FALL 2020
NEW YORK UNIVERSITY
SCHOOL OF LAW

"Understanding the Revenue Potential of Tax Compliance Investments."

Natasha Sarin
University of Pennsylvania Law School

September 8, 2020
Via Zoom
Time: 2:00 – 3:50 p.m. EST
Week 3

SCHEDULE FOR FALL 2020 NYU TAX POLICY COLLOQUIUM

(All sessions meet online on Tuesdays, from 2:00 to 3:50 pm EST)

1. Tuesday, August 25 – Steven Dean, NYU Law School. "A Constitutional Moment in Cross-Border Taxation."

2. Tuesday, September 1 – Clinton Wallace, University of South Carolina School of Law. "Democratic Justice in Tax Policymaking."

3. Tuesday, September 8 – Natasha Sarin, University of Pennsylvania Law School. "Understanding the Revenue Potential of Tax Compliance Investments."

4. Tuesday, September 15 – Adam Kern, Princeton Politics Department and NYU Law School. "Illusions of Justice in International Taxation."

5. Tuesday, September 22 – Henrik Kleven, Princeton Economics Department. "The EITC and the Extensive Margin: A Reappraisal."

6. Tuesday, September 29 – Leandra Lederman, Indiana University Maurer School of Law. "Of Risks and Remedies: Best Practices in Tax Rulings Transparency."

7. Tuesday, October 6 – Daniel Shaviro, NYU Law School. "What Are Minimum Taxes, and Why Might One Favor or Disfavor Them?"

8. Tuesday, October 13 – Steve Rosenthal, Urban-Brookings Tax Policy Center. "Tax Implications of the Shifting Ownership of U.S. Stock."

9. Tuesday, October 20 – Michelle Layser, University of Illinois College of Law. "How Place-Based Tax Incentives Can Reduce Economic Inequality."

10. Tuesday, October 27 – Michelle Hanlon, MIT Sloan School of Management. [Paper on taxpayer responses to the 2017 tax act, using survey data.]

11. Tuesday, November 10 – Owen Zidar, Princeton Economics Department. "The Tax Elasticity of Capital Gains and Revenue-Maximizing Rates."

12. Tuesday, November 17 – Abdoulaye Ndiaye, NYU Stern Business School. "Redistribution With Performance Pay."

13. Tuesday, November 24 – Lilian Faulhaber, Georgetown Law School. "Searching for Coherence: The Overuse of Excess Returns and Excess Profits."

14. Tuesday, December 1 – Erin Scharff, Arizona State Sandra Day O'Connor College of Law. "Revisiting Local Income Taxes."

NBER WORKING PAPER SERIES

UNDERSTANDING THE REVENUE POTENTIAL OF TAX COMPLIANCE INVESTMENT

Natasha Sarin
Lawrence H. Summers

Working Paper 27571
http://www.nber.org/papers/w27571

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
July 2020

Understanding the Revenue Potential of Tax Compliance Investment
Natasha Sarin and Lawrence H. Summers
NBER Working Paper No. 27571
July 2020
JEL No. H0,H2,H22

ABSTRACT

In a July 2020 report, the Congressional Budget Office estimated that modest investments in the IRS would generate somewhere between $60 and $100 billion in additional revenue over a decade. This is qualitatively correct. But quantitatively, the revenue potential is much more significant than the CBO report suggests. We highlight five reasons for the CBO's underestimation: 1) the scale of the investment in the IRS contemplated is modest and far short of sufficient even to return the IRS budget to 2011 levels; 2) the CBO contemplates a limited range of interventions, excluding entirely progress on information reporting and technological advancements; 3) the estimates assume rapidly diminishing returns to marginal increases in investment; 4) the estimates leave out the effect of increased enforcement on taxpayer decision-making; and 5) the use of the 10-year window means that the long-run benefits of increased enforcement are excluded. We discuss these issues, present an alternative calculation, and conclude that a commitment to restoring tax compliance efforts to historical levels could generate over $1 trillion in the next decade.

Natasha Sarin
University of Pennsylvania
Carey Law
Silverman 139
3501 Sansom Street
Philadelphia, PA 19104
nsarin@law.upenn.edu

Lawrence H. Summers
Harvard Kennedy School of Government
79 JFK Street
Cambridge, MA 02138
and NBER
lhs@harvard.edu

I. Introduction

This month the Congressional Budget Office released a report on trends in IRS enforcement over the last decade and estimated the revenue potential from additional investment in tax compliance (CBO 2020). The report corroborates messages emphasized in our recent work as well as that of former IRS Commissioner Charles Rossotti: Losses from tax evasion are significant, and there is huge untapped revenue potential from adequate enforcement of existing tax laws (Sarin and Summers 2019, Rossotti 2020).

The statistics on the tax gap are striking: Over the next decade, $7.5 trillion, or nearly 15 percent of owed taxes, will go uncollected. Despite the scope of those losses, over the last decade the IRS has lost, not gained, resources to combat evasion. Appropriations declined by over 15 percent, and the workforce has been slashed by 20 percent; with only about half as many agents capable of examining complex, and oft misreported, high-income tax returns remain. Consequently, examinations are down across filing categories: Audit rates for millionaires have fallen by 75 percent, and large corporation audit rates fell from nearly 100 percent to less than 50 percent (Sarin and Summers 2019)

The CBO estimates that between $60 billion and $100 billion in revenue can be generated over a decade through greater investment in the IRS (CBO 2020). The report has been heralded as proof that there is much to be gained by providing the IRS with the resources it needs (Sanders 2020). We are in full agreement with the qualitative conclusion that there is a very high payoff to increased investment in tax administration, but the CBO's revenue estimates are a substantial underestimate, for five reasons: 1) the scale of the investment in the IRS contemplated is modest and far short of sufficient even to return the IRS budget to 2011 levels; 2) the CBO contemplates a limited range of interventions, excluding entirely progress on information reporting and technological advancements; 3) the estimates assume rapidly diminishing returns to marginal increases in investment; 4) the estimates leave out the effect of increased enforcement on taxpayer decision-making; and 5) the use of the 10-year window means that the long-run benefits of increased enforcement are excluded. We discuss these issues, present an alternative calculation, and conclude that a commitment to restoring tax compliance efforts to historical levels could generate over $1 trillion in the next decade.

We consider those issues in turn below. Taking them altogether, we estimate that committing to strengthen tax administration could generate over $1 trillion over the next decade.

II. The Scale of the CBO's Program

The CBO provides two estimates of returns that could result from increased IRS investment. Its baseline estimates are for a $20 billion increase in the IRS's enforcement outlays over the next decade, which the CBO estimates would generate $61 billion in additional tax revenue. That baseline is very similar to what the CBO proposes periodically in its "Options for Reducing the Deficit" series (CBO 2018).[1] Perhaps as a byproduct of interest in a more aggressive program, the CBO has also estimated the returns to double that baseline approach, suggesting that $40 billion over a decade would generate an additional $103 billion in tax revenue (DeFazio 2020).

Even the more aggressive CBO program is modest relative to historical benchmarks. As Table 1 shows, between 2011 and 2019, the IRS budget fell in real dollars by 16.4 percent. To

[1] The corresponding option is entitled "Increase Appropriations for the Internal Revenue Service's Enforcement Initiatives."

return the IRS to its budget level less than a decade ago would require a $2.3 billion increase in outlays next year; even the more aggressive CBO program contemplates less than half that. But looking at budgetary outlays alone does not paint a full picture because during this period the economy has grown, and so too have taxes that are owed. Scaled by gross collections or GDP, the IRS's budget has decreased by over 35 percent in the last decade. To replenish the IRS budget, adjusted for intervening economic growth, will require a program that is at more than twice as large as that contemplated by the CBO.

This is the scope of investment discussed in our prior work, as well as that of former IRS Commissioner Charles Rossotti (Sarin and Summers 2019, Rossotti 2020). Unlike the more limited CBO options, such substantial investment would return the IRS's budget to 2011 levels as a share of gross collections, or as a share of GDP. 2011 represents a recent peak for the IRS, but not an aberration. Outlays as a share of collections or GDP were even higher before the crisis, peaking in 1993 when they were 20 percent (as a share of collections) or 57 percent (as a share of GDP) higher than their post-crisis levels. Indeed, for the intervening two decades, investment was consistently at or above 2011 levels.

Table 1a-: IRS Budget, Historically

	Since 2011
Decrease in budget (2018 $)	-16.4%
Decrease in enforcement (2018 $)	-26.8%
Decrease in budget as share of gross collections	-35.2%
Decrease in enforcement as share of gross collections	-43.2%
Decrease in budget as share of GDP	-30.6%
Decrease in enforcement as share of GDP	-39.2%

Source: IRS Statistics of Income data, authors' calculations.

Table 1b-: Returning IRS budge to 2011 levels

2021-2030 IRS expected budget	$136.6B
2021-2030 extra outlays to return to 2011 share of collections	$107.0B
2021-2030 extra outlays to return to 2011 share of GDP	$82.5B
2021-2030 CBO investment (max)	$40B

Source: Rossotti 2020 (Online Appendix A: Calculating the Revenue and Cost Impact) authors' calculations.

III. CBO Contemplates a Limited Range of Interventions

The CBO report contemplates the revenue potential from larger appropriations to fund traditional enforcement activities, like examinations and enforcement efforts. Although the report is not explicit, it appears to focus on greater investment in personnel to replenish the store of revenue agents, particularly those handling complex enforcement cases (which have declined by

35 percent) and difficult collections cases (which have dropped by 48 percent) (CBO 2020). Addressing the deficiencies in the IRS's workforce is necessary and important: A recent Treasury Inspector General for Tax Administration report points out that IRS ability to pursue cases of high-income nonfiling has diminished in recent years because of staffing shortages (TIGTA 2020). As a result, just a few hundred wealthy nonfilers cost the IRS over $10 billion between 2014 and 2016.

But in addition to increasing examination and enforcement levels, several changes in the nature and application of information technology are likely to have substantial returns and fall outside the scope of the program considered by the CBO in arriving at its recent revenue estimates.

IIIa. Overhauling IRS Technological Capacity

Recent work considers the revenue consequences of modernizing IRS enforcement capacities (Sarin and Summers 2019, Rossotti 2020). The IRS software system, developed in the 1960s, is the oldest in the federal government. It has yet to be updated despite the increasing complexity of returns. Moreover, the IRS has not updated its technological infrastructure since the early 1990s when electronic reporting was a trial program. Over 90 percent of returns are filed electronically today, and it's difficult to find employees with the skills necessary to use the outdated software. To understand the scope of IRS underinvestment, consider that in 2018 the IRS spent $2.5 billion on IT investment. Bank of America, serving only one-quarter of Americans, spent more than six times that. The ramifications of underinvestment in technology may be crippling in the future: "There are inherent limitations on the functionality of a 60-year-old infrastructure, and at some point, the entire edifice is likely to collapse," points out the national taxpayer advocate (Office of the Taxpayer Advocate 2018).

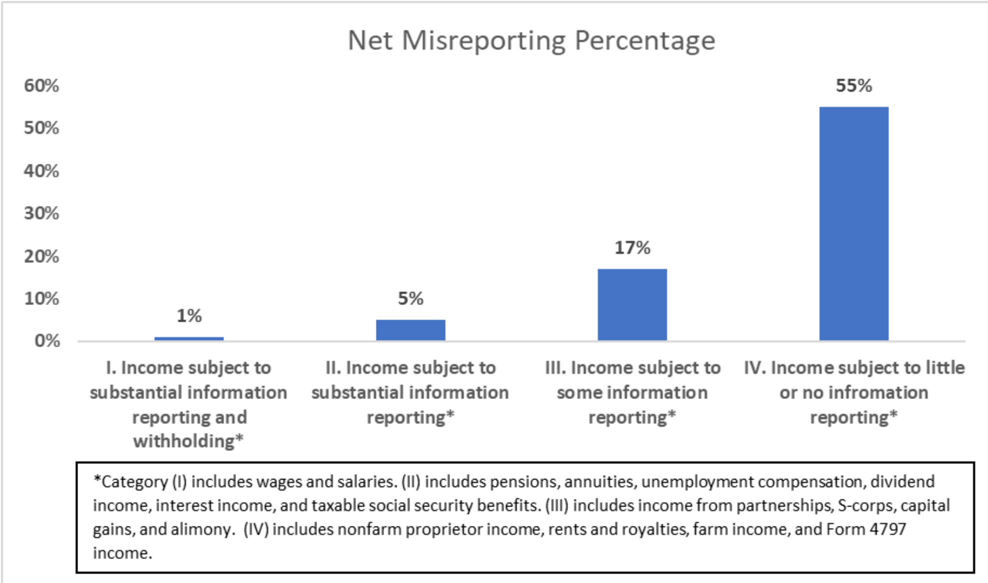
In addition to overhauling technological infrastructure, better leveraging data analytics will improve compliance. There are substantial returns to those investments. For example, the IRS recently piloted a return review program (RRP) that improves the matching of taxpayer filings with information returns to identify and freeze fraudulent refunds. In 2017 that program had a 50-1 return, costing $90 million and saving $4.4 billion (GAO 2018, US Treasury 2018). Additional investments in the RRP are expected to have a 20-1 return, substantially above the 3-1 in direct benefits the CBO estimates from more traditional enforcement measures.

IIIb. Investments in Third-Party Reporting

The beneficiaries of tax evasion are disproportionately high-income individuals. This is because regular workers primarily accrue income as wages, and so income is reported by employers and taxes are automatically withheld, with compliance rates at 99 percent. But more opaque categories of income — such as capital gains, dividend income, rental income, and proprietorship income — have much higher rates of noncompliance (between 17 and 55 percent, depending on the category), because there is no way for the IRS to verify that income is being correctly reported and taxes fully paid.

In fact, as Figure 1 shows, compliance rates fall in lockstep with reporting requirements. It is thus unsurprising that the Government Accountability Office identifies the lack of adequate information reporting as one of the key factors contributing to the tax gap (McTigue 2019, Herndon 2019).

Figure 1: Net Misreporting Percentage



Source: IRS 2019.

Recent attempts to increase cross-party reporting requirements for small business owners were rolled back because they imposed a significant burden on return filers without delivering substantial revenue gains (Sarin, Summers and Kupferberg 2020). But Rossotti (2020) describes a plan for third-party reports that can provide the IRS the information it needs to verify that opaque categories of income are correctly reported without imposing significant burdens on return filers by leveraging information already known to financial institutions. Since proprietorship income constitutes most income that is underreported, taxpayers with more than $25,000 of business income could be required to report to their bank and on their returns the accounts that house their business income (Rossotti 2020). Banks could be required to provide a summary of deposits received and disbursements made that the IRS could use to verify that taxes are paid in full. Commissioner Rossotti estimates that this program could generate $960 billion over a decade from individuals with significant business income, who currently do not pay taxes on an average of 55% of their income (IRS 2019).

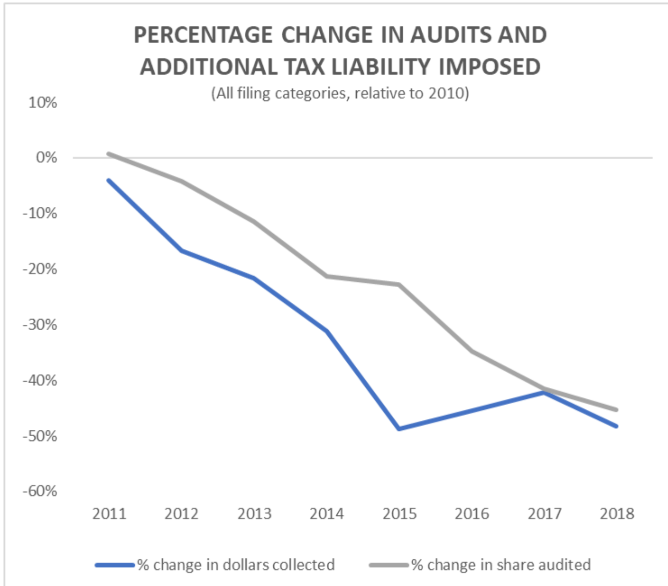
IV. CBO Estimates Overstate Diminishing Returns

Recent CBO estimates assume diminishing returns to investment in the IRS: The first $20 billion of additional IRS outlays is expected to generate $61 billion in additional tax revenue over a decade, but the next $20 billion will generate only $42 billion. The CBO provides no basis for those estimates. The underlying assumption is that the IRS will target resources on a finite set of high-return activities, so further investments will deliver less than the initial ones.

The natural experiment provided by the gradual reductions in enforcement resources over the last decade provides a basis for assessing the extent of diminishing returns. If there are diminishing returns to IRS investments, we would expect additional tax collection from enforcement efforts to have decreased less than the IRS's budget because the more limited outlays that remain would be expended on compliance efforts with the highest returns. As Figure 2 shows, there is no evidence to support the CBO's assumption: Enforcement revenue decreases 1-for-1 with enforcement effort.

It is probable that there are diminishing returns at some level of IRS expenditure. But when one considers the recent history—the fact that in the last decade, the share of large corporation audits has declined from essentially 100% to less than 50%; or that the share of millionaires who are audited has fallen by 75% (Sarin, Summers and Kupferberg 2020); or that the IRS no longer has the resources to police cases of high-income nonfliers, with just a few hundred evaders costing the IRS billions each year (TIGTA 2020)—it is hard to see how the CBO could conclude that investment that does not even reach the levels of IRS expenditure a decade ago will have substantially diminishing returns. Moreover, it seems just as likely that at least some of the investments proposed, for example IT investments, would have increasing returns, with large fixed costs required at the outset, but significant gains once enacted.

Figure 2: Relationship Between IRS Outlays and Additional Taxes Imposed



Source: IRS Statistics of Income data, Authors' calculations.

V. CBO Estimates Do Not Account for Deterrence

When the IRS increases its enforcement efforts, revenue is raised directly (for example, examinations are conducted and taxes assessed on underreported income) as well as indirectly: As the probability of detection rises, the incentives to evade decrease. Indeed, one consequence of the IRS's diminished capacity in the last decade is less deterrence, since criminal investigations associated with tax evasion have declined by 35 percent.

The CBO explicitly states that it does not account for any indirect effects associated with increases in tax enforcement. But there is a long line of academic work that points out that the indirect effects are significant: An early 1996 IRS study compared cross-state differences in audit rates to find that the average indirect effect from started audits was about 12 times as large as the direct additional taxes imposed following completed audits (Plumley 2002). More recently, Dubin (2007) relies on IRS examination data for individual filers to conclude that the spillover or indirect effects are at least nine times as large as the direct revenue effects from compliance efforts. And Hoopes, Mescall, and Pittman (2012) study corporate tax avoidance and find that a doubling of the audit probability increases effective tax rates by 7 percent.

It is true that there are uncertainties about how long-lasting and homogenous indirect effects are: for example, although low and middle-income taxpayers substantially increase tax payments if they expect to be audited; reported tax liability for high-income filers actually falls (Slemrod, Blumenthal, and Christian 2001). This is consistent with work by DeBacker, Heim, Tran, and Yuskavage (2018) finding that after audits, most individuals become more careful about tax filings, at least in the short-run; but that sophisticated individuals and corporations actually become more aggressive in their misreporting.

Even so, the consensus of the literature is that deterrent effects are important. The CBO justifies its decision to exclude indirect effects entirely given uncertainty regarding their scale and scope. But excluding indirect effects is an implicit decision to assume that they are zero, which is clearly incorrect. Perhaps a reasonable approach would be to use the government’s own estimate of indirect effects from compliance activities: The CBO cites a Treasury estimate submitted as part of the IRS’s budget performance plan that points out that the IRS returns on investment reported are likely understated because they ignore deterrence effects, which are conservatively estimated to be at least three times the direct revenue effect (US Treasury 2019).

VI. CBO Fails to Account for Longer-Term Gains From Additional Enforcement Investment

The CBO's program of greater IRS outlays ramps up. In the first year, the $20 billion baseline calls for just a $500 million increase in revenue. Relatedly, the revenue benefits of greater enforcement are not realized immediately because it will take time, for example, to train new hires so that they are fully productive. The return on investment in year 1 of greater enforcement is less than 1, whereas by year 8 it increases to 3.6. After that the return falls, but by the end of the decade, each additional dollar invested still generates more than $3.50 in tax collections.

Table 2: CBO Estimates of Returns to IRS Investment

Estimated Effects of Two Options to Increase Appropriations for the Internal Revenue Service

Billions of Dollars

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total, 2021–2030
Option 1: Increase Appropriations by $20 Billion											
Change in Outlays	0.5	1.0	1.5	2.0	2.5	2.5	2.5	2.5	2.5	2.5	20.0
Change in Revenues	0.3	1.5	3.3	5.1	6.8	8.1	8.8	9.0	8.9	8.8	60.6
Increase or Decrease (-) in the Deficit	**0.2**	**-0.5**	**-1.8**	**-3.1**	**-4.3**	**-5.6**	**-6.3**	**-6.5**	**-6.4**	**-6.3**	**-40.6**
Option 2: Increase Appropriations by $40 Billion											
Change in Outlays	1.0	2.0	3.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	40.0
Change in Revenues	0.7	3.0	6.3	9.4	11.9	13.7	14.6	14.8	14.7	14.4	103.1
Increase or Decrease (-) in the Deficit	**0.3**	**-1.0**	**-3.3**	**-5.4**	**-6.9**	**-8.7**	**-9.6**	**-9.8**	**-9.7**	**-9.4**	**-63.1**

Source: Congressional Budget Office.

The effects are calculated based on the assumption that one or both options would take effect in October 2020. Revenues are calculated on the basis of the baseline budget projections that CBO published on March 19, 2020.

There are two points worth raising about these estimates. The first is that the CBO ignores revenue gains that accrue after the 10-year window it contemplates. The second is that these gains are likely to be significant. The return on investment for compliance efforts is highest in years 8 through 10 precisely because in later years, the IRS reaps benefits of its early investments that take time to accrue, as well as from new programs that are implemented toward the end of the decade.

One potential reason additional revenue could be limited outside the decade the CBO contemplates is that taxpayers can learn, and adapt evasion, to take advantage of vulnerabilities that will remain in the tax system. Indeed, the CBO's estimates adjust for such behavioral responses. But it is unclear whether large adjustments are merited: How likely is it that taxpayers will be able to adjust their behavior over time to avoid compliance initiatives like an increase in examinations for high earners?

VII. Conclusion

Below we adjust the CBO's estimates of the gains from an increase in IRS outlays to reflect the more optimistic assumptions, outlined above. The CBO's baseline estimate is that $20 billion would generate $61 billion over a decade.[2] Increasing outlays even further to their 2011 share of tax collections would merit a $107 billion investment. We assume 60 percent of these outlays would be expended on traditional tax administration efforts like more examinations and assume indirect effects from these investments are three times as large as the direct effects, per Treasury estimates. Spending $64 billion on enforcement activities could thus generate at least $783 billion in additional tax revenue, with the remaining 40% of the additional outlays ($43 billion) invested in information technology efforts and an increase in cross-party reporting, likely with returns of at least 10:1. This suggests gains of around $430 billion from information

[2] We use the baseline CBO estimates, rather than the $40 billion program, because we do not believe it is likely that diminishing returns will result from such low levels of investment.

technology efforts, in line with our previous estimates, and considerably below that offered by Commissioner Rossotti, who suggests a revenue impact that is more than twice as large (Sarin and Summers 2019, Rossotti 2020).

Our naïve estimation suggests gains to taxpayers of over $1 trillion once outlays are accounted for. This increase, like the CBO's estimates, does not even consider the additional tax revenue that will accrue from enforcement efforts made today outside the 10-year horizon.

Overall, it appears likely that a robust investment in tax administration could generate in the range of $1 trillion over the coming decade: indeed, Rossotti estimates substantially more revenue potential, around $1.6 trillion over ten years from tax administration efforts (Rossotti 2020). Even $1 trillion would reflect gains commensurate with significant tax reform proposals, for example the revenue gains from raising the corporate tax rate by 10 percentage points, or raising ordinary income tax rates for the highest earners by 5 percentage points (CBO 2018).

In sum, while we agree with the CBO that tax administration decisions have revenue implications; we differ on the magnitudes. Somewhat relatedly, the scorekeeping rules that exclude the revenue attributable to increases in tax enforcement from formal cost estimates are relevant. These guidelines were enacted in response to criticism of congressional overreliance on compliance initiatives as a stopgap to plug budget holes. The guidelines are significant to policy decisions made on the merits of additional investment in the IRS, with stakes in the same range as those at play in debates on dynamic scoring.

Table 3: Reconciling CBO Estimates ($ billion)*

	Outlays	Revenue
10-year CBO program	$20	$61
Scaling up to 2011 share of collections	$107	
2/3 for traditional activities, account for deterrence	$64	$783
1/3 for IT, information reporting	$42	$428
Net gains		$1,104

*Note: We assume that we expend 60% of the 10-year additional outlays on traditional IRS actions like examinations. To arrive at $783B total, we assume that the $64B invested translate to direct revenue of ~$3 for each dollar invested, per the CBO, and increase this three-fold to reflect indirect effects. Then, we assume that the remaining 40% ($42B) invested in information technology scales 10:1, as proposed by Sarin and Summers (2019).

References

Congressional Budget Office. 2018. *Options for Reducing the Deficit: 2019 to 2028*. Washington, DC: Congressional Budget Office.

Congressional Budget Office. 2020. "Trends in the Internal Revenue Service's Funding and Enforcement." Washington, DC: Congressional Budget Office.

DeBacker, Jason, Bradley T. Heim, Anh Tran, and Alexander Yuskavage. 2018. "Once Bitten, Twice Shy? The Lasting Impact of Enforcement on Tax Compliance." *The Journal of Law and Economics* 61(1): 1-35.

Dubin, Jeffrey. 2007. "Criminal Investigation Enforcement Activities and Taxpayer Noncompliance." *Public Finance Review* 35(4): 500-529.

Government Accountability Office. 2018. "Tax Fraud and Noncompliance: IRS Could Further Leverage the Return Review Program to Strengthen Tax Enforcement." Report to Congressional Requesters. GAO-18-544. US Government Accountability Office Washington, DC.

Herndon, Benjamin D. 2019. "Understanding the Tax Gap and Taxpayer Noncompliance." Written testimony of Chief Research and Analytics Officer, Internal Revenue Service, before the House Ways and Means Committee. Washington, DC.

Hoopes, Jeffrey L., Devan Mescall, and Jeffrey A. Pitman. 2012. "Do IRS Audits Deter Corporate Tax Avoidance?" *The Accounting Review* 87(5): 1603-1639.

Internal Revenue Service. 2019b. "Federal Tax Compliance Research: Tax Gap Estimates for Tax Years 2011-2013." Publication 1415 (Rev. 9-2019). Washington, DC: Internal Revenue Service, US Treasury.

McTigue, James R., Jr. 2019. "Tax Gap: Multiple Strategies are Needed to Reduce Noncompliance." Statement of James R. McTigue, Jr., Director, Strategic Issues, before the House Ways and Means Committee. GAO-10-558T. US Government Accountability Office, Washington, DC.

Office of Representative Peter DeFazio. "Ahead of Tax Season, Rep. Peter Defazio Introduces Legislation to Create Fairer US Tax System." March 12, 2020.

Office of Senator Bernie Sanders. "CBO Report Commissioned by Sanders Finds Wealthy Tax Cheats the Prime Beneficiaries of IRS Budget Cuts." July 8, 2020.

Office of the Taxpayer Advocate. "National Taxpayer Advocate Report to Congress 2018: Legislative Recommendations." Washington, DC: US Treasury.

Plumley, Alan H. 2002. "The Impact of the IRS on Voluntary Tax Compliance: Preliminary Empirical Results." In *95th Annual Conference on Taxation.* National Tax Association.

Rossotti, Charles. 2020. "Recover $1.6 Trillion, Modernize Tax Compliance and Assistance." *Tax Notes Federal*, March 2, 2020.

Sarin, Natasha, and Lawrence Summers. 2019. "Shrinking the Tax Gap: Approaches and Revenue Potential." NBER Working Paper 26475, National Bureau of Economic Research, Cambridge, MA.

Sarin, Natasha, Lawrence Summers, and Joe Kupferberg. 2020. "Tax Reform for Progressivity: A Pragmatic Approach." In *Tackling the Tax Code: Efficient and Equitable Ways to Raise Revenue,* edited by Jay Shambaugh and Ryan Nunn. Washington, DC: The Hamilton Project, Brookings Institute.

Slemrod, Joel, Marsha Blumenthal, and Charles Christian. 2001. "Taxpayer Response to and Increased Probability of Audit: Evidence from a Controlled Experiment in Minnesota." *Journal of Public Economics* 79(3): 455-483.

Treasury Inspector General for Tax Administration. 2020. "High-Income Nonfilers Owing Billions of Dollars Are Not Being Worked by the Internal Revenue Service." TIGTA Audit Report 2020-03-015. Washington, DC: US Treasury.

US Treasury. 2018. "Internal Revenue Service: FY 2019 Capital Investment Plan." US Treasury, Washington, DC.

US Treasury. 2019. "FY 2019 Budget in Brief: Internal Revenue Service, Program Summary by Budget Activity." US Treasury, Washington, DC.