedural Innovation: Advance Pricing Agreements and the Struggle to Allocate Income for Cross Border Taxation*, 21 MICH. J. INT'L L. 143, 159 (2000) ("What marks [Advanced Pricing Agreements or] APAs as an unusual procedural device in the tax system is the fact that they permit the taxpayer and the government to discuss and resolve substantive tax issues voluntarily, prior to the transactions occurring, and to reach agreement on their tax treatment.").

43. Rev. Proc. 2006-9, 2006-2 I.R.B. 278, § 2.01; *see* Cym H. Lowell & Jack P. Governdale, *A Practitioner's Assessment of the Advance Pricing Agreement Program*, 10 J. INT'L TAX'N 10, 15 (1999) ("In evaluating the future of the APA program, it is appropriate to note what has caused it to receive favorable reviews. The program has provided a means by which difficult, fact-sensitive transfer pricing issues can be addressed and resolved amicably between a multinational taxpayer, the Service, and foreign tax authorities as appropriate given the nature of the transactions in question (in some cases involving countries with which the U.S. does not have a treaty relationship)."); *see also* Yehonatan Givati, *Resolving Legal Uncertainty: The Unfulfilled Promise of Advance Tax Rulings*, 29 VA. TAX REV. 137, 139 (2009) ("[M]ost tax scholars see the advance tax ruling procedure as an indispensable tool in the modern world of tax administration and compliance.").

44. *See generally* I.R.C. § 280A (describing the requirements of the deduction).

depreciation."[45] The deductions are based on the portion of the home used for business, so taxpayers must figure out what percentage of their total home is used for business purposes.[46] However, keeping such records and tallying such expenses can be time-consuming and labor-intensive. In lieu of going through this burdensome process of ascertaining the value of their deductible expenses, the IRS permits taxpayers to use instead what is known as a "standard deduction" for their home office, calculated by multiplying the square footage of the home office (up to a maximum of three hundred feet) by $5.[47] This deduction is designed to be a proxy for all of the aforementioned costs, packaged into one number to compute the trade and business expense deduction.[48]

2. Sticks

Insofar as sticks are concerned, Congress uses its customary methodology, namely, weighty penalties to help bolster taxpayer compliance.[49]

For taxpayers who understate their tax liability, including by misvaluing an asset, the standard civil penalty is twenty percent of the tax owed.[50] For example, if a taxpayer overvalues an asset that she donated to charity, and pays $1,000 less tax as a result, she would owe the tax ($1,000), interest on the tax, and a $200 penalty (twenty percent of $1,000).[51] In egregious cases of misvaluation, the civil penalty doubles to forty percent of the tax owed.[52] This "gross valuation misstatement" penalty applies when taxpayers report an asset value that is at least twice the value that the IRS deems to be the correct value of the asset.[53] For example, if a taxpayer values a $5,000 work of art at

45. *Home Office Deduction*, IRS (Mar. 17, 2022), https://www.irs.gov/businesses/small-businesses-self-employed/home-office-deduction [perma.cc/X2DV-7FDN]. However, the deductibility of home office expenses is subject to limitations, including that the home office be used *exclusively* for business. *Id.*

46. *Id.*

47. *See generally* Rev. Proc. 2013-13, 2013-6 I.R.B. 478 (2013) (describing the purpose of the process and how to calculate the appropriate deduction).

48. *See generally* I.R.C. § 162(a) (describing the deductible business expenses that the "standard deduction" procedure estimates).

49. *Id.* §§ 6662–6663.

50. *Id.* § 6662. The penalty applies to "substantial" valuation misstatements, which, albeit, subject to various exceptions, means the asset was valued at least 150 percent of the correct value. *Id.* § 6662(e).

51. *See id.* § 6601 (interest on underpayments); *id.* § 6662.

52. *Id.* § 6662(h)(1). In the context of transfer pricing under section 482, the gross valuation misstatement penalty applies when the property is valued at more than four times the correct value; the regular twenty percent penalty applies when the property is valued at more than twice the correct value. *Id.* § 6662; *see supra* note 39 and accompanying text.

53. I.R.C. § 6662(h)(2).

$11,000, the forty percent penalty would apply to the additional tax owed from the misstatement.[54]

Furthermore, Congress has taken measures to stop the so-called "valuation experts" from financially gaming the system. More specifically, when appraisers act unscrupulously in abetting inaccurate, tax-favored valuation submissions, they, too, endure penalty exposure.[55]

Finally, in the most serious cases of taxpayer abuse, the IRS may seek to impose a civil fraud penalty or pursue criminal tax prosecution.[56] The severity of these penalties can be harsh: For example, in the case of civil fraud, the penalty is seventy-five percent of the tax owed,[57] and in cases of criminal tax evasion, the fine can be up to $100,000 and/or up to five years in prison.[58]

II. PROBLEMS ASSOCIATED WITH ASSET VALUATIONS

Theoretically, the carrot-and-stick approach might assuage the concerns of those commentators and politicians who worry about overly aggressive and specious asset valuations. On the one hand, Congress and the IRS have attempted to make the valuation process less threatening and administratively less burdensome; and, on the other hand, they have made the risk of being noncompliant an expensive proposition. Nevertheless, when it comes to accurate valuation reporting, tax compliance is lackluster at best and abysmal at worst.

Notwithstanding poor tax compliance, there is an argument that Congress, taxpayers, and the IRS have reached an equilibrium point of sorts: Valuation issues are problematic, but they remain tolerable. Yet, "tolerable" does not comport with the nation's status as a world leader in tax compliance,[59]

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54. Similar civil penalties apply when taxpayers *undervalue* assets to reduce their tax liability. For example, to reduce their gift tax liabilities, some taxpayers undervalue the assets they gratuitous transfer. *Id.* § 6662.

55. *Id.* § 6695A(a); *see* Ellen P. Aprill, *Reforming the Charitable Contribution Substantiation Rules*, 14 FLA. TAX REV. 275, 294 (2013) ("6695A imposes a penalty on any person who prepared the appraisal and who knew, or reasonably should have known, the appraisal would be used in connection with a return or claim for refund.").

56. *See* I.R.C. § 6663 (civil fraud); *id.* § 7201 (tax evasion). Both civil fraud and criminal tax evasion require a showing of intent or willfulness on the part of the taxpayer. Section 7201 refers to any "willful" attempt to defeat or evade tax. For "[c]ivil fraud[,] penalties will be asserted when there is clear and convincing evidence to prove that some part of the underpayment of tax was due to fraud. Such evidence must show the taxpayer's intent to evade the assessment of tax, which the taxpayer believed to be owing." IRM 25.1.6.2(3) (June 10, 2021), https://www.irs.gov/irm/part25/irm_25-001-006 [https://perma.cc/3VQ2-WPZA].

57. I.R.C. § 6663(a).

58. *Id.* § 7201 (tax evasion).

59. *See* Rene Chun, *Why Americans Don't Cheat on Their Taxes*, ATLANTIC (Apr. 2019), https://www.theatlantic.com/magazine/archive/2019/04/why-americans-dont-cheat-on-their-taxes/583222 [https://perma.cc/7TFX-XU56] ("[D]ata confirm that the U.S. is among the world's leaders when it comes to what economists call the voluntary compliance rate (VCR).").

nor does it assuage concerns regarding adequate revenue collection.[60] Furthermore, these valuation issues show no sign of abating due to four factors: (1) taxpayers' incentives to take aggressive valuation positions, (2) the IRS's inadequate resources and expanded responsibilities, (3) judges' lack of valuation expertise, and (4) the lack of any agreed-upon approach to valuation. Left unchecked, these factors will continue to plague the tax system.

A. *Taxpayers' Incentives to Take Aggressive Valuation Positions*

Whenever possible, taxpayers generally strive to minimize their tax burdens and retain more of their wealth for private rather than public consumption.[61] To achieve this objective and for tax-reporting purposes, taxpayers generally choose asset valuations along a permissible continuum—but periodically go well beyond the bounds of acceptability.[62] The following three factors, elaborated below, contribute to taxpayers' willingness to take aggressive valuation positions: (1) taxpayers' ability to save significant tax based upon asset valuations; (2) difficulties associated with property valuations and private information that favors taxpayers; and (3) absence of taxpayer incentives to take conservative tax-reporting valuation positions.

1. Taxpayers' Ability to Save Significant Tax Based upon Asset Valuations

Depending on how property is valued, taxpayers may save substantial amounts of tax. To illustrate, consider two opposing fact patterns. In the first, commonplace in the charitable arena, taxpayers typically report the highest possible fair market value for the assets that they contribute to qualified charitable organizations. In the second, in the gifting arena, taxpayers regularly report diminished fair market values of those assets that they gratuitously transfer to their intended beneficiaries. In both the charitable and gifting

60. Even before the COVID-19 pandemic, the government was running annual deficits of close to $1 trillion; thus, collecting adequate tax revenue continues to be of utmost importance. *See Deficit Tracker*, BIPARTISAN POL'Y CTR. (July 12, 2022), https://bipartisanpolicy.org/report/deficit-tracker [https://perma.cc/R7PW-73LG].

61. As was eloquently pointed out years ago by Professor William Andrews, the primary purpose of taxation "is to curtail some part of the private consumption of economic resources that would otherwise occur, in order to free those resources for public use, including redistribution to the poor." William D. Andrews, *A Consumption-Type or Cash Flow Personal Income Tax*, 87 HARV. L. REV. 1113, 1165–66 (1974). In a nutshell, those taxpayers who thus seek to reduce tax burdens wish to augment their private consumption.

62. *See, e.g.*, Walford v. Comm'r, 86 T.C.M. (CCH) 479, *5 (2003), *aff'd*, 123 F. App'x 952 (10th Cir. 2005) (in order to secure tax benefits, taxpayers used a nonrecourse note and paid a purchase price for an energy management system "3,000 percent greater than the price" that the seller, that same year, had paid to acquire it).

contexts, as well as many others, taxpayers have demonstrated a willingness to take aggressive valuation positions.[63]

i. Charitable Contributions

Under the Code, taxpayers who make charitable contributions are entitled to an income tax deduction.[64] In the case of property donations, generous rules allow taxpayers to deduct the fair market value of the contributed property.[65] The higher the fair market value of the property donated, the greater the deduction and, correspondingly, the larger the tax savings.

To illustrate, suppose a taxpayer earns $1 million in salary income that endures a flat tax rate of forty percent, and she makes a $200,000 cash donation to a charity of her choice. Under these facts, the deduction for the charitable donation reduces the taxpayer's tax burden from $400,000 (forty percent of $1 million) to $320,000 (forty percent of $800,000, that is, the $1 million reduced by the $200,000 deduction). In other words, each dollar that the taxpayer contributes to the charitable organization yields forty cents in tax savings. The total value of the deduction is the amount of the donation times her tax rate: $80,000, in this example.

Now, suppose in the prior example that the taxpayer contributed title to a one-acre plot of real estate to the charitable organization. To maximize her charitable deduction, assume the taxpayer reached out to three qualified real estate appraisal professionals, informed them of the purpose of their retention (i.e., to help her minimize her income tax burden), and asked them to be able to defend their appraisals in the event of an IRS challenge. Suppose further that each qualified real estate professional responded with a different valuation estimate, say, $200,000, $250,000, and $300,000, respectively. Among

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63. *See* Erin L. Thompson, *"Official Fakes": The Consequences of Governmental Treatment of Forged Antiquities as Genuine During Seizures, Prosecutions, and Repatriations*, 82 ALB. L. REV. 407, 435 (2019) ("[S]ince the determination of fake from genuine is sometimes truly difficult, and because the appraisers generally know what the donor is hoping for on the appraisal (a high valuation), it is not surprising that even bad fakes are sometimes appraised as valuable genuine antiquities."). Beyond "bilking the treasury" of revenue, sometimes aggressive taxpayer valuations result in even far worse negative externalities. *See* Michael Markarian, *Getting Rid of the Taxidermy Loophole*, CHI. TRIB. (Apr. 17, 2005, 12:00 AM), https://www.chicagotribune.com/news/ct-xpm-2005-04-17-0504170475-story.html ("The appraisals of trophy animals are, of course, extraordinarily generous, and often made by viewing photographs without even seeing the actual mount. Just calculate the cost of airfare, guide fees, licenses, hunting permits, skinners, trackers, shipping, taxidermy, tips for guides and the 'replacement value' of the animal, and you can make each hunt pay for the next. In an ironic twist of so-called conservation, the more animals that are hunted, the more rare the species becomes, and thus the higher 'value' of the animal and tax break to the hunter. The [Chicago Appraisers Association] recommended values of up to $5,000 for a zebra, $13,500 for a brown bear and $45,000 for a desert sheep.").

64. I.R.C. § 170(a). This assumes that the taxpayers itemize their deductions rather than claiming the standard deduction. *See id.* § 63(b).

65. This rule is subject to limitations on how long the taxpayer has held the property and whether the property relates to the recipient organization's charitable purpose. *See id.* § 170(b).

these appraisals, to maximize her tax savings, the taxpayer would almost certainly use the appraisal that reflects the highest fair market value (i.e., $300,000) to calculate her deduction. At a forty percent tax rate, a $300,000 deduction will save the taxpayer $120,000 in tax, while a $200,000 deduction would save her only $80,000.[66] In other words, the taxpayer saves tens of thousands of dollars in taxes in this example by choosing the most favorable appraisal.

But taxpayers are known to go beyond such presumably reasonable valuation ranges and utilize asset valuations, prepared by unscrupulous valuation professionals, that reflect egregiously exaggerated asset values.[67] To illustrate, suppose the taxpayer in the prior example hired a tax professional that, for the "right fee," would put his name on any appraisal, including one that concluded the property's fair market value to be $700,000. In that case, the taxpayer who wished to shelter an additional $400,000 from being taxed (i.e., $700,000 – $300,000) might be willing to utilize this inflated dollar figure.

The allegation made in the prior paragraph regarding taxpayer propensities to use aggressive valuation postures is not embroidered. There are hundreds of cases in which taxpayers took over-the-top charitable deductions using inflated property values—deductions that the courts disallowed and for which

66. As discussed in the preceding paragraph, the value of the deduction to the taxpayer—in terms of taxes saved—is equal to the taxpayer's tax rate times the amount of the deduction. A $300,000 deduction yields $120,000 in saved taxes (forty percent x $300,000), while a $200,000 deduction yields $80,000 in saved taxes (forty percent x $200,000).

67. *See, e.g.*, Silverman v. Comm'r, 27 T.C.M. (CCH) 1066, 1066 (1968) ("The cornerstone of petitioners' case was Hammer's valuations. Hammer was a witness before us. We had ample opportunity to observe him and to draw inferences as to his reliability, taking into account also various letters in evidence which he had written. Although it was clear that he was knowledgeable in the field of art generally, we had no confidence in his valuations, which appeared to be highly inflated. He impressed us as a cynical person with flexible scruples. An example of his conduct which troubled us was the request that he made of some donees that they include in their letter of receipt a statement reading 'We have had these paintings professionally appraised as follows' and then to set forth Hammer's appraisal of the items involved. Any such letter of acknowledgment would be highly misleading, in that it would raise a reasonable, but false, inference that the donee had obtained an independent appraisal."); *see also* Neely v. Comm'r, 85 T.C. 934, 944–45 (1985) ("The valuations determined by Hommel [the taxpayer's valuation expert] are at best unreliable. He was ostensibly hired to appraise approximately 300 pieces which had not been valued by Willis [another valuation expert]. Hommel in fact appraised all of the pieces remaining after the 1976 and 1977 donations, about 1,200 in number, even though the bulk of these had already been appraised by Willis. . . . Hommel's figures for pieces which had been previously appraised by Willis are from 250 to 1,600 percent of Willis' values. Hommel's values for the 1978–80 donations are, on average, approximately 800 to 900 percent of those determined by respondent's experts. It seems that instead of seeking a middle-of-the-road appraiser, petitioners had quite different intentions. Despite the protestations of petitioners . . . to the contrary . . . [they] 'shopped' for an appraiser who could provide values in the right 'price range'—a range of values much higher than that provided by Willis—and engaged Hommel for the job.").

they then imposed stiff penalties.[68] There are no doubt many more cases that were never formally adjudicated but instead were settled out of court. Another point to consider is that many unscrupulous taxpayers may achieve their tax-savings objectives simply because their tax returns are never audited.

ii. Gifts

The Code imposes a gift tax—payable by the donor—on gratuitous transfers.[69] Regarding gift tax imposition, the tax base is the fair market value of the asset transferred,[70] and the current gift tax rate is forty percent.[71] Needless to say, the smaller the fair market value of the gift, the correspondingly smaller the gift tax imposition.

To illustrate, if a taxpayer transfers $200,000 of cash to her daughter as a gift, the Code imposes an $80,000 tax (forty percent of $200,000).[72] Now, akin to the taxpayer in the prior problem, suppose instead the taxpayer gifts title to a one-acre plot of real estate to her daughter. To minimize her gift tax exposure, suppose the taxpayer reached out to three qualified real estate appraisal professionals, informed them of the purpose of their retention (i.e., to help her minimize her gift tax burden), and asked them to be able to defend their appraisals if the IRS challenged them. Suppose each qualified real estate professional responded with a different valuation estimate of $200,000, $150,000, and $100,000, respectively. To minimize her tax bill, the taxpayer will likely choose the appraisal that reflects the lowest fair market value (i.e., $100,000).

This taxpayer and other similarly situated taxpayers are known for choosing the outermost boundaries of acceptability, but sometimes taxpayers go even

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68. *See, e.g.*, RERI Holdings I, LLC v. Comm'r, 149 T.C. 1, 1 (2017) ("[B]ecause the $33,019,000 value that PS assigned to the remainder interest it transferred to [charity] is more than 400% of that interest's actual fair market value, PS' claimed charitable contribution deduction resulted in a gross valuation misstatement." (citing I.R.C. § 6662(e)(1)(A), (h)(2))); Sergeant v. Comm'r, 76 T.C.M. (CCH) 133, 133 (holding that the IRS determination was correct and imposed a valuation misstatement penalty upon taxpayers when taxpayer claimed a charitable deduction associated with a boat donation of $75,100, and the IRS averred the value of the boat to be $22,125). Furthermore, prior to 2004 and the passage of the Jobs Creation Act, Pub. L. No. 108-357, 118 Stat. 1418 (2004), taxpayers would routinely donate their cars and boats to charities and took exaggerated charitable tax deductions. *See, e.g.*, Josh Meyer, *Driving Through a Legal Loophole*, L.A. TIMES (Aug. 1, 1999, 12:00 AM), https://www.latimes.com/archives/la-xpm-1999-aug-01-mn-61576-story.html [https://perma.cc/G2Y7-T4Q9] ("The IRS is growing alarmed as many charities woo donors by offering highly inflated write-offs, often worth two or three times the value of their vehicles. That's fraud, and it is costing the U.S. Treasury potentially hundreds of millions of dollars a year in tax revenue, experts say.").

69. I.R.C. §§ 2501–2524.

70. *Id.* § 2501.

71. *Id.* § 2502.

72. *Id.* § 2501. This example assumes that the taxpayer making this gift had already exhausted her lifetime exemption amount (*id.* §§ 2505(a), 2010(c)), and hence an immediate gift tax would be due and payable.

further and take aggressive valuation positions.[73] Suppose the taxpayer in the prior example decided that the fair market value of the one-acre plot was $10,000; or suppose she hired a tax professional that, for the "right fee," would put his name on any appraisal, including one concluding the property's fair market value to be $10,000. In either instance, the taxpayer wishing to shelter an additional $90,000 from gift tax (i.e., $100,000 – $10,000) would be willing to report this diminished dollar figure.[74]

Just as was the case in the charitable context, the allegation made in the prior paragraph regarding taxpayer propensities to use aggressive valuation postures in the gift context is not overstated. There is a plethora of reported cases in which taxpayers grossly undervalued their taxable gifts, resulting in penalty imposition.[75] And just as was the case in the charitable context, one can also easily imagine in the gift context that there were many more valuation disputes that were never adjudicated but were settled out of court and that there are many instances in which the IRS failed to audit the tax returns of offending taxpayers.[76]

iii. Other Examples

The illustrations regarding charitable contributions and gifts are emblematic of valuation issues endemic to the Code,[77] threatening to tatter

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73. *See, e.g.*, Est. of H.A. True, Jr. v. Comm'r, 82 T.C.M. (CCH) 27, *2–*9 (2001).

74. The size of the lifetime exemption amount is currently $12,060,000. I.R.C. § 2505(a); Rev. Proc. 21-45, 2021-48 I.R.B. § 3.41. That being the case, the vast majority of taxpayers might be tempted to report this lower dollar figure because the IRS has little incentive to challenge the proffered valuation associated with the gifted property; even if the agency were successful in its revaluation efforts, it would yield no immediate tax dollars (unless the taxpayer had already exhausted the lifetime exemption amount or a large portion of it).

75. *See, e.g.*, *Est. of H.A. True, Jr.*, 82 T.C.M. (CCH) at *125 ("As the table indicates, the subject interests in Belle Fourche were valued on the . . . 1994 gift tax return at less than 25 percent of the correct value, which result in gross valuation misstatements under section 6662(h).").

76. Mark P. Cussen, *U.S. Tax Court: Your Last Resort*, INVESTOPEDIA (Dec. 27, 2021), https://www.investopedia.com/articles/tax/09/tax-court-last-resort.asp [https://perma.cc/P4KF-PV32] ("Approximately 85% of tax court cases reach a settlement before even going to trial."). Sometimes taxpayers simply seek to circumvent their tax obligations by failing to fulfill their obligations to file their tax returns. *See* Josh Ungerman, *The New Gift Tax Audits: IRS Identifies Non-Filers Using State Property Records*, FORBES (Oct. 19, 2011, 12:38 AM), https://www.forbes.com/sites/irswatch/2011/10/19/the-new-gift-tax-audits-irs-identifies-non-filers-using-state-property-records [https://perma.cc/EU62-YPPR] ("According to Josephine Bonaffini, the Federal/State Coordinator for the IRS Estate and Gift Tax Program, between sixty percent and ninety percent of taxpayers fail to file a gift tax return despite having engaged in a transaction requiring a return.").

77. *See* Farber v. Comm'r, 33 T.C.M. (CCH) 673, 673 (1974) ("We have previously made clear that the settlement process is obviously more conducive to the proper disposition of disputes such as this because a valuation issue is 'inherently imprecise and capable of resolution only by a Solomon-like pronouncement.'" (citing Messing v. Comm'r, 48 T.C. 502, 512 (1967) ("Too often in valuation disputes the parties have convinced themselves of the unalterable correctness of their positions and have consequently failed successfully to conclude settlement negotiations—a process clearly more conducive to the proper disposition of disputes such as this. The result is an overzealous

its fabric. But charitable contributions and gifts are not the extent of the problem; to the contrary, valuation issues extend well beyond the realms of charitable contributions and gift giving. They also include, but are not limited to, compensation arrangements, related-party transactions, and estate tax computations.[78] In a nutshell, when it comes to valuation issues, many taxpayers tend to push the boundaries of acceptability in their reporting practices, and the IRS must exercise vigilance.

2. Difficulties Associated with Property Valuations and Private Information That Favors Taxpayers

The very nature of valuation determinations does not lend itself to the numerical crispness ordinarily associated with tax accounting. When a taxpayer earns a $100,000 cash salary, the tax system operates at optimal efficiency. The taxpayer's employer knows exactly how much must be withheld for payroll and income tax purposes,[79] and, by the same token, the taxpayer is well aware of her tax-reporting responsibilities.[80] The same ease of tax computation cannot be made if, in lieu of cash, an employer remunerates a taxpayer with a one-acre plot of land or some other property for which the fair market value is not easily ascertainable.

When it comes to valuation identifications, there are certain attributes of nonfungible property that distinguish it from cash and fungible property. First, the taxpayer may be privy to facts (both good and bad) regarding the property's value that are not in the public domain (e.g., exquisite sunsets that regularly adorn an entry foyer or, by contrast, a nearby stream that periodically overflows and floods the property's basement).[81] Second, if and when the IRS

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effort, during the course of the ensuing litigation, to infuse a talismanic precision into an issue which should frankly be recognized as inherently imprecise and capable of resolution only by a Solomon-like pronouncement."))); Est. of Giovacchini v. Comm'r, 105 T.C.M. (CCH) 1179, *18 (2013) ("As is all too typical in valuation cases, the parties have taken widely divergent self-serving views of High Meadows' values as of the relevant valuation dates. Petitioner argues that High Meadows was worth $7.4 million as of June 27, 2000, and $8 million as of October 8, 2001. Respondent argues that High Meadows was worth $25,185,000 as of June 27, 2000, and $36,280,000 as of October 8, 2001."); *see also* Bosland, *supra* note 1, at 78 (conducted an examination of how courts ascertain asset valuations and whether it is merely by a process of compromise).

78. *See* Lederman, *supra* note 1, at 1496 ("Traditionally, federal tax valuation cases have arisen in connection with the estate or gift tax or the federal income tax consequences of a transaction such as a charitable donation or the sale of a business.").

79. *See* I.R.C. §§ 3101, 3111 (detailing imposition of tax on wages, a term defined in I.R.C. § 3121(a)).

80. *See id.* § 61.

81. For example, in *City of Richmond v. Gordon*, 294 S.E.2d 846 (Va. 1982), the taxpayer challenged the city of Richmond's property tax valuation of an apartment complex, arguing the city used overly optimistic projections about the profitability of the complex. In rejecting the taxpayer's argument, the Virginia Supreme Court noted that the City did not have access to the taxpayer's private information, which may have lowered the valuation:

challenges a taxpayer's reported valuation, the agency's efforts usually occur years after a valuation is reported, and there may be interceding events (e.g., the unanticipated construction of a road) that can readily color one's valuation perspective, even though ex post occurrences are supposed to be ignored.[82]

The picture that thus emerges is one in which the process of asset valuation is destined to remain open-ended. And this open-endedness is the exact criticism levied against the introduction of a proposed wealth tax,[83] the tax base of which is designed to be calibrated based upon a taxpayer's net worth at a specified period in time.[84] Indeed, one of the chief denunciations lodged against a wealth tax is that, due to the problem of valuation, it would be an administrative nightmare and costly to institute and maintain.[85] More specifically, taxpayers would have to engage in the labor-intensive and time-consuming exercise of annually valuing their assets, a task that is likely to

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> As we have stated, because of the Taxpayer's refusal to respond in 1973 and early 1974 to the City's request for actual data, the 1974 assessment of necessity was based, in the main, on pro forma figures. Had the Taxpayer disclosed "the track record" for the complex when asked to do so, it is likely the 1974 assessment would have been lower. At any rate, the information was withheld and the City proceeded to use such data as was available. Accordingly, the City has not "disregarded" controlling evidence; it was not privy to all the important actual figures.

Id. at 851.

82. *See* First Nat'l Bank of Kenosha v. United States, 763 F.2d 891, 894 (7th Cir. 1985) ("The rule against admission of subsequent events is, simply stated, a rule of relevance. In a valuation case, the question to be asked of any proffered evidence is whether the admission of the evidence would make more or less probable the proposition that the property had a certain fair market value on a given date . . . . Under this traditional definition of relevance, evidence of most subsequent events would be excluded."); William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORNELL L. REV. 385, 416 n.137 (2016) ("[S]uch use of ex post information is inconsistent with market valuation practices in other contexts such as tax, accounting, and estate administration."); Kirsten S. Linder, Note, *Hybrid Taxation: The Dual Function and Creditability of the U.K. Windfall Tax*, 65 TAX LAW. 429, 441 (2012) ("In other words, it is inappropriate to use ex post information to tinker with an ex ante valuation.").

83. *See, e.g.*, Lawrence H. Summers & Natasha Sarin, *A 'Wealth Tax' Presents a Revenue Estimation Puzzle*, WASH. POST (Apr. 4, 2019, 2:46 PM), https://www.washingtonpost.com/opinions/2019/04/04/wealth-tax-presents-revenue-estimation-puzzle [https://perma.cc/XK5F-8Q7Q] (articulating that taxpayers will embrace many of the same valuation-minimization strategies with a wealth tax that they currently embrace in the transfer tax realm); Robert Frank, *The Problem with a Wealth Tax*, WALL ST. J. (Jan. 11, 2012, 1:03 PM), https://www.wsj.com/articles/BL-WHB-4976 [https://perma.cc/F862-3GVH] (contending that a "fatal flaw" with a wealth tax is "valuation" and that "[d]etermining a rich person's precise net worth is difficult even for the wealthy themselves, let alone the government").

84. *See, e.g.*, Ari Glogower, *Comparing Capital Income and Wealth Taxes*, 48 PEPP. L. REV. 875, 886 (2021) ("The wealth tax base is typically determined based on the value of the taxpayer's assets at the time of observation . . . .").

85. *See* Jason Oh & Eric Zolt, *Wealth Tax Design: Lessons from Estate Tax Avoidance* 15 (UCLA Sch. of L. L. & Econ. Rsch. Paper, Paper No. 20-01, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3526515 [https://perma.cc/Y4BE-XY6Y] (explaining that while these authors support the institution of a wealth tax, they acknowledge that tax administrators "would need to track wealth every year").

foster noncompliance.[86] At the same time, the IRS would have to retain a vast new workforce of appraisers to oversee and enforce the tax. In large part due to such criticisms, the introduction of a wealth tax has, from a legislative perspective, stalled.

3. Absence of Taxpayer Incentives to Take Conservative Tax-Reporting Valuation Positions

As discussed above, the process of valuing nonfungible property is fraught with challenges. Indeed, whether it be a one-acre parcel, an interest in a closely held partnership, or a piece of artwork, endemic to the process is an inability to pinpoint with exactitude an asset's fair market value.[87] Instead, a range of values emerges. For any given valuation, some appraisal experts may argue that the range in question is narrow, and others may argue that it is quite expansive.[88] Yet, they all concur that there is indeed a range.

Given the fact that nonfungible property often has a broad range of values, it is reasonable to assume that taxpayers will choose the putative fair market value that yields the most advantageous tax outcome. A simple example illustrates this point. Suppose a taxpayer wishes to gift a piece of art to her daughter and the appraiser avers that the fair market value of the piece ranges from $250,000 to $300,000. One can readily imagine that the taxpayer would utilize the $250,000 value instead of the $300,000 value, as doing so will yield substantial tax savings.[89]

But what if the IRS disagrees with the taxpayer's valuation? Shouldn't fear of being audited and penalized for undervaluing the artwork encourage more conservative valuations? Oftentimes not, and for valid reasons.

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86. *See, e.g.*, Kathleen DeLaney Thomas, *User-Friendly Taxpaying*, 92 IND. L.J. 1509, 1558 (2017) ("As things currently stand, our taxpaying obligations are mentally exhausting and collectively consume immense amounts of time and financial resources. Empirical studies show that, not only do we have a strong preference for simplicity in our daily lives, but mental exhaustion drives us to behave passively and makes us more likely to cheat.").

87. *See, e.g.*, Lederman, *supra* note 1, at 1495 ("Valuation issues have long posed challenges for the U.S. federal tax system."); George Yijun Tian, *Cloud Computing and Cross-Border Transfer Pricing: Implications of Recent OECD and Australian Transfer Pricing Laws on Cloud Related Multinational Enterprises and Possible Solutions*, 44 RUTGERS COMPUT. & TECH. L.J. 33, 61 (2017) ("It is clear that most of the cloud-related transfer-pricing challenges are common for both developing and developed countries. . . . [N]ot surprisingly, intangible-related valuation can be problematic under the current tax system."); *see also* Cede & Co. v. Technicolor, Inc., No. Civ.A. 7129, 2003 WL 23700218, at *2 (Del. Ch. Dec. 31, 2003 (rev. July 9, 2004)), *aff'd in part, rev'd in part, & remanded*, 884 A.2d 26 (Del. 2005 (rev. June 28, 2005)) ("[V]aluation decisions are impossible to make with anything approaching complete confidence. Valuing an entity is a difficult intellectual exercise, especially when business and financial experts are able to organize data in support of wildly divergent valuations for the same entity.").

88. *See* John A. Townsend, *Burden of Proof in Tax Cases: Valuation and Ranges—An Update*, 73 TAX LAW. 389, 392 (2020) ("[A] trier of fact will often be unable to set a definite value but will be able to establish a range of values based on persuasion.").

89. This example assumes that the taxpayer has exhausted her lifetime exemption amount (currently, $12,060,000) and therefore owes gift tax. *See* I.R.C. § 2505(a).

First, if the taxpayer had the property authenticated by a qualified appraiser, the IRS would likely find the proffered valuation submission, even one chosen at the lowest rung possible on the ladder of permissible valuation dollar amounts, virtually impregnable to challenge.

Second, even if the taxpayer's valuation is clearly impermissible, she may rationally perceive that there won't be negative economic consequences associated with embracing this reporting position. In determining whether to misreport an asset's value, or whether to take an aggressive reporting position that may be challenged, a rational taxpayer would consider both the odds of detection and the size of the potential penalty.[90] If taxpayers knew in advance that anytime they misreported a tax amount due they would be caught and a penalty imposed, they would never purposefully submit an erroneous tax return because it would de facto result in a greater financial burden. The reverse is also true: If taxpayers knew in advance that anytime they misreported a tax amount due, they would never be caught, then no matter how high the penalty percentage, they would not be compliant (unless social norms or mores kept their non-civic behavior in check).[91] Because no tax system is either foolproof or grants free rein, taxpayers constantly must weigh whether to be compliant or not, given the chances of being audited and the severity of the penalty involved.[92]

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90. *See generally* Michael G. Allingham & Agnar Sandmo, *Income Tax Evasion: A Theoretical Analysis*, 1 J. PUB. ECONS. 323 (1972) (presenting how taxpayers are inclined to undertake a cost-benefit analysis in deciding whether to be tax compliant); Susan C. Morse, *Tax Compliance and Norm Formation Under High-Penalty Regimes*, 44 CONN. L. REV. 675, 681 (2012) ("The hypothetical fully rational taxpayer decides whether to evade tax by comparing the amount of saved tax to the penalties for cheating weighted by the chance that the evasion will be detected.").

91. *See* Leandra Lederman, *The Interplay Between Norms and Enforcement in Tax Compliance*, 64 OHIO ST. L.J. 1453, 1461 (2003) ("The evidence that norms affect tax compliance is supported by research that has demonstrated that individuals tend to reciprocate or cooperate . . . .").

92. *See generally* Allingham & Sandmo, *supra* note 90 (asserting that taxpayers must weigh the risk of committing tax defalcations against the probability of detection and the potential penalty imposed); T. N. Srinivasan, *Tax Evasion: A Model*, 2 J. PUB. ECON. 339 (1973) (same); Jonathan Skinner & Joel Slemrod, *An Economic Perspective on Tax Evasion*, 38 NAT'L TAX J. 345 (1985) (explaining that economic rationality, however, is not the sole determinant of tax compliance). For a more recent study of the implications between tax compliance and penalties, see James Alm, *Measuring, Explaining, and Controlling Tax Evasion: Lessons from Theory, Experiments, and Field Studies*, 19 INT'L TAX & PUB. FIN. 54, 63 (2012) (detailing how various factors such as "social norms, social customs, fairness, trust, reciprocity, tax morale, and even patriotism, as well as . . . individual notions of guilt, shame, morality, altruism, or alienation" can play determinative roles in shaping compliance). For an illustration of this dynamic, see Leandra Lederman & Ted Sichelman, *Enforcement as Substance in Tax Compliance*, 70 WASH. & LEE L. REV. 1679, 1691–92 (2013):

> For example, assume that a taxpayer is deciding whether or not to report $5,000 of poker winnings. Assume that the applicable tax rate is 20%, so the tax at stake is $1,000. Assume further that if the taxpayer fails to report the winnings and is caught, the taxpayer will owe the $1,000 plus a penalty of $200, or $1,200 in total. If the audit rate is 1%, assuming that audits detect all evasion and all evaders must pay the tax and the penalty, the expected cost of noncompliance for a risk-neutral taxpayer

So how does this reality play out in practice? Current IRS enforcement statistics suggest that misvaluing assets is a worthwhile gamble. The audit rate has declined significantly over the past several decades,[93] dropping to less than one percent in recent years.[94] Although a low audit rate should signal the need for steeper penalties for valuation misstatements, Congress has not taken any meaningful step in this direction, which may be a contributing factor in taxpayer valuation misstatements.[95] Yet, there is also evidence that higher penalties alone will not solve noncompliance when the audit rate is too low.[96] Some data suggest that taxpayers who do not believe they will be audited and caught simply do not respond to what they perceive to be high but "hypothetical" penalties.[97]

Further contributing to noncompliance is the fact that valuation involves no third-party information reporting.[98] Study after study reveal that when there is third-party tax information return reporting—for example, when an employer reports income on a W-2 or a bank reports income on a Form

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is only $12, while compliance costs $1,000. In this basic model, therefore, at any realistic audit rate, an amoral taxpayer should always decide to cheat.

Id. (footnotes omitted).

93. *See infra* Section II.B.

94. *See* U.S. GOV'T ACCOUNTABILITY OFF., TAX COMPLIANCE: TRENDS OF IRS AUDIT RATES AND RESULTS FOR INDIVIDUAL TAXPAYERS BY INCOME 6 (2022), https://www.gao.gov/assets/gao-22-104960.pdf [https://perma.cc/CV99-8PCH] ("From tax years 2010 to 2019, audit rates of individual tax returns decreased for all income levels . . . . On average, individual tax returns were audited over three times more often for tax year 2010 (about 0.9 percent) than for tax year 2019 (0.25 percent)." (footnote omitted)); Sunita Lough, *IRS Audit Rates Significantly Increase as Income Rises*, IRS (Oct. 20, 2020), https://www.irs.gov/about-irs/irs-audit-rates-significantly-increase-as-income-rises [https://perma.cc/759D-S5YE]. However, the audit rate does increase with income, *see id.*, and taxpayers who need to value significant assets are more likely to be in a higher income group. Notwithstanding that higher-income individuals face audit rates between two-and-one-half percent and eight percent (depending on income level), these rates still make expected penalties for evasion very low and make misvaluing assets a rational choice from a purely economic cost-benefit perspective. For example, let's say that the taxpayer understates $1,000 of tax due to a valuation misstatement and that she is subject to the maximum penalty (for a gross valuation misstatement) of forty percent of the tax owed. *See supra* note 51 and accompanying text. At an eight percent audit rate, the "expected penalty" would be just $32 (0.08 x $400 = $32).

95. Admittedly, when (1) taxpayers misreport an asset valuation that is "substantial" in nature (as defined in I.R.C. §§ 6662(e)(1)(A)–(B)) or (2) "there is a substantial estate or gift tax valuation understatement," I.R.C. § 6662(g)(1), the penalty increases from twenty percent to forty percent. I.R.C. § 6662(h)(1).

96. *See* Lederman, *supra* note 1, at 1507 ("[E]mpirical research suggests that increased penalties do not deter noncompliance to the extent one might expect them to. That is because penalties do not substitute for increased audits in the way that economic modeling may seem to suggest.").

97. *Id.* at 1509 ("[S]tudies generally do not find substantial deterrent effects from increases in penalties.").

98. *Cf. id.* at 1502–07 (discussing how third-party reporting could improve tax administration in the context of asset valuation).

1099—tax compliance is nearly perfect.[99] In other words, when people know that the IRS is being notified about their earnings by a third party, they nearly always report those earnings accurately on their tax return. By contrast, when there is no independent third-party tax information return reporting, tax compliance trails off considerably.[100] It is therefore not surprising that since the Code does not mandate any third-party tax information for asset valuation, taxpayer compliance in this realm is problematic.[101]

Finally, some taxpayers—especially those who are wealthy—may anticipate a dispute with the IRS over a large valuation issue. Knowing that the dispute will culminate in either a settlement with the IRS or litigation in court, taxpayers may intentionally choose an aggressive position. Such taxpayers believe that this position—even if indefensible—will ultimately benefit them if the end result is something in the middle between the taxpayer's and the IRS's proffered valuations.[102] The many published court opinions of valuation disputes suggest that this is a rational belief: Courts often "split the baby" so to speak, as discussed below.[103]

Note that the incentive to undervalue or overvalue assets in such cases persists *even if the taxpayer is subject to penalties*. Consider a work of art, gifted by the taxpayer, that she asserts is worth $90,000 and the IRS contends is worth $1 million. The taxpayer reports $36,000 in gift tax (forty percent of $90,000), but the IRS wants the taxpayer to pay $400,000 of gift tax (forty percent of $1 million). Now assume that the parties settle the dispute and agree on a $500,000 valuation. The taxpayer owes $200,000 of gift tax (forty percent of $500,000), which is $164,000 more than she originally paid. She may also owe a penalty of $65,600 (calculated as a percentage of the tax that she

99. *See* IRS, FEDERAL TAX COMPLIANCE RESEARCH: TAX GAP ESTIMATES FOR TAX YEARS 2011–2013, at 14 fig.3 (2019) [hereinafter FEDERAL TAX COMPLIANCE], https://www.irs.gov/pub/irs-pdf/p1415.pdf [https://perma.cc/QQ2A-RPNH] (pointing out that tax compliance is close to one hundred percent when third-party tax information returns are coupled with withholding); Leandra Lederman, *Does Enforcement Reduce Voluntary* Tax *Compliance?*, 2018 BYU L. REV. 623, 647 (2018) ("[T]axpayers do not have an open opportunity to evade taxes on all of their income. Many sources of income are subject to third-party reporting, and it is much easier for the government to match an information return with a taxpayer's return than to conduct an audit." (footnote omitted)).

100. *See* FEDERAL TAX COMPLIANCE, *supra* note 99, at 14 (demonstrating that in the absence of third-party information returns, taxpayer compliance hovers slightly below fifty percent). For many decades, the voluntary compliance rate in the United States has remained remarkably consistent. *See* J. T. Manhire, *There Is No Spoon: Reconsidering the Tax Compliance Puzzle*, 17 FLA. TAX REV. 623, 662–63 n.125 (2015) ("Based on data reported by the IRS SOI division, the voluntary compliance rate for the same population for taxable years 1996 through 2010 has a mean of 82.2 percent, with a 95 percent confidence interval (two standard deviations) that the voluntary compliance rate for that period was between 80.75 and 83.76 percent.").

101. However, when taxpayers contribute property the fair market value of which is $5,000 or more of noncash or marketable securities to qualified charities and wish to secure a charitable deduction, they must submit an appraisal from a qualified appraiser. *See* I.R.C. § 170(f)(11)(C).

102. *See infra* Section II.D.

103. *See infra* Section II.D.

underreported by virtue of her valuation misstatement).[104] However, the tax plus the penalty on the settlement amount is far below the tax on the $1 million valuation proffered by the IRS (which would have been $400,000). In other words, the taxpayer is better off paying a penalty to arrive at a favorable settlement than to offer an initial valuation as high as the IRS's valuation.[105]

In short, the current tax regime leaves the taxpayers not only with very little incentive to "get it right" but also with a steep financial incentive to value assets as aggressively as possible. In the most likely case, taxpayers report asset valuations, and the IRS does not audit their tax returns. In the rare case when the IRS does audit a taxpayer's return, it will pan out favorably for the taxpayer if she reported an aggressive asset-valuation position, insofar as it might yield a more favorable settlement outcome than if the taxpayer's initial valuation were more reasonable.

B. IRS'S INADEQUATE RESOURCES AND EXPANDED RESPONSIBILITIES

For the last several decades, the IRS has become resource starved.[106] Numbers can sometimes tell a story, and the plight of this agency is no exception. Beginning approximately thirty years ago, Congress decided to prune (some commentators might say "starve") the IRS. Evidence for this proposition is found in the dollar amounts budgeted to the IRS: Although the IRS budget was $6 billion in 1992 and approximately $12 billion three decades later in 2020,[107] this increase barely kept pace with inflation and resulted in a precarious decrease in the IRS's workforce from 116,673 full-time employees in 1991 to 75,773 full-time employees in 2021.[108]

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104. In this example, the taxpayer originally reported $36,000 of gift tax ($90,000 fair market value x forty percent tax rate). The "correct" tax under the settlement was $200,000 ($500,000 fair market value x forty percent tax rate). Thus, the underreported tax was $200,000 – $36,000 = $164,000. If the penalty was forty percent of the additional tax owed, this would result in a $65,600 penalty ($164,000 x forty percent penalty).

105. The taxpayer will also owe interest on the additional tax owed; however, she had use of the funds during the time she had not paid the tax, so this is not necessarily a detriment to her. *See* I.R.C. § 6601.

106. *See, e.g.*, Alan Rappeport, *Tax Cheats Cost the U.S. $1 Trillion per Year, I.R.S. Chief Says.*, N.Y. TIMES (Oct. 13, 2021), https://www.nytimes.com/2021/04/13/business/irs-tax-gap.html [perma.cc/5NNZ-Q6MZ] ("The United States is losing $1 trillion in unpaid taxes every year, Charles Rettig, the Internal Revenue Service commissioner, estimated on Tuesday, arguing that the agency lacks the resources to catch tax cheats."); Paul Kiel, *IRS: Sorry, but It's Just Easier and Cheaper to Audit the Poor*, PROPUBLICA (Oct. 2, 2019, 2:47 PM), https://www.propublica.org/article/irs-sorry-but-its-just-easier-and-cheaper-to-audit-the-poor [perma.cc/JH9Y-3AP2] ("Congress asked the IRS to report on why it audits the poor more than the affluent. Its response is that it doesn't have enough money and people to audit the wealthy properly. So it's not going to.").

107. *See* CONG. BUDGET OFF., TRENDS IN THE INTERNAL REVENUE SERVICE'S FUNDING AND ENFORCEMENT 10 (2020), https://www.cbo.gov/system/files/2020-07/56422-CBO-IRS-enforcement.pdf [https://perma.cc/6HX7-GHVD] ("Between 2010 and 2018, the agency's appropriations decreased by 20 percent, measured in real dollars.").

108. IRS, INTERNAL REVENUE SERVICE DATA BOOK, 2021, at 72 tbl.31 (2022), https://www.irs.gov/pub/irs-pdf/p55b.pdf [perma.cc/9FVE-AR6W].

In the meantime, the IRS has been tasked with far more responsibilities. In particular, the agency now collects over threefold the amount of revenue that it collected decades ago (i.e., $3.5 trillion in 2020 compared with $1 trillion in 1991),[109] processes millions more tax returns (i.e., 204 million in 1991 and 240 million in 2020),[110] and sifts through billions more information tax returns.[111] Beyond revenue collection, Congress charged the IRS with the responsibility to oversee taxpayer compliance under the Patient Protection and Affordable Care Act.[112] It is thus no surprise that political commentators and academics commonly refer to the IRS as a beleaguered agency.[113]

But as the IRS has strained to keep pace with taxpayers who are utilizing new means to circumvent their tax obligations (e.g., cryptocurrency

109. *Id.*

110. IRS, IRS ANNUAL REPORT 1991, at 15 tbl.2 (1992), https://www.irs.gov/pub/irs-soi/91dbfullar.pdf [https://perma.cc/3LVK-GZPS]; IRS, *supra* note 108, at 4 tbl.2.

111. In the year 2010, the IRS had to process approximately 2.7 billion third-party information returns. IRS, INTERNAL REVENUE SERVICE DATA BOOK, 2010, at 37 tbl.14 (2011), https://www.irs.gov/pub/irs-soi/10databk.pdf [https://perma.cc/8FWK-3DJF]. In the year 2020, the IRS had to process approximately 3.4 billion third-party information returns. IRS, *supra* note 108, at 54 tbl.22.

112. *See, e.g.*, Janice M. Smith & John V. Woodhull, *Lessons Learned from Section 501(r) Audits*, 29 TAX'N EXEMPTS 20, 20 (2017) ("Recently, an IRS senior technical adviser in the Exempt Organizations division indicated that the IRS is regularly working on its oversight of the Affordable Care Act (ACA). The IRS official noted that, in 2016, 1,006 noncontact reviews were completed, and more than 300 hospitals were referred for field exam. According to the IRS official, 'The issues for which referrals were made were things like lack of a community health needs assessment, no financial assistance or emergency medical care policies, and billing and collection requirements.' Based on the examinations in which the authors have been involved, it would appear that field examinations also are taking place even when Schedule H responses seemingly indicate full compliance with the provisions of Section 501(r)." (footnotes omitted)); *see also* Tom Hamburger & Sarah Kliff, *For Beleaguered IRS, a Crucial Test Still Awaits After Troubled Rollout of Health-Care Law*, WASH. POST (Nov. 24, 2013), https://www.washingtonpost.com/politics/for-beleaguered-irs-a-crucial-test-still-awaits-after-troubled-rollout-of-health-care-law/2013/11/24/1cb80142-5161-11e3-a7f0-b790929232e1_story.html [https://perma.cc/GWX5-K3FX] ("The success of the Affordable Care Act could ultimately turn on the performance of an agency that has so far eluded the public spotlight amid the program's tumultuous rollout. Whether the new law can be enforced will be up to the Internal Revenue Service, an already beleaguered agency charged under the act with carrying out nearly four dozen new tasks in what represents the biggest increase in its responsibilities in decades. None is more crucial than enforcing the requirement that all citizens secure health insurance or pay a penalty.").

113. *See, e.g.*, Richard Rubin, *Biden's Big Agenda Relies on a Shrunken, Strained Agency: The IRS*, WALL ST. J. (Apr. 20, 2021, 10:30 AM), https://www.wsj.com/articles/biden-agenda-relies-on-shrunken-strained-irs-11618928830 [https://perma.cc/LC2Q-HFE2] ("If President Biden is to implement his ambitious economic agenda, he will have to rely on a beleaguered arm of the government: the Internal Revenue Service."); Margaret H. Lemos & Max Minzner, *For-Profit Public Enforcement*, 127 HARV. L. REV. 853, 865 (2014) ("The idea of using [private collection agencies] to collect unpaid taxes was proposed by the Bush Administration as a means of raising revenue without raising taxes or further stretching the resources of the beleaguered IRS.").

transactions),[114] it continues employing technology that is antiquated,[115] putting the agency at a decided disadvantage in terms of fulfilling its oversight mission. In addition, many taxpayer tax shenanigans that were once played within our nation's physical borders are now being conducted overseas.[116] Global oversight comes with a higher price tag, further straining the IRS and shouldering the agency with the concomitant need for additional resources.

The by-product of fewer resources, more responsibilities, decrepit technology, and extended oversight is fewer audits conducted by the IRS. The plummet in audit rate percentages is astounding: By way of comparison, in 2010, the IRS's audit rate for individual income tax returns was approximately one percent; today, this figure is approximately 0.2 percent.[117] For another comparison, during an average taxpayer's lifetime, it is anticipated that she will experience three or four car accidents,[118] while the chances of the IRS conducting a routine audit of her tax returns (based upon the foregoing percentages) is virtually nonexistent.[119]

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114. *See, e.g.*, Alexandra D. Comolli & Michele R. Korver, *Surfing the First Wave of Cryptocurrency Money Laundering*, 69 DEP'T JUST. J. FED. L. & PRAC. 183, 190 (2021) ("It's possible to imagine tax cheats converting their income into cryptocurrency and then keeping the funds in that form to attempt to avoid scrutiny from tax authorities."); Greg Iacurci, *Cryptocurrency Poses a Significant Risk of Tax Evasion*, CNBC (May 31, 2021, 8:30 AM), https://www.cnbc.com/2021/05/31/cryptocurrency-poses-a-significant-risk-of-tax-evasion.html [https://perma.cc/4MJT-EX42] ("The Treasury seems particularly concerned about wealthy Americans who shift taxable assets into the crypto economy to avoid tax.").

115. *See, e.g.*, *National Taxpayer Advocate Delivers Annual Report to Congress: Focuses on Taxpayer First Act Implementation, Taxpayer Service, and IRS Funding*, IRS (Jan. 8, 2020), https://www.irs.gov/newsroom/national-taxpayer-advocate-delivers-annual-report-to-congress [https://perma.cc/X2X8-T3K4] ("In particular, the report recommends that Congress increase funding for taxpayer service and IT modernization. 'Mostly because of antiquated technology, a smaller workforce, and an increasing workload, [the IRS] cannot afford to provide the quality of service that taxpayers deserve,' the report says." (alteration in the original)); W. Edward Afield, *Moving Tax Disputes Online Without Leaving Taxpayer Rights Behind*, 74 TAX LAW. 1, 1 (2020) ("As the Service's technological infrastructure continues to show its age, both the Service and Congress appear to be recognizing the importance of the Service having technological infrastructure that allows it to take advantage of the capabilities of modern computing systems to improve both its enforcement and service efforts.").

116. *See* Shu-Yi Oei, *The Offshore Tax Enforcement Dragnet*, 67 EMORY L.J. 655, 655 (2018) ("Taxpayers who hide assets abroad to evade taxes present a serious enforcement challenge for the United States."); *see also* Arthur J. Cockfield, *Big Data and Tax Haven Secrecy*, 18 FLA. TAX REV. 483, 484–85 (2016) (explaining the prevalence of offshore tax evasion).

117. IRS, *supra* note 108, at 36 tbl.17.

118. *See How Many Times Will You Crash Your Car Over Your Lifetime?*, SCRAP CAR NETWORK (Apr. 18, 2019) ("[G]eneral estimates say that over the course of an average driving lifetime, you'll be involved in around 3 to 4 accidents.").

119. Congress recently sought to narrow the tax gap in a more traditional manner utilizing the threat of taxpayer audits as a means of enhancing deterrence. In the Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat 1818, the nation's legislative body dedicated an additional $80 billion to IRS funding to be used in part to augment its oversight capacities. *See* Jacob Bogage, *Democrats' $80 Billion Wager: A Bigger IRS Will Be a Better IRS*, WASH. POST (Aug. 6, 2022, 6:00 AM),

The implications associated with a low tax rate audit are significant. Many studies indicate that IRS audit rate percentages correspond to greater taxpayer compliance[120]; in other words, when audit rates are at their highest, tax compliance is correspondingly greatest.[121] If taxpayers do not fear that their derelictions will be detected, they are apt to be aggressive in their reporting practices. Certainly, in terms of asset valuations, if the number of adjudicated cases is any indication,[122] support for this proposition abounds.

C. *JUDGES' LACK OF VALUATION EXPERTISE*

As a general proposition, people excel in those things that they train themselves to accomplish. Therefore, the triathlon athlete who regularly runs, bikes, and swims is normally well prepared to participate in events that would likely debilitate an ordinary person. By the same token, a seasoned neurosurgeon, who has spent years immersed in postgraduate coursework, studying the practice of medicine and then performing its application in the operating room, can engage in surgical feats beyond the ability of everyone but the smallest sliver of the medical community.

When it comes to meting out justice, the legal system relies upon the sagacious wisdom of judges. This makes immense sense because judges are attorneys who generally are experienced in the legal field. They have endured three years of law school; and, as part of their academic training, their core courses likely consisted of a rigorous regimen of contracts, civil procedure, criminal law, torts, and legal research and analysis.[123] As part of their elective

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https://www.washingtonpost.com/business/2022/08/06/inflation-reduction-act-irs [https://perma.cc/9B5K-MRUU] ("A newly empowered Internal Revenue Service is one of the keys to the sweeping climate, health care and tax bill Senate Democrats hope to pass this week—with billions of dollars in new funds for the agency so it can collect money for the federal government by going after higher-income tax cheats.").

120. *See, e.g.*, Natasha Sarin & Lawrence H. Summers, *Increasing Tax Compliance in the United States*, CTR. FOR ECON. POL'Y RSCH. (Apr. 24, 2020), https://cepr.org/voxeu/columns/increasing-tax-compliance-united-states [https://perma.cc/YB3R-WRW3] ("We estimate that increasing audit rates, especially for high-income earners, could generate over $700 billion in the coming decade directly."); James Alm & Michael McKee, *Audit Certainty, Audit Productivity, and Taxpayer Compliance*, 59 NAT'L TAX J. 801, 811 (2006) (finding greater audit certainty increases taxpayer compliance).

121. *See* James Alm, *What Motivates Tax Compliance?*, 33 J. ECON. SURVS. 353, 365 (2019) (noting more audits generally yield greater tax compliance); Joel Slemrod, *Tax Compliance and Enforcement*, 57 J. ECON. LITERATURE 904, 947 (2019) ("What emerges more clearly is that contacts from the tax authority to the taxpayer can increase compliance in the short run.").

122. *See supra* note 3.

123. *See* Margaret Y.K. Woo & Jeremy R. Paul, *From the Editors*, 65 J. LEGAL EDUC. 1, 1 (2015) ("Yet for the past 100 years, the traditional 1L curriculum has remained mired in court-based common law topics of property, contracts, torts, criminal law, and civil procedure."). Professor Swygert similarly noted:

> The first-year requirements in 1928–1929 included five credit hours of contracts, eight hours of property, five hours of torts, three hours of criminal law and procedure,

courses, most judges have also likely studied the Uniform Commercial Code, the Internal Revenue Code, and the Bankruptcy Code.[124] The thoroughness of this course material combined with judges' practical experience on the bench usually makes them the cutting edge of the legal field. In other words, akin to the triathlon athlete and the neurosurgeon in their fields, judges often know the legal landscape inside and out and are well-respected members of the community.[125]

Consider the background of those judges who currently sit on the Tax Court. Their academic and career profiles share many similarities: Most have earned their college degrees from elite undergraduate schools, earned their law degrees from reputable law schools, and worked for many years at prestigious law firms and in top-rung government positions.[126] In the vast majority of cases, a president and his advisers selected them for the respected position of sitting on the Tax Court due to their legal prowess and acumen.[127]

But what these judges have in terms of legal prowess and acumen, they often lack in valuation expertise. Indeed, not a single judge who currently sits on the Tax Court has any special expertise in asset valuations.[128] Clearly, this is not an ideal situation when valuation disputes between taxpayers and the IRS result in litigation.

Indeed, it is reasonable to question whether any judge should be ruling on valuation disputes. To become an asset-valuation expert, a person needs

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> three hours of civil procedure, one hour of legal research, and three hours of agency, for a total of twenty-eight credit hours. Most law schools today—seventy-five years later—still require contracts, property, torts, civil procedure, legal research and writing, and criminal law in the first year, although several also require a course in legal ethics, jurisprudence, or constitutional law.

Michael I. Swygert, *Valparaiso University School of Law, 1879–2004: A Contextual History*, 38 VAL. U. L. REV. 627, 803 (2004).

124. *See* William N. Eskridge, Jr. & Philip P. Frickey, *Legislation Scholarship and Pedagogy in the Post-Legal Process Era*, 48 U. PITT. L. REV. 691, 691 (1987) ("The elective curriculum at most law schools reflects this development by offering specialized courses in subjects which revolve around one or more statutes—taxation, labor law, bankruptcy, sales law, corporate and securities law, to cite but a few examples.").

125. *See, e.g.*, Michael B. Delaney, *Study Focuses on the Demographics of Colorado's County Court Judges*, 43 COLO. LAW. 93, 94 (2014) ("[T]he participants in the study reported an average of more than 15 years of practice in the legal field before attaining their current position, with the median years of experience also being 15 years.").

126. *See* Daniel M. Schneider, *Assessing and Predicting Who Wins Federal Tax Trial Decisions*, 37 WAKE FOREST L. REV. 473, 492–93 (2002) ("Tax Court judges had more elite college educations, less elite law school educations, had come more frequently from prior government service, and were more seasoned than their colleagues on the district court." (footnotes omitted)).

127. *See* Donald E. Tidrick, *Inside the U.S. Tax Court: An Interview with the Honorable Judge Juan F. Vasquez, CPA, U.S. Tax Court*, CPA J. (2003), http://archives.cpajournal.com/2004/104/text/p20.htm [https://perma.cc/D4AT-VP5N] ("The nomination of judges is a presidential decision. After nomination, nominees are given a hearing before the Senate Finance Committee, and the full Senate votes on whether to confirm the nominee.").

128. For links to biographies of the Tax Court judges, see *Judges*, U.S. TAX CT., https://www.ustaxcourt.gov/judges.html [https://perma.cc/4AFD-MNHF].

an entirely different skill set than those taught at law school. In fact, just as there are lawyers who specialize in various legal fields (e.g., matrimonial, real estate transactions, and commercial litigation), there are different types of appraisers.[129] Appraisal specialties include, but are not limited to, valuing closely held businesses, exotic securities, residential real estate, commercial real estate, intangible assets (e.g., copyright and patents), fine art and artifacts, collectibles, and a host of other items.[130] Becoming a qualified appraiser in many of these specialties requires hours of coursework, passage of one or more qualifying exams, and a commitment to continuing education.[131] Furthermore, almost all appraisal governing bodies require the mastery of the Uniform Standards of Professional Appraisal Practice ("USPAP").[132] Indeed, the most seasoned appraisers work for years and, in many instances, decades honing their skills in mastering the art of asset valuations.[133]

There are consequences associated with the fact that judges are not skilled valuation experts. Sometimes this lack of command over valuation issues is evident in their tentative tone when they craft opinions involving valuation determinations.[134] Other times, despite the fact that valuation

129. *See* Najmeh Mahmoudjafari, Comment, *What Is the Bottom Line? Valuing Art, Antiques, and Other Personal Property in a Divorce*, 26 J. AM. ACAD. MATRIM. LAWS. 465, 477 (2014) ("Therefore, the attorney should advise the client regarding the ability to find and employ a specialist appraiser depending on the property that needs to be evaluated.").

130. *See* Sharon J. Ritter, *Appraising Appraisers*, 42 MD. BAR J. 44, 48 (2009) ("One of the largest and oldest organizations, and the one considered by many to have the highest standards for credentialing is the American Society of Appraisers (ASA). . . . The ASA is the only such organization to include multiple appraisal disciplines. In addition to Personal Property, other disciplines include Gems and Jewelry, Machinery and Technical Specialties, Business Valuation, and Real Property.").

131. With respect to business appraisers, there are four main oversight organizations: (1) the American Institute of Certified Public Accountants (AICPA); (2) the American Society of Appraisers (ASA); (3) the Institute of Business Appraisers (IBA); and (4) the National Association of Certified Valuation Analysts (NACVA). *See* Robert F. Reilly, *Working with a Valuation Specialist*, 29 CONSTR. ACCT. & TAX'N 10, 12 (2019). Each of the governing organizations require different training programs, different certification protocols, and a continuous education component. For an overview of these requirements, see Andrew Z. Soshnick, *Challenging Expert Valuation Opinions in Divorce Cases: An Oasis or Mirage in the Trial Desert?*, 30 J. AM. ACAD. MATRIM. LAWS. 455, 484–88 (2018).

132. *See What Is USPAP?*, APPRAISAL FOUND., https://www.appraisalfoundation.org/imis/TAF/Standards/Appraisal_Standards/Uniform_Standards_of_Professional_Appraisal_Practice/TAF/USPAP.aspx [https://perma.cc/3CM2-PM4Q] ("The *Uniform Standards of Professional Appraisal Practice* (USPAP) is the generally recognized ethical and performance standards for the appraisal profession in the United States.").

133. *See, e.g.*, Alan M. Weinberger, *Tools of Ignorance: An Appraisal of Deficiency Judgments*, 72 WASH. & LEE L. REV. 829, 891 n.318 (2015) (and sources cited therein).

134. *See, e.g.*, Est. of Campbell v. Comm'r, T.C.M. 1991-615 (1991) ("We do not fully agree with the position of either party or with the position of any of the experts. We *believe* that the truth lies somewhere between those extremes." (emphasis added)); Messing v. Comm'r, 48 T.C. 502, 508–12 (1967) ("The principal issue herein involves the determination of an oft litigated and plaguingly elusive question of fact . . . which should frankly be recognized as inherently imprecise and capable of resolution only by a Solomon-like pronouncement.").

determinations are subject to a clearly erroneous standard of review,[135] judges' lack of command over valuation issues is evident from the number of cases in which appellate courts have reversed lower court valuation determinations, highlighting the difficulty of valuation undertakings and judicial recognition that valuation determinations are not within the ambit of judges' ordinary skill set.[136] Neither of these observations should be surprising: Trial court judges are typically at the mercy of expert appraisers, and they may find it very difficult to ascertain their credibility and to verify or dispute the accuracy of their findings.[137]

D. LACK OF ESTABLISHED SOURCE OF VALUATION FOR TAX-REPORTING PURPOSES

As discussed above, tax valuation disputes generally involve taxpayers and the IRS each coming to the table with their own expert appraisal. Traditional appraisal methodologies vary, with different experts using different mathematical models, formulas, and assumptions.[138] Further, taxpayers and the IRS have diametrically opposed incentives with respect to valuations. If the asset at issue results in taxable income or transfer tax liability, such as the receipt of an equity interest in a closely held business enterprise in return for services rendered, taxpayers desire low valuations, and the IRS desires a high valuation; the reverse is true if the asset at issue results in a deduction for the taxpayer, such as in the case of a charitable property donation.

The combination of these two factors—variation in expert methodologies and divergent incentives between the taxpayer and the IRS—often lead to the

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135. *See* Jerald David August, *Proceeding with a Valuation Case Involving Closely Held Business Interests Before the United States Tax Court (Part 2)*, 35 PRAC. TAX LAW. 19, 21 (2020) ("When a valuation case is appealed, the factual findings of the trial court are subject to review based on a 'clearly erroneous' standard; by contrast, the legal conclusions and determinations of the trial court will be subject to de novo review.").

136. *See, e.g.*, Gross v. Comm'r, 272 F.3d 333, 351 (6th Cir. 2001) ("I would find that the record does not support the tax court's ultimate valuation of [the taxpayer's] stock at $10,910 per share. The tax court derived this figure by considering multiple factors, only two of which Taxpayers contested in this case—tax affecting and the lack of marketability discount. Despite the finding that the testimony of the Commissioner's expert was admissible with respect to both of these factors, this testimony was insufficient to support the court's valuation decision.").

137. *See, e.g.*, Martin v. Comm'r, T.C.M. 1985–424 (1985) ("We have carefully considered the reports and testimony of all three experts. Although we have found the information provided by the experts enlightening and helpful, we think there are certain weaknesses in the respective valuation approaches taken by each of them which convince us that none of their opinions should be adopted in determining the value of the Arbor stock.").

138. *See, e.g.*, Lederman, *supra* note 1, at 1498 ("For example, even the valuation of real estate, which has highly developed systems of comparables, varies widely in quality across U.S. jurisdictions that impose property taxes." (footnote omitted)); *see also* Casey & Simon-Kerr, *supra* note 28, at 1178 ("Experts identify the best methodology for assessing value, as well as the variables that must be determined for the methodology to be successful. The experts then perform the ultimate mathematical analysis.").

parties producing wildly disparate valuations for the same property.[139] And, as discussed above in Section II.A, if the parties view their valuation as the opening offer in a negotiation, each side has an incentive to take the most extreme position that its expert can offer (as well as to employ an expert who will support an extreme position).[140]

If the parties cannot reach a settlement, the dispute then goes before a judge, who is not a valuation expert but who must evaluate the credibility of the formulas, assumptions, and complex mathematical computations that went into the appraisal.[141] As several commentators have observed, the result is that judges often resolve valuation disputes by simply splitting the difference and choosing a value that falls somewhere in the middle of each side's proffered value.[142] Not only do the results of many tax valuation cases bear this out,[143] but courts have acknowledged their discretion to not side with one expert or the other in a valuation dispute. For example, in *Anderson v. Commissioner*, the U.S. Court of Appeals for the Fifth Circuit stated thus:

> Valuation is, of course, a question of fact. It is necessarily an approximation arrived at by the trial court on such factors as reasonably bear on determining the price which would reasonably be paid by the hypothetical willing purchaser to the equally hypothetical willing seller who is under no compulsion to sell. It is not necessary that the value arrived at by the trial court be a figure as to which there is specific testimony, if it is within the range of figures that may properly be deduced from the evidence.[144]

This system of splitting the difference between taxpayers and the government results in a somewhat meaningless process for valuing property. In theory, for tax purposes, assets are valued at fair market value, which means the price for which parties would bargain at arm's length.[145] In practice, nonmarketable assets are typically valued by experts at extreme amounts. A court's averaging of the IRS's and the taxpayer's valuations *may* approximate fair market value, but there are two reasons to think that this is not the case:

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139. *Cf.* Lederman, *supra* note 1, at 1497–98 (similarly describing the "two main reasons" that valuation issues are challenging as (1) "the opposing incentive[s]" between the taxpayer and the IRS and (2) "measurement accuracy").

140. *See* Casey & Simon-Kerr, *supra* note 28, at 1179 ("This leads to an arms race among litigants."). Casey and Simon-Kerr note that "[t]here is [essentially] a de facto penalty for presenting reasonable evidence" and that, at the extreme, "expert testimony becomes an uninformative process that imposes a cost on litigants and courts and creates no social value." *Id.* at 1179–80.

141. *See id.* at 1185.

142. *Id.* at 1178; Bosland, *supra* note 1, at 78.

143. For a discussion of many such cases, see generally Casey & Simon-Kerr, *supra* note 28; and Bosland, *supra* note 1.

144. Anderson v. Comm'r, 250 F.2d 242, 249 (5th Cir. 1957); *see also* Casey & Simon-Kerr, *supra* note 28, at 1192–93 (describing the wide discretion that trial court judges exercise when determining valuation).

145. *See* Casey & Simon-Kerr, *supra* note 28, at 1184.

(1) taxpayers may be better resourced and have access to experts who use more sophisticated methods, which in turn could lead to more favorable outcomes for taxpayers than for the IRS; and (2) taxpayers may be more willing to utilize more aggressive techniques (as discussed above), while the government places a greater premium (in theory) on valuation accuracy. Both of these factors could lead cases to skew valuation disputes in the taxpayer's favor.

Further, even if averaging IRS and taxpayer valuations does somehow approximate an asset's fair market value in some cases, needless to say, it comes at a great cost. Rather than having one acceptable valuation method on which taxpayers, the IRS, and courts can rely, the current system causes massive expenditures for both sides—in terms of both time and money—to hire experts, conduct costly appraisals, and then litigate disputes before the courts. Such expenditures of time and money on revenue collection are the very definition of inefficiency in a tax system.[146]

III. AI AND ITS ABILITY TO REVOLUTIONIZE THE VALUATION PROCESS

Part II detailed a deeply flawed and antiquated state of affairs with respect to tax valuation. Taxpayers and the IRS ordinarily rely on expert appraisers who utilize various methodologies, assumptions, and models that lead to wildly disparate valuations. Both sides have an incentive to proffer an extreme value, and the courts—with no real way to discern the "right result" in many cases—tend to split the vying parties' differences. The result is a somewhat meaningless asset value reached after much time and energy and many resources are wasted on appraisals and litigation.

Clearly, when it comes to accurate asset valuations, the nation's tax system often falls short of attaining optimal tax compliance. And the need to value assets is not going away. Furthermore, if a wealth tax were ever enacted, valuation issues would become even more prevalent in the tax system.[147]

If Congress wants to maintain the Code's stature and, furthermore, if wealth tax proponents seek to have their ideas to culminate into reality, valuation reform measures are in order. To be politically viable, these measures must result in more accurate asset valuations while facilitating the compliance process. Advances in AI and, more specifically machine learning, offer a simpler, faster, and more cost-effective way to value assets for tax purposes. There is basically no reason, in the twenty-first century, for tax asset valuations to look essentially the same as they did one hundred years ago.

This part of the Article argues that machine learning is a superior method to handle tax valuation and that it will result in a more efficient tax

146. *See* JOEL SLEMROD & JON BAKIJA, TAXING OURSELVES: A CITIZEN'S GUIDE TO THE DEBATE OVER TAXES 229–35 (5th ed. 2017) (discussing the efficiency costs of tax administration).

147. *See, e.g.*, Stephen Daly, Helen Hughson & Glen Loutzenhiser, *Valuation for the Purposes of a Wealth Tax*, 42 FISCAL STUD. 615, 615 (2021) ("Valuation issues are frequently cited in the literature as the most difficult aspect of wealth taxes.").

system. Section A first provides background on AI and machine learning and then offers examples of how AI and machine learning have been employed in many contexts to value nonfungible assets. Next, Section B describes the benefits of using machine learning to value assets in the tax context. Section C then discusses implementation of a new approach to tax asset valuation. Finally, Section D weighs the trade-offs associated with using AI.

A. USE OF AI TO VALUE ASSETS

All asset valuations, at some level, require data to be compiled and examined so that comparisons can be made between the asset at issue and other similar assets. Though human appraisers can and do rely on technology to make these comparisons, appraisals are still costly and can take elongated time periods to accomplish.[148] But advances in technology in recent years have revolutionized the amount of data that can be processed and the speed at which this can happen. As a result, in many contexts, businesses are turning to computerized AI to perform valuations that were once conducted by humans. The result is that assets can now be valued *instantaneously*, and studies affirm that the values generated are generally more accurate than those generated by traditional appraisal methods.

1. Background on Machine Learning

The term *artificial intelligence*, or *AI*, broadly describes a number of functions that, while historically requiring human interaction, can now be accomplished through technology.[149] Familiar examples of AI (often referred to as "smart" technology) include self-driving cars, robot vacuums, and virtual assistants.[150]

There are many types of AI; however, the most relevant subfield to the issue at hand is machine learning. Briefly stated, machine learning is a process by which sophisticated computers "learn" through experience rather than by

148. *See* Lederman, *supra* note 1, at 1499 (arguing that technology can make valuation disputes more costly because it gives appraisers more data that they have to wade through); Edward A. Zelinsky, *For Realization: Income Taxation, Sectoral Accretionism, and the Virtue of Attainable Virtues*, 19 CARDOZO L. REV. 861, 881 (1997) (same).

149. *See* Bernard Marr, *What Is the Difference Between Artificial Intelligence and Machine Learning?*, FORBES (Dec. 6, 2016, 2:24 AM), https://www.forbes.com/sites/bernardmarr/2016/12/06/what-is-the-difference-between-artificial-intelligence-and-machine-learning [https://perma.cc/XT7E-2DDA] ("Artificial Intelligence is the broader concept of machines being able to carry out tasks in a way that we would consider 'smart'. And, Machine Learning is a current application of AI based around the idea that we should really just be able to give machines access to data and let them learn for themselves.").

150. *See* Sam Daley, *31 Examples of Artificial Intelligence Shaking Up Business as Usual*, BUILT IN (Aug. 18, 2022), https://builtin.com/artificial-intelligence/examples-ai-in-industry [https://perma.cc/39WD-4WZH] (describing how "AI is [already] all around us and playing an active role in our daily lives").

being programmed.[151] As one commentator describes it, "Machine Learning is a current application of AI based around the idea that we should really just be able to give machines access to data and let [the computers] learn for themselves."[152]

Machine learning starts with providing data to a computer.[153] The data could be words, graphics, sounds, records of financial transactions, photographs of people, and so on.[154] The inputted data is commonly referred to as "training data."[155] In other words, programmers supply such data to the computer and let the computer teach itself to look for patterns or make predictions.[156]

The most common form of machine learning is "supervised learning," in which the programmers label the training data that is provided to the computer.[157] To illustrate, consider a data set designed to teach a computer to distinguish between dog and cat photographs.[158] The training data could consist of photographs of each labeled as "dog" or "cat." During the training phase, the computer would search for patterns associated with one category or the other in order to make predictions with respect to future photographs.

The next implementation phase is to submit "evaluation data."[159] This data tests how accurate the computer is at making predictions when it is shown new data that is not part of the training set.[160] Ideally, the computer trains itself to make accurate predictions, resulting in a model that can be used on future data.[161] Returning to the dog and cat example, during the evaluation phase, programmers would submit unlabeled photographs. If successfully trained, the computer would correctly identify the photographs as "dog" or "cat" based on the patterns it found with the training data. The evaluation data would then help the computer further refine its approach and make corrections to its model if necessary.[162]

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151. Sara Brown, *Machine Learning, Explained*, MIT SLOAN SCH. OF MGMT. (Apr. 21, 2021), https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained [https://perma.cc/SA66-YPFJ].

152. Marr, *supra* note 149.

153. Brown, *supra* note 151.

154. *Id.*

155. *Id.*

156. *Id.*

157. *Id.*

158. *See, e.g.*, *Machine Learning for Everyone*, VAS3K BLOG, https://vas3k.com/blog/machine_learning [https://perma.cc/E3JP-8JRJ] (explaining, in layperson's terms, how machine learning transpires).

159. Brown, *supra* note 151.

160. *Id.*

161. *Id.*

162. *Id.*

2. Examples of the Use of Machine Learning to Value Assets

Machine learning has been successfully employed to value many types of nonfungible assets, such as art, real estate, and closely held stock. For example, when considering a piece of art, the training data given to the machine would be labeled with a price, say, from an auction or third-party sale. Other aspects of the work of art could also be labeled, such as when it was created, the medium, the size, etc. The computer could then analyze large volumes of such training data to learn to make predictions about prices for other works of art.

By way of example, one machine learning study used data from over one million painting auctions at various auction houses between 2008 and 2015.[163] The study's authors created a machine learning program using data related to each artist, the artwork, the auction, and an image of each artwork.[164] After providing the program with training data, the study's authors then supplied evaluation data to test the program.[165] The result was that the machine learning program was highly accurate at predicting price.[166] The authors concluded that "[o]ur . . . valuations predict auction prices dramatically better than valuations based on a standard [economic] pricing model . . . . Machine learning is particularly helpful for assets that are associated with high price uncertainty."[167]

In a similar vein, numerous studies have employed machine learning techniques to value real estate.[168] One recent study of using machine learning to value multifamily real estate highlights the advantages of this approach over the traditional method of valuing real estate through appraisals.[169] The study's authors pointed out that traditional real estate appraisals attempt to value property based on sales of comparable properties, but due to the

163. Mathieu Aubry, Roman Kräussl, Gustavo Manso & Christophe Spaenjers, *Machine Learning, Human Experts, and the Valuation of Real Assets* 2 (Goethe Univ. Frankfurt, Ctr. for Fin. Stud., Working Paper No. 635, 2019).

164. *Id.*

165. *Id.*

166. *Id.* at 5.

167. *Id.* at 31.

168. *See, e.g.*, Yanliang Yu, Jingfu Lu, Dan Shen & Binbing Chen, *Research on Real Estate Pricing Methods Based on Data Mining and Machine Learning*, 33 NEURAL COMPUTING & APPLICATIONS 3925, 3925 (2021) (describing the advantages associated with using machine learning to value real estate); Jian-qiang Guo, Shu-hen Chiang, Min Liu, Chi-Chun Yang & Kai-yi Guo, *Can Machine Learning Algorithms Associated with Text Mining from Internet Data Improve Housing Price Prediction Performance?*, 24 INT'L J. STRATEGIC PROP. MGMT. 300, 300 (2020); Alejandro Baldominos, Iván Blanco, Antonio José Moreno, Rubén Iturrarte, Óscar Bernárdez & Carlos Afonso, *Identifying Real Estate Opportunities Using Machine Learning*, 8 APPLIED SCIS. 2321, 2323 (2018); Yitong Huang, *Predicting Home Value in California, United States via Machine Learning Modeling*, 7 STATS., OPTIMIZATION & INFO. COMPUTING 66, 66 (2019); Nils Kok, Eija-Leena Koponen & Carmen Adriana Martínez-Barbosa, *Big Data in Real Estate? From Manual Appraisal to Automated Valuation*, 43 J. PORTFOLIO MGMT. 202, 203 (2017); Chaphalkar & Sandbhor, *supra* note 9, at 2334.

169. Kok, Koponen & Martínez-Barbosa, *supra* note 168, at 202.

passage of time, such appraisals are inherently inaccurate; the authors noted that "appraisers are typically anchored on previous valuations or the previous transaction price of a building."[170] By way of contrast, the machine learning model built by the study's authors was able to "sift through millions of combinations of thousands of variables" to produce an instantaneous valuation based on the most current data available.[171] The study's authors concluded that their machine learning model not only resulted in more accurate valuations than traditional appraisals but also did so in a more efficient and less costly manner.[172] These studies are far from being pure academic exercises. For example, Zillow, a highly popular website, uses machine learning to create algorithms to value residential real estate and is widely used by the general public to determine listing and offering prices by sellers and buyers.[173]

Machine learning has also been utilized recently to value closely held business interests, which present unique challenges.[174] While interests in

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170. *Id.*

171. *Id.* at 203.

172. *Id.* at 202–03 (noting a nine percent error rate for the "automated valuation model" compared to a twelve percent variation from standard appraisal models).

173. *See* Taylor Soper, *Zillow Group Uses Machine Learning to Improve Zestimate Algorithm for Changing Market Trends*, GEEKWIRE (June 15, 2021, 7:48 AM), https://www.geekwire.com/2021/zillow-group-uses-machine-learning-improve-zestimate-algorithm-dynamic-market-conditions [https://perma.cc/33KW-BT7E] ("Seattle real estate giant Zillow Group announced new tweaks to its Zestimate tool that provides home value data on more than 104 million properties. The company now uses machine learning-based neural networks and additional data that improve how quickly the algorithm reacts to market trends."). According to Zillow, their machine learning approach "incorporates . . . property data such as sales transactions, tax assessments and public records, in addition to home details such as square footage and location." *Zillow Launches New Neural Zestimate, Yielding Major Accuracy Gains*, ZILLOW (June 15, 2021), http://zillow.mediaroom.com/2021-06-15-Zillow-Launches-New-Neural-Zestimate,-Yielding-Major-Accuracy-Gains [https://perma.cc/H4AT-AY4M].

Zillow's very public use of AI has also exposed the technology's limitations, however. In the fall of 2021, Zillow's unsuccessful house-flipping venture was highly publicized, with some commentators pointing to Zillow's misuse of the technology as the core reason and others blaming a faulty algorithm. *See, e.g.*, Patrick Clark, *Zillow's Algorithm-Fueled Buying Spree Doomed Its Home-Flipping Experiment*, BLOOMBERG (Nov. 8, 2021, 2:00 PM), https://www.bloomberg.com/news/articles/2021-11-08/zillow-z-home-flipping-experiment-doomed-by-tech-algorithms [https://perma.cc/Y4KU-5VLP] ("As in so many misadventures in modern technology, Zillow's downfall wasn't caused by the tools so much as how it used them."); Arwa Mahdawi, *The $300m Flip Flop: How Real-Estate Site Zillow's Side Hustle Went Badly Wrong*, GUARDIAN (Nov. 4, 2021, 4:30 PM), https://www.theguardian.com/business/2021/nov/04/zillow-homes-buying-selling-flip-flop [https://perma.cc/VE3X-666Y] ("There are various reasons why Zillow got burned, including a labour shortage making it difficult to renovate homes. But the biggest issue is that its algorithm simply wasn't up to snuff. It couldn't deal with the complexities of pricing in a volatile market and resulted in Zillow overpaying for a lot of property.").

174. Andrew Li, *Machine Learning and Big Data in Private Equity: Is Networking Still Needed?*, MEDIUM (Dec. 20, 2018), https://medium.com/iveyfintechclub/machine-learning-and-big-data-in-private-equity-is-networking-still-needed-9f8912a61ee9 [https://perma.cc/T36U-LDYA] ("The machine learning software works by identifying a trend within startups and using it to label

publicly traded companies can be valued easily by looking at stock exchange prices, interests in privately owned businesses generally do not have readily ascertainable valuations. With this difficulty in mind, a team of experts "from Goldman Sachs, JP Morgan, Morgan Stanley and Bloomberg developed a [machine learning] tool that provides real-time valuations for private companies."[175] The model relies on publicly available financial data, industry classification, and "the public stock markets as a learning data set."[176] Analogous to the use of machine learning to value real estate, using machine learning algorithms for private businesses is more accurate, experts claim, because it works instantaneously to sift through large volumes of publicly available data to produce up-to-date valuations, rather than valuations based on outdated comparables that are resource-intensive to produce.[177]

Beyond artwork, real estate, and closely held businesses, there are myriad other examples of machine learning being utilized to value nonfungible assets. These include, but are by no means limited to, cryptocurrency, used cars, clothing, secondhand jewelry, natural resources, airfares, food and drinks, and electronics.[178]

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them as either high or low growth potential. The software analyzes several time series—a set of data points indexed over time—of the startup's financial performances and attempts to match them with the times series of successful companies. The more similar the data, the higher chance of success and more inclination to invest. Likewise, trends matching those of companies that experienced failure or had less success indicates lower growth potential.").

175. *See* Eugeniu Guzun, *What's It Worth?*, HEDGENORDIC (Feb. 11, 2020), https://hedgenordic.com/2020/11/whats-it-worth [https://perma.cc/M25L-C8K4].

176. *Id.*

177. *See id.* ("'In real-time, the technology can do it for millions of companies simultaneously,' says Broby [one of the researchers]. 'Imagine being able to look up the value of your friend's restaurant or the shares in that private company your grandfather gifted you,' he points out. 'The market movements are reflected in real-time. As such, the price of private equity instantaneously reflects events such as the Covid-lockdown.'").

178. *See generally* Ting-Hsuan Chen, Mu-Yen Chen & Guan-Ting Du, *The Determinants of Bitcoin's Price: Utilization of GARCH and Machine Learning Approaches*, 57 COMPUTATIONAL ECON. 267 (2021) (referencing machine learning in bitcoin); Yulin Liu & Luyao Zhang, Cryptocurrency Valuation: An Explainable AI Approach (Feb. 2, 2022) (unpublished manuscript), http://ssrn.com/abstract=36579 86 [https://perma.cc/NDK6-EYTS] (referencing machine learning in bitcoin); Sayed Erfan Arefin, *Second Hand Price Prediction for Tesla Vehicles*, ARXIV (Jan. 11, 2021), http://arxiv.org/abs/2101.03788v1 [https://perma.cc/XSW8-RMG2] (referencing machine learning used in Teslas); Enis Gegic, Becir Isakovic, Dino Keco, Zerina Masetic & Jasmin Kevric, *Car Price Prediction Using Machine Learning Techniques*, 8 TEM J. 113 (2019) (referencing machine learning used in car pricing); Dita Raditya, Nicholas Erlin P, Ferarida Amanda S & Novita Hanafiah, *Predicting Sneaker Resale Prices Using Machine Learning*, 179 PROCEDIA COMPUT. SCI. 533 (2021) (referencing machine learning in sneaker resales); Yusuke Yamaura, Nobuya Kanemaki & Yukihiro Tsuboshita, *The Resale Price Prediction of Secondhand Jewelry Items Using a Multi-Modal Deep Model with Iterative Co-Attention*, ARXIV (July 1, 2019), https://arxiv.org/abs/1907.00661 [https://perma.cc/MDS2-FEQE] (referencing machine learning in secondhand jewelry sales); Nnamdi I. Nwulu, *A Decision Trees Approach to Oil Price Prediction*, IEEE XPLORE (Nov. 2, 2017), https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8090313 [https://perma.cc/T669-PVJ8] (referencing machine learning used in oil pricing); Dimitrios Mouchtaris, Emmanouil

B. Benefits of Machine Learning for Tax Valuation Purposes

Although some foreign and local governments have begun to capitalize on machine learning to tackle the issue of asset valuation for tax purposes,[179] neither Congress nor the IRS has chosen to capitalize upon this technology in any systematic or meaningful way.[180] Yet, for the reasons set forth below, machine learning for asset valuation—while not perfect—offers a number of benefits that make it a choice preferable to traditional appraisals.

First, and perhaps most importantly, machine learning is faster and more efficient than traditional appraisals. Certainly, there are initial start-up costs to building a machine learning model, foremost the cost of humans building the model and labeling data that can then be used to train the machine.[181] However, machine learning programs produce instantaneous valuations that, over time, will result in a substantial reduction in overall compliance expenses.[182]

Sofianos, Periklis Gogas & Theophilos Papadimitriou, *Forecasting Natural Gas Spot Prices with Machine Learning*, 14 ENERGIES 5782 (2021) (referencing machine learning in natural gas price forecasting); Tianyi Wang et al., *A Framework for Airfare Price Prediction: A Machine Learning Approach*, RESEARCHGATE (2019), https://www.researchgate.net/publication/335936877_A_Framework_for_Airfare_Price_Prediction_A_Machine_Learning_Approach [https://perma.cc/MD6Z-T7GJ] (researching machine learning in airfare pricing); Zaixing Ma, Zhongmin Chen, Taotao Chen & Mingwei Du, *Application of Machine Learning Methods in Pork Price Forecast*, ASS'N FOR COMPUTING MACH. (Feb. 22, 2019), https://doi.org/10.1145/3318299.3318364 [https://perma.cc/6W6Y-UQUY] (referring to machine learning in pork pricing); K. T. Chandrashekhara, M. Thungamani, C. N. Gireesh Babu & T. N. Manjunath, *Smartphone Price Prediction in Retail Industry Using Machine Learning Techniques*, *in* 545 EMERGING RESEARCH IN ELECTRONICS, COMPUTER SCIENCE AND TECHNOLOGY 363 (V. Sridhar, M. C. Padma & K. A. Radhakrishna Rao eds., 2019) (referencing machine learning in smartphones).

179. For example, Wake County, North Carolina, recently partnered with SAS, a software company, to implement a machine learning approach to property tax valuation. Rick Smith, *Wake County Tax Team Enlists High-Tech SAS Help to Tackle Property Assessments*, WRAL TECHWIRE (Aug. 20, 2018), https://www.wraltechwire.com/2018/08/20/wake-county-tax-team-enlists-high-tech-sas-help-to-tackle-property-assessments [https://perma.cc/RQA7-M8J8].

180. One notable exception is the IRS's Return Review Program, which works to prevent fraudulent refunds by using "advanced analytic techniques and various data sources, including prior-year tax returns, to assign multiple scores to individual returns based on characteristics of identity theft and other refund fraud." *See Tax Fraud and Noncompliance: IRS Could Further Leverage the Return Review Program to Strengthen Tax Enforcement*, U.S. GOV'T ACCOUNTABILITY OFF. (July 24, 2018), https://www.gao.gov/products/gao-18-544 [https://perma.cc/2BRA-VG55].

For a discussion of how the IRS could implement machine learning more broadly to improve tax enforcement, see FRED L. FORMAN & CHARLES O. ROSSOTTI, THE BUSINESS CASE FOR IRS TRANSFORMATION 22 (2021), https://shrinkthetaxgap.com/the-business-case-for-irs-transformation [https://perma.cc/VMH3-4UNE] ("This technology can be applied to a wide range of situations, such as whether a refund claim might be fraudulent, whether the gross and net income on a business return is likely underreported, and how various entities, such as partnerships, are interconnected.").

181. *See supra* notes 155–58 and accompanying text.

182. *See, e.g.*, Guzun, *supra* note 175 ("Imagine being able to look up the value of your friend's restaurant or the shares in that private company your grandfather gifted you . . . . The market

Closely related to the speed of machine learning is valuation accuracy. Because machine learning can produce valuations so quickly, it can better account for changing conditions and produce more accurate valuations than traditional methods.[183] Once the programs are running, they can continually update themselves as valuations are made, which further increases their accuracy.[184] By way of contrast, appraisals are produced by human experts, and even under the best of circumstances, humans are prone to bias and error.[185]

Finally, while machine learning is already utilized in many private-sector settings,[186] it is particularly advantageous for asset valuations related to tax determinations. More specifically, it offers a low-cost, single source of valuation, which could be relied upon by taxpayers, the IRS, and courts.[187] While implementing machine learning for tax valuation purposes would require some mechanism for taxpayers to challenge the valuation (discussed further below), it would create a powerful default, vastly improving tax administration.

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movements are reflected in real-time. As such, the price of private equity instantaneously reflects events such as the Covid-lockdown.").

183. *See, e.g.*, Aubry, Kräussl, Manso & Spaenjers, *supra* note 163, at 31 ("Our results suggest that machine learning dramatically improves prediction of durable asset prices when compared to less sophisticated automated methods . . . .").

184. *See, e.g.*, Cecilia S Lee & Aaron Y Lee, *Clinical Applications of Continual Learning Machine Learning*, 2 LANCET DIGIT. HEALTH (2020), https://www.thelancet.com/journals/landig/article/PIIS2589-7500(20)30102-3/fulltext [https://perma.cc/775Y-C6FF] ("Continual learning, also known as lifelong learning or online machine learning, is a fundamental idea in machine learning in which models continuously learn and evolve based on the input of increasing amounts of data, while retaining previously learned knowledge. This dynamic process of supervised learning allows the model to incrementally learn and autonomously change its behaviour, while not forgetting the original task." (footnote omitted)).

185. Although machine learning programs are also designed by humans and, thus, may reflect some level of bias in their creation, commentators have observed that machine learning can "correct human experts' systematic biases" and produce a less biased valuation overall. *See id.*

186. A recent study conducted by Deloitte "found that 67% of companies are [currently] using machine learning, and 97% are using [it] or planning to use it in the next year." *See* Brown, *supra* note 151.

187. In many other contexts, such as commercial transactions, appraisals are conducted for which only one value is offered and is generally accepted by all involved parties. For example, if a buyer is purchasing a new home and wishes to obtain a mortgage, the lender bank will generally require an appraisal of the home to guarantee the value of the collateral. *See, e.g.*, Bob Musinski, *How Home Appraisals Work*, FORBES ADVISOR (Sept. 3, 2020, 9:48 AM), https://www.forbes.com/advisor/mortgages/how-home-appraisals-work [https://perma.cc/A4Y5-Z5JL]. Receipt of the mortgage is likely contingent on the home appraising for a sufficient dollar amount. *See* Barbara Marquand, *How a Home Appraisal Works and How Much It Costs*, NERDWALLET (Jan. 26, 2021), https://www.nerdwallet.com/article/mortgages/home-appraisal [https://perma.cc/323F-DGH6] ("The mortgage lender requires an appraisal to help gauge risk of making a loan. The property serves as collateral in case the borrower defaults, so the lender wants to make sure the loan isn't too big compared with the property's value."). While the appraisal will be imperfect and likely cost hundreds of dollars, there is no reason to assume that the appraiser will return a skewed valuation in either direction. In most cases, the parties will either proceed with the sale after the appraisal or adjust the purchase price accordingly.

Rather than relying on averaging extreme valuation positions taken by the taxpayer and the government, courts could be informed by a neutral valuation that is based on the most current and comprehensive data.

To illustrate, consider again the example of a taxpayer gifting artwork to a relative.[188] Assume that an accepted machine learning program values the artwork at $400,000. Further, imagine that the taxpayer was able to obtain that valuation by simply populating information about the artwork's key characteristics (such as the name of the artist, medium, year created, and size) into a form on a website, rather than hiring an expensive expert. If the IRS audited the taxpayer, it might verify that the taxpayer honestly reported the key characteristics—information that is easily confirmed—but would not need to scrutinize the methodology behind the valuation. Transactions would end without costly disputes if both sides deemed it more cost-effective to accept the machine learning valuation rather than litigate. Even in the event that the parties did dispute the valuation, courts could readily use the machine learning valuation as a starting point and permit deviations only when a litigating party offered persuasive evidence for doing so. While admittedly oversimplified, this example illustrates that removing the current incentive to generate extreme appraisals would vastly reduce administrative compliance costs and, in many instances, would improve valuation accuracy in the tax system.

C. MECHANICS OF MACHINE LEARNING IMPLEMENTATION

In order to address the asset-valuation problem that hinders orderly tax administration, Congress should capitalize upon machine learning. The stakes of maintaining the status quo are high: Taxpayers continue to take aggressive valuation positions,[189] the introduction of a wealth tax appears stalled,[190] and the nation is plunging into deeper debt.[191] However, as previously pointed out,[192] AI technology continues to advance at a dizzying pace, allowing everyone with computer access the ability to make valuation determinations with greater precision at a faster rate. The only issue therefore remaining is how and when Congress will avail itself of this new resource.

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188. *See supra* Section II.A.3.

189. *See supra* Section II.A.

190. *See, e.g.*, Georgina Tzanetos, *Biden Ditches Warren's Wealth Tax in Favor of Raising Corporate Tax, Closing Loopholes, Ending Subsidies*, YAHOO! (Mar. 31, 2021), https://www.yahoo.com/now/biden-ditches-warren-wealth-tax-165826012.html [https://perma.cc/5X4V-EYP8] ("President Biden has decided to scrap the idea [of a wealth tax] despite its popularity with a public that is still largely dealing with unemployment during a pandemic in which the richest Americans have increased their net worth.").

191. *See* Alan Rappeport, *Mounting Federal Debt Puts the U.S. at Risk of a Fiscal Crisis, Congressional Budget Office Warns*, N.Y. TIMES (Oct. 22, 2021), https://www.nytimes.com/2021/03/04/business/cbo-deficit-projection.html [https://perma.cc/7W9Q-2PU5] ("By 2051, the federal debt is expected to double as a share of the economy.").

192. *See supra* Section III.A.

The following three-step process is in order. First, Congress should delegate to the Treasury the role of selecting those machine learning platforms relating to asset valuations that taxpayers could rely upon, or, alternatively, it should independently develop a platform of its own. Second, Congress should institute an incremental approach to machine learning utilization. Specifically, Congress should start with real estate only and, once a successful track record in this valuation sphere has been established, the use of machine learning could be extended to a more expansive list of assets. Third, Congress and the IRS should revisit their enforcement approach to valuation, in terms of both carrots and sticks, to account for the use of machine learning.

1. Treasury Task: Choosing and Developing Machine Learning Platforms

The first step in implementing the use of machine learning for asset valuations in the tax realm would be for Congress to delegate to the Treasury the task of providing a unified source or group of sources of machine learning programs. As discussed in Section III.A, a number of private businesses have developed machine learning programs to value nonfungible assets like real estate or closely held businesses.[193] Accordingly, one option would be for the Treasury to conduct a study of preexisting machine learning programs for common assets to determine which provide the most reliable and cost-effective valuations. Alternatively, the government could develop its own machine learning programs.

In a sense, the use of machine learning for asset valuation is akin to online tax return preparation programs, which have revolutionized the tax return filing process.[194] The government's approach in that context could be instructive. When it comes to tax return preparation, online programs improve accuracy and reduce costs, a benefit for both the taxpayer and the IRS.[195] Thus, in the tax return preparation context, the government has an incentive to encourage taxpayers to use such programs. To date, likely due to resource constraints, the Treasury has not developed its own tax preparation software.[196] Nonetheless, private industry has managed to fill the gap and provide services

193. *See supra* Section III.A.2.

194. *See generally* Jay A. Soled & Kathleen DeLaney Thomas, *Regulating Tax Return Preparation*, 58 B.C. L. REV. 151 (2017) (explaining the popularity of tax return preparation software).

195. *See* Michael Kurko, *Best Small Business Tax Software*, BALANCE SMALL BUS. (Dec. 22, 2021), https://www.thebalancesmb.com/best-small-business-tax-software-5079324 [https://perma.cc/7QJY-TT5J] ("[S]mall business tax software makes it easy for owners to file their taxes, maximize their deductions and refunds, and avoid an IRS audit, all without having to hire a CPA.").

196. Some commentators have criticized the IRS for allowing the private sector to wield too much power over the vitally important function of tax preparation. *See* Soled & Thomas, *supra* note 194, at 165–66 (discussing critiques of TurboTax).

to the vast majority of the public.[197] Although the government does not specifically identify software services that it deems to be the "best," it does advertise a group of businesses in the private sector on an IRS website called the Free File Alliance.[198]

There are a number of advantages to the Treasury taking a similar approach in the context of asset valuation, namely, partnering with the private sector to provide machine learning valuation services. As a practical matter, the IRS is resource constrained, and if the agency has not yet developed tax return preparation software, it is unrealistic to assume that it will develop its own machine learning valuation programs. Furthermore, it may be more efficient to partner with private businesses that have already done the work and that presumably employ experts in machine learning and in valuation.

In line with this mode of thinking, the IRS could create a website similar to the Free File Alliance site, with a list of links to machine learning programs offered by various private parties. Taxpayers who obtained valuations from one of the agreed-upon service providers could rely upon the valuation when filing a gift, estate, or income tax return. As an added benefit, to help ensure compliance, machine learning platforms could submit third-party information returns to the IRS (analogous to Form 1099 reporting issued by banks, or W-2s provided by employers) that could then be matched against the taxpayer's tax returns.

One unresolved issue is who would pay for private-party machine learning valuations. Ideally, the government would offer these services for free to taxpayers and compensate the private companies directly for their services. The cost savings from relying on machine learning valuations—in terms of reduced administrative expenses from auditing and disputing taxpayer valuations—should more than compensate the government for providing such services.[199] In the event that the Treasury is not allocated funding for such an undertaking, taxpayers could pay for machine learning valuations

197. Approximately ninety percent of taxpayers either self-prepare with software or rely on paid preparers, who themselves generally use software programs. IRS, *supra* note 108, at 2 ("Nearly 203.6 million returns and other forms were filed electronically. These represented almost 78.0 percent of all filings. For individual tax returns, 90.0 percent were filed electronically . . . ." (citation omitted)).

198. FREE FILE ALL., https://freefilealliance.org [https://perma.cc/8274-M5KL]. These are software companies that agree to provide free tax software preparation to taxpayers whose annual income does not exceed a certain threshold. *Free File: About the Free File Alliance*, IRS, https://www.irs.gov/e-file-providers/about-the-free-file-alliance [https://perma.cc/JGS2-UTJU]. The Free File Alliance has received considerable criticism from commentators, who have pointed out that the private software companies have employed deceptive practices to prevent taxpayers from accessing truly "free" services. *See, e.g.*, Justin Elliott & Paul Kiel, *Inside TurboTax's 20-Year Fight to Stop Americans from Filing Their Taxes for Free*, PROPUBLICA (Oct. 17, 2019, 5:00 AM), https://www.propublica.org/article/inside-turbotax-20-year-fight-to-stop-americans-from-filing-their-taxes-for-free [https://perma.cc/XA5R-XAUF].

199. For an analogous argument in the tax return preparation context, see Thomas, *supra* note 86, at 1552–53.

themselves. Assuming that such services are not more expensive than obtaining appraisals (and given the efficiency of machine learning, there is no reason to believe that they would be), taxpayers would be no worse off and likely would be better off than they are under the current system.[200]

2. Incremental Implementation

Rather than instituting a sweeping directive that mandates the universal use of machine learning tax valuations, the government should take an incremental implementation approach. Initially, the Treasury should select one type of asset category and make machine learning valuations available to taxpayers.[201] Ideally, an asset class would be chosen on the basis of it being readily identifiable and having an empirical history of successful machine learning valuations.

An easy first choice is that of real estate. It has been the most heavily studied asset in the context of machine learning, is easily identifiable, and is the subject of a significant number of valuation disputes, making it an ideal candidate for initial implementation.[202] Real estate sales prices are also (generally) publicly available, which provides easily accessible training data for a machine-learning program.[203] The IRS could make machine learning valuation available for real estate only for a certain period of time (say, two years), evaluate the success of or problems with the rollout, and then gradually expand the use of machine learning to include a more expansive list of assets.

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200. Although online tax preparation is offered for free to low-income taxpayers, middle- and upper-income taxpayers pay for such software. *See* Ellen Chang & Kemberley Washington, *How to File Your Taxes for Free in 2022*, FORBES (Mar. 17, 2022, 11:35 AM), https://www.forbes.com/advisor/taxes/how-to-file-your-taxes-for-free [https://perma.cc/7A64-LM23] ("If you meet certain requirements, you can file your taxes for free using online software programs, or receive direct help from tax professionals who volunteer through a program sponsored by the IRS."). By the same token, since the majority of taxpayers seeking to have assets appraised for tax purposes are likely to be middle- and upper-income taxpayers, there is no reason that they would be surprised or upset about having to pay a private company a "user fee" of sorts to value their assets and help them with tax compliance.

201. *See supra* Section III.C.1.

202. *See* Diana Olick, *Artificial Intelligence Is Taking Over Real Estate – Here's What That Means for Homebuyers*, CNBC (Sept. 17, 2021, 12:15 PM), https://www.cnbc.com/2021/09/17/what-artificial-intelligence-means-for-homebuyers-real-estate-market.html [https://perma.cc/379P-RKLH] (explaining the accuracy associated with the use of AI and real estate values).

203. In expanding the use of machine learning to value other assets, policymakers will have to consider how much valuation data is available for the asset class, as the predictive power of the program will depend on the quality of the inputs. *Cf.* JANET HOLTZBLATT & ALEX ENGLER, TAX POL'Y. CTR., MACHINE LEARNING AND TAX ENFORCEMENT 4 (2022), https://www.taxpolicycenter.org/sites/default/files/publication/163980/machine_learning_and_tax_enforcement.pdf [https://perma.cc/6CKD-Y97P] (noting, in the context of using machine learning to aid tax enforcement, that "[i]n particular, the quality of the outputs (audit selection) will depend on the quality of the inputs (data)").

3. Reconsideration of Carrots and Sticks

With machine learning valuations in place, the government should reevaluate the current carrot-and-stick approach that it uses for valuation to capitalize on the simplification that machine learning provides.

Recall that, in terms of carrots, the government allows taxpayers to rely on certain valuation methods to avoid being challenged.[204] For example, the simplified home office deduction allows a taxpayer to calculate her home office expenses by simply multiplying $5 times the number of square feet of the home office.[205] In many cases, such dollar determinations surely will not be accurate, but the simplicity of the approach justifies the trade-off and likely prevents taxpayers from overclaiming expenses, which they might do if they calculated the amount themselves. At the same time, the IRS does not have to monitor the accuracy of the expenses to the same degree it would if the taxpayer did not use the simplified deduction.

Machine learning valuations offer many of the same advantages, and Congress and the Treasury Department should encourage taxpayers to rely on them in a similar manner to other safe harbors. In practice, this would mean that when a taxpayer uses a machine learning program sanctioned by the IRS, the agency would presumptively accept that asset valuation, shielding the taxpayer from challenge and penalties.[206] Furthermore, as discussed above,[207] the machine learning programs could act as third-party reporters that would notify the IRS of valuations, allowing the IRS to match tax return positions to the value produced.

Taxpayers who do not wish to rely on the machine learning asset valuation should be treated like any taxpayer who opts out of using a safe harbor.[208] Regarding those taxpayers who opt out, their asset valuation should be open to additional IRS scrutiny.[209] Congress could also mandate that taxpayers who choose not to use machine learning valuations must disclose this fact on their tax return so that the IRS could more readily flag those valuations that should be subject to closer audit review. To further incentivize taxpayers not to deviate from machine learning valuations, Congress could consider subjecting taxpayers to higher penalties if their proffered asset values significantly

204. *See supra* Section I.B.

205. *See supra* notes 46–47 and accompanying text.

206. A noteworthy exception would be if the taxpayer achieved erroneous valuation by inputting false information into the program, for example, by claiming that a one-hundred-acre parcel of property was only fifty acres.

207. *See supra* Section III.C.1.

208. Susan C. Morse, *Safe Harbors, Sure Shipwrecks*, 49 U.C. DAVIS L. REV. 1385, 1391 (2016) ("A safe harbor guarantees compliance for described behavior, without foreclosing the possibility that activities outside the safe harbor are also compliant.").

209. *See id.*

deviate from those produced by machine learning and the IRS's valuation position is upheld.[210]

Finally, the courts should consider government-sanctioned machine learning valuations to be presumptively accurate, while allowing taxpayers to offer evidence that deviations from such valuations are justified. This does not fundamentally change the burden of proof in civil tax controversies, which is generally initially on the taxpayer.[211] Rather, it creates a reasonable starting point that ensures parties will not embrace extreme valuations.[212]

D. THE TRADE-OFFS

Implementing a machine learning approach to tax valuation would not be without costs. Machine learning programs themselves are not perfect,[213] and there is no guarantee that they will outperform human appraisals in every context.[214] However, the costs of machine learning must be weighed against the costs of retaining the current system, which are steep.

1. Efficiency

To be sure, when assets are neither regularly bought and sold nor subject to arm's-length bargaining between a willing buyer and a willing seller,[215] their "true" fair market value is unknowable.[216] While machine learning valuations may not be the closest measure of fair market value in every case,[217]

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210. The imposition of more onerous penalties is certainly a stick approach; the carrot approach would be to shield taxpayers from any penalties if they did not deviate, or deviated within a very small range, from the given valuation.

211. I.R.C. § 7491.

212. While some taxpayers will undoubtedly continue to dispute valuation issues in court, others will weigh the costs and benefits and conclude that accepting the third-party valuation is less expensive than incurring the costs of disputing it, particularly when presenting the court with an extreme position is much less likely to weigh in the taxpayer's favor.

213. For example, Zillow was criticized for the failure of its "iBuying" business in 2021. *See, e.g.*, John Cook, *Why the iBuying Algorithms Failed Zillow, and What It Says About the Business World's Love Affair with AI*, GEEKWIRE (Nov. 3, 2021, 10:34 AM), https://www.geekwire.com/2021/ibuying-algorithms-failed-zillow-says-business-worlds-love-affair-ai [https://perma.cc/PW94-7D6J] ("Zillow's move also represents a big loss for the algorithms that powered its nascent iBuying business, and it is a warning sign to other businesses — both in real estate and other industries — that rely heavily on the almighty algorithm.").

214. *See, e.g.*, Will Knight, *The Foundations of AI Are Riddled with Errors*, WIRED (Mar. 31, 2021, 7:00 AM), https://www.wired.com/story/foundations-ai-riddled-errors [https://perma.cc/58NC-DPQ9] (explaining some of the common flaws associated with AI use).

215. *See, e.g.*, I.R.C. § 25.2512-1 ("The value of the property is the price at which such property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell, and both having reasonable knowledge of relevant facts.").

216. *See, e.g.*, Peter Lee, *The Accession Insight and Patent Infringement Remedies*, 110 MICH. L. REV. 175, 230 (2011) ("[N]onfungible assets that are not commonly traded on robust markets renders valuations particularly difficult.").

217. Albeit, empirical studies strongly suggest that machine learning valuations are highly accurate. *See supra* Section III.B.

the efficiency of machine learning valuations should be well worth accuracy trade-offs, if any. Succinctly put, compared to the current system that produces extreme asset valuations, machine learning ordinarily produces faster and more accurate results, with a smaller price tag. [218]

Further, machine learning valuations would enhance tax compliance and revenue collection overall. There would be reduced opportunities for taxpayers to game the system by taking tax positions that would go undetected or by starting with an extreme position to reach a favorable settlement. The potential for better taxpayer compliance would also be buttressed by third-party information reporting from machine learning providers. Knowing that their valuation positions will be reported to the IRS and that they must disclose deviations from the machine learning valuation, taxpayers would be more forthright in their reporting practices. Under such circumstances, taxpayers would be likely to report valuations that matched the machine learning valuations to avoid being flagged for audit. Those taxpayers that chose to deviate from machine learning valuations likely would do so in a marginal manner to avoid an IRS challenge.

Additionally, the IRS would likely endure fewer oversight costs and could make better use of limited resources. Machine learning valuations would reduce the agency's need to audit valuation issues, particularly if taxpayers were required to report deviations from machine learning valuations. Assuming there was automated information return valuation matching, the IRS would only have reason to scrutinize valuations in those instances when taxpayers did not report matching values. Even in those cases, taxpayers and the IRS might more readily settle out of court if the deviation between the taxpayer's proffered valuation and the machine learning valuation were relatively insignificant. Further, reduced oversight costs for some assets would allow the IRS to focus its limited human resources on those harder-to-value assets that are less suited to a machine learning approach.

Finally, recognition that a court would view the machine learning valuation as presumptively accurate should encourage both sides to settle and reduce litigation costs. This would theoretically yield a far superior outcome to a system where one or both parties hope to convince a court to split the difference and average two extreme valuations.

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218. For a comprehensive discussion of societal benefits and costs of AI, see Winky K.O. Ho, Bo-Sin Tang & Siu Wai Wong, *Predicting Property Prices with Machine Learning Algorithms*, 38 J. PROP. RSCH. 48, 65 (2021) ("Improvement in computing technology has made it possible to examine social information that cannot previously be captured, processed and analysed."); Shine Sean Tu, *Use of Artificial Intelligence to Determine Copyright Liability for Musical Works*, 123 W. VA. L. REV. 835, 863–70 (2021) (noting that other costs include trolling and bots that may intentionally confuse algorithms, as well as human bias injected into algorithm creation).

2. Constitutional Concerns

Several legal scholars have illuminated constitutional concerns related to using AI in other contexts, arguing that machine learning may be problematic when it is used to make decisions that impact important rights or protections.[219] For example, AI programs that decide whether law enforcement has reasonable suspicion to make a stop potentially infringes upon parties' Fourth Amendment rights against unlawful search and seizure.[220] In a similar vein, scholars have criticized the use of machine learning in sentencing decisions as a violation of due process rights.[221] In these and similar contexts, scholars have critiqued AI programs as having a "black box" quality that ostensibly shields the outcomes they reach from necessary scrutiny by the public and courts.[222] Put another way, where the stakes of machine learning decisions affect a person's constitutional or other important rights,[223] a measure of human oversight appears to be in order.

However, there are several reasons why machine learning valuations do not present the same constitutional rights challenges as AI usage in other contexts. First, the stakes are much different. In the tax context, machine learning valuations are simply being used to produce a valuation number upon which an individual's tax liability will be based. While this number has real economic consequences for taxpayers, it does not rise to the level of infringing upon people's Fourth Amendment or other constitutional rights,

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219. *See, e.g.*, Ashley Deeks, *The Judicial Demand for Explainable Artificial Intelligence*, 119 COLUM. L. REV. 1829, 1833 (2019) (arguing that machine learning is particularly problematic "when the systems make predictions that affect people's liberty, safety, or privacy").

220. *See* Michael L. Rich, *Machine Learning, Automated Suspicion Algorithms, and the Fourth Amendment*, 164 U. PA. L. REV. 871, 897 (2016) ("For an [Automated Suspicion Algorithm ("ASA")]'s prediction to be sufficient to justify a search or seizure, it too must engage in a totality-of-the-circumstances analysis. But, at least under current technological constraints, ASAs are fundamentally incapable of doing so."); *see also* David Lehr & Paul Ohm, *Playing with the Data: What Legal Scholars Should Learn About Machine Learning*, 51 U.C. DAVIS L. REV. 653, 658–64 (2017) (describing scholarship on the Fourth Amendment and due process concerns).

221. *See* Deeks, *supra* note 219, at 1844 ("Nevertheless, [regarding the Wisconsin Supreme Court,] the majority and a concurring Justice expressed caution about the use of opaque sentencing algorithms.").

222. *See id.* at 1829 ("A recurrent concern about machine learning algorithms is that they operate as 'black boxes,' making it difficult to identify how and why the algorithms reach particular decisions, recommendations, or predictions."); Lehr & Ohm, *supra* note 220, at 655–56 ("Particularly in the fields of criminal justice and criminal procedure, machine-learning systems are seen as inscrutable black boxes by scholars focused on the Fourth Amendment.").

223. For example, the use of AI to generate credit scores could impact an individual's ability to obtain credit, as well as insurance, housing, and other necessary purchases. *See* Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54, 59 (2019) ("Yet for members of certain groups, particularly the less wealthy, an algorithm's mistake can be ruinous—leading to denials of employment, housing, credit, insurance, and education."). For a general discussion of due process concerns inherent in using predictive algorithms for credit scores, see Danielle Keats Citron & Frank Pasquale, *The Scored Society: Due Process for Automated Predictions*, 89 WASH. L. REV. 1 (2014).

as may be the case in the criminal law context. The machine learning valuation supplies a number, but the fact that the asset is taxable (or gives rise to a deduction) is unchanged; the issue is simply one of magnitude.

Further, it is worth considering from a distributional perspective who is most likely to be impacted by the use of machine learning in tax valuation. Simply put, those taxpayers who need to value assets are overwhelmingly wealthy; low-income taxpayers are far less likely to own tangible or intangible assets of any value. Furthermore, only if the taxpayer's wealth or income exceeds certain threshold dollar amounts will asset ownership or transactions generally generate transfer tax liability or give rise to taxable events (e.g., permissible charitable deductions).[224] As a practical matter, this means that those taxpayers who find themselves facing valuation issues are almost certainly well resourced—and thus have the ability to protect their constitutional rights. Furthermore, in a worst-case scenario where a machine learning program produces a valuation that results in an unfairly high tax burden, taxpayers may opt to report the dollar amount that they deem accurate (presumably from an appraisal) and endure the exact same burden that they would have endured absent a machine learning valuation.

3. Ease of Implementation and Other Wealth Tax Valuation Proposals

The need to value nonfungible assets in an efficient yet accurate manner has never been more pressing. As the nation's wealth gap continues to grow,[225] Congress will likely need to turn to another source of revenue, making the introduction of a wealth tax more attractive. Acknowledging that valuation is a central challenge to administering a wealth tax,[226] scholars advocating for such a tax have offered approaches for how to value nonfungible assets. The two primary proposals under discussion are (1) a formulaic approach[227] and

224. For example, the current threshold for transfer tax to apply is $12,060,000, see *supra* note 75, and to secure a charitable deduction, taxpayers must elect to itemize their deductions and have overall deductions in excess of the standard deduction (currently, $25,900 for married taxpayers filing jointly (Rev. Proc. 2021-45, § 3.15(1), 2021-48 I.R.B.)) in order for this election to make sense. I.R.C. § 63(b).

225. *See, e.g.*, Matthew Smith, Owen M. Zidar & Eric Zwick, *Top Wealth in America: New Estimates and Implications for Taxing the Rich* 1 (Nat'l Bureau of Econ. Rsch., Working Paper No. 29374, 2021) ("From 1989 to 2016, the top 1%, 0.1%, and 0.01% wealth shares increased by 7.6, 5.1, and 3.0 percentage points, respectively, to 31.5%, 15.0%, and 7.0%. While these changes are less dramatic than some prior estimates, wealth is very concentrated: the top 1% holds nearly as much wealth as either the bottom 90% or the 'P90-99' class.").

226. *See supra* note 62.

227. *See, e.g.*, David Gamage, Five Key Research Findings on Wealth Taxation for the Super Rich 14–16 (July 27, 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3427827 [https://perma.cc/RBT2-YWYS]; Ari Glogower, *Taxing Capital Appreciation*, 70 TAX L. REV. 111, 133–42 (2016) (discussing various formulaic approaches to valuation); Mark P. Gergen, *How to Tax Capital*, 70 TAX L. REV. 1, 41 (2016):

(2) a forced-sale approach.[228] While laudable, neither of these valuation approaches offers either the efficiency or the accuracy of machine learning.

To be sure, requiring the use of predetermined valuation formulas would reduce the use of extreme appraisals by taxpayers and the government. As suggested by scholars, the IRS could publish these formulas and mandate their use.[229] An asset's initial value would be its purchase price, and then the particular formula would adjust the value annually based on factors like an assumed market rate of return.[230] However, as commentators have observed, the formulaic approach would likely require periodic adjustments to account for the ever-changing market landscape, which would need to be conducted through appraisals.[231] And if these formulas proved erroneous, over time an asset's value would become increasingly inaccurate. Under a wealth tax, this would be problematic if taxpayers were required to report asset values annually[232]; and under the estate tax, this would be problematic when valuing an asset a single time many years after it was initially purchased (assuming that date could even be ascertained).

By comparison, machine learning valuations would do a much better job at tracking market changes and staying otherwise current. The very nature of machine learning is that the more a particular program runs, the more accurate it becomes as it is able to constantly update itself with new information. Thus, while a formulaic approach is likely to be *less* accurate over time—especially if many years have passed since the asset was first purchased—machine learning valuations would reflect the latest available data and would become *more* accurate over time as an increasing number of taxpayers put it to use.

The forced-sale approach to valuation fares no better than the formulaic approach. Earlier versions of this method would require taxpayers to make

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> Begin with a case in which an individual pays cash for a building that produces rental income. The price paid for the building is its initial value. Each year the investment in the building is assumed to yield a normal return on the investment's estimated value at the beginning of the year. The normal return would be determined using a benchmark rate that is a composite of the rate of inflation and the real normal rate of return.

Id.

228. *See* Emmanuel Saez & Gabriel Zucman, *Progressive Wealth Taxation*, 2019 BROOKINGS PAPERS ON ECON. ACTIVITY 437, 482 (2019) ("More ambitiously, in case of disagreement about valuation for large private businesses between the IRS and the owners, owners should pay in stock, and the government can then create the missing valuation market when selling back the stock."); Lederman, *supra* note 1, at 1510 ("There are at least two innovative approaches to addressing this issue . . . . One is a formulaic approach to valuation that draws on arm's-length sales where possible, and the other is to force a market transaction.").

229. *See* Gamage, *supra* note 227, at 14; Saez & Zucman, *supra* note 228, at 483 (discussing a similar approach used in Switzerland).

230. *See* Gamage, *supra* note 227, at 14–15.

231. *See id.* at 17.

232. Professor David Gamage suggests periodic adjustments via expert appraisals to account for this potential inaccuracy. *Id.* at 16–17.

their assets available for sale to any willing buyer at the price/value that they assigned to those assets, thereby removing the incentive for taxpayers to grossly undervalue their assets.[233] A more recent proposal would require taxpayers to settle disputes with the IRS over valuation of private businesses by paying the IRS in equity of the business enterprise; the IRS would then create a market value by selling the business interest either back to the taxpayer or to the highest bidder.[234] While, in theory, the forced-sale approach might be a good proxy for fair market value, this method appears to be little more than an academic exercise. In other words, it is not realistic or politically feasible to suggest that the IRS is actually going to purchase assets from taxpayers in the midst of valuation disputes or that the tax law will force taxpayers to sell their assets.[235]

By contrast, using machine learning for valuation is viable, proven, and efficient; and it has a proven track record of success, having already been implemented in many contexts.[236]

CONCLUSION

The process of taxation traditionally engenders the need for pinpoint accuracy. For example, a taxpayer who earns $100,000 anticipates paying $X in tax—not a cent more and not a cent less. However, an integral part of taxation also involves asset valuations, which in many instances produce a tax base that is imprecise and vague.[237] For example, a taxpayer may own title to a one-acre parcel of land that she wishes to gift to her daughter, but its fair market value ranges from $90,000 to $110,000; this value range obfuscates the exact dollar amount of the gift tax due.[238] This valuation problem is not novel; to the contrary, it is an age-old problem that has plagued taxpayers and tax collectors alike throughout the millennia.[239]

Admittedly, the inexactitude of valuation determinations is not a deficiency that has brought the taxation process to a screeching halt. Nevertheless, asset valuation remains a serious problem. Valuation imprecisions have provided a fertile platform for taxpayers to take aggressive tax-reporting

233. For a discussion of this approach, see Lederman, *supra* note 1, at 1512–15.

234. *See* Saez & Zucman, *supra* note 228, at 482; Lederman, *supra* note 1, at 1513.

235. *Cf.* Lederman, *supra* note 1, at 1513 ("[A] forced-sale approach likely would be politically very unpopular, as people would object to being required to give the general public an option to force them to relocate.").

236. *See supra* Section III.A.

237. *See generally* Lederman, *supra* note 1 (how asset valuations play a pivotal role in tax determinations).

238. *See* I.R.C. § 2501(a). Even if the taxpayer has not yet exhausted her lifetime exemption amount (currently $12,060,000), proper asset valuation is necessary to ascertain the exact dollar amount counting toward the lifetime exemption that the taxpayer has exhausted via this gift. *Id.* § 2505(a). The size of the lifetime exemption amount is currently $12,060,000. *Id.*; Rev. Proc. 21-45, 2021-48 I.R.B. § 3.41.

239. *See supra* note 5 and accompanying text.

positions and have presented the IRS with oversight challenges. In addition, the very vagueness of the valuation process is one of the primary reasons that wealth tax proponents have not had a groundswell of political support or traction for their ideas.[240]

But the twenty-first century offers better options than traditional appraisal to address this issue. In the Information Era in which we exist, AI and machine learning are valuable tools. Reliance on AI can greatly alleviate and, at least in some instances, solve the asset-valuation problem. Accordingly, Congress should survey existing AI asset-valuation tools. Once conducted, Congress should then assign to the Treasury Department the task of identifying which AI platforms are viable for practical use and then require AI valuation utilization whenever possible, simultaneously providing an opt-out provision when taxpayers' circumstances warrant it. While instituting these reforms would not solve the problem of asset-valuation determinations, machine learning would constitute a meaningful step in the right direction.

240. *See, e.g.*, Miranda Perry Fleischer, *Not So Fast: The Hidden Difficulties of Taxing Wealth*, 58 NOMOS 261, 262 (2017) ("Not only is an annual *wealth tax* susceptible to constitutional *challenges*, for example, but such a tax would be hobbled by *valuation issues*." (emphasis added)).