Is the Laffer Curve Flat?

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Abstract

The Laffer curve peaks at the revenue-maximizing top tax rate, where revenue losses from behavioral responses offset revenue gains from a higher tax rate. Prior studies, however, largely overlook the Laffer curve's shape, rely on simplified tax functions, and often omit shifting across business types and tax interactions. We show that modeling distinct tax bases more accurately and incorporating these interactions lowers the revenue-maximizing top tax rate and the associated revenue gains, yielding "flat" Laffer curves. Over this flat region, increasing the top tax rate raises relatively little revenue. Instead, increasing the top rate primarily trades growth for progressivity.

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What does optimal actually mean?
Why is there a point where you can go no further?
— Karl Ove Knausgård, *School of Night*

The Laffer curve shows the tradeoff between top tax rates and total tax revenue. Many studies seek to identify the revenue-maximizing top tax rate at this curve's peak. But estimates often rely on sufficient-statistic frameworks that miss general-equilibrium effects. Macroeconomic models, in contrast, include general-equilibrium effects and other behavioral channels but rely on simplifying assumptions about the tax system. In particular, taxes are approximated with smooth functions defined over tax bases that are either too broad or too narrow. These simplifying assumptions also differ across analyses, leaving readers unable to compare estimates across studies. Moreover, a focus on *the* revenue-maximizing top tax rate has diverted attention from the Laffer curve's shape. Using a detailed representation of U.S. federal taxes, we find that long-run Laffer curves are relatively "flat." This has significant policy implications—absent other reforms, large changes in the top rate around the revenue-maximizing rate yield small changes to revenue. Over the flat part of the Laffer curve, the relevant policy choice is between tax progressivity and growth: the equity-efficiency tradeoff.

To be policy relevant, a top-rate Laffer curve should show how changes to the top rate of the U.S. federal ordinary income tax schedule correspond to changes in tax revenue. A substantial share of top incomes, however, falls outside this tax base. Individual income taxed at the top 37% rate is comprised of wage income and *ordinary* capital income, which includes interest and noncorporate (passthrough) business profits. In contrast, *preferential* capital income, from long-term capital gains and qualified corporate dividends, is taxed at lower rates. Moreover, the ordinary base is reduced by deductions that depend on consumption choices or tax-preferred investment. This paper emphasizes that these tax details matter for policy analysis.

We capture these details by embedding a realistic representation of the tax system in an overlapping generations model. This macroeconomic model, built to analyze tax legislation for the U.S. Congress (Moore and Pecoraro, 2020, 2021, 2023), is well suited to studying top rates because it is calibrated with detailed administrative tax data covering all very high-income tax returns. It also distinguishes between ordinary and preferential

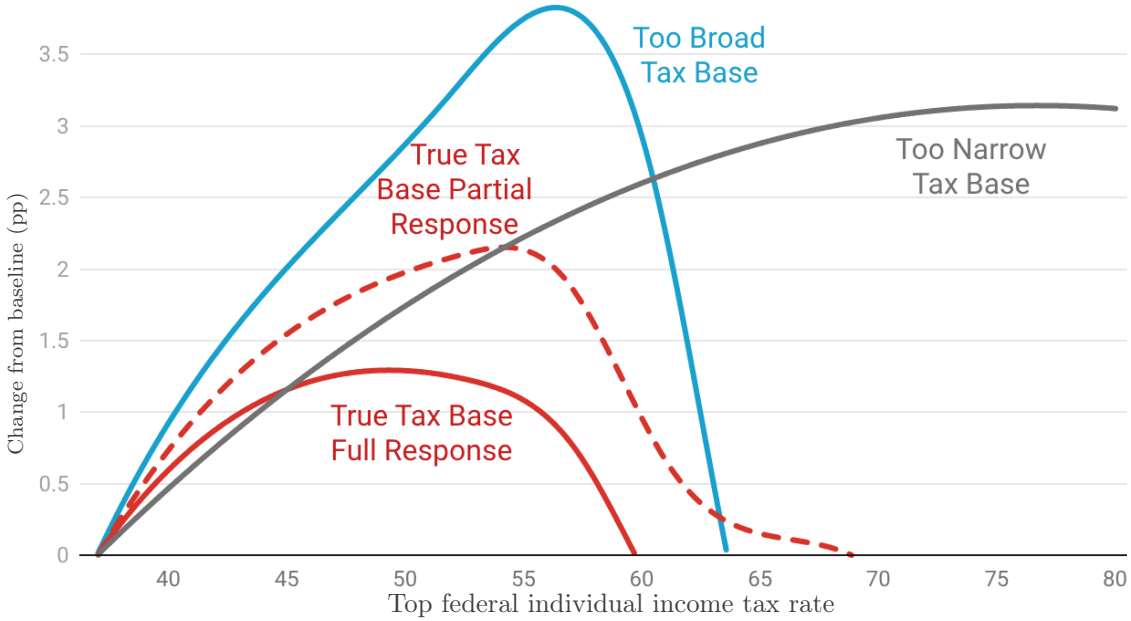
tax bases and includes full firm responses. Whereas "partial" firm responses assume that increases in individual-level tax rates do not feed back into higher business-level tax rates, "full" responses capture the direct exposure of noncorporate businesses to individual income tax rate increases, prompting shifts in real activity to the corporate sector—or historically, in the opposite direction when individual rates fell (Auten et al., 2016; Dyrda and Pugsley, 2025). The model also uses a detailed tax calculator. It captures tax brackets, filing statuses, number of dependents, housing tenure, tax credits, surtaxes, the Alternative Minimum Tax, itemized and standard deductions, the passthrough business deduction, and different tax bases. Relative to standard approaches, the model captures a much broader set of tax-mediated behavioral responses. For example, as ordinary tax rates rise, households endogenously shift toward tax-deductible charitable giving and tax-preferred owner-occupied housing investments that become relatively more valuable. Incorporating these behavioral responses and realistic taxes in a model to estimate top-rate Laffer curves is this paper's major contribution.

Although the tax code is complex and contains distinct tax bases, macroeconomic Laffer-curve analyses typically apply simplified tax functions to a single base that is either too broad or too narrow. With a *broad base*, total income enters the tax function as a single base, applying the top rate to all income despite much of it qualifying for lower preferential rates. This approach has been used in Guner et al. (2016), Imrohoroglu et al. (2023), and Di Nola et al. (2025). With a *narrow base*, only wage income enters the tax function, which fails to apply the top rate to any capital income. This latter approach was used by Holter et al. (2019, 2023), Uribe-Terán (2021), and Kindermann and Krueger (2022). Readers have been unable to assess whether these simplifications are innocuous. In contrast, we isolate the effects of using these popular specifications by comparing them to our realistic tax calculator and true tax base.

Previewing our results, Figure 1 shows four top-rate Laffer curves from steady-state (long-run) equilibria of our macroeconomic model along a balanced growth path. Higher top statutory federal individual income tax rates (x-axis) initially raise federal individual income tax revenue (y-axis). But as top rates rise, behavioral responses contract the tax base to give inverse-U-shaped Laffer curves. Under our true base, three behavioral responses offset mechanical tax-rate increases: reduced labor and capital income in the ordinary base, reduced capital income in the preferential base, and shifts in

activity across corporate and noncorporate sectors. In contrast, the narrow base applies first-order behavioral responses only to wage income, understating the ordinary-base response—leaving investment largely unaffected—and overstating the revenue-maximizing top rate as exceeding 70%. The broad base includes excess income that overstates the ordinary-base response, exaggerating both initial revenue gains from higher tax rates and subsequent distortions, causing a steep decline beyond this curve's peak. Beyond mischaracterizing tax bases, both approaches omit shifts across ordinary and preferential bases and across sectors. The true base yields a flatter Laffer curve and decreases potential revenues by over one percentage point. Allowing for full sectoral shifting responses further flattens the curve, reducing potential revenues by nearly another percentage point. Online Appendix A.1 formalizes this intuition. These results show that a single model yields a wide range of revenue-maximizing rates when changing assumptions that receive little scrutiny. They also imply less emphasis should be placed on the precise revenue-maximizing rate, as only modest long-run revenue gains result from increasing the top rate along the flat portion of the Laffer curve.

Figure 1: The Laffer curve is flatter with true tax base and sectoral shifts



Note: Y-axis shows percentage-point changes in total federal individual income taxes relative to the 37% top-rate baseline, with respect to x-axis changes in the top statutory federal individual tax rate on ordinary income (which ignores surtaxes of 0.9% on wages and 3.8% on passive investment income). The model is calibrated to the U.S. economy and tax provisions in 2022 and Laffer curves are smoothed versions (via cubic spline interpolation over a coarse grid) estimated for percentage-point intervals of the top rate.

Other taxes also affect Laffer curves (Guner et al., 2016). Accounting for other federal taxes—payroll, corporate, excise, and estate taxes—further flattens the curve. This implies a revenue-maximizing top federal individual income tax rate of 40% and a total long-run federal revenue gain of about 0.1% of GDP from increasing the top tax rate. Also accounting for changes to state-local taxes further flattens Laffer curves, suggesting smaller changes in total government revenue.[1] The analysis here only considers top-rate changes. Alternative reforms, like deduction caps or rate increases on preferential income, may offer complementary means of raising revenue from high-income households (CBO, 2024).

Our contributions directly address three limitations in the policy relevance of prior estimates. Diamond and Saez (2011, p. 166) argue that revenue-maximizing top tax rates, "should be based on an economic mechanism that is empirically relevant... robust to changes in the modeling assumptions... [and] the tax policy prescription needs to be implementable." We address these criteria by using realistic tax bases in a detailed tax calculator, reconciling differences in prior studies, and explicitly modeling the actual top federal individual income tax bracket. The closer these model details align with actual tax policy, the flatter the Laffer curve.

1 Prior literature on revenue-maximizing top tax rates

Prominent estimates of "all-in" revenue-maximizing top tax rates (including U.S. federal, state, and local taxes) range from 46% to 73%, though some are even lower or higher. This range overlaps with the current all-in top marginal tax rate on labor-and-capital income of roughly 50% (see Online Appendix A.2). Higher estimates typically arise from reduced-form sufficient-statistic frameworks, while lower estimates come from dynamic macroeconomic models (Kleven et al., 2025). The approaches in Figure 1 span a similarly wide range of results. This reflects the first-order importance of the margins we analyze: tax-base specifications, tax interactions, and general-equilibrium behavioral responses.

[1] Laffer curves for all federal taxes and all taxes in Figure 3 are more policy relevant, but focusing on only federal individual income taxes in Figure 1 better highlights tax base and firm responses. Our discussion focuses on increasing the top rate; *lowering* the top rate lowers total federal revenues.

The sufficient-statistic approach relies on a top-rate-only framework, as in Diamond and Saez (2011). That approach provides only the revenue-maximizing rate, not the full Laffer curve. The baseline formula uses two inputs: the high-income Pareto inequality parameter and the elasticity of taxable income with respect to the net-of-tax rate. With a Pareto parameter of 1.5 and an elasticity of only 0.25, the framework yields an all-in revenue-maximizing top rate of 73%.

This sufficient-statistic approach, however, is sensitive to the assumed elasticity of taxable income. High-income elasticity estimates exceed 0.25 (Mathur et al., 2012). A more mid-range empirical estimate of 0.40—also matching our model's implied "micro" elasticity (Online Appendix A.3)—reduces the sufficient-statistic revenue-maximizing rate to 63%. But reported elasticities appear to be downwardly biased (Neisser, 2021). Saez (2004) estimates top 1% elasticities of 0.5–0.7 or higher. Macnamara et al. (2024) estimate a top-one-percent long-run elasticity of 0.77, which implies a revenue-maximizing top rate of 46%. Model extensions capturing additional behavioral responses suggest even lower revenue-maximizing top rates: interstate mobility lowers it by 5 percentage points (Young et al., 2016) to roughly 50 percentage points (Rauh and Shyu, 2024); income effects can lower it by 10 percentage points (Graber et al., 2025); human capital responses can lower it by 24 percentage points (Badel et al., 2020); and externalities from innovation and new ideas can reduce it by about 80 percentage points (Jones, 2022).

The approach has other limitations. First, sufficient-statistic estimates apply to overall tax burdens rather than any actual tax rate, limiting their policy relevance. Second, the approach ignores alternative tax bases, such as those taxed at preferential rates, as emphasized in this paper. Accounting for separate bases with cross-elasticities lowers France's revenue-maximizing rate by 14 percentage points (Lefebvre et al., 2025). Erroneous sufficient-statistic results can also result from tax-base dependent elasticities (Kopczuk, 2005) and tax-code nonconvexities (Dowd and Richards, 2021; Kaplow, 2024). Third, tax administration and compliance affect revenue-maximizing top rates (Keen and Slemrod, 2017). Fourth, there is uncertainty regarding distributional assumptions for income and productivity (Mankiw et al., 2009), and accounting for that uncertainty substantially decreases optimal top tax rates (Bhandari et al., 2025). Finally, standard

sufficient-statistic estimates ignore macroeconomic feedback. There are some exceptions. Kleven (2025) incorporates macro-dynamic effects, lowering the revenue-maximizing top rate by 10 percentage points, from 62% to 52%—identical to our preferred all-in revenue-maximizing rate, as discussed below. Badel and Huggett (2017) extend the sufficient-statistic approach to include general-equilibrium effects. But they caution against using existing elasticity estimates to infer revenue-maximizing rates, implying that macroeconomic models are more appropriate.

Macroeconomic models have been used to quantify revenue-maximizing top tax rates in general equilibrium. These models account for human capital accumulation and endogenous earnings profiles (Badel and Huggett, 2017; Badel et al., 2020), income dynamics (Guner et al., 2016; Holter et al., 2019), tax evasion (Uribe-Terán, 2021), occupational choice (Bruggemann, 2021), entity shifting (Di Nola et al., 2025), entrepreneurship versus superstar earners (Imrohoroglu et al., 2023), and joint versus individual taxation (Holter et al., 2023). Similar to the sufficient-statistic literature, adding behavioral responses tends to lower revenue-maximizing top rates in macroeconomic steady states. Consequently, these models tend to yield all-in revenue-maximizing rates ranging from about 48%–67% (Online Appendix A.2). When assuming a 13-point non-federal-tax wedge, our all-in revenue-maximizing rate of 52%–53% is within this range of prior estimates.

Some studies also found flat Laffer curves. Trabandt and Uhlig (2011) consider the proportional taxation of labor versus capital income for a representative agent, finding flat Laffer curves for aggregate capital income. Badel et al. (2020) show that endogenous human capital flattens Laffer curves when using a narrow tax base, with higher top rates raising less than 0.1% of GDP at all levels of government. While our Laffer curves show similarly limited potential revenue gains, they result from using a true tax base and suggest modest revenue changes apply across a wider range of top tax rates. This diminishes the policy relevance of any exact revenue-maximizing rate.

Despite existing macroeconomic analyses highlighting various behavioral channels, the effects of tax-system assumptions have been largely overlooked. In part, this is because these models use simplified tax functions, which rely on a few parameters to characterize the complex tax system. The two-parameter tax function was popularized by Bénabou

(2002), Guner et al. (2014), and Heathcote et al. (2017). Whereas these functions simplify the tax system to a smooth function, our detailed tax calculator captures tax brackets as step functions, demographic heterogeneity, deductions contingent on tax-preferred investment and consumption choices, shifting across corporate and noncorporate sectors, and different tax bases.

2 Model

The overlapping generations model is based on Moore and Pecoraro (2023), a heterogeneous-agent general-equilibrium model of the U.S. economy well suited to analyzing Laffer curves. Finitely-lived households optimize consumption, labor, and financial and housing assets. They are ex-ante heterogeneous by age, marital status, number of children, and labor productivity, allowing the model to reproduce observed distributions of income, wealth, and taxes. Temporary productivity shocks to life-cycle productivity paths provide ex-post heterogeneity, shifting some households into top tax brackets. Representative corporate and noncorporate (passthrough) firms optimize labor and capital using external financing. A financial intermediary distributes business income to households as ordinary income (passthrough business income, interest, short-term capital gains, nonqualified dividends) or preferential income (long-term capital gains and qualified dividends), a central distinction of our analysis.

Income misreporting from tax evasion or avoidance is implicitly included through calibrations to tax data. This misreporting is consistent with IRS tax gap estimates (Online Appendix C.2.2). These adjustments scale proportionally with true income, missing *marginal* increases in rates of evasion or avoidance through income reclassification (Heiser et al., 2025). At relatively high tax rates, accounting for these effects should further reduce estimated revenues (Uribe-Terán, 2021; Di Nola et al., 2025).

Our preferred specification uses an income tax calculator within the model that reflects federal tax law in 2022. This includes a top ordinary rate of 37% and parallels current policy under the 2025 tax act, which extended most expiring provisions of the 2017 act. The tax calculator captures the difference between ordinary and preferential capital income and surtaxes, and factors related to marital status, number of dependents, housing

tenure, state-and-local tax deduction caps, and passthrough business deductions. We next discuss the household problem, taxes, government, firms, and financial intermediaries. Model and calibration details are in the online appendix.

2.1 Households

2.1.1 Optimization Problem

Households of similar incomes pay different amounts of tax based on demographic characteristics, types of income, and savings and consumption choices. We capture this variation through several sources of household heterogeneity and choice variables. Households have a deterministic number of dependents based on their age j, marital status of single or married $f = \{s, m\}$, and permanent productivity type z. A household begins each year with real liquid financial (net) assets a_j and illiquid home equity h_j^o, and experiences a temporary labor productivity shock $\varepsilon_{t,j}^z$. Households choose labor hours for one or two adults $\{n_j^1, n_j^2\}$ for working ages $j < R$, consumption of a composite good x_j, and savings that determine end-of-year financial assets a_{j+1} and housing equity h_{j+1}^o. The optimization problems for single and married household values $V_{t,j}^{f,z}$ are:

$$V_{t,j}^{s,z}(a_j, h_j^o, \varepsilon_{t,j}^z) = \max_{\substack{a_{j+1}, h_{j+1}^o, x_j, \\ n_j^1 \in \mathbb{N}}} U_{t,j}^{s,z}(x_j, n_j^1, \varepsilon_{t,j}^z) + O_t(a_{j+1}, h_{j+1}^o) + \beta \pi_j \mathbb{E}_t V_{t+1,j+1}^{s,z}(a_{j+1}, h_{j+1}^o, \varepsilon_{t+1,j+1}^z) \tag{2.1}$$

$$V_{t,j}^{m,z}(a_j, h_j^o, \varepsilon_{t,j}^z) = \max_{\substack{a_{j+1}, h_{j+1}^o, x_j, \\ n_j^1, n_j^2 \in \mathbb{N}}} U_{t,j}^{m,z}(x_j, n_j^1, n_j^2, \varepsilon_{t,j}^z) + O_t(a_{j+1}, h_{j+1}^o) + \beta \pi_j \mathbb{E}_t V_{t+1,j+1}^{m,z}(a_{j+1}, h_{j+1}^o, \varepsilon_{t+1,j+1}^z), \tag{2.2}$$

where $U_{t,j}^{f,z}$ and O_t give current utility from consumption and wealth consistent with a balanced growth path (Online Appendix B.1.1). Households have discount rate β and survive with probability $0 < \pi_j \leq 1$ until age J. The population grows at a gross rate Υ_P.

The real budget constraint applies each year:

$$p_t^x x_j + a_{j+1} + h_{j+1}^o \leq (1 + r_t) a_j + (1 - \delta^o) h_j^o + inh_{t,j}^{f,z} + i_{t,j}^{f,z}(\varepsilon_{t,j}^z) - \mathcal{T}_{t,j}^{f,z} - \xi_j^H. \tag{2.3}$$

Left-hand side variables include consumption expenditures on the composite good $p_t^x x_j$, end-of-year financial assets a_{j+1}, and end-of-year owner-occupied housing assets h_{j+1}^o. The composite good captures tax-preferred consumption incentives by nesting with market goods the endogenous quantities of child care, home production, charitable giving, and owner-occupied or rental housing services (Online Appendix B.1.2). Right-hand side variables include the gross return to beginning-of-year financial assets $r_t a_j$, beginning-of-year owner-occupied housing wealth net of economic depreciation $(1-\delta^o)h_j^o$, inheritances $inh_{t,j}^{f,z}$, earned income $i_{t,j}^{f,z}(\varepsilon_{t,j}^z)$ that includes Social Security income, net total taxes $\mathcal{T}_{t,j}^{f,z}$ $= T_{t,j}^{f,z} - trs_t$ that deducts federal transfers (excluding Social Security, Medicare, and Medicaid). Taxes distort labor and capital income and are modeled using either the detailed tax calculator or the tax functions specified in Section 2.2. The portfolio of assets implicit in a_j are endogenously determined by financial intermediaries. This allows for the return on financial assets to be decomposed into "ordinary" $(r_t a_t^o)$ and "preferential" $(r_t a_t^p)$ capital income.

2.1.2 Income Process

Each adult in a working-age household chooses between part-time, full-time, or no work, such that $n_j \in \mathbb{N} \equiv \{n^{PT}, n^{FT}, 0\}$. Under this specification of labor indivisibility, labor supply choices follow an implicit reservation-wage framework where supply elasticities are endogenous (Chang and Kim, 2006). Earned income equals the product of labor hours n_j, real wage rate w_t, and productivity $\mathrm{z}_j^{f,z}\varepsilon_{t,j}^z$ for working ages and Social Security income $ss_j^{f,z}$ during retirement:

$$i_{t,j}^{f,z}(\varepsilon_{t,j}^z) \equiv \begin{cases} n_j^1 w_t \mathrm{z}_j^{s,z}\varepsilon_{t,j}^z + ss_j^{s,z} & \text{if} f = single \\ (n_j^1 + \mu^z n_j^2) w_t \mathrm{z}_j^{m,z}\varepsilon_{t,j}^z + ss_j^{m,z} & \text{if} f = married, \end{cases} \tag{2.4}$$

where $0 < \mu^z \leq 1$ is an exogenous productivity wedge between spouses. Household productivity type z is permanent, while the deterministic component of labor productivity $\mathrm{z}_j^{f,z}$ varies by age and marital status and is subject to a temporary shock $\varepsilon_{t,j}^z$ drawn from a non-Gaussian distribution $d(\mu_j^z, \sigma_j^z)$ varying by age and productivity type.

2.2 Government

The federal and state-local governments collect taxes from households and corporations to finance public consumption, productive capital expenditures, and transfer payments. Corporate taxes and government outlays are described in Online Appendix Section B.3. A household's total taxes $T_{t,j}^{f,z}$ are federal taxes $fedall_{t,j}^{f,z}$ plus state-local taxes $slt_{t,j}^{f,z}$:

$$T_{t,j}^{f,z} = fedall_{t,j}^{f,z} + slt_{t,j}^{f,z}. \tag{2.5}$$

Individual federal taxes include federal income taxes, payroll taxes associated with the Social Security system $prt_{t,j}^{f,z}$, lump-sum federal taxes $exc_{t,j}^{f,z}$, and estate taxes $est_{t,j}^{f,z}$:

$$fedall_{t,j}^{f,z} = fedinc_{t,j}^{f,z} + prt_{t,j}^{f,z} + exc_{t,j}^{f,z} + est_{t,j}^{f,z}. \tag{2.6}$$

To contrast with prior work, we compare our model's internal tax calculator with popular simplified tax functions. Whether using our tax calculator or a tax function, we account for differences between personal economic income and adjusted gross income by scaling the former to be consistent with income reported in administrative tax data using the calibration-ratio procedure described in Online Appendix C.2.2. Denoting scaled variables with a hat, adjusted ordinary income, $\hat{ord}_{t,j}^{f,z} \equiv \hat{i}_{t,j}^{f,z} + r_t \hat{a}_j^o$, plus adjusted preferential income, $\hat{pci}_{t,j} \equiv r_t \hat{a}_j^p$, equals adjusted gross income:

$$agi_{t,j}^{f,z} = \hat{ord}_{t,j}^{f,z} + \hat{pci}_{t,j}^{f,z}. \tag{2.7}$$

2.2.1 Tax Calculator

Under the tax calculator, ordinary income taxes $oit_{t,j}^{f,z}$ plus preferential income taxes $pct_{t,j}$ equal a household's total federal individual income taxes:

$$fedinc_{t,j}^{f,z} = oit_{t,j}^{f,z} + pct_{t,j}^{f,z}, \tag{2.8}$$

where:

$$oit_{t,j}^{f,z} = \boldsymbol{\tau_t^o}(\hat{ord}_{t,j}^{f,z} - ded_{t,j}^{f,z}) - crd_{t,j}^{f,z} - tra_t^{f,z} + sro_{t,j}^{f,z}, \tag{2.9}$$

$$ded_{t,j}^{f,z} = \boldsymbol{d}\left(\hat{i}_{t,j}^{f,z}, \hat{ord}_{t,j}^{f,z}, \hat{pci}_{t,j}^{f,z}, h_j^o, x_j\right), \tag{2.10}$$

$$crd_{t,j}^{f,z} = \boldsymbol{c}\left(\hat{i}_{t,j}^{f,z}, \hat{ord}_{t,j}^{f,z}, ded_{t,j}^{f,z}, \hat{pci}_{t,j}^{f,z}\right), \tag{2.11}$$

$$pct_{t,j}^{f,z} = \boldsymbol{q}\left(\hat{ord}_{t,j}^{f,z}, \hat{pci}_{t,j}^{f,z}\right) + srp_{t,j}^{f,z}. \tag{2.12}$$

Bold emphasis denotes generalized functions. The effective marginal tax rate $\boldsymbol{\tau_t^o}$ depends on adjusted ordinary income $\hat{ord}_{t,j}^{f,z}$ less deductions $ded_{t,j}^{f,z}$. Deductions depend not only on ordinary and preferential income, but also the amount of labor income, housing wealth h_j^o, and consumption $p_t^x x_j$. Ordinary income taxes are reduced by credits $crd_{t,j}^{f,z}$ and demographic-specific transfers $tra_t^{f,z}$ that align average labor income tax rates, correcting residual differences between the calculator and empirical data. Credits are functions of labor income, ordinary taxable income, and preferential income. Ordinary income tax includes $sro_{t,j}^{f,z}$, the 0.9% Additional Medicare surtax on high wages and relevant 3.8% net investment income surtaxes. Preferential capital income taxes $pct_{t,j}^{f,z}$ depend on total taxable income and includes surtaxes $srp_{t,j}^{f,z}$.

2.2.2 Tax Functions

There are two main versions of federal income tax functions. The first, the *tax function with a broad base*, applies the top tax rate to all adjusted gross income:

$$fedinc_{t,j}^{f,z}(agi_{t,j}^{f,z}) = \begin{cases} agi_{t,j}^{f,z} - \lambda_1^f (agi_{t,j}^{f,z})^{1-\lambda_2^f} & \text{if } agi_{t,j}^{f,z} \leq b_{top}^f \\ b_{top}^f - \lambda_1^f (b_{top}^f)^{1-\lambda_2^f} + \tau_{top}(agi_{t,j}^{f,z} - b_{top}^f) & \text{if } agi_{t,j}^{f,z} > b_{top}^f, \end{cases} \tag{2.13}$$

where b_{top}^f is the top-bracket threshold and τ_{top} is the top statutory rate.

The second common tax function, the *tax function with a narrow base*, applies the top ordinary tax rate only to adjusted wage income $\hat{i}_{t,j}^{f,z}$, and taxes adjusted capital income $r_t \hat{a_j}$ separately using a capital income tax rate τ_a for all ages:

$$fedinc_{t,j}^{f,z}(\hat{i}_{t,j}^{f,z}, r_t\hat{a_j}) = \begin{cases} \hat{i}_{t,j}^{f,z} - \lambda_1^f (\hat{i}_{t,j}^{f,z})^{1-\lambda_2^f} + r_t\hat{a_j}\tau_a & \text{if } \hat{i}_{t,j}^{f,z} \leq b_{top}^f \\ b_{top}^f - \lambda_1^f (b_{top}^f)^{1-\lambda_2^f} + \tau_{top}(i_{t,j}^{f,z} - b_{top}^f) + r_t\hat{a_j}\tau_a & \text{if } \hat{i}_{t,j}^{f,z} > b_{top}^f. \end{cases} \tag{2.14}$$

The tax-function parameter values differ across tax bases. Their calibration is detailed in Online Appendix D, where Figure E1 compares taxes across tax functions and the

calculator. In summary, the broad-base function taxes all capital income as ordinary, therefore it *overestimates* the tax base. The narrow-base function omits all capital income from the ordinary income tax base, therefore it *underestimates* the tax base.

2.3 Firms

Output is produced to maximize firm value across two perfectly competitive sectors, corporate and noncorporate indexed by $q = \{c, n\}$, and used for consumption, savings, or investment. Production follows a constant-returns-to-scale Cobb-Douglas function with effective labor, private capital, and public capital, implying decreasing returns in private inputs. Representative firms finance operations with bonds and equity issued through the financial intermediary and hire labor in perfectly competitive markets. Both sectors issue debt to maintain an optimal interest-deduction tax shield as in Barro and Furman (2018).

The sectors differ in their tax treatment, profit distribution, and new equity issuance. The corporate firm can issue or buy back shares, while the noncorporate firm relies solely on debt financing. The corporate firm pays a firm-level tax on profits (corporate taxes) and distributes a fixed fraction of after-tax profits as dividends to equity holders. The noncorporate firm passes all profits to household investors for taxation as ordinary income (after the passthrough deduction) at the household level, exposing noncorporate business income to individual-level income tax rates. For purposes of estimating our Laffer curves, under the "partial" firm responses, tax rates entering the firms' optimization problems are assumed to remain constant at initial baseline values. Under "full" firm responses, this assumption is relaxed so that firms directly internalize the effect of top individual income tax rate changes on tax rates that enter their optimization problem.

2.4 Financial Intermediaries

While each household chooses its own allocation of financial and housing assets, all financial assets are pooled into an investment fund managed by perfectly competitive financial intermediaries. Investment fund assets include corporate and noncorporate equity and bonds, government bonds, and rental housing, the latter of which is managed by financial intermediaries rather than a separate housing market. All pretax returns are distributed back to households as passthrough profits, corporate dividends, interest, or capital gains. These are proportional to their shares of financial assets, so that the aggregate ratio of

gross pretax returns to financial assets determines the real rate of return on household financial assets, r_t.

The representative intermediary internalizes the aggregate tax consequences of households' portfolios, investing across private assets so that marginal after-tax rates of return are equalized:

$$R_t^q = (1 - \tau_t^i) i_t^q = (p_t^r - \delta^r) \quad \forall t, q = c, n. \tag{2.15}$$

The marginal after-tax return to equity, $R_t^q \equiv \mathbf{R}(\tau_t^g, \tau_t^{q,hh})$, depends on the aggregate accrual-equivalent tax rate on capital gains τ_t^g and the household-level effective marginal tax rate on distributed profits by each sector $\tau_t^{q,hh}$. This after-tax rate of return on equity equals that on private bonds $(1 - \tau_t^i) i_t^q$ and rental housing net of economic depreciation $(p_t^r - \delta^r)$. The rate of return on government bonds includes an exogenous wedge with respect to the private bond rate.

The no-arbitrage condition determines how households' composition of ordinary versus preferential capital income varies with business activity, and how changes to individual-level taxation affect aggregate portfolio choice. For example, under partial-firm-response Laffer curves, the tax rates entering the no-arbitrage condition are held constant at baseline levels. Under full firm responses, they are instead model-consistent aggregates of individual-level tax rates and vary over the Laffer curve.

2.5 Distributional Properties

Table 1 compares the distributions of income and taxes in tax data with those implied by our model. Income shares are similar across model tax specifications and align with the data. In our tax-calculator specification, 0.86% of taxpayers face the top rate and account for 7.56% of AGI. In the data, 0.74% face the top rate and account for 7.58% of AGI. While the tax functions' broad and narrow bases can reproduce the distributional pattern of taxes observed in the data, this hides substantial dispersion in taxes at similar levels of income (Online Appendix Figure E1), causing the tax functions to mis-specify tax incentives (Moore and Pecoraro, 2020, 2021).

Table 1: Distributional Estimates: Shares of income and taxes (%) and summary statistics

Income Percentile Class	Income				Federal Indiv. Income Taxes			
	Data	True Base	Broad Base	Narrow Base	Data	True Base	Broad Base	Narrow Base
0–20	2	2	2	2	-2	-4	-3	-2
20–40	6	6	6	6	-3	-3	-3	-2
40–60	11	10	10	10	2	1	-1	-1
60–80	19	17	17	16	11	7	4	7
80–90	15	14	14	14	14	12	10	12
90–95	11	13	13	12	13	15	15	16
95–99	15	22	22	22	23	33	38	34
99–100	21	16	16	16	44	38	41	34
Gini/Kakwani	0.60	0.61	0.61	0.61	0.24	0.27	0.31	0.27
Income Percentile Class	Federal Taxes				All Taxes			
	Data	True Base	Broad Base	Narrow Base	Data	True Base	Broad Base	Narrow Base
0–20	*	1	1	2	1	3	3	3
20–40	1	-1	*	*	2	1	1	1
40–60	7	5	5	6	7	7	7	7
60–80	16	14	11	13	17	15	13	14
80–90	16	16	15	16	16	14	14	14
90–95	13	15	15	16	13	14	14	14
95–99	19	25	28	26	18	26	28	27
99–100	28	25	26	23	26	20	21	20
Kakwani	0.12	0.16	0.19	0.16	0.10	0.10	0.11	0.10

Note: * denotes shares between -0.5 and 0.5 percent. Income is expanded fiscal income, which includes wage income, capital income in AGI, employer portion of payroll taxes (allocated to employees), Social Security benefits, and corporate taxes. Corporate taxes are allocated similar to Joint Committee on Taxation (2013), with 25% allocated by wages and the rest by capital ownership (no adjustment for foreign ownership). Summary statistics are the Gini coefficient for income and the Kakwani index for taxes, the latter is the tax concentration index (taxes bottom-coded at zero) less the income Gini. Source: Model and data from the Individual Tax Model of Joint Committee on Taxation (2023).

3 Flat Laffer Curves, Realistic Taxes, and Interactions

We highlight three implications of using a more realistic depiction of taxes. First, Laffer curves are relatively flat—meaning even substantial top tax rate changes around the revenue-maximizing rate have only modest effects on tax revenues. Along this flat range, the central policy tradeoff concerns the balance between tax progressivity and growth: the equity-efficiency tradeoff. Second, interactions between federal individual income

taxes and other taxes lead to flatter Laffer curves, with less potential revenue gains and a leftward shift of the flat region. Third, popular simplified tax functions mischaracterize distortions while failing to accurately represent income tax bases.

3.1 Estimating the Laffer Curve

Under 2022 federal tax law, the top statutory rate of 37% applies to ordinary income exceeding $539,900 for single tax units and $647,850 for married households. These thresholds are held constant, and income above them is taxed at the top rate for both tax functions and the tax calculator. The real top-bracket threshold has remained near current levels (sometimes lower) for about half a century, even as top rates changed dramatically. Our approach of varying top rates against fixed brackets therefore mirrors U.S. tax policy history. For each tax specification, we compute steady states in one-percentage-point intervals for the top rate. Tax revenues change across steady states, therefore we maintain long-run fiscal balance by adjusting federal investment spending, consumption spending, and transfers proportionally to their observed shares.

Optimizing behavior in the model gives rise to inverted-U-shaped Laffer curves. Tax-rate increases are offset by tax-base erosion from real responses, such as lower labor and investment that reduce GDP, and avoidance that shifts income toward preferentially taxed or tax-exempt sources, such as shifting of real activity across business sectors. We focus on steady-state responses and exclude capital-gains realization timing changes. In our main results, the tax calculator incorporates the full response for sectoral shifting, while the tax functions do not.

3.2 Realistic Taxes Matter

Simplified tax functions fail to account for preferential income tax treatment, under which certain forms of capital income—long-term capital gains and qualified dividends—are taxed at lower top rates than ordinary income. Ignoring this preferential treatment makes the tax base too broad relative to current law. Similarly, considering only labor income excludes capital income that is taxed at ordinary rates, leaving the tax base too narrow. In contrast, our tax calculator aligns tax bases with actual tax law: ordinary capital

income is taxed jointly with labor income using ordinary statutory income tax rates, while preferential capital income constitutes a separate tax base subject to lower rates. The tax calculator also captures other relevant tax policy features for top earners, including itemized deductions (and relevant caps), surtaxes, and the Alternative Minimum Tax.

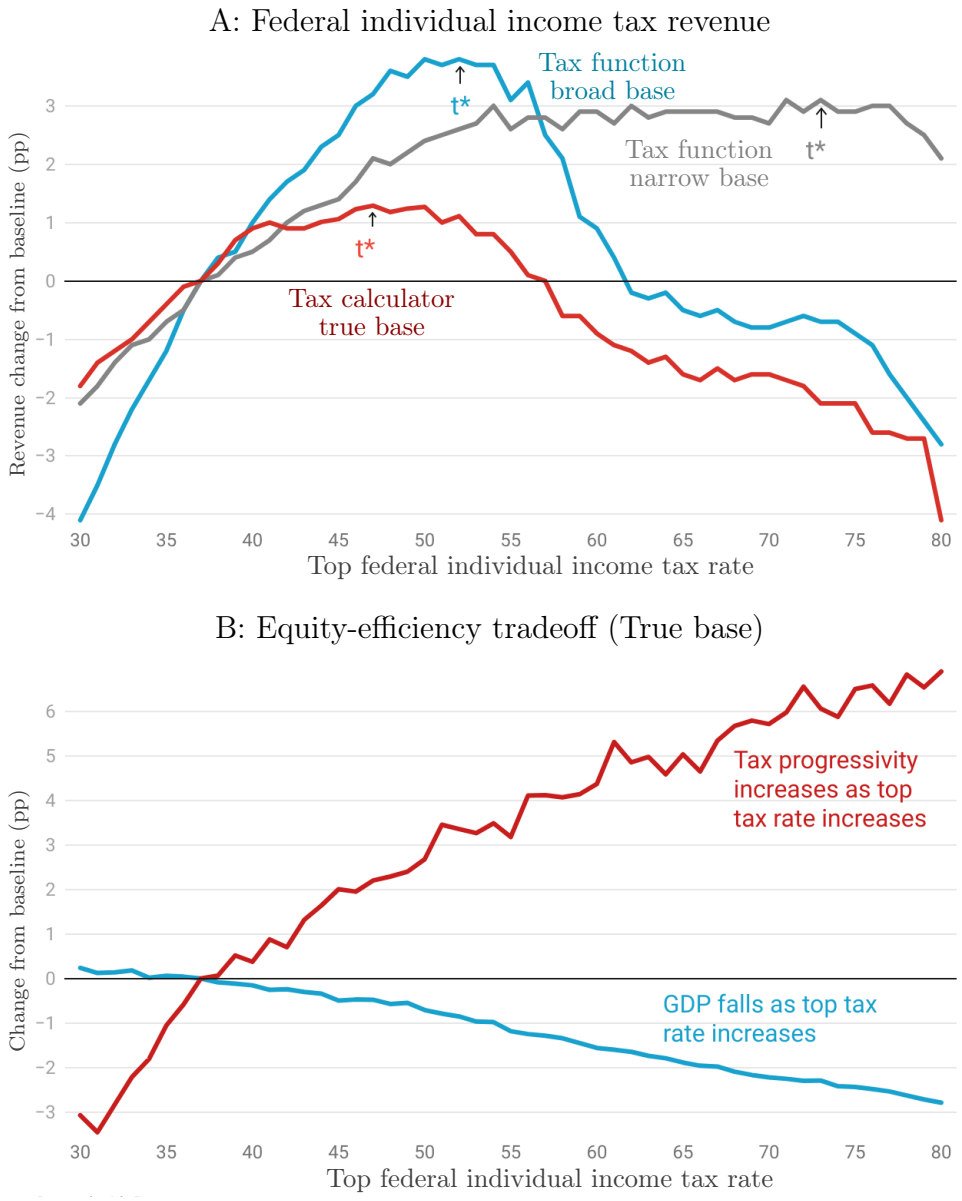
Panel A of Figure 2 shows how federal individual income tax revenues change as the top tax rate varies along the x-axis. Note that revenue is unchanged at the present-law top rate of 37% for all three approaches. Each tax base specification results in a different combination of potential revenue gains and revenue-maximizing top rates. The narrow-base tax function, where the top rate applies only to labor income, has no first-order interaction between taxes on labor and capital income. Therefore, the distortions caused by higher statutory tax rates are muted, allowing the narrow-base Laffer curve to rise gradually and reach a high peak (yielding 3.1% more revenue) at a top federal tax rate of 73%.

The tax function with a broad base, where the top tax rate applies to all labor and capital income, overstates the first-order interaction between labor and capital income taxes because preferential capital income is incorrectly included in the ordinary tax base. Consequently, the distortions from higher statutory tax rates are amplified, causing the broad-base Laffer curve to quickly reach a high peak (yielding 3.8% more revenue) at a moderate revenue-maximizing rate of 52%.[2]

The true tax base lies between the narrow and the broad base. The Laffer curve estimated using the tax calculator and true base reaches a lower peak (1.3% more tax revenue) at a top rate of 47%. This additional federal income tax revenue is about 0.1% of GDP. Relative to the narrow and broad bases, the true base implies smaller revenue gains and a lower revenue-maximizing top tax rate.

[2] This comparison helps reconcile Kindermann and Krueger (2022)'s narrow-base results and Guner et al. (2016)'s broad-base results. Imrohoroglu et al. (2023) find little effect of changing bases, but this may reflect calibrating tax functions to different initial revenue benchmarks and entrepreneurs' responses to top-rate changes.

Figure 2: Laffer curves and equity-efficiency tradeoff



Note: Only federal individual income tax revenues are considered here. Y-axis shows changes in total federal individual income tax revenue (in percentage point terms) relative to the 37% top-rate baseline, with respect to x-axis changes in the top statutory federal individual tax rate on ordinary income (which ignores surtaxes of 0.9% on wages and 3.8% on passive investment income). The model is calibrated to the U.S. economy and tax provisions in 2022 and results are estimated for each percentage-point interval of the top rate.

3.3 Laffer Curves are Flat Around Revenue-Maximizing Top Rates

The tax function with a broad base shows a "peaked" top-rate Laffer curve, while the tax calculator with a true base shows a flatter curve. A flat curve is also seen for the tax function with a narrow base, but it exaggerates revenue gains relative to the true base.

For flat Laffer curves, local deviations of the top tax rate around the revenue-maximizing rate have minor effects on federal individual income tax revenue. To illustrate this, we consider the range around the revenue-maximizing rate for which revenue changes up to half a percentage point. For the true base, this occurs across a 17-percentage-point range of top tax rates.

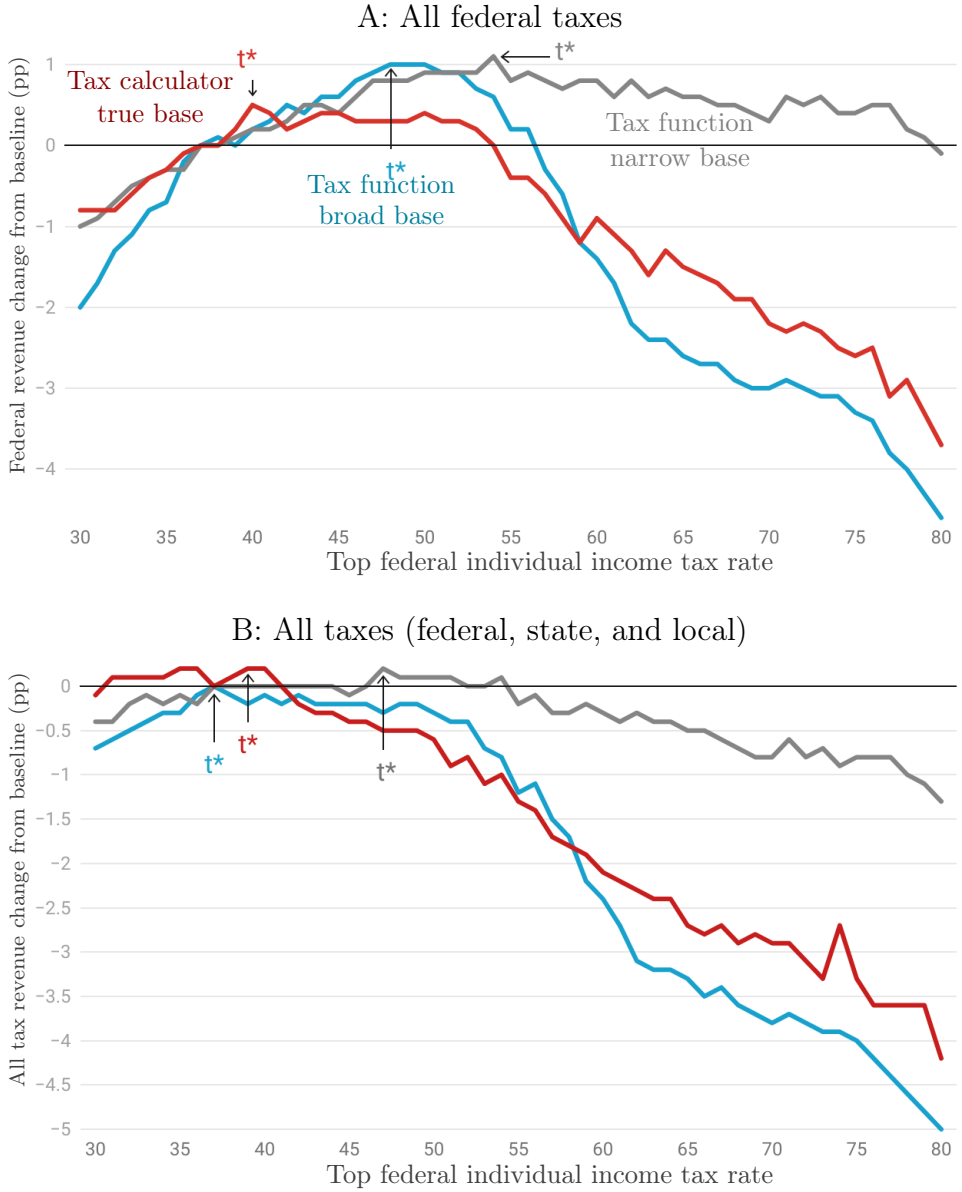
If the top rate is in the curve's flat range, the policy tradeoff centers on tax progressivity versus growth. Panel B of Figure 2 shows the equity-efficiency tradeoff: tax progressivity rises with the top tax rate but GDP falls due to behavioral responses. Tax progressivity is measured using the Kakwani index, a Lorenz-curve-based summary statistic capturing progressivity across the full income distribution (Splinter, 2020). For context, increases in tax progressivity are modest—a 70% top rate only increases income tax progressivity one-fifth of the 1985–2015 increase estimated in Splinter (2019)—while the 2% decrease in steady-state GDP is substantial.[3]

3.4 Interactions with Other Tax Bases Imply Flatter Laffer Curves

For purposes of estimating the revenue-maximizing top tax rate, additional taxes matter (Badel and Huggett, 2017). Considering other federal taxes besides individual income taxes, as well as state and local taxes, captures additional behavioral responses that affect federal income tax revenues and other taxes. These interactions result in flatter Laffer curves. Panel A of Figure 3 shows all three curves flatten when moving from accounting for changes to federal individual income taxes (as in Figure 2) to also accounting for federal payroll, corporate, excise, and estate taxes. The leftward shift in the flat region implies both lower revenue-maximizing rates and more limited revenue gains. The true-base Laffer curve suggests all federal taxes increase by 0.5% (roughly 0.1% of GDP) when the top federal income tax rate increases from 37% to 40% —corresponding to an all-in top rate of about 53%. The federal revenue gains from this 3-point top-rate increase slightly exceeds the 0.4% *losses* from a 3-point top-rate decrease.

[3] These GDP declines from capital and labor decreases are weakly smaller than prior estimates. For a 39-point top-rate increase, our estimated 2.5% GDP decline is below Kindermann and Krueger (2022)'s 4%. For a 12-13 point top-rate increase, our estimated 0.5–0.7% GDP decline is below Di Nola et al. (2025)'s 2.3% with evasion and comparable to their 0.6% without and Badel et al. (2020)'s 1.0%.

Figure 3: Policy Interactions Further Flatten Laffer Curves: All Federal Taxes vs. All Government Taxes



Note: Top panel includes all major federal taxes: individual income, payroll, corporate, excise, and estate taxes. Bottom panel includes all major taxes from federal, state, and local governments (e.g., non-federal income, property, corporate, and sales taxes). Y-axis shows changes in these taxes (in percentage point terms) relative to the 37% top-rate baseline, with respect to x-axis changes in the top statutory federal individual tax rate on ordinary income (which ignores surtaxes of 0.9% on wages and 3.8% on passive investment income). These Laffer curves reflect the same policy change as the Laffer curve in Figure 2 but also account for a larger set of general equilibrium responses to other tax bases. The model is calibrated to the U.S. economy and tax provisions in 2022 and curves estimated for each percentage-point interval of the top rate.

Panel B of Figure 3 shows that accounting for state and local taxes further flattens Laffer curves, making results more similar across the tax-base approaches. When interactions across all taxes are considered, total government revenue changes little, as the distortions generated by increases in the top federal rate erode state and local tax bases. The true-base Laffer curve suggests that increasing the top rate two percentage points to 39%—corresponding to an all-in top rate of about 52%—raises total revenues by about 0.2%. Thus, when considering all levels of government, increasing the top rate to the revenue-maximizing level results in total government revenue gains of less than 0.1% of GDP. At top rates just below 37%, total government revenue increases because state-local gains outweigh federal losses, highlighting a tradeoff between federal and state-local taxation.

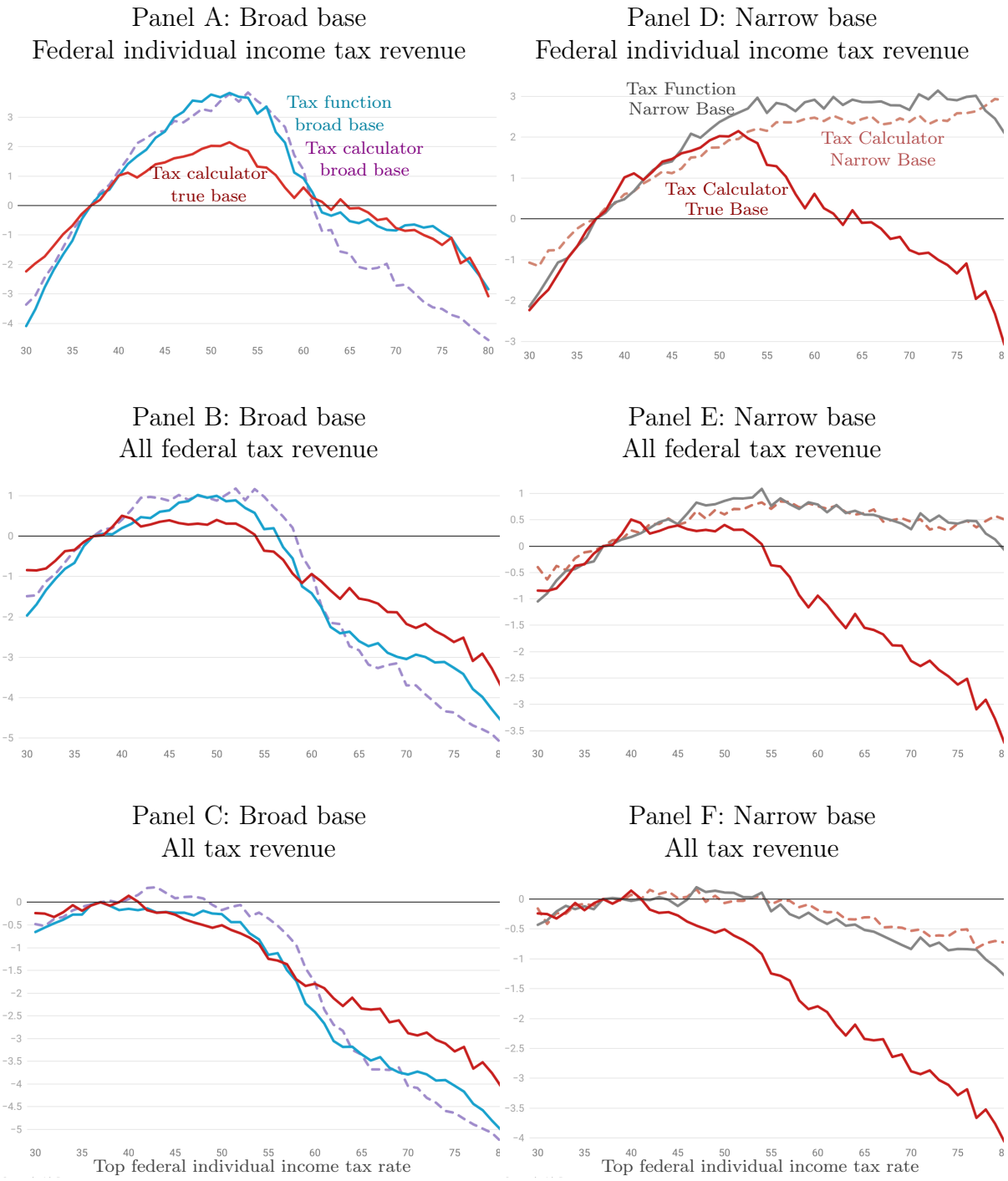
4 Sensitivity Test

Differences in tax bases explain most of the gap between Laffer curves. Traditional tax functions use bases that are either too broad or too narrow, whereas our tax calculator models a "Goldilocks" true tax base. To isolate this effect, we construct counterfactual tax calculators with partial firm responses (full firm responses are similar, Online Appendix Figure E2) and mis-specified broad or narrow bases. This confirms that tax-base definitions drive differences across approaches.

Figures 4A-C show that mis-specifying all capital income as ordinary (dashed lines) aligns tax-calculator curves with *broad*-base functions. The Laffer curves rise steeply with the larger ordinary-income base that ignores preferential rates, and decline sharply as behavioral responses are amplified. In contrast, a more realistic tax base produces a flatter Laffer curve.

Figures 4D-F show that ignoring ordinary capital income (dashed lines) aligns tax-calculator curves with *narrow*-base functions. This narrow base has fewer behavioral distortions, producing a mis-estimated Laffer curve that continually rises. Online Appendix Figure E3 isolates effects of full firm responses: revenue gains are unchanged for the narrow base and decrease by about one percentage point for the broad base.

Figure 4: Tax calculator mimics tax functions when aligning tax bases



Note: Y-axis shows percentage-point changes in relevant tax revenues relative to baseline revenues at the top statutory federal individual tax rate on ordinary income of 37%. Broad base treats all capital income as ordinary. Narrow base treats all capital income as preferential. All three curves have partial firm responses (incomplete sectoral shifting). Top panels include only federal individual income taxes. Middle panels include all major federal taxes: individual income, payroll, corporate, excise, and estate taxes. Bottom panels include all major taxes from federal, state, and local governments. Each Laffer curve reflects the same policy change but accounts for different general equilibrium responses according to the tax base. The model is calibrated to the U.S. economy and tax provisions in 2022 and curves estimated for each percentage-point interval of the top rate.

5 Conclusion

The Laffer curve literature has overlooked important policy details. It focuses on the revenue-maximizing top rate, relies on simplified tax functions, and typically ignores interactions among different taxes. We show that a more realistic depiction of the tax code fundamentally alters the shape of the estimated Laffer curve, the implied revenue-maximizing top rate, and potential revenue gains from increasing the top rate. These are not policy recommendations. Potential revenue gains from top-rate increases are sensitive to other tax system details that are frequently changed (e.g., itemized deductions) or rarely changed (e.g., the top-rate threshold and tax-base definitions). The Laffer curve's shape depends on the underlying tax system; we show it shifts significantly across different tax bases. Our estimates do not consider other revenue raising reforms for high-income households, such as corporate tax increases, deduction limitations, tax-rate increases for preferential income (CBO, 2024), or taxation of wealth (Moore and Pecoraro, 2023). Rather, we highlight which tax details are most critical for modeling the effects of top-rate changes, holding constant other aspects of the tax system.

Our findings have three main implications. First, standard approaches using simplified tax functions and generalized tax bases can distort policy conclusions. Laffer curves estimated with more realistic taxes are flatter, suggesting that changes to the top rate around the revenue-maximizing rate yield limited changes to revenue. This is because standard simplifications miss behavioral margins—such as shifting across tax bases—that are captured with richer modeling details. Second, interactions between federal individual income taxes and other taxes produce even flatter Laffer curves. Third, near the revenue-maximizing tax rate of a flat Laffer curve, the relevant tradeoff is between tax progressivity and growth, rather than an opportunity to raise substantially more revenue.

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