

A Comprehensive Mark-to-Market Tax for the 0.1% Wealthiest and Highest-Earning Taxpayers

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This essay proposes a comprehensive mark-to-market tax for the 0.1% wealthiest and highest-earning taxpayers. Publicly-traded securities would be subject to an annual mark-to-market tax. Nontraded assets would be subject to a “deemed mark-to-market” tax: They would not be subject to tax until sale or other disposition (including gift, donation, or death), but at that time, the taxpayer would be taxed at an amount that would leave the taxpayer with the value he or she would have had if the asset appreciated constantly over its holding period, had been subject annually to a mark-to-market tax, and the taxpayer had sold a portion of the asset each year to pay the tax. Taxpayers would be permitted to annually mark their nontraded assets to market, and deposit an amount of tax based on that valuation. This deposit would accrue at the after-tax yield of the asset for purposes of a credit against the tax due upon a sale. Thus, a taxpayer that reports gain and deposits tax each year based on the ultimate annual yield of an asset would not owe any additional tax with respect to that asset at maturity. Losses would remain on a realization basis, but losses would be deemed to have accrued over the taxpayer’s holding period based on the asset’s yield, could be used to offset deemed gain, and could be carried forward indefinitely.

Although a revenue estimate is inherently speculative, a comprehensive mark-to-market tax at current capital gains rates could raise nearly a trillion dollars of new revenue over the next ten years; at ordinary income rates, over \$1.6 trillion dollars.

I. Background.

I have previously proposed a mark-to-market regime for the publicly-traded securities of the 0.1% wealthiest and highest-earning taxpayers.² The most persistent criticism of that regime is its failure to tax the nontraded assets (i.e., all assets other than publicly-traded assets) of those taxpayers. If publicly-traded securities are subject to a mark-to-market tax, but nontraded assets remain on a realization basis, then taxpayers would continue to avoid tax on

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² David S. Miller, *A Progressive System of Mark-to-Market Taxation*, 109 TAX NOTES 1047 (2005); David S. Miller, *How Mark-to-Market Taxation Can Lower the Corporate Tax Rate and Reduce Income Inequality* (October 20, 2015), available at <http://ssrn.com/abstract=2544048>. Inequality (October 20, 2015). available at SSRN: <http://ssrn.com/abstract=2544048> or <http://dx.doi.org/10.2139/ssrn.2544048>.

their nontraded assets. Taxpayers would also have a strong incentive to shift their assets from publicly-traded securities into nontraded assets. Because the regime would apply only to the 0.1% highest-earning taxpayers (\$2.5 million or more of annual gross income)³ and the 0.1% wealthiest taxpayers (\$20.6 million or more of publicly-traded assets)⁴ this incentive would be greatest for taxpayers with insufficient income, but ample publicly-traded securities, who could entirely avoid the regime if they shifted enough of their publicly-traded assets into nontraded assets in order to stay below the \$20.6 million publicly-traded asset threshold. While there are responses to these concerns, this essay addresses them directly by proposing to tax the nontraded assets of the 0.1% wealthiest and highest-income taxpayers on a retrospective yield-based “deemed mark-to-market” basis.⁵

I had considered an interest charge on deferred tax, similar to the “passive foreign investment corporation” (or “PFIC”) regime, section 1260,⁶ and the regime for taxing accumulation distributions from foreign trusts. I rejected an interest charge for three reasons.

³ Based on samples, the IRS estimated that the AGI threshold of the top 0.1% of taxpayers was \$2.16 million in 2015 dollars. Adrian Dungan & Michael Parisi, *Individual Income Tax Shares, 2012*, STATISTICS OF INCOME BULL., Spring 2015, at 1, available at <https://www.irs.gov/pub/irs-soi/soi-a-ints-id1506.pdf>. For ease of presentation, this essay assumes that the current threshold is \$2.5 million and that it stays constant.

⁴ Emmanuel Saez and Gabriel Zucman have determined that the wealth threshold for the top 0.1% of taxpayers in 2012 was \$20.6 million. Emmanuel Saez & Gabriel Zucman, *Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data* Table 1 (Nat'l Bureau of Econ. Research, Working Paper No. 20625, 2014), available at <http://gabriel-zucman.eu/files/SaezZucman2014.pdf>. Under the system I had previously proposed, the wealth threshold would be based only on the value of the taxpayer's publicly-traded assets. This essay assumes that the wealth threshold of the top 0.1% is \$20.6 million and remains constant.

⁵ Various retrospective yield-based taxes have been proposed before. See, e.g., Alan J. Auerbach, *Capital Gains Taxation*, 81 AM. ECON. REV. 167 (1991); Stephen B. Land, *Defeating Deferral: A Proposal for Retrospective Taxation*, 52 TAX L. REV. 45 (1996); Alvin C. Warren, Jr., *Commentary: Financial Contract Innovation and Income Tax Policy*, 107 HARV. L. REV. 460, 477-78 (1993). The yield-based proposal described in this essay differs from prior yield-based proposals in several respects. First, it would complement a mark-to-market tax on publicly-traded assets, and would apply only to nontraded assets. Second, it would apply only to the top 0.1% wealthiest and highest income taxpayers. Third, taxpayers would be permitted to deposit tax that would accrue at the after-tax yield of their investment.

⁶ All references to section numbers are to the Internal Revenue Code or the regulations thereunder.

First, ultimately, the rate would be arbitrary. The underpayment rate used for PFICs, section 1260, and foreign trusts is widely perceived as too high. The risk-free rate would be too low. It would be impossible to pick a correct rate for all taxpayers. Second, an interest rate regime is very different than a mark-to-market regime, so there would remain a meaningful disparity of treatment between publicly-traded and nontraded assets. Finally, even if the correct rate could be chosen, an interest charge encourages taxpayers to defer paying the tax until they can evade it, or until a future Congress repeals it. There is a strong benefit to imposing the tax sooner rather than later.

I had also considered a regime that would require taxpayers to value their nontraded assets, and pay tax currently on the value, annually or periodically (i.e., every ten years). However, I am inherently skeptical about any valuation for assets that do not trade. I also don't think that the IRS could administer such a regime, and I do not believe that Congress would grant the IRS the power to conduct extensive valuation audits of individuals.

This essay first summarizes the comprehensive tax. Because I have written extensively on the mark-to-market component for publicly-traded securities, this essay describes that aspect only summarily, and focuses instead on the deemed mark-to-market tax for nontraded assets.

Part II of the essay summarizes the comprehensive regime and its benefits. Part III discusses some of the significant features of the deemed mark-to-market component. Part IV explores the amount of revenue that a comprehensive mark-to-market tax could generate. Part V offers a brief conclusion.

II. Summary of the Comprehensive Mark-to-Market Tax.

Individuals would be subject to the comprehensive mark-to-market tax if they are among the 0.1% highest-earning (currently assumed to be \$2.5 million) or richest (currently \$20.6 million).

A. The Mark-to-Market Tax for Publicly-Traded Securities.

A mark-to-market tax would be imposed on the publicly-traded securities and derivatives with respect to publicly-traded securities of the 0.1% highest earning and wealthiest individuals. Only appreciation after the date of enactment would be subject to the mark-to-market tax, but death, gifts, and donations to tax-exempt organizations would be treated as realization events so that all appreciation would eventually be subject to income tax. All companies that are not publicly-traded would be treated as flow-throughs for tax purposes.

B. The Deemed Mark-to-Market Tax for Nontraded Assets.

Under the deemed market-to-market regime, taxpayers would not be subject to tax on their nonpublicly-traded assets until realization. However, upon the sale or other disposition (including a gift, death, or donation) of a nontraded asset, the deemed mark-to-market regime would impose a tax that would leave the taxpayer with the after-tax amount that would have resulted had the asset appreciated constantly at the pre-tax yield, the taxpayer had been taxed annually on a mark-to-market basis, and the taxpayer had sold enough of the asset to pay the tax.

Mechanically, at the time of realization, the taxpayer would determine the yield of her investment since acquisition, and would assume that the investment appreciated on a constant basis over her holding period based on that yield. The taxpayer would then determine the mark-to-market tax that would have been due on the deemed gain that arose in each year. Finally, with respect to each year, the taxpayer would determine the future value of the tax in the year of realization based on the after-tax yield of the asset, expressed as $[\text{pre-tax yield} \times (1 - \text{tax rate})]$. The tax due upon realization would be the sum of the future values of the tax liabilities for each year of the taxpayer's holding period.⁷

⁷ The amount of tax is also equal to the future value of the tax that a taxpayer would pay each year (discounted at the pre-tax yield of the asset), assuming her asset appreciated constantly, she was taxed

In a straight forward case, the taxpayer's tax can be expressed by the formula

$$T = P - a * (1 + r * [1 - g])^t.$$

Where P is the proceeds, a is the initial investment, r is the pre-tax internal rate of return, g is the tax rate, and t is the number of years the asset is held.⁸

A yield-based tax can be expensive for the taxpayer. For example, an investment purchased for \$5 million and sold ten years later for \$25 million has a yield of 17.5%. At a 23.8% tax rate, the tax under current law would be \$4.76 million (\$20 million gain times 23.8%). The deemed mark-to-market tax (at the after-tax yield of 13.3%) would be \$7.56 million.⁹ This is because the deemed mark-to-market tax in each year accrues at the after-tax yield of 13.3% until the investment is sold and the tax is paid.

To mitigate this aspect of the yield-based tax, taxpayers would be permitted to value their nonpublicly-traded assets in each year (i.e., mark-them-to-market), report the gain, and deposit tax in each year based on the valuation. The valuation and deposit would be entirely voluntary. There would be no limit on the valuation or the deposit and they would not be challengeable. The deposit would be deemed to accrue at whatever the after-tax yield (yield x [1 -

annually on a mark-to-market basis, and she sold enough of her asset each year to pay the tax. See column L in https://docs.google.com/spreadsheets/d/1_ddrsSt7ozi1cvKR0hh_fqIn_eQ-O7pZi32r0qyucOE/edit?usp=sharing.

⁸ I thank Eric Toder for this formula.

This formula is not appropriate if tax rates or the taxpayer's basis changes during her holding period (e.g., due to depreciation).

If the tax rate changed between the time an asset was purchased and the time it was sold, the taxpayer would use the rate in each year of her holding period.

⁹ See cell E47 in Example One in https://docs.google.com/spreadsheets/d/1_ddrsSt7ozi1cvKR0hh_fqIn_eQ-O7pZi32r0qyucOE/edit?usp=sharing

HYPERLINK "https://docs.google.com/spreadsheets/d/1_ddrsSt7ozi1cvKR0hh_fqIn_eQ-O7pZi32r0qyucOE/edit?usp=sharing"

tax rate]) turns out to be upon realization, and this accrual would be credited against the tax liability on the asset. However, the amount of tax that a taxpayer would pay upon realization must always be at least equal to the current-law realization-based tax (*i.e.*, gain times tax rate). In other words, if the actual amount of the deposit is less than the realization-based tax, the taxpayer would be required to pay the difference, even if the deemed accrual on the deposit exceeds the tax due. If the actual deposit exceeds the tax due, the taxpayer could receive a refund, but accruals on the deposit in excess of the tax due would not entitle the taxpayer to a refund.

Losses would remain on a realization basis. However, recognized losses would be deemed to accrue over the holding period of the asset, based on the yield of the asset and could be carried forward indefinitely. Losses could offset deemed mark-to-market gains. Thus, if a taxpayer buys two assets for \$5 million each at the same time, does not deposit any tax with respect to either of them and, ten years later, sells one for \$10 million and the other for nothing, the taxpayer would not owe any net tax.

Alternatively, for a taxpayer that is marking-to-market her nontraded assets and making deposits, and has an asset that she believes has appreciated by \$100 and would deposit \$23.80, but has a \$100 loss in the same year, the taxpayer may report the \$100 deemed mark-to-market gain, and offset it by the \$100 recognized loss. Even though the taxpayer had not made a deposit, she would be deemed to have deposited \$23.80 for purposes of the deemed mark-to-market regime.

Pre-enactment gains would remain on a realization basis; valuation for this purpose would be the value of the assets on the effective date, based on the yield of the asset, determined on realization.

Taxpayers whose income and asset levels are below the threshold in some years and above it in others would be subject to the deemed mark-to-market regime only in the years

during which their wealth or income exceeds the threshold. Deposits with respect to gain during years that a taxpayer is not subject to the deemed mark-to-market system would accrue interest at the overpayment rate (rather than at the after-tax yield on the investment).

The regime would apply only to gain. It would not affect the taxation of income and expense. Thus, it would be relatively easy to incorporate into our current tax system.

The regime is flexible enough to incorporate exemptions for certain assets and phase-ins for taxpayers who are close to the thresholds. However, for purposes of revenue projections, this essay assumes that there are no exemptions or thresholds.¹⁰

C. The Benefits of the Comprehensive Mark-to-Market Tax.

Americans across the ideological spectrum now see income inequality as a major problem.¹¹

There are many reasons why the wealth of the richest of the rich has increased disproportionately, but a major factor is the “realization requirement” of our tax system – the

¹⁰ This yield-based deemed mark-to-market tax differs in objective and approach from Alan Auerbach’s yield-based tax. See Auerbach, *supra* note 4. Very generally, his proposal would treat each asset as if it had appreciated at the risk-free rate and then would charge interest on the tax deferred at the risk-free rate. (His approach is not an income tax; basis doesn’t matter and his proposal would tax assets that sell at a loss.) His proposal also applies to distributions, so that distributions and gains are taxable consistently. His principal objective is to avoid the lock-in effect.

The objective of the comprehensive mark-to-market tax is somewhat different, and the difference between the Auerbach approach and the comprehensive mark-to-market tax reflect the different objectives. The principal objective of the mark-to-market component for publicly-traded assets is to tax economic income. The principal objective of the yield-based component for nontraded assets is a retrospective tax that achieves close parity with the mark-to-market tax on publicly-traded assets, but does not rely on valuations, is administrable, constitutional, and otherwise retains current law to the greatest extent possible.

¹¹ Noam Schieber & Dalia Sussman, *Inequality Troubles Americans Across Party Lines, Times/CBS Poll Finds*, N.Y. TIMES (June 3, 2015), <http://www.nytimes.com/2015/06/04/business/inequality-a-major-issue-for-americans-times-cbs-poll-finds.html> (“The poll found that a strong majority say that wealth should be more evenly divided and that it is a problem that should be addressed urgently.”); Richard Wike, *Inequality is at Top of the Agenda as Global Elites Gather in Davos*, PEW RESEARCH CENTER (Jan. 21, 2015), <http://www.pewresearch.org/fact-tank/2015/01/21/inequality-is-at-top-of-the-agenda-as-global-elites-gather-in-davos/> (“Americans across the ideological spectrum see it as a big problem, including majorities of Democrats (89%), independents (77%) and Republicans (60%) in the spring 2014 poll.”).

ability to avoid all income tax on appreciated assets by simply holding and never selling them.

The comprehensive mark-to-market tax is the only magic bullet for upper-tier inequality, and it would not redistribute. It would ensure that the wealthiest and highest-earning taxpayers pay at least some income tax on their unrealized economic income where today they pay none.

The comprehensive mark-to-market tax would represent the broadest base for an income tax, and therefore would raise a tremendous amount of revenue without raising rates (nearly \$1 trillion/10 years). It can generate even more revenue (\$1.66 trillion/10 years) if gains were taxable at current ordinary income rates.

The proposal is entirely agnostic on the use of the revenue generated by the proposal. I have previously suggested that both Democrats and Republicans could embrace a mark-to-market tax on the publicly-traded securities of the 0.1% richest and highest-earning taxpayers if the revenue was used to reduce the corporate income tax. The comprehensive tax would generate significantly more revenue, which could be used to reduce debt, increase social services, support infrastructure, reduce tax rates, or all of these.

The comprehensive mark-to-market tax would have no effect on any small business or middle income taxpayer, and it would affect only around 170,000 households.¹²

It would raise additional significant revenue for states without new legislation (the states would merely piggyback on the federal law).

In a downturn, the mark-to-market regime for publicly-traded securities, by generating significant refunds, could act as an automatic stimulus.

The comprehensive mark-to-market tax would achieve parity between wage

¹² Saez and Zucman estimated that in 2012 there were 160,700 families in the top 0.1%. Saez & Zucman, *supra* note 3, at Table 1. Because the regime applies to taxpayers who are among the 0.1% highest-earning but not necessarily the 0.1% wealthiest, the comprehensive tax would apply to more than 160,700 families.

earners, who now pay tax on all of their economic income, and entrepreneurs and investors, who can avoid all tax on their appreciated investments.¹³ For this reason, the comprehensive tax would be superior to a wealth tax, which would impose double tax (income tax and wealth tax) on entertainers and professional athletes, but only the wealth tax on entrepreneurs and investors (who would continue to avoid income tax on their appreciated investments).

And, finally, the comprehensive mark-to-market tax would clearly be constitutional; a wealth tax would be constitutionally suspect.

III. Discussion of the Deemed Mark-to-Market Tax.

A. The Basic Rule.

As mentioned above, no tax would be imposed with respect to a nontraded asset until its sale or other disposition (including a gift, death, or donation). At that time, the taxpayer would determine the yield of his investment, and would assume that the investment had appreciated on a constant basis over his holding period, based on that yield. The taxpayer would then determine the mark-to-market tax that would have been due on the deemed gain that arises in each year. Finally, the taxpayer would determine the future value of the tax based on the after-tax yield of the asset, expressed as $[\text{pre-tax yield} \times (1 - \text{tax rate})]$. The tax due upon realization would be the sum of the future values of the tax liabilities for each year of the taxpayer's holding period.

Example One. Assume that the regime is enacted in 2015 with an effective date of January 1, 2016, the tax rate is 23.8%, and a taxpayer purchases an asset for \$5 million on January 1, 2016 and sells it for \$25 million on December 31, 2025.¹⁴ The taxpayer's yield is

¹³ "Parity" in this case means that the same amount of economic income is subject to tax, at whichever rate is appropriate.

¹⁴ This example obviously simplifies the existing tax system. For instance, under the current system, in 2016, a taxpayer must earn \$466,950 in income in order for the taxpayer's capital gains to be taxed at the 20% rate. I.R.C. § 1(h)(1); Rev. Proc. 2015-53, 2015-44 I.R.B. 615. In addition, the 3.8% net investment

about 17.5%.

The asset would be deemed to appreciate according to the following schedule:¹⁵

Date	Deemed accrual
1/1/2016	\$5,000,000.00
12/31/2016	\$5,873,094.72
12/31/2017	\$6,898,648.31
12/31/2018	\$8,103,282.98
12/31/2019	\$9,518,269.69
12/31/2020	\$11,180,339.89
12/31/2021	\$13,132,639.02
12/31/2022	\$15,425,846.57
12/31/2023	\$18,119,491.59
12/31/2024	\$21,283,498.06
12/31/2025	\$25,000,000.00

For each year, the taxpayer would compute the tax that would be payable on a mark-to-market basis (column C),¹⁶ and then would determine the future value of that tax from the year the tax was deemed to accrue to the date of realization in each year at the after-tax yield (column D). The tax due would be the sum of the future values (\$7,561,959.39).

income tax applies only to income above \$200,000, for a single individual. I.R.C. § 1411. Factors such as these could alter the numbers in the examples, though not to a significant degree.

¹⁵ The examples are in https://docs.google.com/spreadsheets/d/1_ddrsSt7ozi1cvKR0hh_fqIn_eQ-O7pZi32r0qyucOE/edit?usp=sharing.

¹⁶ This computation is simply gain times tax rate. This is the amount of tax the taxpayer would pay each year if the asset appreciated on a constant basis and the tax liability was satisfied from their other funds, or else the taxpayer borrowed to pay the tax (i.e., it assumes that the taxpayer did not sell a portion of the asset to pay the tax).

Date	Deemed accrual	Deemed MTM tax	FV of deemed MTM tax
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72	\$207,796.54	\$639,607.03
12/31/2017	\$6,898,648.31	\$244,081.75	\$663,067.07
12/31/2018	\$8,103,282.98	\$286,703.05	\$687,387.60
12/31/2019	\$9,518,269.69	\$336,766.84	\$712,600.18
12/31/2020	\$11,180,339.89	\$395,572.71	\$738,737.52
12/31/2021	\$13,132,639.02	\$464,647.19	\$765,833.55
12/31/2022	\$15,425,846.57	\$545,783.40	\$793,923.44
12/31/2023	\$18,119,491.59	\$641,087.52	\$823,043.63
12/31/2024	\$21,283,498.06	\$753,033.54	\$853,231.91
12/31/2025	\$25,000,000.00	\$884,527.46	\$884,527.46
			\$7,561,959.39

The after tax amount of \$17.44 million (\$25 million - \$7.56 million) is exactly what the taxpayer would have retained if he had marked-the-asset to market each year (again, assuming constant appreciation at the 17.5% pre-tax yield), and had sold a portion of the asset each year to pay the tax.

Date	Deemed accrual	Tax deemed due on accrual	Remaining value of asset after sale equal to amount of tax
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72	\$207,796.54	\$5,665,298.17
12/31/2017	\$6,898,648.31	\$235,445.87	\$6,419,120.68
12/31/2018	\$8,103,282.98	\$266,774.22	\$7,273,246.53
12/31/2019	\$9,518,269.69	\$302,271.10	\$8,241,022.06
12/31/2020	\$11,180,339.89	\$342,491.18	\$9,337,569.44
12/31/2021	\$13,132,639.02	\$388,062.93	\$10,580,023.02
12/31/2022	\$15,425,846.57	\$439,698.44	\$11,987,797.02
12/31/2023	\$18,119,491.59	\$498,204.55	\$13,582,888.91
12/31/2024	\$21,283,498.06	\$564,495.47	\$15,390,223.14
12/31/2025	\$25,000,000.00	\$639,607.03	\$17,438,040.61

Since the proceeds from the sale were \$25 million, and the after-tax deemed asset has a value of \$17.44 million, the taxpayer would owe tax of \$7,561,959.39. (Under current law, the tax would be \$4.76 million.) The tax is more than one and a half times the tax payable under current law because the tax deemed payable accrues at the yield of the

investment, which in this case is quite high.

B. Tax Deposits.

To avoid the high tax rate, the taxpayer would be permitted to value the asset in each year (i.e., mark-it-to-market) and deposit tax in each year based on the valuation. (In fact, the taxpayer could deposit tax based on any valuation.) The deposit would accrue at whatever the after-tax yield (yield x [1 - tax rate]) on the asset turns out to be, and this accrual would be credited against the tax liability on the asset. However, the *actual* tax paid must equal at least the realization-based tax (at least \$4.76 million in the example above). If the actual deposit exceeds the total tax due, the taxpayer could receive a refund, but otherwise, overpayments would not result in refunds and could not be used to offset other gain or income. Accordingly, in Example One, the taxpayer would not have an incentive to make deposits exceeding \$4.76 million.

Example Two. The facts are the same as in the Example One, except that the taxpayer values the asset in each year to reflect a 17.5% annual yield, and deposits tax based on the appreciation each year.

Date	Valuation	Deposit (equal to tax on appreciation)	Future value of deposit (based on after-tax yield)
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72	\$207,796.54	\$639,607.03
12/31/2017	\$6,898,648.31	\$244,081.75	\$663,067.07
12/31/2018	\$8,103,282.98	\$286,703.05	\$687,387.60
12/31/2019	\$9,518,269.69	\$336,766.84	\$712,600.18
12/31/2020	\$11,180,339.89	\$395,572.71	\$738,737.52
12/31/2021	\$13,132,639.02	\$464,647.19	\$765,833.55
12/31/2022	\$15,425,846.57	\$545,783.40	\$793,923.44
12/31/2023	\$18,119,491.59	\$641,087.52	\$823,043.63
12/31/2024	\$21,283,498.06	\$753,033.54	\$853,231.91
12/31/2025	\$25,000,000.00	\$884,527.46	\$884,527.46
		\$4,760,000.00	\$7,561,959.39

The taxpayer would have deposited \$4.76 million (exactly equal to the realization-based tax), but would receive a \$7.56 million credit against her \$7.56 million tax liability, and therefore would owe no additional tax upon sale.

Example Three. The facts are the same as in Example Two, except that the taxpayer doesn't believe that the asset appreciates until 2020, values it at \$11.2 million in that year, and deposits \$1.47 million of tax based on that valuation and based on a 17.5% yield thereafter.

Date	Deemed accrual	Tax deposited	Future value of tax deposited
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72		
12/31/2017	\$6,898,648.31		
12/31/2018	\$8,103,282.98		
12/31/2019	\$9,518,269.69		
12/31/2020	\$11,180,339.89	\$1,470,920.89	\$2,746,965.20
12/31/2021	\$13,132,639.02	\$464,647.19	\$765,833.55
12/31/2022	\$15,425,846.57	\$545,783.40	\$793,923.44
12/31/2023	\$18,119,491.59	\$641,087.52	\$823,043.63
12/31/2024	\$21,283,498.06	\$753,033.54	\$853,231.91
12/31/2025	\$25,000,000.00	\$884,527.46	\$884,527.46
		\$4,760,000.00	\$6,867,525.18

The taxpayer deposits exactly the same amount of tax as in Example Two (\$4.76 million), except that he gets only \$6.87 million of credit and therefore has an additional tax liability in the year of sale of \$694,434.21 (\$7.56 million - \$6.87 million).

But the taxpayer would not be limited to the deposit of \$1.47 million in 2020. If he instead deposited \$1.8 million in 2020, then he wouldn't owe any additional tax in 2025. The additional \$371,849.55 would accrue to \$694,434.21 at the 13.3% after-tax yield. (The total amount deposited – \$5.13 million – exceeds the realization-based tax of \$4.76 million.)

Date	Deemed accrual	Deposit of \$1.84 million initially	Future value
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72		
12/31/2017	\$6,898,648.31		
12/31/2018	\$8,103,282.98		
12/31/2019	\$9,518,269.69		
12/31/2020	\$11,180,339.89	\$1,842,770.45	\$3,441,399.40
12/31/2021	\$13,132,639.02	\$464,647.19	\$765,833.55
12/31/2022	\$15,425,846.57	\$545,783.40	\$793,923.44
12/31/2023	\$18,119,491.59	\$641,087.52	\$823,043.63
12/31/2024	\$21,283,498.06	\$753,033.54	\$853,231.91
12/31/2025	\$25,000,000.00	\$884,527.46	\$884,527.46
		\$5,131,849.55	\$7,561,959.39

Although deposits accrue at the after-tax yield, if the future value of the taxpayer's deposits exceed the tax due upon sale or other recognition event, he wouldn't get a refund in excess of the actual tax paid. Effectively, he would have made an interest-free loan to the government.

Example Four. Assume the same facts in Example One, except that the taxpayer doubles her deposit in each year.

Date	Deemed accrual	Deposit	Future value of the deposit
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72	\$415,593.08	\$1,279,214.06
12/31/2017	\$6,898,648.31	\$488,163.51	\$1,326,134.14
12/31/2018	\$8,103,282.98	\$573,406.11	\$1,374,775.20
12/31/2019	\$9,518,269.69	\$673,533.67	\$1,425,200.35
12/31/2020	\$11,180,339.89	\$791,145.41	\$1,477,475.04
12/31/2021	\$13,132,639.02	\$929,294.39	\$1,531,667.11
12/31/2022	\$15,425,846.57	\$1,091,566.79	\$1,587,846.88
12/31/2023	\$18,119,491.59	\$1,282,175.03	\$1,646,087.25
12/31/2024	\$21,283,498.06	\$1,506,067.08	\$1,706,463.82
12/31/2025	\$25,000,000.00	\$1,769,054.92	\$1,769,054.92
		\$9,520,000.00	\$15,123,918.78

In this case, the taxpayer would owe no tax because the accrued amount (\$15.1 million) exceeds the future value of tax paid based on constant appreciation (\$7.56 million).

However, she would be entitled to a refund only of \$4.76 million (the difference between the deposit each year and the tax on the deemed accrual in that year). She would received no yield on the excess \$4.76 million she deposited.

C. The Realization-Based Tax.

Example Five. On the other hand, because a taxpayer is not limited as to the amount of her deposit, and the deposit accrues at the after-tax yield to the amount of the tax liability, under the facts of Example Three a prescient taxpayer would, absent the realization tax described below, deposit \$2.46 million in 2016. At the after-tax yield of 13.3%, the deposit would accrue to \$7.56 million in year 2025.

Date	Deemed appreciation	Deposit	Future value of deposit
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72	\$2,456,741.31	\$7,561,959.39
12/31/2017	\$6,898,648.31		
12/31/2018	\$8,103,282.98		
12/31/2019	\$9,518,269.69		
12/31/2020	\$11,180,339.89		
12/31/2021	\$13,132,639.02		
12/31/2022	\$15,425,846.57		
12/31/2023	\$18,119,491.59		
12/31/2024	\$21,283,498.06		
12/31/2025	\$25,000,000.00		
		\$2,456,741.31	\$7,561,959.39

This deposit would be \$2.3 million less than the \$4.76 million that would be owed under current law’s realization rule. Effectively, the taxpayer would be buying a long forward contract from the government with respect to the asset. This is too generous. For this reason, the regime requires that the taxpayer pay a minimum amount of tax equal to the tax that would be payable under current law’s realization system. In the examples thus far, this amount is \$4.76 million.

So if the taxpayer did indeed deposit \$2.46 million at the beginning of 2016, she

would be required to pay an additional \$2.3 million upon a sale or other recognition event.

Thus, generous early deposits minimize the tax payable, but not below the realization-based tax.¹⁷

A deposit of \$2.46 million is also what a taxpayer would pay in 2016 if he believed that the asset had appreciated to \$14.68 million. What if the taxpayer believes in 2017 that the asset had depreciated down to \$6.42 million the following year (reflecting an aggregate 17.5% yield)? The taxpayer could either leave the deposit in place, or withdraw it in whole or in part. However, if the taxpayer withdrew all or a portion of the deposit, he wouldn't get any credit for the withdrawn portion.

As mentioned above, if a taxpayer overpays, he would receive no yield on the overpayment. Thus, if a taxpayer who buys a \$5 million asset believes it has appreciated and deposits tax, but the asset in fact fails to appreciate, and is still worth \$5 million upon a sale in 2025, then the taxpayer would receive a refund only of his deposit.

D. The Regime's Inherent Distrust of Valuations.

Example Six. Assume the same facts as Example One, except that the investment is in a drug company. The company has no drug discoveries until 2023 (and therefore the value is stable or depreciates), but in 2023 the company discovers the cure for a major disease and the investment appreciates to \$25 million, where the value remains until sale.

¹⁷ Even this might be too generous. If the quantity of the asset yielding 17.5% is limited and there are no other assets that yield 13.5%, a taxpayer would have an incentive to deposit \$2,456,741.31 in 2016, even though this amount exceeds the deemed gain and even if it were to exceed the tax on actual gain. Accordingly, Congress could choose to limit the amount of the deposit that accrues at the after-tax yield in each year to the greater of (x) the tax on the deemed yield and (y) the tax on the deemed gain, based on a valuation.

The taxpayer perfectly values the investment, and deposits tax of \$4.76 million (\$20 million gain times 23.8%) in 2023. This accrues to \$6.11 million in 2025.

Date	Valuation	Taxes deposited	Credit for taxes paid
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,000,000.00		
12/31/2017	\$5,000,000.00		
12/31/2018	\$5,000,000.00		
12/31/2019	\$5,000,000.00		
12/31/2020	\$5,000,000.00		
12/31/2021	\$5,000,000.00		
12/31/2022	\$5,000,000.00		
12/31/2023	\$25,000,000.00	\$4,760,000.00	\$6,111,002.89
12/31/2024	\$25,000,000.00		
12/31/2025	\$25,000,000.00		

Even though the taxpayer perfectly valued her investment and deposited tax in accordance with that valuation, she would still owe \$1,450,956.51 in 2025 (the difference between the \$7.56 million that is due based on a deemed constant appreciation) and \$6.11 million (the future value of the taxpayer's deposit). This is because the deemed mark-to-market system has an inherent distrust of valuations, and deems all assets to appreciate at a constant rate. However, if the taxpayer made a tax deposit of \$5.89 million in 2023, she would not owe any tax in 2025. (\$5.89 million grows to \$7.56 million at a 13.3% rate and is greater than the realization-based tax of \$4.76 million).

E. Losses.

Another consequence of the regime's inherent distrust of valuations is its denial of mark-to-market losses (and credit for mark-to-market losses). Instead, losses remain on a

realization system under the regime.¹⁸ However, recognized losses are deemed to accrue based on the yield of the asset, and can offset deemed mark-to-market gains in the years the losses accrued, and can be carried forward indefinitely. In addition, recognized losses can be used to make a deemed deposit. Thus, a taxpayer who thinks that an asset has appreciated by \$100 and would deposit \$23.80, but has a \$100 recognized loss in the same year, the taxpayer may report the \$100 deemed mark-to-market gain, offset it by the \$100 recognized loss, and would be treated as if she had made a deposit of \$23.80 (based on current capital gains rate).

Example Seven. Assume that a taxpayer purchases two assets on January 1, 2016: Asset one is purchased for \$5 million and asset two is purchased for \$25 million. On December 31, 2025, asset one is sold for \$25 million (\$20 million gain) and asset two is sold for \$10 million (\$15 million loss). Asset one has a yield of 17.5%; asset two has a yield of -8.8%.

Date	Accrual asset 1	Deemed gain asset one	Accrual asset 2	Deemed loss-Asset 2	Net gain/loss	Tax	after-tax FV
12/31/2015	\$5,000,000.00		\$25,000,000				
12/31/2016	\$5,873,094.72	\$873,094.72	\$22,811,088	(\$2,188,912)	(\$1,315,816.87)		
12/31/2017	\$6,898,648.31	\$1,025,553.59	\$20,813,830	(\$1,997,258)	(\$2,287,521.51)		
12/31/2018	\$8,103,282.98	\$1,204,634.68	\$18,991,445	(\$1,822,385)	(\$2,905,272.19)		
12/31/2019	\$9,518,269.69	\$1,414,986.71	\$17,328,621	(\$1,662,824)	(\$3,153,109.23)		
12/31/2020	\$11,180,339.89	\$1,662,070.19	\$15,811,388	(\$1,517,233)	(\$3,008,271.81)		
12/31/2021	\$13,132,639.02	\$1,952,299.13	\$14,426,999	(\$1,384,389)	(\$2,440,361.92)		
12/31/2022	\$15,425,846.57	\$2,293,207.55	\$13,163,822	(\$1,263,177)	(\$1,410,331.39)		
12/31/2023	\$18,119,491.59	\$2,693,645.02	\$12,011,244	(\$1,152,578)	\$130,735.93	\$31,115.15	\$39,946.38
12/31/2024	\$21,283,498.06	\$3,164,006.47	\$10,959,582	(\$1,051,662)	\$2,112,344.40	\$502,737.97	\$569,632.10
12/31/2025	\$25,000,000.00	\$3,716,501.94	\$10,000,000	(\$959,582)	\$2,756,919.67	\$656,146.88	\$656,146.88
		\$20,000,000.00		\$15,000,000	\$5,000,000.00	\$1,190,000.00	\$1,265,725.36

The gain on asset one would be deemed to accrue based on its yield (column B) and the loss on asset two would be deemed to accrue based on its yield (column E). The gains on asset one (column C) would be netted against the losses on asset 2, and excess losses would be carried forward (column F). Under this method, there would be net gains in 2023, 2024 and 2025. The tax (at a 23.8% rate) would be applied to that gain (column G). The

¹⁸ In this respect, the regime is much more generous to taxpayers than a true yield-based tax. Under a true yield-based tax, the value of the loss would be decreased by the after-tax yield. Under the deemed mark-to-market tax, losses retain their full value.

deemed tax would accrue at the after-tax yield of 13.3% (column H). The tax due in 2025 would be \$1.27 million. (The tax under current law would be \$1.19 million).

F. Transition.

Example Eight. Assume that a taxpayer buys an asset on December 31, 2005 for \$1 million, the regime is enacted effective as of January 1, 2016, and the taxpayer sells the asset for \$25 million on December 31, 2025. The asset has a 17.5% yield, and therefore had a deemed value on the effective date of \$5 million. Accordingly, on disposition, \$4 million of gain is subject to realization, and the remaining \$20 million of gain is subject to the deemed mark-to-market regime. The taxpayer owes \$952,000.00 of realization tax (\$4 million * 23.8%), and \$7.56 million of deemed mark-to-market tax.

Date	Deemed accrual	Deemed tax	FV tax
12/31/2006	\$1,174,618.94		
12/31/2015	\$5,000,000.00		
12/31/2016	\$5,873,094.72	\$207,796.54	\$639,607.03
12/31/2017	\$6,898,648.31	\$244,081.75	\$663,067.07
12/31/2018	\$8,103,282.98	\$286,703.05	\$687,387.60
12/31/2019	\$9,518,269.69	\$336,766.84	\$712,600.18
12/31/2020	\$11,180,339.89	\$395,572.71	\$738,737.52
12/31/2021	\$13,132,639.02	\$464,647.19	\$765,833.55
12/31/2022	\$15,425,846.57	\$545,783.40	\$793,923.44
12/31/2023	\$18,119,491.59	\$641,087.52	\$823,043.63
12/31/2024	\$21,283,498.06	\$753,033.54	\$853,231.91
12/31/2025	\$25,000,000.00	\$884,527.46	\$884,527.46
		\$4,760,000.00	\$7,561,959.39
	Tax under deemed mark-to-market		
	Pre-enactment realization tax	\$952,000.00	
	Mark-to-market tax	\$7,561,959.39	
	Total tax	\$8,513,959.39	

G. Accelerated Appreciation and Other Tax Expenditures.

The regime effectively negates the benefit of accelerated depreciation (and many other tax expenditures, such as like-kind exchanges and tax-free reorganizations) for the top 0.1% taxpayers who are subject to the comprehensive tax because any timing benefit from accelerated deduction (or other tax expenditure) would be offset by the yield-based tax on the deposit. If it is desirable to retain the benefits of accelerated depreciation for certain assets, these assets (or the gain attributable to the accelerated appreciation) could remain on a realization basis (or a credit, rather than a deduction, could be provided to taxpayers).

H. In and Out of the Regime.

The regime applies only to the 0.1% wealthiest and highest-earning taxpayers. This gives rise to two rules. First, to determine whether a taxpayer is in or out of the regime, the taxpayer's income is deemed to include the deemed gain in the asset's value, and the taxpayer's assets are deemed to include the deemed value of the asset. A very small group of taxpayers may not know whether they are in or out for decades after the fact.

Second, for a taxpayer who is in the top 0.1% for some years but not for others, the asset would be deemed to appreciate based on its yield, but the deemed mark-to-market tax would apply only for those years for which the taxpayer is in the regime. Deposits made in mark-to-market years would accrue at the asset's after-tax yield. Deposits made during realization years (by taxpayers who don't know that they will be under the realization regime for those years) would accrue at the overpayment rate.

Example Nine. Assume the same facts as Example Three, except that the taxpayer is subject to mark-to-market in 2016, 2017, 2018, 2023, 2024 and 2025, but not in 2019, 2020, 2021 and 2022.

The taxpayer assumes that he is on mark-to-market in each year. The overpayment rate is 5%.

Year	In or Out	MTM Gain	MTM Tax	FV or MTM Tax	Realization Gain	Deposit	Value of Realization Deposit	Value of MTM Deposit
12/31/2016	In	\$873,094.72	\$207,796.54	\$639,607.03		\$207,796.54	\$360,619.92	\$639,607.03
12/31/2017	Out				\$1,025,553.59	\$244,081.75		
12/31/2018	In	\$1,204,634.68	\$286,703.05	\$687,387.60		\$286,703.05		\$687,387.60
12/31/2019	In	\$1,414,986.71	\$336,766.84	\$712,600.18		\$336,766.84	\$504,862.15	\$712,600.18
12/31/2020	Out				\$1,662,070.19	\$395,572.71	\$564,781.57	
12/31/2021	Out				\$1,952,299.13	\$464,647.19	\$663,403.13	
12/31/2022	Out				\$2,293,207.55	\$545,783.40		
12/31/2023	In	\$2,693,645.02	\$641,087.52	\$823,043.63		\$641,087.52		\$823,043.63
12/31/2024	In	\$3,164,006.47	\$753,033.54	\$853,231.91		\$753,033.54		\$853,231.91
12/31/2025	In	\$3,716,501.94	\$884,527.46	\$884,527.46		\$884,527.46	\$2,093,666.77	\$884,527.46
		\$13,066,869.53	\$3,109,914.95	\$4,600,397.80	\$6,933,130.47	\$4,760,000.00		\$4,600,397.80

In this example, upon a sale, the taxpayer would have a realization tax of \$1.65 million (gain of \$6.93 million times 23.8%) and a mark-to-market tax of \$4.76 million. However, because the taxpayer made deposits in each mark-to-market year equal to the deemed appreciation, she would not owe any additional mark-to-market tax. During the years that the taxpayer was on a realization basis, her deposits earned interest at the overpayment rate. At maturity, the value of the deposits would be \$2.09 million, but the tax on the realization gains in 2025 would only be \$1,650,085.05. The difference of \$443,581.72 would be refundable.

Example Ten. The facts are the same as Example Nine except that the taxpayer does not make any deposits.

Date	In or Out	MTM Gain	MTM Tax	FV of MTM Tax	Realization Gain
12/31/2016	In	\$873,094.72	\$207,796.54	\$639,607.03	
12/31/2017	Out				\$1,025,553.59
12/31/2018	In	\$1,204,634.68	\$286,703.05	\$687,387.60	
12/31/2019	In	\$1,414,986.71	\$336,766.84	\$712,600.18	
12/31/2020	Out				\$1,662,070.19
12/31/2021	Out				\$1,952,299.13
12/31/2022	Out				\$2,293,207.55
12/31/2023	In	\$2,693,645.02	\$641,087.52	\$823,043.63	
12/31/2024	In	\$3,164,006.47	\$753,033.54	\$853,231.91	
12/31/2025	In	\$3,716,501.94	\$884,527.46	\$884,527.46	
		\$13,066,869.53	\$3,109,914.95	\$4,600,397.80	\$6,933,130.47
		Realization gain	\$6,933,130.47	Realization tax	\$1,650,085.05
		MTM gain	\$13,066,869.53	MTM tax	\$4,600,397.80
		Total gain	\$20,000,000.00	Total tax	\$6,250,482.85

In this case, the deemed mark-to-market tax will accrue at the after-tax yield to \$4.6 million. The realization tax will be \$1.65 million (\$6.93 gain times 23.8%). The tax due is \$6.25 million, which is the sum of the mark-to-market tax and the realization tax.

I. Public Trading.

If a nontraded asset becomes publicly-traded (e.g., the IPO of a private company), the yield of the asset would be based on the initial public trading price, and the deemed mark-to-market tax on any gain would be fixed on that date. The tax may be paid immediately, but could be deferred until a realization event. However, the deemed mark-to-market tax would accrue at the underpayment rate between the public-trading date and the date the tax is paid. Tax on pre-enactment gain would remain on a realization basis. Post-enactment loss would become fixed as of the public trading date; it would remain on a realization basis, but could be carried back over the asset's holding period. Pre-enactment loss would remain on a realization basis subject to current law rules.

J. Exemptions and Phase Ins.

In its basic form, the deemed mark-to-market regime applies to all nontraded assets. However, Congress may wish to exempt certain assets for administrative or other reasons. For example, it would be administratively burdensome for taxpayers to have to make deposits with respect to jewelry and watches (within certain limits). The regime could easily exempt personal consumer items (such as jewelry, clothing, and furniture) that are purchased for less than \$100,000, adjusted annually for inflation.¹⁹ (It generally makes more sense to exempt items based on their purchase price rather than their sales price because a taxpayer who is unsure whether an item will be subject to the regime might very well wish to make tax

¹⁹ No exemption would be available for collectibles or automobiles.

deposits with respect to the asset.)

In addition, in its basic form, the regime would apply to any taxpayer with annual income in excess of \$2.5 million, or assets in excess of \$20.6 million. These thresholds create a cliff for taxpayers. The regime is flexible enough to permit Congress to exempt certain gain from the deemed tax. Thus, taxpayers whose income is between \$2.5 million and \$3 million, or whose wealth is between \$20.6 million and \$25 million could exclude from the regime a portion of the gain allocated to any year, or a portion of the overall gain recognized in any year.

For example, it would be possible to provide that taxpayers are subject to the mark-to-market tax on publicly-traded securities and the deemed-paid tax *only to the extent* that their adjusted gross income would exceed \$2.5 million, or only to the extent their assets would exceed \$20.6 million, taking into account the gain from the mark-to-market tax and the deemed-paid tax in each year.²⁰

Example Eleven. The facts are the same as Example Nine, except that the taxpayer has no assets other than the nontraded asset and no income other than gain from the sale of the nontraded asset in 2025. The first step would be to determine the annual deemed value based on the 17.5% yield (column B). Then the appreciation each year would be determined (column C). Column D represents the excess of the deemed gain over the \$2.5 million threshold. Because in 2016-2023, the taxpayer's total assets are less than \$20.6 million, and the taxpayer's total income and gain (including deemed mark-to-market gain) is less than \$2.5 million, the taxpayer would not be subject to the deemed mark-to-market tax in those years. In years 2023-2025, the taxpayer would be subject to the deemed mark-to-market tax.

²⁰ I don't advocate the exemption described in this paragraph and the following example. I include it to demonstrate the flexibility of the regime.

First, the income threshold would be applied, and the taxpayer would be tentatively subject to the deemed mark-to-market tax only to the extent of the excess of deemed gain over \$2.5 million (column D). The balance (column G) would tentatively be subject to realization gain.

Date	Deemed Value	Deemed MTM gain	Excess of gain over \$2.5 m	In or out	MTM gain	Realization gain
12/31/2016	\$5,873,094.72	\$873,094.72	\$0.00	Out		\$873,094.72
12/31/2017	\$6,898,648.31	\$1,025,553.59	\$0.00	Out		\$1,025,553.59
12/31/2018	\$8,103,282.98	\$1,204,634.68	\$0.00	Out		\$1,204,634.68
12/31/2019	\$9,518,269.69	\$1,414,986.71	\$0.00	Out		\$1,414,986.71
12/31/2020	\$11,180,339.89	\$1,662,070.19	\$0.00	Out		\$1,662,070.19
12/31/2021	\$13,132,639.02	\$1,952,299.13	\$0.00	Out		\$1,952,299.13
12/31/2022	\$15,425,846.57	\$2,293,207.55	\$0.00	Out		\$2,293,207.55
12/31/2023	\$18,119,491.59	\$2,693,645.02	\$193,645.02	Partially In	\$193,645.02	\$2,500,000.00
12/31/2024	\$21,283,498.06	\$3,164,006.47	\$664,006.47	Partially In	\$664,006.47	\$2,500,000.00
12/31/2025	\$25,000,000.00	\$3,716,501.94	\$1,216,501.94	Partially In	\$1,216,501.94	\$2,500,000.00

Then the asset threshold would be applied. The taxpayer's assets in 2024 would be deemed to be \$21.29 million. This exceeds \$20.6 million by \$683,498.06 so only \$683,498.06 of the deemed gain would be subject to mark-to-market. Because \$683,498.06 exceeds the \$664,006.47 deemed mark-to-market gain under the income test, \$683,498.06 would be subject to deemed mark-to-market tax in 2024. Finally, in 2025, because the taxpayer's deemed assets of \$25 million exceed \$20.6 million by more than the \$3.72 million of deemed gain in 2024, all of the \$3.72 million of deemed gain in 2014 would be subject to deemed mark-to-market tax.

Date	MTM accrual	MTM gain	Income test	Asset Test	Greater	In or Out
12/31/2015	\$5,000,000.00					
12/31/2016	\$5,873,094.72	\$873,094.72	\$0.00			Out
12/31/2017	\$6,898,648.31	\$1,025,553.59	\$0.00			Out
12/31/2018	\$8,103,282.98	\$1,204,634.68	\$0.00			Out
12/31/2019	\$9,518,269.69	\$1,414,986.71	\$0.00			Out
12/31/2020	\$11,180,339.89	\$1,662,070.19	\$0.00			Out
12/31/2021	\$13,132,639.02	\$1,952,299.13	\$0.00			Out
12/31/2022	\$15,425,846.57	\$2,293,207.55	\$0.00			Out
12/31/2023	\$18,119,491.59	\$2,693,645.02	\$193,645.02		\$193,645.02	Partially In
12/31/2024	\$21,283,498.06	\$3,164,006.47	\$664,006.47	\$683,498.06	\$683,498.06	Partially in
12/31/2025	\$25,000,000.00	\$3,716,501.94	\$1,216,501.94	\$3,716,501.94	\$3,716,501.94	In

The MTM gain (column B) would be subject to the mark-to-market tax (column C). The future value of that tax is in column D. Each year's deposits would be deemed allocable first to the mark-to-market tax. So, in 2023, \$46,087.52 of the deposit would be attributable to the mark-to-market tax and the balance would be attributable to the realization tax. The deposit attributable to the mark-to-market tax would accrue at the after-tax yield (column H), and the portion attributable to the realization portion would accrue at the overpayment rate (column G).

Because the taxpayer deposited an amount of tax equal to the deemed gain each year, the taxpayer would not owe any mark-to-market tax. Because the future value of the portion of the deposit attributable to the realization gain exceeds the realization gain, the taxpayer would receive a refund of the excess.

Date	MTM gain	MTM tax	FV	Realization gain	Deposit	FV Real. deposit	FV MTM deposit
12/31/2016				\$873,094.72	\$639,607.03	\$992,240.43	
12/31/2017				\$1,025,553.59	\$663,067.07	\$979,652.06	
12/31/2018				\$1,204,634.68	\$687,387.60	\$967,223.38	
12/31/2019				\$1,414,986.71	\$712,600.18	\$954,952.39	
12/31/2020				\$1,662,070.19	\$738,737.52	\$942,837.08	
12/31/2021				\$1,952,299.13	\$765,833.55	\$930,875.47	
12/31/2022				\$2,293,207.55	\$793,923.44	\$965,018.90	
12/31/2023	\$193,645.02	\$46,087.52	\$59,168.27	\$2,500,000.00	\$823,043.63	\$856,594.11	\$59,168.27
12/31/2024	\$683,498.06	\$162,672.54	\$184,317.69	\$2,480,508.41	\$853,231.91	\$725,087.34	\$184,317.69
12/31/2025	\$3,716,501.94	\$884,527.46	\$884,527.46	\$0.00	\$884,527.46	\$0.00	\$884,527.46
	\$4,593,645.02	\$1,093,287.52	\$1,128,013.41	\$15,406,354.98	\$7,561,959.39	\$8,314,481.16	\$1,128,013.41
Realization gain	\$15,406,354.98		Realization tax	\$3,666,712.48	Value of credits	\$9,442,494.58	
MTM gain	\$4,593,645.02		MTM tax	\$1,128,013.41	Total tax due	\$4,794,725.90	
Total gain	\$20,000,000.00		Total tax	\$4,794,725.90	Refund	\$4,647,768.68	

K. Valuations.

As discussed above, under the regime, taxpayers have a tremendous incentive to value their appreciated assets accurately (or generously) and deposit tax based on that valuation in order to avoid the potentially very expensive yield-based tax. Also, under the deemed mark-to-market tax, the accuracy of interim valuations isn't so important; what is more important is the ultimate yield of those deposits. Nevertheless, tax is minimized by early deposits and high valuations. Congress may desire greater discipline with respect to valuations. It could, for instance, require periodic valuations (i.e., every ten years) and require that taxpayers' deposits reflect the valuation (or use the valuation as a floor). This requirement might make revenue estimates easier because the deposits will reflect taxpayers' best guess on mark-to-market valuation within the ten-year period used for revenue estimates. Alternatively, Congress could require the valuation that is used for deposits to be within a band of the valuation used for other purposes (i.e., loans or partial sales).

IV. Revenue.

Estimating the revenue that would be generated from the comprehensive tax is inherently speculative. Under the regime, publicly-traded securities would be marked to market. It is likely that the tax deposited with respect to nontraded assets would be close to their market value because of the incentives of the regime. As mentioned above, to help ensure that taxpayers report gains equal to the post-enactment appreciation, a valuation could be required every ten years after enactment, and taxpayers could be required to deposit tax based on the valuation. For purposes of revenue estimating, I assume that the regime succeeds in taxing all of the post-enactment gains of the top 0.1% wealthiest taxpayers during the first ten years of enactment.²¹

Emmanuel Saez and Gabriel Zucman have computed total American wealth (column A) and the share of that wealth held by the 0.1% wealthiest (column B).²² This allows the wealth of the top 0.1% to be calculated (column C). The figures for the 11 year period ending in 2012 are:²³

²¹ There are reasons why the amount deposited could be greater or less. On the one hand, as described above, for an appreciated asset, the greater the amount deposited, the less tax ultimately paid (capped by the tax rate times the gain). On the other hand, because the valuations are voluntary, human nature may lead taxpayers to minimize the tax deposited.

²² The figures on total householder wealth come from an Excel file (Column C of Table A0 in the file "AppendixTables(Aggregates)) in a zip file accompanying Emmanuel Saez & Gabriel Zucman, *Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Data*, Q. J. ECON. (forthcoming), available at <http://eml.berkeley.edu/~saez/SaezZucman2016QJE.pdf>. The figures are in current dollars.

The Saez and Zucman estimate on total household wealth appears conservative. See Neil Shah, *Americans' Net Worth Reaches High of \$84.9 Trillion*, WALL ST. J. (June 11, 2015 2:14 PM), <http://www.wsj.com/articles/americans-net-worth-hits-high-of-84-9-trillion-1434038401>.

²³ An Excel spread sheet containing the data and calculations described in this Part IV is available at <https://drive.google.com/file/d/0B5W6WEzikXWvNkVJak9rMnpubmc/view?usp=sharing>.

Year	Total wealth	0.1%'s share	0.1%'s wealth	Year
2002	\$36,826,012,071,165	14.5%	\$5,357,079,731,206	2002
2003	\$38,956,673,303,267	14.7%	\$5,715,723,382,166	2003
2004	\$44,815,391,708,582	15.6%	\$7,000,612,575,573	2004
2005	\$50,663,328,340,963	16.3%	\$8,256,602,947,311	2005
2006	\$55,501,434,706,353	16.8%	\$9,306,480,310,615	2006
2007	\$57,483,351,987,048	17.7%	\$10,157,882,823,459	2007
2008	\$51,399,836,024,666	19.0%	\$9,753,118,928,572	2008
2009	\$46,670,308,845,835	18.9%	\$8,806,220,890,349	2009
2010	\$49,742,937,969,516	20.7%	\$10,300,767,923,002	2010
2011	\$51,936,260,212,716	20.3%	\$10,561,238,131,634	2011
2012	\$55,162,978,065,739	22.0%	\$12,140,268,386,050	2012

Using these numbers, the annual appreciation of the wealth of the top 0.1% over the ten year period ending in 2012 was:²⁴

Year	0.1%'s wealth	Growth in 0.1%'s wealth
2002	\$5,357,079,731,206	
2003	\$5,715,723,382,166	\$358,643,650,960
2004	\$7,000,612,575,573	\$1,284,889,193,408
2005	\$8,256,602,947,311	\$1,255,990,371,738
2006	\$9,306,480,310,615	\$1,049,877,363,303
2007	\$10,157,882,823,459	\$851,402,512,844
2008	\$9,753,118,928,572	\$ (404,763,894,887)
2009	\$8,806,220,890,349	\$ (946,898,038,223)
2010	\$10,300,767,923,002	\$1,494,547,032,653
2011	\$10,561,238,131,634	\$260,470,208,632
2012	\$12,140,268,386,050	\$1,579,030,254,415

However, the realized gains of the top 0.1% have to be subtracted from these amounts to determine the incremental gains that will be subject to tax under the comprehensive tax. The Treasury Department has published the total realized capital gains reported by all

²⁴ Using annual appreciation numbers for the ten year period ending in 2012 to estimate the appreciation over a hypothetical future ten year period is inherently speculative. If one believes that the share of wealth held by the top 0.1% will continue to rise (despite the tax), then the growth in the wealth of the top 0.1% would be expected to rise by a greater amount over future ten year periods. On the other hand, if the tax has the effect of discouraging investment, the growth rate might decline.

taxpayers during the ten year period ending in 2012.²⁵

Year	Total capital gains and qualified dividend income
2003	\$323,306,000,000.00
2004	\$499,154,000,000.00
2005	\$690,152,000,000.00
2006	\$798,214,000,000.00
2007	\$924,164,000,000.00
2008	\$497,841,000,000.00
2009	\$263,460,000,000.00
2010	\$394,230,000,000.00
2011	\$404,344,000,000.00
2012	\$647,073,000,000.00

In 2013, the Tax Policy Center projected that the top 0.1% would report 42% of all realized capital gains or qualified dividend income in 2014.²⁶

For purposes of estimating revenue, I assume that the top 0.1% continues to report 42% of all

²⁵ U.S. DEP'T OF THE TREASURY, OFFICE OF TAX ANALYSIS, TAXES PAID ON CAPITAL GAINS FOR RETURNS WITH POSITIVE NET CAPITAL GAINS, 1954-2012 (2015), available at <http://www.treasury.gov/resource-center/tax-policy/Documents/OTAR-Taxes-Paid-on-Capital-Gains-for>Returns-with-Positive-Net-Capital-Gains-1954-2012.xlsx>.

²⁶ The Tax Policy Center reports each year on the distribution of long-term capital gains. TAX POLICY CENTER, T13-0248 - DISTRIBUTION OF INDIVIDUAL INCOME TAX ON LONG-TERM CAPITAL GAINS AND QUALIFIED DIVIDENDS BY EXPANDED CASH INCOME PERCENTILE, 2014 (2013), available at <http://taxpolicycenter.org/numbers/displayatab.cfm?DocID=4007&topic2ID=60&topic3ID=62&DocTypeID=2>.

The Tax Policy Center estimated that, in 2014, there would be 114,769 tax units within the top 0.1% that would report having capital gains or qualified dividend income in 2014. Multiplying 114,769 by the average amount of capital gains and qualified dividend income of \$2,652,634 produces \$304.44 billion. The Center also estimated that, in 2014, there would be total tax units of 162,816,000 and 17.3% would report capital gains or qualified dividend income. That means that 28.2 million taxpayers would report capital gains or qualified dividend income. The Center estimated that the average dollar value of gains and qualified dividend income that would be reported by taxpayers in 2014 would be \$25,650. That means that the total reported capital gains would be \$722.9 billion (28.2 million times \$25,650). When the amount reported by the top 0.1% (\$304.44 billion) is divided by the total amount of long-term capital gains and qualified dividend income (\$722.9 billion), the resulting percentage is 42%.

Forty-two percent is nearly double the percentage of wealth (22%) Saez and Zucman believe is held by the top 0.1%. Saez & Zucman, *supra note 3* at Table 1. Therefore using 42% would appear to be conservative.

realized capital gains.²⁷

Year	Total realized cap gain	0.1%'s share
2003	\$323,306,000,000.00	\$139,716,597,549
2004	\$499,154,000,000.00	\$215,709,261,607
2005	\$690,152,000,000.00	\$298,248,993,931
2006	\$798,214,000,000.00	\$344,947,957,033
2007	\$924,164,000,000.00	\$399,377,214,335
2008	\$497,841,000,000.00	\$215,141,849,024
2009	\$263,460,000,000.00	\$113,854,165,374
2010	\$394,230,000,000.00	\$170,366,384,329
2011	\$404,344,000,000.00	\$174,737,146,603
2012	\$647,073,000,000.00	\$279,632,416,120

If the estimated realized capital gains of the top 0.1% is subtracted from the appreciation in the assets of the top 0.1%, the unrealized appreciation of the top 0.1% can be determined:

Year	Growth in 0.1%'s wealth	0.1%'s share realized cap gains	Unrealized appreciation/ depreciation
2003	358,643,650,960	\$139,716,597,549	\$218,927,053,410
2004	1,284,889,193,408	\$215,709,261,607	\$1,069,179,931,800
2005	1,255,990,371,738	\$298,248,993,931	\$957,741,377,807
2006	1,049,877,363,303	\$344,947,957,033	\$704,929,406,271
2007	851,402,512,844	\$399,377,214,335	\$452,025,298,510
2008	(404,763,894,887)	\$215,141,849,024	(\$619,905,743,912)
2009	(946,898,038,223)	\$113,854,165,374	(\$1,060,752,203,597)
2010	1,494,547,032,653	\$170,366,384,329	\$1,324,180,648,324
2011	260,470,208,632	\$174,737,146,603	\$85,733,062,029
2012	1,579,030,254,415	\$279,632,416,120	\$1,299,397,838,295
Sum			\$4,431,456,668,938

This allows an estimate of additional revenue that would be generated by the comprehensive mark-to-market regime, based on ordinary income rates. For example, in the following table, the \$6.43 trillion number in the second column of the 2004 row represents (x) \$5.62 trillion (2003 total after tax wealth) plus (y)(1) \$5.62 trillion times (2) 22.5% (2004 growth

²⁷ I have used a single year to estimate reported capital gains for the next ten years. This may be a source of inaccuracy in the estimates.

rate for the top 0.1%), less (z) 454.7 billion (2004 tax). The \$454 billion figure (column E of 2004) represents (x)(1) the prior year (2003) total after-tax wealth (\$5.62 billion) times (z) the 2004 growth rate for the top 0.1% of 22.5% less (y) the estimate of the realized capital gains of the top 0.1% in 2014 (\$215.71 billion), all multiplied by the tax rate of 43.4%.

Date	Total wealth of 0.1% after tax	Annual growth of 0.1%	Capital gains of 0.1%	Tax at 43.4%
2003	5,620,709,040,986	6.7%	139,716,597,549	95,014,341,180
2004	6,429,484,874,289	22.5%	215,709,261,607	454,754,226,354
2005	7,211,819,236,798	17.9%	298,248,993,931	371,189,134,209
2006	7,880,563,790,522	12.7%	344,947,957,033	248,282,196,050
2007	8,461,952,711,890	9.1%	399,377,214,335	139,563,747,089
2008	8,364,477,162,167	-4.0%	215,141,849,024	(239,710,160,877)
2009	7,954,252,926,755	-9.7%	113,854,165,374	(401,855,169,507)
2010	8,792,266,672,367	17.0%	170,366,384,329	511,941,616,249
2011	8,993,938,835,545	2.5%	174,737,146,603	20,653,351,932
2012	9,876,399,751,312	15%	279,632,416,120	462,239,520,931
Sum				1,662,072,803,610

Thus, under these calculations, at ordinary income rates, the comprehensive mark-to-market tax could generate new revenue of \$1.66 trillion over ten years. At current capital gains rates, the equivalent amount is \$963.05 billion. Of course, the amounts would be less if exemptions are provided for certain assets, or phase-ins for certain taxpayers.

V. Conclusion.

A comprehensive mark-to-market tax would raise a significant source of new revenue, ensure that the 0.1% wealthiest and highest-income taxpayers pay at least some tax on their economic income, achieve parity between wage earners (on the one hand), and entrepreneurs and investors (on the other), and meaningfully reduce upper-tier income inequality, without raising tax rates, and without affecting any small business or middle-income taxpayer. This is more than any consumption or wealth tax could ever achieve.