

TAXING THE WEALTHY: THE CHOICE BETWEEN WEALTH AND CAPITAL INCOME TAXATION*

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Abstract

This paper analyzes the relative merits of wealth and capital income taxes as instruments for taxing the rich. The main rationale for a wealth tax is to address the incompleteness of the tax code in taxing unrealized capital gains, which can be enormous and concentrated among the wealthy. However, by taxing presumed rather than actual returns, a wealth tax fails to address inequality among taxpayers with the same wealth but different capital incomes. In addition, wealth taxation creates liquidity problems that may adversely affect growth firms and start-ups, which is why wealth taxes typically provide exemptions and deductions for certain business assets. Our empirical analysis, based on Swedish register data, describes the wealth composition of the wealthiest and assesses the distributional incidence of different combinations of wealth and capital income taxation.

Keywords: Taxation, Wealth, Capital, Income, Liquidity Problems, Business Equity

JEL: H20, H21

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1 Introduction

Policymakers have long sought ways to tax the wealthiest in society. A key challenge is to balance egalitarian ambitions with the need to encourage growth-enhancing entrepreneurship. In this context, a fundamental issue is the design of capital taxation, and the extent to which governments should tax the income flows from capital or the capital stock itself. The purpose of this paper is to examine the relative merits of capital income and wealth taxes as instruments for taxing the rich.

When deciding the appropriateness of a wealth tax, a very first observation is that if the government could tax all sources of capital income, a wealth tax would not be needed. Thus, a wealth tax is useful only to the extent that the government cannot properly tax capital income. The question, then, is not whether to use capital income or wealth taxes to tax the rich, but rather in what situations wealth taxation can usefully serve as a complement to capital income taxation. In our view, the main reason to use a wealth tax is to mitigate the incompleteness of the tax code when it comes to taxing unrealized capital gains, which are enormous in most countries and concentrated among the wealthiest.¹

Since capital gains are only taxed upon realization in most systems of capital income taxation, such gains pose a general problem of tax avoidance. A wealth tax is levied independently of voluntary realizations and thus has the potential to broaden the overall tax base and enhance redistribution. At the same time, a wealth tax may lead to inefficient or inequitable outcomes because it is levied independently of actual cash flow. This means that wealth taxes are difficult for people who primarily hold assets that have uncertain valuation, are illiquid and do not generate regular cash flows, such as homes, artwork, and ownership shares in some unlisted corporations, such as start-ups.²

Conceptually, a wealth tax is a tax on an imputed "normal" rate of return on a set of assets chosen to be included in the tax base. For example, if the normal rate of return is set equal to the return on a regular savings account, which happens to be 2 percent, a 2% wealth tax imposes a 100 percent tax on the return on an investment in such a savings account. For investments that yield a return greater than 2%, such as a stock market investment, the part of the return that exceeds 2 percent, the "excess return", is not affected by the wealth tax. On the other hand, for investments with a return below 2%, an annual wealth tax of 2% effectively reduces the wealth of the investment. Whether the government taxes imputed or actual returns can matter a great deal to individuals, depending on the composition of their asset portfolios and the evolution of asset prices.

¹The size of these unrealized capital gains depends crucially on how the capital income tax code is designed. For example, if capital gains realizations are triggered automatically when people die or leave the country, the problem of unrealized capital gains is less problematic than in the absence of such rules.

²History has also taught us that wealth taxes, if not carefully designed, can lead to creative and unexpected ways of circumventing them, either through legal tax avoidance or illegal tax evasion; see [Bastani and Waldenström \(2022\)](#) for a discussion of the experience of the Scandinavian countries.

When combined with a tax on capital income, a wealth tax effectively becomes a "double tax" on the normal return. This can lead to excessively high tax rates on the normal rate of return, which is problematic because it is the normal rate of return that guides how people allocate their consumption over the life cycle, and taxing it creates distortions in intertemporal consumption decisions. These are distortions that economists often emphasize. Typically, one would like to have a higher tax on above-normal returns, since excess returns often reflect economic rents with a weak connection to effort.³

The general purpose of this paper is to analyze the advantages and disadvantages of levying a wealth tax on the rich as a complement to an existing system of capital income taxation. The specific implementation we have in mind is a wealth tax on individual net worth above a certain threshold. This is essentially what [Saez and Zucman \(2019a\)](#) suggest in their recent proposal for a wealth tax in the United States. Our assumption is that there is a policymaker who wants to increase the tax burden on the rich, and our goal is to analyze whether it is better to do so by increasing the existing tax on capital income, or whether it is better to introduce a specific wealth tax on the rich. To address this question, we review basic theoretical arguments for and against wealth taxation, focusing on the rich and the characteristics of wealth taxation relative to capital income taxation, discuss practical and administrative issues, and present empirical evidence.

The empirical analysis describes the composition of asset portfolios using Swedish population registers. It also assesses the distributional incidence of two specific policy reforms in the context of an existing system of capital income taxation.

The first policy introduces a new wealth tax on the rich while leaving the level of capital income taxation unchanged. The second policy considers the effects of increasing the level of capital income taxation within the current system. Both policies are evaluated under the restriction that they raise the same amount of tax revenue as a fraction of GDP, and are evaluated with and without rebating back the increased tax revenue to people in the bottom half of the wealth distribution, and with and without including unlisted business assets in the tax base.⁴ The emphasis is on the consequences for inequality in the wealth distribution, focusing on the most common measures of inequality: Gini coefficients and top wealth shares.

³There are, of course, counterarguments to this view, see [Mirrlees et al. \(2011\)](#).

⁴In all cases, we assume away behavioral responses to the capital income tax systems. The fact that the capital tax revenue is rebated to agents in the bottom half of the wealth distribution does not affect the comparison between the wealth and capital income taxes, but is assumed to be consistent with the presumed redistributive aspirations of a government that chooses to tax the rich more. In practice, such a rebate of tax revenue would have to be achieved through changes in the income tax schedule and would be associated with distributional imprecision (for example, because of the imperfect correlation between income and wealth) and because of behavioral responses to the implicit means-testing of the transfer.

2 Conceptual issues

2.1 Why tax wealth?

In our view, the main reason for a wealth tax is to mitigate the incompleteness of the tax code when it comes to taxing capital income, especially the failure to tax capital gains as they accrue.⁵ However, we also want to briefly mention some other reasons for a wealth tax, which have been emphasized in the literature. First, society may care about the distribution of wealth *per-se*, especially if individuals derive utility from holding wealth (see [Saez and Stantcheva 2018](#)). If so, achieving a more equal distribution of wealth has direct social benefits. Second, there may be externalities associated with the distribution of wealth. These externalities may be either positive or negative. The literature has mainly focused on the negative ones, arguing that a skewed distribution of wealth can lead to a concentration of economic and political power. However, the externalities can also be positive if only the very wealthy have the means to undertake large and risky projects that are socially valuable (and would otherwise not be undertaken by governments). Third, individuals may accumulate wealth for positional reasons. If so, the wealth accumulation of one individual has a negative impact on the utility of another individual, leading to an inefficient rat race ([Konrad 1992](#); [Aronsson et al. 2021](#)). This provides another efficiency rationale for wealth taxation.⁶

2.2 The taxation of normal versus excess returns

Most of the economic literature on capital taxation has assumed that agents are identical and that there is a single investment vehicle that can be used to transfer resources over time. In such a setting, wealth taxes and capital income taxes are identical because they are both imposed on the common (normal) rate of return to saving. Empirically, however, there is considerable heterogeneity in returns (see, for example, [Fagereng et al. 2020](#)). When returns are heterogeneous due to heterogeneity in assets and investor characteristics, the important difference between a wealth tax and a capital income tax is that the former is levied on the imputed (“presumed”) normal return to saving, whereas the capital income tax is levied on actual returns.

We define the normal return as the return on a safe asset, such as a government bond, and the excess return as any return that exceeds the return on that safe asset.⁷ We can

⁵Although levying a wealth tax is not the only way to address this problem, as another way is to fix capital gains taxation, see [Auerbach \(1991\)](#).

⁶See also [Scheuer and Slemrod \(2021\)](#) and [Adam and Miller \(2021\)](#) for complementary discussions of wealth taxation, and [Banks and Diamond \(2010\)](#), [Jacobs \(2013\)](#), and [Bastani and Waldenström \(2020\)](#) for further discussions of equity and efficiency reasons to tax capital, and the relationship between labor income and capital income taxation.

⁷Note that achieving excess return does not require greater risk-taking, since in reality investors earn different returns even on safe assets.

interpret the normal rate of return as the compensation an individual needs to postpone consumption. From this perspective, since both wealth and capital income taxes are imposed on this return, wealth and capital income taxes are roughly equivalent in terms of how they affect how much people save. However, by differing in their tax treatment of excess returns, the choice between wealth and capital income taxation affects how people save and can therefore have real implications for the growth of the economy.

The Mirrlees Review (Mirrlees et al. 2011) recommended to tax excess returns but not normal returns, arguing in favor of a capital income tax with a rate-of-return allowance (exempting normal returns). This is the exact opposite of a wealth tax.⁸ Their motivation was that taxing excess returns is desirable based on their rent-component, whereas not taxing normal returns would avoid distorting savings behavior. The optimal tax literature, in contrast, typically argues that both normal and excess returns should be taxed as the taxation of normal returns can be motivated if this contributes to higher social welfare, either by enhancing the extent of redistribution, or mitigating distortions associated with labor income taxation.⁹

Excess returns can come from several different sources, and depending on what the source is, the relative merits of taxing wealth (presumed returns) versus capital income (actual returns) will differ.

Idiosyncratic investment risk One source of excess returns is idiosyncratic investment risk. While there is some empirical uncertainty about how much such risk households actually face, it is important for wealthy entrepreneurs who may be heavily invested in particular industries. Such investment risk is studied in the classical analysis of [Domar and Musgrave \(1944\)](#), where investors are equally productive and make a choice between a risky and a safe asset. In this setting, capital income and wealth taxes will have different effects on the riskiness of private investment.¹⁰ The normative implications of excess returns due to idiosyncratic investment risk in an optimal income tax framework have recently been analyzed by [Boadway and Spiritus \(2021\)](#). They find no support for taxing excess returns (due to idiosyncratic investment risk) on redistributive grounds, but emphasize the role of insurance highlighted by the earlier literature.¹¹

⁸This recommendation has recently been re-iterated by [Adam and Miller \(2021\)](#).

⁹This is the view shared by the background report to the Mirrlees Review, [Banks and Diamond \(2010\)](#).

¹⁰For a detailed discussion of the effects of a capital income tax on risk-taking, see [Feldstein \(1969\)](#). See also [Sandmo \(1985\)](#) for a general review of the early literature on taxation and risk-taking.

¹¹A shortcoming of the optimal capital tax literature is that the general equilibrium implications of investment risk typically have been neglected, and this is clearly an area where more research is needed. An early contribution is [Stiglitz \(1970\)](#) who argues that it is difficult to make a strong case for government subsidies to risk taking (in the form of a different tax treatment of investments depending on their riskiness).

Economic rents Another source of excess returns is economic rents, which arise, for example, from natural monopolies, imperfect competition, or private information about investment opportunities (such as insider trading). Economists often argue that rents should be taxed at 100% because they arise from inefficiencies in the economy and have little to do with individual effort.

While it is generally difficult to prove empirically that excess returns are in fact rents and not rewards for productive effort, there is empirical evidence of the growing importance of rents due to the increasing market power of firms, especially in online platforms (see [Schwerhoff et al. 2020](#) and [Eeckhout 2021](#) for recent summaries). There is also growing evidence of market power in labor markets, as documented by the surveys and meta-analyses of [Manning \(2021\)](#) and [Sokolova and Sorensen \(2021\)](#). There is also evidence that rents and capital gains on real estate play a more important role in capital accumulation, as documented by [Piketty \(2014\)](#) and [Rognlie \(2015\)](#). Moreover, the 2008 financial crisis implied a massive redistribution from taxpayers to bankers, who brought the financial system to its knees by reaping large rents from excessive risk-taking.

In our view, the most compelling case for rent taxation concerns scarcity rents, such as land rents. This suggests an important role for the taxation of excess returns, that is, capital income taxation, in the case of real estate. While real estate does not play a very large role in the wealth portfolios of the wealthiest, the business assets that the wealthiest disproportionately own may be real estate companies or other companies that invest in real estate.

Heterogeneity in investment ability Excess returns can also be caused by heterogeneity in investment ability. [Fagereng et al. \(2020\)](#) use rich administrative data in Norway and document substantial heterogeneity in investment returns, even within narrow asset classes. Moreover, [Bastani et al. \(2023\)](#) use Swedish data to show that individuals with higher cognitive ability earn higher returns (even on safe assets such as bank deposits). While a tax on normal returns redistributes from the rich to the poor, it does not redistribute from people with high capital income to people with low capital income, conditional on the level of wealth. Thus, similar to the argument for equalizing outcomes across individuals with different earning ability, there is an argument for equalizing outcomes across individuals with different investment ability, implying an equity rationale for taxing excess returns. That heterogeneity in investment ability implies a role for positive optimal capital income taxation is shown in an optimal income tax context by [Gahvari and Micheletto \(2016\)](#) and [Gerritsen et al. \(2022\)](#).

[Guvenen et al. \(2023\)](#) is a recent study that argues that there are efficiency gains from relying on wealth taxes rather than capital income taxes when returns are heterogeneous. In their model, agents differ in their entrepreneurial ability and face borrowing constraints. Since capital income taxation imposes a heavier tax burden on entrepreneurs

who are more productive and generate more capital income, relying on wealth taxation instead of capital income taxation shifts the tax burden from productive to unproductive entrepreneurs, and increases the saving of more productive entrepreneurs.¹² One limitation of this result is that it does not take into account the early stages of entrepreneurial activity, when no capital income is earned. Another limitation is that liquidity constraints do not cause problems for the investor in paying the wealth tax because agents can always borrow (at least) up to the value of their assets (and there are no errors in the valuation of the wealth tax base).

The scale of investments Another source of excess returns is scale effects. The rich earn higher returns not only because of risk-taking, rents, or superior investment ability, but also because they have access to high-return investment opportunities through portfolio managers, mutual funds, and private banks. [Piketty \(2014\)](#), [Saez and Zucman \(2019b\)](#) and [Fagereng et al. \(2020\)](#) document that returns are higher for institutions or people with greater wealth. Moreover, [Gerritsen et al. \(2022\)](#) show the optimality of taxing capital income in the presence of scale effects.

2.3 Liquidity issues

When investments are taxed based on presumed rather than actual returns, liquidity problems may arise. For example, assets may not be divisible, a secondary market may not exist because the assets are rarely traded, or the investment may not generate sufficient cash flow for taxpayers to meet their tax liabilities. Liquidity problems are the main reason why many durable goods, such as art and antiques, have historically been exempt from wealth taxation. Key to the economic and political feasibility of wealth taxes is how tax design elements, such as rebates and deductions, can mitigate potential liquidity problems caused by wealth taxation (especially in the context of business cycles and recessions), as well as how policy tools, such as tax deferral options and credit facilities, can be used.¹³ Many governments allow such provisions to mitigate liquidity problems, for example in the context of business succession, gift and inheritance taxes.

Few studies have examined the importance of liquidity constraints resulting from wealth taxation. [Loutzenhiser and Mann \(2021\)](#) provide a review of various aspects of the liquidity problem inherent in wealth taxation and present survey evidence from the United Kingdom showing that farmers and business owners in particular would be negatively affected by a hypothetical wealth tax. [Thoresen et al. \(2022\)](#) study the existing

¹²If only a capital income tax is used, it takes on a negative value due to the desire to alleviate borrowing constraints. In the absence of borrowing constraints, the welfare gains from switching from a capital income tax to a wealth tax are much smaller, although an optimal wealth tax still yields higher welfare gains due to improved incentives to save. For a more detailed comparison of wealth and capital income taxes, see [Güvenen et al. \(2022\)](#).

¹³This is why the proposals of [Saez and Zucman \(2019a,b\)](#) feature large exemption thresholds.

Norwegian wealth tax and find that under the current wealth tax rate of 0.85%, and given the current discounts on asset values, most individuals are able to meet their tax liabilities. While not directly addressing the liquidity problems of the wealthiest, [Kaplan et al. \(2014\)](#) examines households classified as "asset rich, cash poor" using survey data on household portfolios from several OECD countries. In the U.S., the authors find that about 25-40 percent of U.S. households are wealthy hand-to-mouth households.¹⁴

2.4 The problem of business assets

A wealth tax is levied on the value of business assets, irrespective of the capital income they generate at the owner level and irrespective of the internal cash flow of the associated companies. A business owner with insufficient liquidity to pay the wealth tax has three main alternatives. First, the owner can obtain debt financing by using the shares in the company as collateral. Second, the company's dividend payment schedules can be adjusted to help owners meet their wealth tax liabilities. Third, the owner can sell shares in the company. It should be noted that the latter two options trigger capital gains tax, which increases effective tax rates.

For the very wealthy, who tend to own shares in mature and listed companies, debt financing seems to be the solution to the liquidity problem. If debt financing is not possible but the company has liquidity, adjusting the dividend policy is another option, which is often feasible since the companies owned by the very rich tend to have strong liquidity positions because they are used as tax shelters to avoid capital gains taxes. For the very wealthy, selling shares to meet wealth tax liabilities (and thus distorting ownership) can thus typically be avoided.

In our view, the main problem with wealth taxation is how it affects entrepreneurs who are constrained in their ability to borrow. For example, start-up firms tend to have both low returns and low liquidity in the early years of operation while their valuation is highly uncertain and the ability to obtain credit financing to pay wealth taxes may be limited. Most of the mainstream economic literature on capital taxation has assumed that there is a single investment vehicle through which resources can be transferred over time. It has not paid much attention to the fact that the type of capital available in the economy matters, and that entrepreneurial activity consists of several stages that require different forms of financing. While research on capital taxation is making some progress in incorporating entrepreneurship, the literature is still in its infancy.¹⁵

¹⁴See also [Aguiar et al. \(2021\)](#).

¹⁵A complicating issue is that returns from successful entrepreneurial ventures cannot easily be divided into labor and capital ([Henrekson and Sanandaji 2011](#), [Scheuer and Slemrod 2020](#)).

2.5 The choice of tax base

To implement a wealth tax, a choice must be made about which assets to include in the tax base. When considering a wealth tax on the rich only, the choice of tax base should be based on the wealth portfolios of the rich, which differ from those of the broad population.

A broad-based wealth tax would be based on both financial and non-financial assets, including durable goods such as cars, boats, and other valuables such as art and antiques—everything net of debt. In practice, many non-financial assets (such as infrequently traded art and valuables, agricultural land with uncertain future yields, rural real estate, patents and intellectual property) have been exempt in countries with a wealth tax due to valuation problems. In particular, business assets, which are concentrated among the wealthiest, typically have enjoyed generous discounts or in some cases even complete exemptions.¹⁶

The fact that most wealth taxes are implemented together with generous rebates for some assets significantly reduces the wealth tax base and wealth tax revenue. It also invites tax avoidance and evasion, and can even make the wealth tax regressive within groups of wealthy taxpayers. This undermines the legitimacy of the wealth tax and, as [Perret \(2021\)](#) argues, has probably been an important factor in why most countries have abolished their wealth taxes.¹⁷

2.6 Administrative costs

As the discussion above makes clear, liquidity issues, valuations problems, and exemptions imply that wealth taxation is associated with substantial administrative and compliance costs. Some researchers considers these costs to be manageable in light of new administrative routines and improved information provision (see, for example, [Saez and Zucman 2019a](#)). Others, for example, [Boadway and Pestieau \(2019, 2021\)](#), argue that even small valuation errors can inflict serious problems to taxpayers, and therefore view the administrative costs as a main argument against a wealth tax.

The large basic deductions in the wealth tax mean that there are relatively few taxpayers who end up paying the wealth tax. In principle, this makes a wealth tax cheaper to administer than a tax targeting the broad population. However, regulators often point out that although the basic exemptions may be large, the tax authorities do not know in advance which taxpayers have valuable assets and therefore have to conduct asset valua-

¹⁶In Norway, the assets of privately held companies are taxed based on their book value (goodwill and intangible assets are exempt), which may differ from their true economic value, that is, taking into account depreciation and capital gains ([Thoresen et al., 2022](#)).

¹⁷A similar argument is made by [Henrekson and Waldenstrom \(2016\)](#), who argue that a "vicious circle" of exemptions, driven by practical difficulties in taxing business assets and the resulting inconsistencies in tax burdens across different groups of taxpayers, led to the abolition of the Swedish inheritance tax.

tions on a large number of potential wealth tax payers, making the administration of the wealth tax more costly than is sometimes assumed.¹⁸

2.7 The role of other taxes

The relative merits of wealth and capital income taxation depend on what other taxes are available and how they are set.¹⁹ We will briefly discuss the corporate income tax and the consumption tax.

With respect to the corporate income tax, the rationale for a wealth tax on the rich is affected by the extent and effectiveness of a nation's corporate income tax system. In fact, personal wealth taxation and corporate income taxation are two alternative ways of targeting unrealized capital gains of the rich. The discussion of wealth taxes on the rich in the U.S. is motivated in part by the declining quantitative importance of the corporate income tax (sometimes referred to as the "slow agony" of U.S. federal revenues from corporate taxation, see [Saez and Zucman 2019b](#)), although other countries have not experienced the same decline in corporate tax revenues.

With respect to consumption taxation, to the extent that excess returns finance consumption, those excess returns will be targeted by consumption taxes, which are substantial and important sources of revenue in most OECD countries. Thus, the relative attractiveness of wealth and capital income taxation depends on the extent to which consumption is taxed. The trade-off is thus different in countries like the US, which rely less on consumption taxes, than in many European countries, which rely much more heavily on consumption taxes to finance the public sector.²⁰ Notice that the adoption of a consumption tax, or increasing the extent of consumption taxation, involves the imposition of a capital levy. This capital levy affects the present value of the returns to all assets, including excess returns.²¹

In practice, the choice between different taxes depends not only on economic desirability, but also on political feasibility. For example, the numeracy of individuals can matter for political support for wealth vs. capital income taxation as people may perceive a 1% tax on the imputed return on a broad wealth tax base to imply a smaller tax burden than a 30% tax on actual returns because 1% is a much smaller percentage than 30%.²²

¹⁸[Burgherr \(2021\)](#) provide a systematic discussion of the administrative costs of wealth taxation and argue that an important issue is how the administrative burden of collecting the information necessary to implement a wealth tax is shared between the tax authority and private individuals.

¹⁹At a basic level, capital income taxes are levied on all returns to capital, consumption taxes are levied on all returns except the normal return, and a wealth tax is levied only on the normal return.

²⁰See [Auerbach \(2006\)](#) for a general discussion of the choice between income and consumption taxes, and [Bastani and Koehne \(2022\)](#) for an optimal tax-oriented discussion of the choice between income, consumption, and capital taxation from the perspective of taxing excess returns.

²¹Notably, the burden of this capital levy does not depend on individuals' consumption before death, because asset values reflect the reduction in purchasing power due to the consumption tax.

²²See, for example, [Bastani and Waldenström \(2021\)](#) for a study of the political feasibility of different capital taxes.

3 Empirical Evidence

In order to shed light on the distributional impact of wealth and capital taxes on the wealth distribution, this section presents an empirical investigation using population income and wealth registers in Sweden. The analysis uses individual-level records on taxable income, assets and liabilities to describe the composition of wealth in different parts of the wealth distribution among adult (18+) individuals and to examine the distributional incidence of wealth and capital taxes. Data on individual income and tax payments are directly observable in administrative registers. Individual wealth records are partly observed and partly estimated. Register data on wealth cover real estate, investment funds, pension funds, student debt, and third-party reported data on business equity in listed and unlisted corporations. Some specific financial assets and liabilities have been estimated using tax register information on capital income and interest expenditure.²³

Our empirical analysis will be static in the sense that we assume away behavioral responses. Appendix A surveys the recent empirical literature on behavioral responses to wealth taxation. Given that few countries have wealth taxes, the literature on behavioral responses to wealth taxes is quite small. Two patterns stand out. First, responses are mostly in terms of reporting behavior, in the form of illegal tax evasion, or legal tax avoidance, and less about savings and capital accumulation. This is consistent with the hierarchy of behavioral responses discussed by Slemrod (1990, 1995). Households respond in real terms only as a last resort after they have exhausted their opportunities for tax evasion and tax avoidance. Second, responses are largest among wealthy and high-income households. This is perhaps not surprising as avoidance and evasion strategies often are associated with large costs, often in the form of a fixed cost, for example, associated with setting up a firm or a sheltering operation.

3.1 Asset composition over the wealth distribution

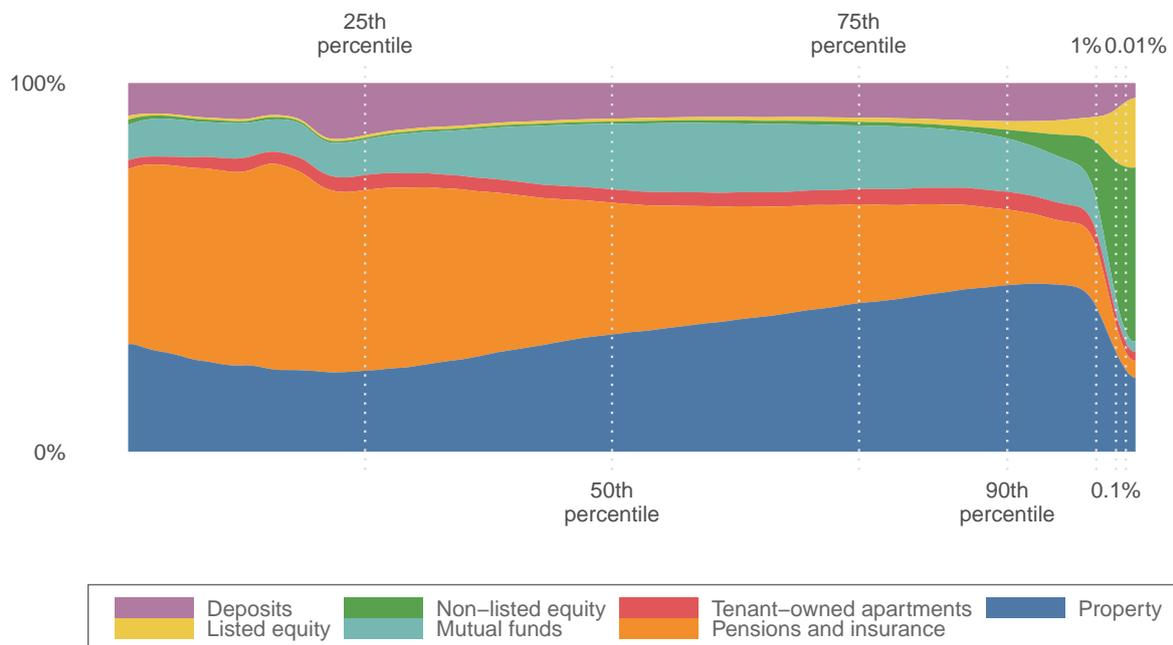
Figure 1 shows what the composition of wealth looks like across the wealth distribution, using the Swedish wealth distribution data. In the figure, households are ranked from lowest to highest net worth. Note that liabilities are not included in the wealth composition. This means that there is considerable heterogeneity between households in the lowest net wealth region, with some having low net wealth because they have no assets and others because they have both high assets and high liabilities.

The figure reveals several interesting patterns. Perhaps the most striking is the stark difference in asset ownership between the richest percentile and the rest of the population. Households in the bottom 99 percent hold two main assets, housing and funded pension assets. Households in the top 1 percent of the wealth distribution, on the other hand,

²³For details on the definitions and sources of the wealth variables, see Doll et al. (2023).

hold mainly one asset: corporate shares. The figure distinguishes between shares in listed companies and shares in unlisted companies. The higher up the wealth distribution you go, the more important unlisted corporate equity becomes.

Figure 1: Wealth composition in the population.

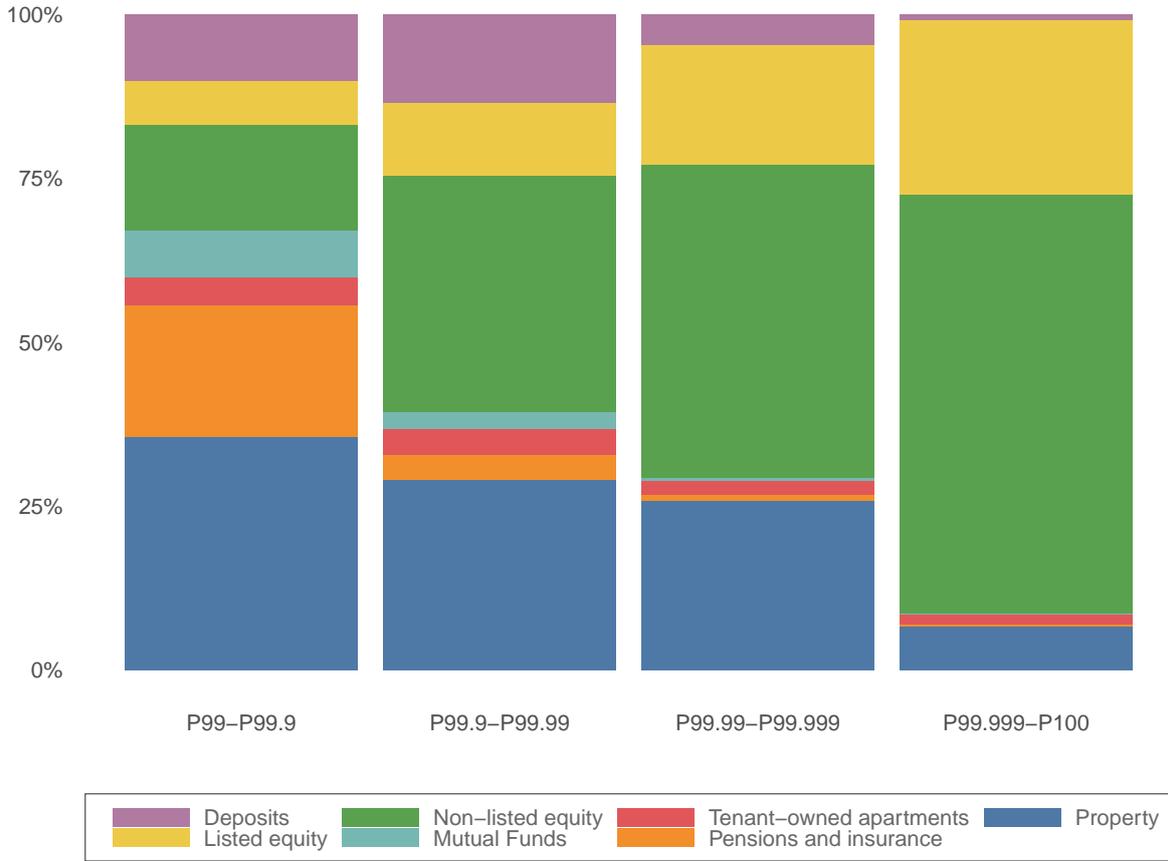


Note: Data are based on complete population registers in Sweden. Values are from the end of 2015. Data source is [Doll et al. \(2023\)](#).

Studying the taxation of the rich requires a narrow focus on the top of the distribution. Figure 2 provides such a close look at the wealth composition within the richest percentile of the household wealth distribution.

A fascinating result in figure 2 is that the relative importance of corporate stocks in the wealth portfolios of the rich appears to be most pronounced within the top 0.1 percentile of the population, analyzed in the three rightmost columns of the figure. In the bottom nine-tenths of the top percentile (the leftmost column), corporate stocks account for only a quarter of wealth, while in the top tenth (the three rightmost columns), they account for more than half of wealth. Furthermore, the two rightmost columns show that stocks account for more than three-quarters of all assets in the top 0.01 percentile, and are almost completely dominated by corporate stocks in the top 0.001 percentile.

Figure 2: Wealth composition among the rich: The top 1 wealth percentile.



Note: Data are based on complete population registers in Sweden. Values are from the end of 2015. Data source is Doll et al. (2023).

The results in figures 1 and 2 show that taxing the rich will largely be a matter of taxing corporate wealth, or more precisely the equity shares of corporations, most of which consists of unlisted business equity. Other assets, mainly real estate and financial assets such as pension funds, play a minor role in the portfolios of the rich, while they represent almost all the wealth of the rest of the population.

3.2 The distributional incidence of two capital tax reforms

We now examine the distributional effects of two specific ways of reforming the taxation of personal capital, focusing on the choice between wealth and capital income taxes as instruments for taxing the rich.

A number of assumptions, or empirical starting points, are used in the analysis of the results. First, we assume that there are no behavioral responses or capitalization effects.

Second, all capital taxes are deducted from household wealth, assuming that they are not paid out of current labor or capital income.

Third, the tax revenue collected from capital taxes is treated in two different ways.

In one case, the government "burns" the money it collects. In the other, it is returned to households in the bottom 50% of the wealth distribution, assuming that the transfers are wealth creation and not consumption.

Fourth, we use different definitions of taxable wealth depending on whether or not unlisted business equity is included. Unlisted business equity is defined as the market value of shares in a broad category of business ownership that includes closely held corporations or other incorporated businesses that are not listed on a stock exchange.²⁴ In the Swedish registers, their value is based on firm-specific balance sheet data, estimated market-to-book ratios using listed shares in the same industry and an applied illiquidity discount of 25 percent.

Fifth, we compare the distributional outcomes of two capital tax scenarios. The first scenario imposes a 30% capital income tax rate that applies to all income earners together with a 1% wealth tax on the net worth of individuals in the top percentile of the wealth distribution. The second scenario imposes a capital income tax at a flat rate chosen to raise exactly the same tax revenue as the combination of the wealth tax and the capital income tax in the first scenario.²⁵

Sixth, inequality in the distribution of wealth is measured by either the Gini coefficient or the top 1% share of wealth.²⁶ The top 1% wealth share is calculated by dividing the amount of wealth held by the richest one-hundredth of the population by the total amount of private wealth in the economy.

Figure 3 shows the results for the Gini coefficient. The Gini coefficient of pre-tax wealth among adult individuals is close to 73. The post-tax wealth distributions (the dark and light orange bars) are more equal than the pre-tax distribution (the blue bar) in all panels. This is as expected, since both wealth and capital income are highly skewed to the right and taxing them tends to equalize them.

Without any redistribution of tax revenues, as in the left panel, the differences between the pre- and post-tax distributions are tiny, and the difference between the two post-tax wealth distributions is also tiny. In all these cases, the Gini coefficients differ at the second decimal point, which is a rather small difference even in the context of Gini coefficients.

If instead tax revenues are redistributed to the bottom half of the distribution, as in the two right panels, the equalizing effect is striking. Both after-tax distributions fall by about half a Gini point to 72.5-72.6. Tax revenues amount to about one percent of GDP in both capital tax scenarios, which is about one quarter of the net wealth of the bottom

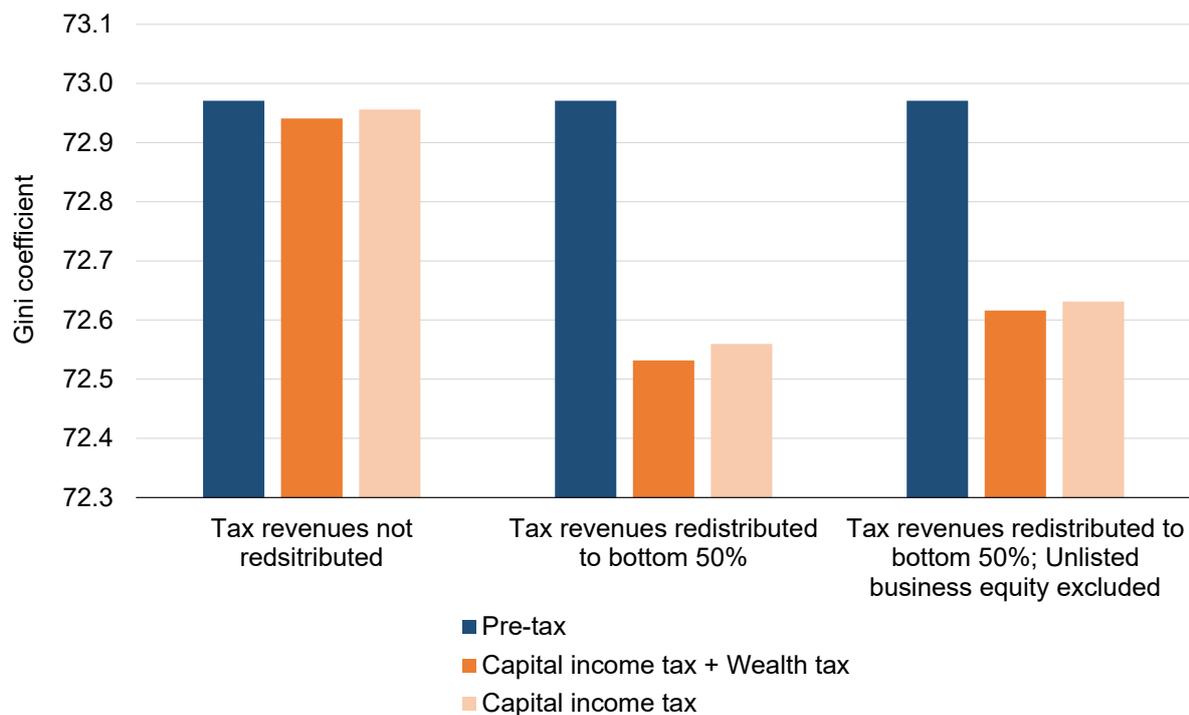
²⁴Shares in unlisted business equity belong to the national accounts category AFA.512.

²⁵We exclude from the wealth tax base (but not from the calculation of net worth) assets in funded occupational pensions (defined contribution plans) or other funded life insurance, as measured in the AFA.6 asset category according to the definitions in the national accounts system. The revenue-equivalent capital gains tax rates are 40.5% and 49.2% in the two different cases of taxable wealth.

²⁶The Gini is a measure between 0 and 100, where 0 is a situation of perfect statistical equality where everyone owns the same amount of wealth, and 100 is the situation where a single individual owns all the wealth.

half. The equalization effect is slightly larger in the tax scenario with a combination of capital income and wealth taxes; regardless of whether unlisted corporate equity is part of the tax base, the combined capital income and wealth tax policy equalizes more than the use of a capital income tax alone, which raises the same amount of revenue.

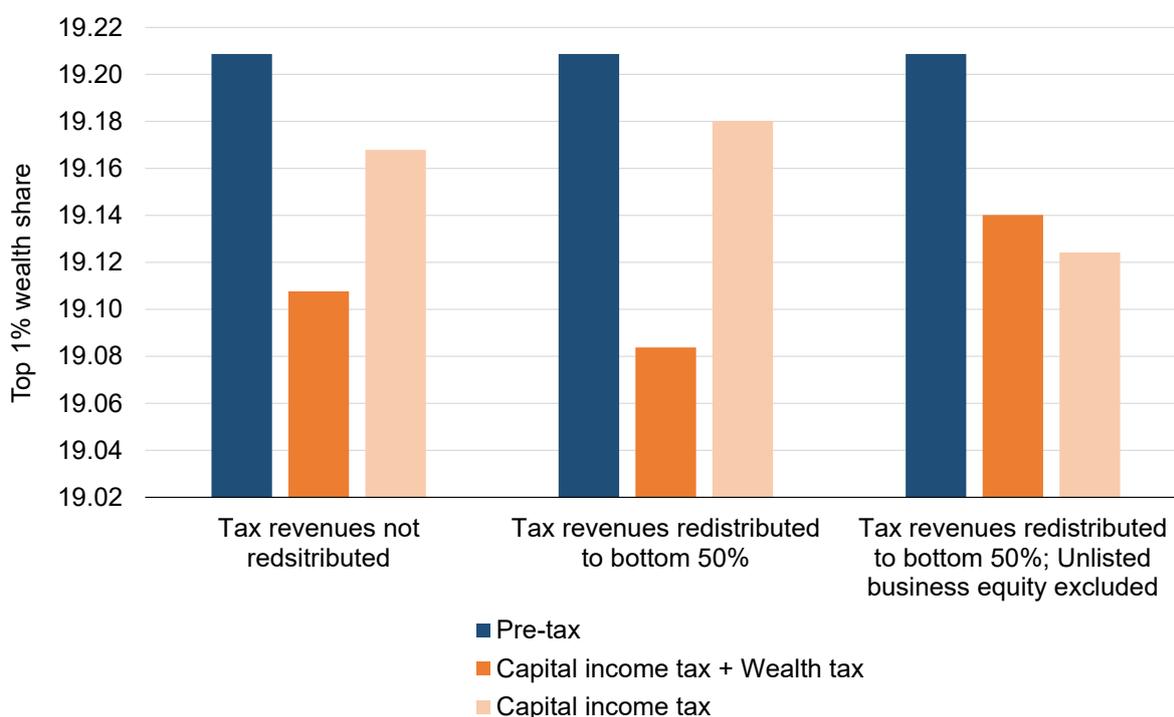
Figure 3: Capital taxation and the wealth distribution: Gini coefficient



Note: Data are based on complete population registers in Sweden. Values are from the end of 2015.

Figure 4 repeats the analysis of figure 3, this time for the wealth share of the top percentile group. The top pre-tax share is 19.2 percent, a level that is common for European countries but significantly lower than the level in the US, which is about twice as high. The results are somewhat different from those of the Gini coefficient. First, the equalizing effect of the wealth tax in reducing the wealth share of the top 1% is more pronounced, regardless of whether the tax revenue is redistributed or not. This is quite clear when compared to the capital income tax scenarios. However, the results are reversed if unlisted corporate equity is excluded from the tax base. In this case, the capital income tax with a higher revenue-equivalent rate becomes more redistributive than the combined capital income and wealth tax. This underscores the importance of how the wealth tax base is defined, particularly with respect to the inclusion or exclusion of unlisted corporate equity.

Figure 4: Capital taxation and the wealth distribution: Top 1% wealth share.



Note: Data are based on complete population registers in Sweden. Values are from the end of 2015.

Based on the results of the empirical analysis, two observations can be made. First, the distributional effects of capital taxation appear to be quite limited, at least in the context of the capital income and wealth taxes considered here, and if attention is restricted to the effects on the wealth distribution. It would, of course, be possible to change the size of the taxpayer base targeted by the wealth tax. One could also increase the tax rates on wealth and capital income, depending on policy preferences. Second, the distributional impact of the wealth tax on top shares depends crucially on the extent to which the main asset of the wealthiest individuals, shares in listed and unlisted companies, is included in the wealth tax base.

Two final remarks are in order. First, an important limitation of the above analysis is that we have abstracted from the capitalization of taxes in asset prices, effects that are difficult to quantify convincingly. Since we argue that the reason for a wealth tax is to mitigate the incompleteness of the tax code when it comes to taxing unrealized capital gains, if the wealth tax is indeed successful in taxing these gains, we would expect wealth taxes to have a stronger effect on asset prices than the capital income tax.²⁷ Accounting

²⁷This is because the extent to which a tax is capitalized into asset prices depends on the extent to which investors can avoid it. Note that a wealth tax is an imperfect complement to a capital income tax because it is paid regardless of whether unrealized capital gains are positive or negative.

for such capitalization effects would imply changes in wealth inequality due to changes in the pre-tax distribution of wealth, as well as affect the tax revenues raised.²⁸

Second, there are some design features of capital income taxation that we have not analyzed that would potentially address the problem of unrealized capital gains associated with existing implementations of capital income taxes. For example, charging interest on delayed realization would reduce the deferral advantage inherent in capital gains taxation and thus mitigate lock-in effects (see [Auerbach 1991](#)). In the U.S., a first step toward fixing capital income taxation would be to eliminate the step-up in basis at death.

4 Concluding remarks

In this paper, we have discussed the relative merits of wealth and capital income taxes as instruments for taxing the rich. We conclude that taxing capital income is theoretically superior to taxing wealth because capital income taxes are levied on both normal and excess returns, and they are levied on the actual capital income that investors earn.

The main problem with capital income taxes is that they do not target unrealized capital gains, which are huge and concentrated among the wealthiest. To address this problem, wealth taxes have been proposed as a way of increasing the tax burden on the wealthiest. However, as the wealthy disproportionately own unlisted business assets, wealth taxes are difficult to implement due to liquidity and valuation issues. These are particularly severe for growth companies and start-ups, where valuation is both volatile and highly uncertain and there may be no cash flow to pay the tax.

An alternative to introducing a wealth tax is to fix capital income taxation by taxing capital gains as they accrue rather than when they are realized. For listed shares, this is easy to implement. However, in the case of unlisted equity, taxing capital gains as they accrue is equally challenging as implementing a wealth tax. We conclude that taxing the wealth of the richest is difficult, whether through wealth taxes or capital income taxes, because of the trade-off between the pursuit of egalitarian objectives and the need to promote growth-enhancing entrepreneurial activity.

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²⁸Note that if wealth taxes and capital income taxes are equivalent (that is, assets earn only a safe normal return and there are no liquidity constraints), then the capitalization effects of wealth taxes and capital income taxes would be equivalent.

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A Behavioral responses to wealth taxes

We review the major studies that have examined behavioral responses to wealth taxes (in alphabetical order of author).

[Agrawal et al. \(2020\)](#) examines the effects of regional differences in wealth taxation in Spain. Between 2008 and 2010, the federal government abolished wealth taxes in all regions, while they were reintroduced in early 2011, except in Madrid. They find that five years after the reform, the stock of wealthy individuals in Madrid increased by 10% relative to other regions, while smaller tax differentials between other regions did not matter for mobility. The authors argue that the main response channels were migration and tax evasion.

[Brülhart et al. \(2022\)](#) estimate behavioral responses to wealth taxes using variation in wealth tax rates across regions (cantons) in Switzerland. They find that Swiss households are highly responsive to changes in the wealth tax rate, and that a 1 percentage point decrease in a canton's wealth tax rate increases reported taxable wealth by at least 43 percent after 6 years, although only a small fraction of the response is explained by real savings responses, suggesting substantial evasion responses.

[Duran-Cabr e et al. \(2019\)](#) estimate behavioral responses to wealth taxes in Catalonia in response to the sudden reintroduction of the Spanish annual wealth tax in 2011. They find that a 0.1 percentage point increase in the average wealth tax rate leads to a 3.24% reduction in taxable wealth over 4 years. The authors find no evidence of real responses in terms of saving and wealth accumulation, but do find that the reform encouraged people to change their asset and income composition to take advantage of (mostly business-related) wealth tax exemptions, asset-specific inclusion limits, and tax liability ceilings for people with high wealth but low income.

[Jakobsen et al. \(2020\)](#) estimate behavioral responses to the Danish wealth tax before its abolition in 1997. This tax was levied on household wealth above an exemption threshold located around the 98th percentile of the household wealth distribution. The marginal wealth tax rate was 2.2% until the late 1980s, and major changes to the tax were made starting in 1989, when the marginal tax rate was lowered to 1% and the exemption threshold for married couples was doubled. was doubled for married couples. During this period, Denmark also had a tax ceiling that limited the total average tax rate from personal taxes (income, social security, and wealth taxes). Using these reforms and features of the tax code, the authors estimate a net tax elasticity of taxable wealth of 8.9 for the moderately wealthy and 11.3 for the very wealthy after eight years.

[Londo o-V lez and  vila-Mahecha \(2021\)](#) investigate the feasibility of wealth taxes in developing countries using administrative tax data from Colombia merged with the leaked Panama Papers. The authors report that two-fifths of the top 0.01 percent of the wealth distribution engage in tax evasion, and a substantial fraction of this evasion

is found in offshore accounts rather than in "hidden" domestic accounts. Moreover, the probability of evasion is 55 times higher for this group than for the top 5 percent.²⁹

Ring (2020) exploits variation in the valuation of taxable wealth in Norway to estimate behavioral responses to wealth tax rates. The author exploits geographical discontinuities in the valuation of the housing wealth component. By comparing households living near municipal boundaries but with different taxable home values, the author finds a net tax rate elasticity of wealth of 0.054. Households subject to higher property tax rates compensate for this negative income effect by increasing their savings, which are mainly financed by labor income.

Seim (2017) estimates behavioral responses to wealth taxes at the exemption thresholds of the Swedish wealth tax 2000-2006, just before it was abolished. He estimates net tax rate elasticities of taxable wealth between 0.09 and 0.27, which he argues are primarily driven by reporting and evasion responses rather than actual responses. Given the location of the threshold, about \$114,000 in 2014, these estimates apply to the moderately wealthy rather than the very wealthy.

Zoutman (2018) estimates the effect of wealth taxes on household saving using capital tax reforms in the Netherlands. In 2001, the Dutch government replaced a capital income tax with an annual wealth tax of 1.2 percent and exempted owner-occupied housing from taxable wealth. The author compares households with similar total wealth but different portfolio allocations that were treated differently by the tax reform. Net tax elasticities are 11.6 one year after the reform and 13.8 after four years.

There are a few other studies that we would like to mention. The Alvaredo and Saez (2009) study reports reactions in Spain to the exemption of some forms of unlisted companies from the Spanish net worth tax base. Halvorsen and Thoresen (2021) analyze the distributional effects of the Norwegian wealth tax using administrative data, grouping taxpayers according to several different income concepts. They find that the wealth tax is clearly redistributive and is mostly borne by high-income taxpayers. Alstadsæter et al. (2022) analyze the substitution between illegal tax evasion and legal tax avoidance in response to the Norwegian tax amnesty program. They find that the amnesty program induced many wealthy individuals to disclose assets previously hidden offshore, demonstrating that enforcement efforts can have large effects on the size of the tax base. In a recent unpublished paper, Garbinti et al. (2023) examines a French wealth tax reform that reduced the amount of information taxpayers must report below a certain level of wealth. The paper finds evidence of slower average wealth growth among affected taxpayers, but also of reporting behavior.

²⁹In the second part of the paper, they use the breaking news of the Panama Papers to examine whether evasion responds to the credible threat of detection. The leak increased the likelihood of disclosure by 27 percentage points.