

Technical Note on the Economics of Taxing Capital Gains

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worked on this report.*

About IMPA The Institute for Macroeconomic & Policy Analysis (IMPA), housed at the Economics Department of American University, is a nonpartisan research institute focused on macroeconomics, inequality, and economic policy. The IMPA model emphasizes the widespread prevalence of market power in goods and labor markets, heterogeneity among sectors and firms in the economy, and income and wealth inequality.

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Key Takeaways

- Under the current system of capital gains taxation, capital gains income is taxed at lower rates than labor income—and only upon realization of the gains and with a step-up in basis at death. This system distorts the economy and contributes to inequality.
- Lower tax rates on capital gains income do *not* yield economic growth, as proponents of the current system suggest. In fact, an IMPA analysis projects that higher tax rates on capital gains would be mildly expansionary.
- Higher tax rates on capital gains income are expansionary because they decrease the price of stocks and the return on equity. A lower return on equity indirectly benefits firms because it reduces their cost of financing investment.
- This economic theory, which is at the heart of IMPA’s policy model, also predicts that taxing unrealized capital gains would be modestly expansionary.
- Eliminating tax preferences for capital gains income would reduce inequality, correct the inefficiencies created by the realization-based system, and raise significant revenue, all without sacrificing economic growth.

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Introduction

Taxation of capital gains has received considerable attention in the past decade as policymakers consider ways to generate additional revenue and address wealth inequality. This technical note explains and analyzes the taxation of capital gains, including unrealized gains. The first section describes the preferential tax treatment of capital gains income in the United States. The second section explains that, while proponents claim that these tax preferences increase economic activity, there is little to no evidence that they do so. In contrast, an IMPA analysis projects that a higher tax rate on capital gains income would be mildly expansionary. Additionally, lowering tax rates on capital gains income would increase inequality, while equalizing tax rates on capital and ordinary income would decrease inequality. The third section describes the problems caused by taxation on the basis of realized gains and briefly summarizes proposals to tax capital gains annually as they accrue. Importantly, the economic theory underlying IMPA's analysis of capital gains tax rates also implies that taxing unrealized gains would be modestly expansionary.

How Are Capital Gains Currently Taxed?

Most capital gains income is taxed at a lower rate than labor income. Long-term capital gains, that is, gains realized a year or more after the purchase of the asset, are taxed at only 23.8% (IRS, 2024). In contrast, the current top marginal tax rate on ordinary income—which is primarily labor income—is 37%. Moreover, most high-earners pay a top rate of 40.8% after the top net investment tax rate of 3.8% is accounted for. In other words, the taxpayers with the highest income pay approximately 40% less in taxes on their capital gains income than on their labor and other ordinary income. Only short-term capital gains, that is, those realized within one year of asset purchase, are taxed at the same rate as ordinary income (see U.S. Congress (2024)).

In addition, while labor income is taxed in the period when it is earned, most capital gains are taxed only when they are *realized*.¹ Most commonly, capital gains are deemed realized when they are sold.² The ability to put off paying taxes on income from capital gains is known as deferral. The deferral confers a benefit to owners of appreciated assets. It is as if the owner were receiving a zero-interest loan from the government.

Deferral can be indefinite. If a person never sells an asset during her lifetime and instead bequeaths it to an heir at death, the IRS resets the market value of the asset to its value on the date of the original owner's death. This is known as a step-up in basis. Because of the step-up in basis, unrealized gains on inherited assets generally escape income taxation entirely, although a small fraction of them are subject to estate tax.

¹Not all capital gains taxes can be deferred. Six federal provisions for taxation of unrealized gains are examined in Toder (2023). See also Marr and Samatha (2023).

²The tax code also provides for other, less common realization events, such as exchanges for assets of a different type.

Who Benefits from Tax Preferences for Capital Gains Income?

Tax preferences for capital gains income disproportionately benefit wealthy households because these are the households that receive the highest share of capital gains.

Figure 1 shows how unequally capital gains are distributed. The wealthiest 1% of households, which have wealth of \$13.8 million or more, reported 39% (worth \$739 billion) of all capital gains realized in 2022 on assets of all types outside retirement accounts.³ In contrast, the least wealthy 80% of households, with wealth of \$880,000 or less, reported only 6% of realized capital gains.

The top 1% held an even larger share of unrealized gains in 2022, at 44% (worth over \$21 trillion).

Even among the top 1%, unrealized gains are unequally distributed. Federal Reserve data show that centimillionaires alone—the 64,000 households with over \$100 million in wealth—held 40% of the unrealized gains of the top 1%. This amounts to \$8.5 trillion in unrealized capital gains, representing 18% of all unrealized gains in American national wealth.

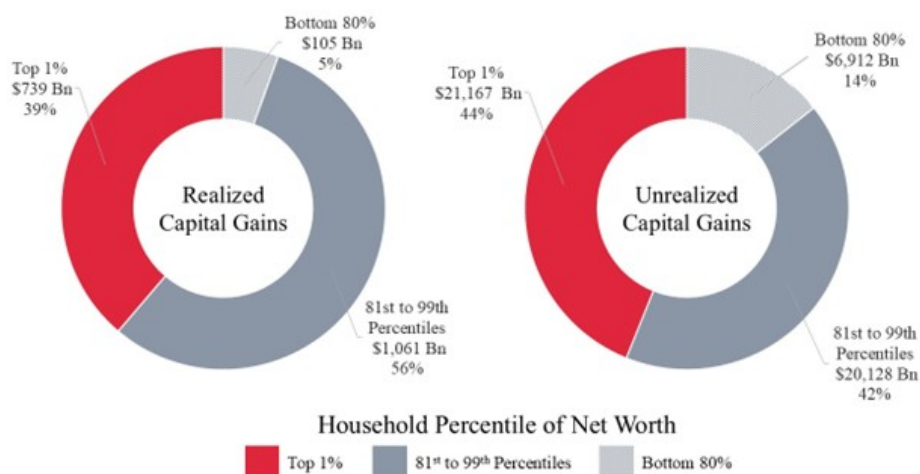


Figure 1: Distribution of Realized and Unrealized Gains on All Assets by Household Total Net Worth

Notes: Total values in billions of 2022 US dollars. Includes stocks and mutual funds outside of retirement accounts, business assets, primary residences, and other real estate.

Source: IMPA calculations from [2022 Survey of Consumer Finances](#) data.

One reason why the ultrawealthy hold so much of America's unrealized gains is that they can utilize the indefinite character of deferral. Even if their after-tax labor income is insufficient at any given time, they can convert assets to cash without paying income taxes by borrowing against their wealth using the appreciated value of their assets as collateral.⁴ For this reason, taxing capital gains only upon realization allows the wealthiest Americans to permanently escape paying federal income taxes on the appreciated value of their assets during their lifetimes.

³Distributions from retirement accounts are treated as income.

⁴For a description of tax avoidance strategies used by the wealthy, see the recent Congressional testimony of Bob Lord at [The 2025 Tax Policy Debate and Tax Avoidance Strategies](#).

How Do Low Tax Rates on Capital Income Affect the Economy?

Proponents of low tax rates on capital income, and capital gains income in particular, argue that low taxes increase economic activity by boosting household savings.⁵ It is argued that the additional household savings is channeled to firms through direct investment in privately held businesses, bank loans, the bond and stock markets, and other financial instruments. Such higher private investment should, in turn, yield higher productivity, wages, and GDP growth.

Low Tax Rates on Capital Gains Income Do Not Increase Savings or Investment

How do households' savings actually respond to changes in the tax rate on capital gains? The data show that household savings are not affected by an increase in the after-tax rate of return, including increases created by tax preferences. That is because higher after-tax rates of return allow households to save less while still reaching their saving goals. Put differently, higher after-tax rates of return make households better off, and when households are better off, they can save the same amount and spend more at the same time.⁶

Accordingly, downstream effects of the ostensible change in household saving are also absent. There is no clear evidence that tax breaks on capital income increase corporate investment, jobs, aggregate capital stock, or long-term growth through a savings channel.⁷

Entrepreneurship and Risk-Taking

Another argument for low capital income taxes is that low taxes incentivize risky investments and thereby promote entrepreneurship. Greater risk-taking, it is argued, is good for innovation, which spurs economic growth.

However, economic theory points to another channel that would imply an ambiguous or even positive relationship between capital income taxes and risk-taking. In tax systems such as those of the US and other advanced economies, which allow investors to offset gains against accrued losses, the tax authority absorbs a portion of an investment's risk. This government risk-sharing effect implies that a high tax rate on capital income can decrease the costs associated with risky investments and actually *stimulate risk-taking* economy-wide.⁸ If the risk-sharing effect is large enough, the overall effect on the economy will be to encourage risk taking.

⁵See, for example, York (2019).

⁶For a more complex rationale for and empirical work confirming the lack of a clear association between lower taxes on capital income and household saving, see <https://crsreports.congress.gov/product/pdf/R/R48092>.

⁷See, for example, Yagan (2015) for empirical evidence on the effects of the 2003 capital income tax reform. See also the recent Congressional testimony of Kitty Richards.

⁸This is the well-known Domar–Musgrave effect (Domar & Musgrave, 1944).

Higher Taxes on Capital Gains Income Can Stimulate Investment and Growth

Raising taxes on capital gains income—and other types of capital income—may increase economic activity through two channels that are entirely distinct from the savings channel.

First, raising taxes on capital gains income would reduce the federal deficit and debt. With lower government debt, more of households' total savings is available to firms for investment. In addition, lower government debt helps keep interest rates low, which increases firm investment. When firms invest more, they also create more jobs, raising wages. GDP increases. This channel is well known; it is the obverse of the “crowding-out” effect of adding to government debt that is described in economics textbooks.⁹

The second channel is similar, if less well known. Raising taxes on income from corporate distributions decreases the price of stocks and privately held businesses and so reduces the return on equity.¹⁰ Reducing the return on equity indirectly benefits firms because it decreases the cost of financing investment. Through this equity price channel, which is incorporated in IMPA's macroeconomic policy model, higher capital gains taxes would also modestly increase investment, employment, and GDP.

Using IMPA's macroeconomic policy model, we **recently assessed** the macroeconomic effects of raising the capital gains tax from 20% to 39.6% for households earning over \$1 million. This change would require the highest-earning households to pay the same marginal tax rate on their capital gains as on their ordinary income.

We find that removing the preferential tax treatment for capital gains income alone is itself mildly expansionary. After 10 years, equalizing the tax rates on capital gains and labor income would increase the aggregate capital stock by approximately 0.3% and annual GDP by approximately 0.2%. In the long run, after the economy fully adjusts to the change, the capital stock would be approximately 0.8% and GDP approximately 0.5% higher each year.

Low Tax Rates on Capital Gains Income Increase Inequality

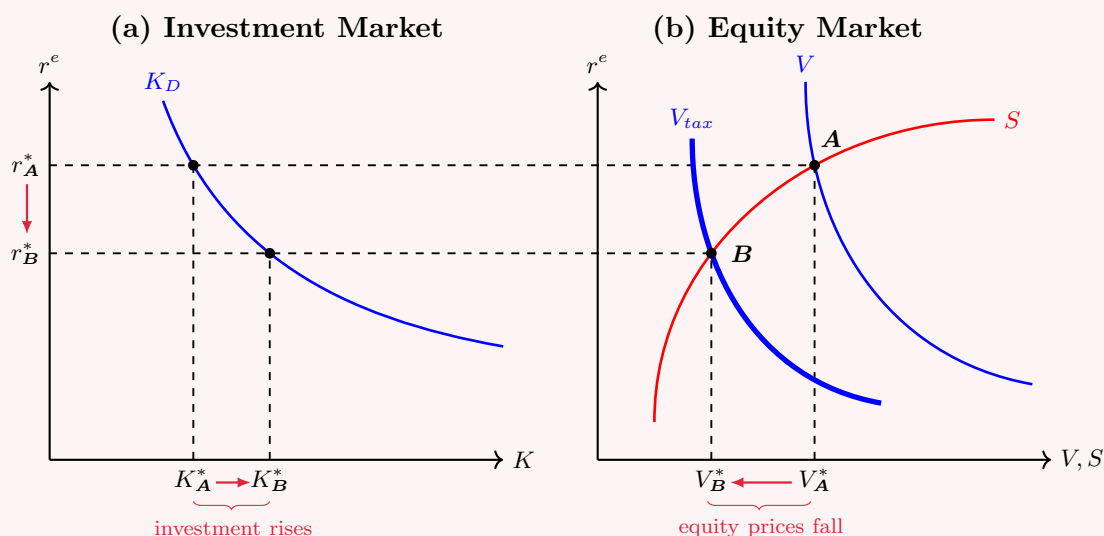
Wealth inequality in the US has risen significantly. In 1990, the wealthiest 1% owned approximately 20% of the total wealth in the economy. Today, this figure is approximately 27%. Over the same time, the share of stock market wealth held by the top 1% of households rose by 8 percentage points. Today, the wealthiest 1% own nearly half of US households' total stock market wealth (see, for example, **Batty et al. (2020)**).

As we explained in our earlier brief on capital income taxation, one driver of the rise in inequality is the decline in progressivity in the tax system. Notably, the series of tax cuts beginning in 1997 and culminating

⁹In the **Penn-Wharton model**, the private investment increase from this reversal of crowding-out is of greater magnitude than the estimated increase through the savings channel described above.

¹⁰**McGrattan and Prescott (2005)** show, using a calibrated macroeconomic model of equity pricing, that falling effective marginal tax rates on income from corporate distributions can explain the majority of observed equity price growth in the US during the 1990s. **Shackelford (2004)** provides an overview of how capital gains taxes in particular can affect equity prices and surveys the empirical evidence.

Understanding the Equity Price Channel



These diagrams illustrate how equity prices are related to taxes on corporate distributions (panel a) and how falling equity prices can stimulate private investment for the economy as a whole (panel b).

Investment Market Demand for investment (K) depends negatively on the rate of return demanded by investors (r). This demand relationship is captured by the downward-sloping blue curve K_D .

Equity Market The rate of return is determined in the equity market by the supply of and demand for corporate equity. The supply of equity is the discounted value of future cash flows and is captured by the downward-sloping blue curve (V). The equilibrium rate of return occurs at point A , where equity supply intersects equity demand from households' savings (S).

Higher Tax Rate Increasing the effective tax rate on corporate distributions reduces the financial value of corporate equity. The equity supply curve shifts left from V to V_{tax} , with a new equilibrium occurring at point B . All else equal, this decreases the rate of return from r_A^* to r_B^* for the economy as a whole. The result is a rise in total private investment from K_A^* to K_B^* .

with the 2017 Tax Cuts and Jobs Act greatly benefited the wealthiest households, which also have the most capital gains income. The decline in tax progressivity is a primary contributor to the post-1980 increase in wealth inequality.¹¹

Higher Tax Rates on Capital Income Decrease Inequality

In addition to increasing economic activity, requiring the very wealthy to pay the same tax rate on realized capital gains as on ordinary income would reduce wealth inequality. IMPA's **assessment** of the macroeconomic effects of raising the capital gains tax from 20% to 39.6% for households earning over \$1 million projects that households at lower and middle wealth levels would have higher income, employment, and

¹¹See Kaymak and Poschke (2016) and Hubmer et al. (2020). One well-designed study demonstrates that tax breaks on capital income incentivize firms to distribute more earnings to shareholders. Note that the current system can even result in uneven tax treatment of equally well-off households because their tax rates depend on the timing of their purchases and sales.

government transfers, which would lead to more savings and higher wealth. The wealthiest 5% of households, which own half of all stock market wealth in the US, would experience a decline in wealth because of the decline in the value of equities and because of their lower after-tax income (Batty et al., 2020).

How Does Realization-Based Taxation Affect the Economy?

Proponents of realization-based taxation of capital gains income argue that the current system is convenient for two reasons. First, it is easy to value the amount of capital gain to be taxed because the value of the asset is its recent sale price. Second, it is easy to collect the tax because the taxpayer is highly liquid after having just sold the asset. However, the convenience of the realization-based system comes at the cost of economic distortions.

Realization-Based Taxation Causes Economic Distortions

The most important economic distortions from the taxation of realized instead of unrealized gains are lock-in and tax arbitrage.¹²

- **Lock-in** In a realization-based system, the ability to defer tax liability at no cost gives investors an incentive to hold appreciated assets. This benefit rises over time as assets appreciate. Because of the benefit, investors are willing to accept a lower pretax rate of return. Since investors are perpetually faced with the disincentive to sell, they are less likely to rebalance their portfolios. This keeps them “locked-in” on assets with low returns. Investors as a group maintain more specialized portfolios than they would otherwise. This inadequate diversification is socially costly because it increases risk. Lock-in also discourages successful entrepreneurs from selling their firms, paying capital gains taxes, and starting new ventures. Instead, they hold onto their firms to avoid taxes, limiting the number of business start-ups.¹³ In short, investment resources are inefficiently allocated.
- **Tax arbitrage** In a realization-based system, investors with capital gains can avoid paying taxes on them if their realized losses equal their gains. Hence, investors with gains are incentivized to sell off depreciated assets they would otherwise hold. This again reduces diversification and increases risk.¹⁴ Additionally, tax arbitrage often involves complex financial maneuvers that can be costly to implement. There may be legal, accounting, and administrative fees associated with these strategies, which could outweigh the potential tax savings, especially if the tax benefits are marginal.

The problems of lock-in and tax arbitrage arise from the fact that, under a realization-based system, a household’s *economic* income is not taxed. Economists have long considered an increase in the value of

¹²In fact, realization-based capital taxation is socially optimal only if one ignores the heterogeneity in capital endowments and incomes and its association with households’ ability to participate in capital markets. For example, Aguiar et al. (2024) model decisions only of individuals who have the capacity to participate in capital markets, ignoring the 40% of the population holding no capital assets.

¹³See Chari et al. (2005).

¹⁴See Auerbach (1989) for a longer exposition of the problems of lock-in and tax arbitrage. Empirical studies find that capital gain realizations and investments are sensitive to changes in actual tax rates and even to the *possibility* of favorable changes in the political landscape. See, for example, Dowd and McClelland (2019) and Agersnap and Zidar (2021).

capital assets to be income, whether the gain is realized or not, because the appreciation increases the economic resources available to the owner.¹⁵

Because the realization-based system generates distortions and exacerbates wealth inequality, recent economic analyses support a progressive system of comprehensive income taxation, in which capital gains are taxed annually as they accrue, even if assets are not sold.¹⁶

Taxing Capital Gains as They Accrue: The Mark-to-Market Approach

The system of taxing gains as they accrue is called the “mark-to-market” approach. A **broad implementation**—one that would apply to all asset classes and taxpayers—could increase tax revenues by \$180 billion annually. This amount of revenue would cover the entire three-year cost of the recent bipartisan child tax credit provisions six times over in a single year.¹⁷ It would also suffice to pay for the annual costs of doubling the child tax credit to \$4,000 per child while making it fully refundable.¹⁸ The vast majority of this revenue would flow from the very wealthiest taxpayers.

There are three challenges to implementing a mark-to-market approach. First, while valuation is relatively straightforward for assets such as publicly traded stocks, it is more difficult and uncertain for other types of assets such as privately held firms. Second, price volatility can create significant fluctuations in the value of assets, potentially leading to situations where taxpayers owe taxes on gains that quickly disappear because of market corrections. Third, some taxpayers may be unable to readily convert assets into cash (or borrow against them). These may find it difficult to pay their tax bill.

Specific proposals for adopting a mark-to-market approach differ in their details, but each addresses these challenges. For example, to solve the problems of price volatility and illiquidity, the **Biden administration** proposed allowing taxes to be paid over several years. Another **proposal** is to retain taxation at realization for capital gains but to require withholding against future payment or to adjust the tax rate over time based on the holding period. As the holding period increases, the tax rate would rise, ensuring a consistent effective tax rate on long-term capital gains.

¹⁵See **Slemrod and Bakija (2008)**. Also note that the tax preferences for capital gains are predicated on the notion that labor and capital income can be easily and readily delineated. In practice, however, there is often a blurred line between the capital and the labor income of the very wealthy. Owners of firms are often executives or directors, deriving income both directly from ownership and from their labor on behalf of owners. The preferential tax treatment of capital gains gives individuals a substantial incentive to shift income from labor to capital by choosing to distribute profits through dividends or to incorporate. Because it is not clear how business owners should separate the returns to their labor and their capital, **Piketty et al. (2023)** conclude that all income should be taxed similarly.

¹⁶Further analyses include **Haig (1982)**; **Piketty et al. (2023)**; **Saez and Stantcheva (2018)**; **Saez and Zucman (2022)**; **Slemrod and Chen (2023)** and **Simons (1938)**. **Allais and Aron (2008)** observe earlier episodes of increasing inequality and reached similar conclusions. A minority of studies favor a wealth tax such as Senator Warren’s “ultramillionaire tax” over comprehensive income taxation (for example, **Guvenen et al. (2019)**). **Blanchet (2022)** finds the revenue-maximizing linear tax rate on wealth above \$50 million to be 12%. Notably, this rate is substantially higher than the rates contemplated by the Warren proposal.

¹⁷Estimated costs of **Title 1 of H.R. 7024 from the CBO**.

¹⁸According to the **Committee for a Responsible Budget’s tool** and assuming a phase-out threshold of \$400,000 for married couples.

Intermediate measures, such as eliminating the step-up in basis at death or treating death as a realization event, have also been recommended by economists.¹⁹ However, these are only partial solutions to the problems described above, and they would raise far less revenue.

Taxing Capital Gains as They Accrue Would Not Harm Investment and Growth

Adopting a mark-to-market approach would have the same impact on share prices and return on equity as raising the tax rate on realized capital gains income. The mark-to-market approach would decrease share prices and the return on equity and would make it cheaper for firms to fund productive investments. Through this channel, removal of all tax preferences for capital gains income would modestly increase economic activity.

Conclusion

The current system of tax preferences for capital in the US, whereby capital gains income is taxed at low rates and only upon realization of the gains, does not deliver on its promise to increase investment and economic activity. Instead, the current system creates economic distortions and contributes to the high levels of inequality in the US.

Removal of tax preferences for capital gains income so that wealth is taxed just like ordinary income is supported by economists on the grounds that it would decrease inequality. IMPA's analysis shows that such an approach would not harm economic growth and may even modestly stimulate investment and GDP.

Enacting these proposals would raise hundreds of billions of dollars of revenue. Moreover, it would substantially decrease inequality because the proposed taxes on unrealized gains would be paid only by the wealthiest of the wealthy.

¹⁹Farhi and Werning (2010); Piketty et al. (2023).

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