

Should We Tax Capital Income or Wealth?[†]

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We study optimal capital income and wealth taxation in an economy that reproduces the importance of private businesses for output and inequality. If entrepreneurs are subject to collateral constraints, they face heterogeneous rates of return, which generate a meaningful distinction between capital income and wealth taxation. We find that taxing capital income is preferable to taxing wealth because the efficiency gains from wealth taxation are swamped by the redistributive benefits of taxing the profits of richer entrepreneurs. Consequently, the gains from taxing wealth are modest. This conclusion is robust to the planner's preference for redistribution and allowing for nonlinear taxes. (JEL D31, H21, H23, H24, H25, K34, L26)

Private businesses are an important determinant of both real economic activity and inequality in the United States. They account for 40 percent of all output. Even though private pass-through business owners represent only 12 percent of households, they hold nearly half of all wealth and a third of all income.

An important characteristic of private businesses is that rigid ownership rules make them reliant on internal saving and collateralized borrowing (Dyrda and Pugsley 2018), leading them to face potentially heterogeneous rates of return (Quadrini 2000, Cagetti and De Nardi 2006). As Guvenen et al. (2019) point out in a recent influential paper, rate of return heterogeneity generates an important distinction between capital income and wealth taxation. Taxing capital income, which includes the profits of private business owners, distorts their incentives to accumulate wealth, amplifying production inefficiencies.

Our goal in this paper is to characterize optimal tax policy in an environment with heterogeneous private businesses that reproduces their importance for economic activity and inequality. We calculate the optimal tax on labor income, capital income, and wealth, taking into account the transition dynamics after reforms. Optimal policy balances the trade-off between production efficiency, which calls for

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[†]Go to <https://doi.org/10.1257/aeri.20220192> to visit the article page for additional materials and author disclosure statement(s).

increasing the wealth share of productive business owners, and redistribution, which requires the opposite. Taxing capital income, which includes the profits of wealthy business owners, achieves substantial redistribution. Taxing wealth increases the wealth share of private business owners and improves allocative efficiency.

We find that taxing capital income is preferable to taxing wealth if the planner is restricted to only using one of these two instruments. Intuitively, because the wealth share of entrepreneurs is so high in the data, the redistributive motive dominates efficiency considerations. A planner who can use all tax instruments sets the wealth tax close to zero and achieves only small incremental welfare gains from introducing a wealth tax.

The economy we study consists of households that work in a competitive labor market. A fraction of them can also run a private business. Households face idiosyncratic shocks to their labor market efficiency and their entrepreneurial ability and can partially insure against these shocks by saving in capital, corporate stocks, or government bonds. Private business owners compete alongside publicly owned firms. While private firms face a collateral constraint, as in Buera, Kaboski, and Shin (2011), corporate firms have unlimited access to external finance.

Given our focus on the distributional consequences of tax reforms, we require that the model reproduces the distribution of wealth and income in the data, both for workers and entrepreneurs, as well as the relative size of the private business sector. Our calibration implies relatively small losses from misallocation, reflecting that corporate firms are unconstrained and that entrepreneurial ability is persistent, so productive entrepreneurs eventually overcome borrowing constraints.

The tax reforms we consider are once-and-for-all unanticipated changes in the tax on labor income, capital income, and wealth. The government uses the tax revenue to finance government spending and lump-sum transfers. We focus on a utilitarian social welfare function and flat taxes but show that our results are robust to considering alternative preferences for redistribution and allowing for nonlinear taxes. A utilitarian planner restricted to only taxing labor and capital income finds it optimal to tax capital income at a higher rate than labor income and increases consumption-equivalent welfare by 9.5 percent, greatly benefiting workers at the expense of entrepreneurs. The planner achieves much smaller gains, of only 5.6 percent, if it were allowed to only tax labor income and wealth. Thus, a capital income tax is preferable to a wealth tax, despite the misallocation losses it entails. Moreover, when the planner can tax both capital income and wealth, it sets the wealth tax equal to approximately zero and thus achieves modest gains from introducing a wealth tax.

Related Work.—Our work is related to the literature on optimal capital income taxation (Conesa, Kitao, and Krueger 2009). Our result that a capital income tax is preferable to a wealth tax stands in contrast to that of Guvenen et al. (2019). There are a number of differences between the settings we study. In our economy, private business owners coexist with unconstrained corporate firms and operate a technology that uses both capital and labor. In theirs, all production is done by private businesses that only use capital to produce. These two features imply that in our model, the losses from misallocation are much smaller. In addition, we target the large wealth and income shares of private business owners and allow for lump-sum

transfers. These features generate a strong motive for redistribution.¹ Finally, we characterize optimal policy taking transition dynamics into account. Guvenen et al. (2019), in contrast, maximize long-run steady-state welfare.² Also related is the work of Imrohoroglu, Kumru, and Nakornthab (2018) and Brüggemann (2021), who study optimal top income taxation in an economy with entrepreneurs. In contrast to their work, we allow for differential taxes on capital and labor income, as well as on wealth.

I. Model

The economy is inhabited by a continuum of households that differ in their labor market ability. In addition, a fraction ψ of them are also endowed with entrepreneurial ability and can run a private business. This latter group of households, which we refer to as entrepreneurs, produce a homogeneous good alongside perfectly diversified corporate firms. There is no aggregate uncertainty.

A. Households

Households choose consumption c_t and hours worked h_t to maximize lifetime utility:

$$(1) \quad V = \max E_0 \sum_{t=0}^{\infty} \beta^t \left(\frac{c_t^{1-\theta}}{1-\theta} - \frac{h_t^{1+\gamma}}{1+\gamma} \right).$$

The income i_t of households is equal to

$$i_t = W_t e_t h_t + r_{t-1} a_t + \pi_t(a_t, z_t).$$

Labor income $W_t e_t h_t$ depends on the equilibrium wage W_t and idiosyncratic ability e_t . Asset income $r_{t-1} a_t$ depends on wealth holdings a_t and the equilibrium return r_t . Wealth is the sum of holdings of government bonds, physical capital, and shares in corporate firms. Absent aggregate uncertainty, the return on all these assets is equal, so we only need to keep track of total household wealth. Profits $\pi_t(a_t, z_t)$, earned only by entrepreneurs, depend on idiosyncratic entrepreneurial ability z_t and wealth due to a collateral constraint. We assume that households cannot borrow, so $a_{t+1} \geq 0$.

The budget constraint of households in the initial steady state is

$$(1 + \tau_s) c_t + a_{t+1} = i_t - T(i_t) + a_t,$$

where, as in the United States, both capital and labor income are subject to income taxes, and where τ_s is a consumption tax. We assume a tax function $T(i_t) = i_t - (1 - \tau)[i_t^{1-\xi}/(1 - \xi)] - \iota_t$ that also includes a lump-sum transfer ι_t .³ The

¹ See Boar and Midrigan (2022) for a discussion of the role of lump-sum transfers in shaping optimal policy in an environment without entrepreneurs.

² See also Meh (2005), Boar and Knowles (2022), and Guvenen et al. (2022), who also study tax policy in economies with private business owners without taking into account transition dynamics, and Kitao (2008), who evaluates the welfare consequences of tax reforms taking into account transitions.

³ See Benabou (2002) and Heathcote, Storesletten, and Violante (2017).

parameter τ determines the average level of marginal income taxes, and ξ governs their slope. In our optimal policy experiments, we allow the government to tax labor and capital income, as well as wealth.

Entrepreneurs.—Entrepreneurs produce using a decreasing returns to scale technology

$$y_t = z_t^{1-\eta} (k_t^\alpha l_t^{1-\alpha})^\eta,$$

where η determines the managerial span of control, α the elasticity of capital in production, and entrepreneurial ability z_t is iid across firms and follows a Markov process with transition probability $F_z(z_{t+1} | z_t)$.

Entrepreneurial profits are equal to

$$\pi_t = y_t - W_t l_t - R_t k_t,$$

where R_t is the rental rate of capital. Entrepreneurs face a collateral constraint, which limits the capital used in production to a multiple $\lambda \geq 1$ of their wealth

$$k_t \leq \lambda a_t.$$

The return to wealth for entrepreneurs is equal to

$$r_{t-1} + \frac{\partial \pi_t(a_t, z_t)}{\partial a_t} = r_{t-1} + \lambda \mu_t(a_t, z_t),$$

where $\mu_t(a_t, z_t)$ is the multiplier on the collateral constraint. The model therefore features heterogeneity in rates of return to saving, which Benhabib, Bisin, and Zhu (2011) argue are key determinants of top wealth inequality. Intuitively, poor but efficient entrepreneurs are more constrained and therefore have a higher return to saving. As Guvenen et al. (2019) point out, heterogeneity in rates of return creates an important distinction between capital income and wealth taxation.

B. Corporate Firms

We assume that corporate firms operate the same technology as entrepreneurs. There are three key distinctions between corporate and entrepreneurial firms. First, the ownership of corporate firms is fully diversified. Second, corporate firms face no collateral constraints. Third, corporate profits are subject to double taxation. Specifically, corporate income is first taxed at a corporate tax rate τ_c , and then the dividends issued by corporate firms are taxed as personal income.

Without loss of generality, we assume that all corporate firms have the same productivity z^c . They exit with exogenous probability φ , and their mass evolves endogenously according to

$$N_{t+1} = (1 - \varphi)(N_t + \nu_t),$$

where ν_t is the mass of new entrants, determined in equilibrium by the free-entry condition

$$F_t \geq Q_t.$$

Here, F_t is the cost of creating a new firm and Q_t is the price of a claim to a firm, given by

$$Q_t = \frac{1 - \varphi}{1 + r_t} [Q_{t+1} + (1 - \tau_c)\pi_{t+1}],$$

where π_{t+1} are the profits of the representative firm.

We follow Gutiérrez, Jones, and Philippon (2019) in assuming that entry costs increase with the mass of entrants, so that entry responds inelastically to changes in the environment. Specifically, we assume that

$$F_t = \bar{F}\nu_t^\epsilon,$$

where ϵ determines the elasticity of firm entry to changes in firm profitability and $\bar{F}$ determines the average level of the entry costs. The elasticity of firm entry ϵ has implications for the comovement of stock prices and entry rates. If $\epsilon = 0$, stock prices are constant, and all adjustment is in the entry margin, as in Hopenhayn (1992). As ϵ increases, entry rates respond less and the stock price responds more to a given shock.

C. Government

The government issues debt B_t . It finances the debt service $r_{t-1}B_t$ and exogenous government spending G using tax revenue net of lump-sum transfers T_t . The budget constraint of the government is

$$(1 + r_{t-1})B_t + G = B_{t+1} + T_t.$$

D. Aggregation

Output is used for consumption, investment, and government spending, so the aggregate resource constraint is

$$Y_t = C_t + X_t + G,$$

where

$$Y_t \equiv \int_{entr} y_{it} di + N_t y_t^c$$

is total output, y_{it} is the output of entrepreneur i , y_t^c is the output of a corporate firm, and X_t is investment in physical capital and in new firms

$$X_t = K_{t+1} - (1 - \delta)K_t + F_t\nu_t.$$

Collateral constraints on entrepreneurs introduce two distortions. First, they generate dispersion in the marginal product of capital across producers, generating misallocation and reducing TFP. Second, they depress the aggregate capital-output ratio. To see the impact on misallocation, we note that aggregating individual producers' choices allows us to write an aggregate production function

$$Y_t = Z_t (K_t^\alpha L_t^{1-\alpha})^\eta,$$

where K_t and L_t denote aggregate capital and labor. Aggregate productivity Z_t is equal to

$$Z_t = \left(\int_{entr} z_{it} \phi_{it}^{-\frac{\alpha\eta}{1-\eta}} di + N_t z^c \right)^{1-(1-\alpha)\eta} \left(\int_{entr} z_{it} \phi_{it}^{-\frac{1-(1-\alpha)\eta}{1-\eta}} di + N_t z^c \right)^{-\alpha\eta},$$

where $\phi_{it} = 1 + \mu_{it}/R_t$ is the capital wedge induced by the collateral constraint. Absent collateral constraints, $\phi_{it} = 1$, and aggregate productivity increases to

$$Z_t^* = \left(\int_{entr} z_{it} di + N_t z^c \right)^{1-\eta}.$$

To see that collateral constraints also depress the capital-output ratio and act as a tax on capital, we note that aggregating individual capital choices across firms gives

$$\alpha\eta \frac{Y_t}{K_t} = R_t \bar{\phi}_t,$$

where the aggregate capital wedge $\bar{\phi}_t = (1/K_t) \left(\int_{entr} \phi_{it} k_{it} di + N_t k_t^c \right)$ is a weighted average of the individual capital wedges.

The equilibrium in this economy is characterized by sequences $\{r_t, W_t\}$, which satisfy asset and labor market clearing. The market clearing condition for assets equates the savings of households to overall amount of capital, government debt, and value of corporate stocks

$$\int a_{t+1}(a, e, z) dn_t(a, e, z) = K_{t+1} + B_{t+1} + Q_t(N_t + \nu_t),$$

where $n_t(a, e, z)$ is the distribution of households over individual states. The labor market clearing condition is

$$\int e h_t(a, e, z) dn_t(a, e, z) = L_t.$$

Lastly, no-arbitrage implies that $R_t = r_{t-1} + \delta$.

II. Parameterization

We assume that the economy is in the steady state in 2013 and target moments for that year. A period in the model is one year.

Assigned Parameters.—We set the relative risk aversion $\theta = 1$,⁴ the Frisch elasticity of labor supply $\gamma = 2$, the depreciation rate of capital $\delta = 0.06$, and the capital elasticity $\alpha = 1/3$, all common choices in the literature. We set the stock of government debt to 100 percent of GDP, the value in 2013. We set the exit rate of corporations $\varphi = 0.04$, to match that exiting firms account for approximately 4 percent of employment and the elasticity of entry rates equal to $\epsilon = 1.5$, the estimate of Gutiérrez, Jones, and Philippon (2019), who exploit the comovement between industry-level entry rates and stock prices to pin down this parameter. We set $\tau_s = 0.065$ and $\tau_c = 0.36$ and assume that unexpected capital gains generated from the tax reforms are taxed at a rate 20 percent, consistent with the US tax code. We use the estimates of the income tax function from Boar and Midrigan (2022), who calibrate $\tau = 0.26$, $\xi = 0.05$, and $\iota = 0.16$ of per capita GDP (or approximately \$14,000) to match the relationship between pre- and posttax income in the CBO data. These values imply that the marginal income tax paid by the median household is 26 percent and that paid by a household at the ninety-fifth percentile of the income distribution is 34 percent. Panel B of Table 1 summarizes these choices.

Calibrated Parameters.—We follow Castaneda, Díaz-Giménez, and Ríos-Rull (2003) in assuming a fat-tailed process for labor market ability to allow the model to better match the tails of the income and wealth distribution. In particular, ability can be in a normal state, where it evolves according to an AR(1) process with autocorrelation ρ_e and standard deviation of Gaussian innovations σ_e , or a superstar state where it is $\bar{e}$ times higher than the average. Households enter the superstar state with probability p and remain there with probability q . Entrepreneurial ability follows an AR(1) process with persistence ρ_z and standard deviation σ_z .

We choose the parameters governing the process for labor market and entrepreneurial ability, the fraction of entrepreneurs, the discount factor, the collateral constraint, and the span-of-control parameter to match the moments listed in panel A of Table 1. We target the wealth-to-income ratio and moments characterizing overall wealth and income inequality, the fraction of entrepreneurs, their wealth and income shares, the fraction of entrepreneurs in the top 0.1 percent and 1 percent wealth brackets, and the Gini coefficients of the wealth and income distributions for entrepreneurs and workers separately. All these statistics are computed using the 2013 Survey of Consumer Finances (SCF).⁵ In addition, we target the sales share of corporations reported by Dyrda and Pugsley (2018) and the 0.35 size-weighted average debt-to-capital ratio for entrepreneurs reported by Crouzet and Mehrotra (2017) and Zetlin-Jones and Shourideh (2017).

As panel A of Table 1 shows, the model successfully reproduces all these statistics. In the model, as in the data, the wealth-to-income ratio is equal to 6.5. Even though only 12 percent of households are entrepreneurs, they hold a large share of aggregate wealth and income (44 percent and 28 percent) and account for the majority of the households at the top of the wealth distribution. Both wealth and income

⁴ A higher coefficient of relative risk aversion would have two opposing effects. On one hand, a utilitarian planner would value redistribution more, strengthening the case for taxing entrepreneurial income. On the other hand, wealth effects on labor supply would be stronger, strengthening the case for taxing wealth.

⁵ Board of Governors of the Federal Reserve System (2013)

TABLE 1—PARAMETERIZATION

<i>Panel A. Moments used in calibration</i>				Data	Model
Wealth-to-income ratio				6.6	6.5
Percentage entrepreneurs				11.7	11.7
Wealth share of entrepreneurs				0.46	0.44
Income share of entrepreneurs				0.31	0.28
Fraction entrepreneurs, top 0.1% wealth				0.66	0.65
Fraction entrepreneurs, top 1% wealth				0.70	0.80
Gini wealth, all households				0.85	0.87
Gini income, all households				0.64	0.66
Gini wealth, entrepreneurs				0.78	0.78
Gini income, entrepreneurs				0.68	0.68
Gini wealth, workers				0.81	0.87
Gini income, workers				0.58	0.62
Wealth share top 0.1%				0.22	0.17
Wealth share top 1%				0.35	0.37
Income share top 0.1%				0.14	0.12
Income share top 1%				0.22	0.22
Average debt-to-capital ratio				0.35	0.34
Sales share of corporate firms				0.63	0.63
<i>Panel B. Parameter values</i>				Assigned	Calibrated
θ	1	CRRA	β	0.969	discount factor
γ	2	inverse Frisch elasticity	ψ	0.117	share of entrepreneurs
α	1/3	capital elasticity	ρ_z	0.961	AR(1) z
δ	0.06	depreciation rate	σ_z	0.696	std. dev. z shocks
B	1	government debt to GDP	ρ_e	0.981	AR(1) e
τ_c	0.36	corporate profits tax	σ_e	0.198	std. dev. e shocks
τ_g	0.20	capital gains tax	p	2.1e-6	prob. enter superstar state
φ	0.04	exit rate, corporations	q	0.985	prob. stay superstar state
ϵ	1.5	elasticity of entry rate	$\bar{e}$	474.0	ability superstar state, rel. to mean
τ	0.27	average marg. tax	λ	2.303	leverage constraint
ξ	0.05	slope marg. tax	η	0.784	span of control
ι	0.16	lump-sum transfer to GDP	z	2.63	productivity corporate firms

Notes: Panel A lists the moments used in calibration. The data moments are computed using the 2013 wave of the SCF. Panel B lists the assigned and calibrated parameters.

are unequally distributed, not only across all households but also within the group of workers and entrepreneurs, as shown by the Gini coefficients as well as the top wealth and income shares.⁶ The debt-to-capital ratio is equal to 0.34, and corporate firms account for 63 percent of all sales.

Panel B of Table 1 reports the calibrated parameters. The discount factor is $\beta = 0.969$. The persistence of labor ability in the normal state is 0.981, and the standard deviation of innovations is $\sigma_e = 0.198$. Households enter the superstar state, where ability is $\bar{e} = 474$ larger than the average, with probability $p = 2.1\text{e-}6$ and stay there with probability $q = 0.985$. The persistence of entrepreneurial ability is 0.961, and the standard deviation of innovations is $\sigma_z = 0.696$. The estimated maximum leverage ratio is $\lambda = 2.3$, and the span of control is $\eta = 0.78$.

Intuitively, the discount factor is pinned down by the overall wealth-to-income ratio, while the parameters of the labor and entrepreneurial ability process are

⁶As pointed out by Stachurski and Toda (2019), the class of models we consider here implies that the wealth distribution inherits the tail behavior of the income distribution.

pinned down by moments of wealth and income inequality. The maximum leverage ratio is pinned down by the debt-to-capital ratio and the relative productivity of corporate firms by their sales share. Finally, the span-of-control parameter determines the relative share of payments to labor versus profits and is therefore pinned down by the income and wealth share of entrepreneurs.

We briefly discuss the model's implications for the severity of financial constraints. We note that the capital-weighted fraction of constrained entrepreneurs is equal to 43 percent, reflecting the relatively low value of the leverage ratio λ of 2.3 necessary to match the debt-to-capital ratio of entrepreneurs in the data. Nevertheless, our model predicts relatively small overall losses from misallocation, of 1.3 percent, partly reflecting that corporate firms are unconstrained and partly that entrepreneurial ability is persistent, so productive entrepreneurs grow out of their borrowing constraints. The capital wedge $\bar{\phi}$ induced by collateral constraints depresses the capital-output ratio of entrepreneurial firms by 17 percent and the aggregate capital-output ratio by 6 percent.

III. Results

To compute optimal policy, we need to take a stand on the social welfare objective of the planner. We start by computing a measure of consumption-equivalent welfare for each household i using

$$V_i = \sum_{t=0}^{\infty} \beta^t \frac{\omega_i^{1-\theta}}{1-\theta},$$

where V_i is the lifetime utility of the household, defined in equation (1). We aggregate individual welfare according to

$$\left(\int_i \omega_i^{1-\Delta} di \right)^{\frac{1}{1-\Delta}},$$

where $\Delta \geq 0$ is a parameter that determines the planner's preference for redistribution. In particular, if $\Delta = 0$, the planner seeks to maximize average welfare (Benabou 2002). If $\Delta = \theta$, the social welfare function recovers the preference of a utilitarian planner. In the limit, as $\Delta \rightarrow \infty$, the objective is that of a Rawlsian planner.

Our optimal policy exercise considers one-time, unanticipated, and permanent changes in the tax parameters. We assume that government debt and the consumption tax are constant and adjust the lump-sum transfer ι_t to balance the government budget at each date during the transition.

For most of our analysis, we assume that the planner is restricted to using flat taxes on labor income, capital income, and/or wealth. As we discuss below, the gains from nonlinear taxation are small, confirming the results of Boar and Midrigan (2022) even in this richer setting. Letting τ_l , τ_k , and τ_a denote the flat labor income, capital income and wealth tax, respectively, the budget constraint of a household is

$$(1 + \tau_s)c_t + a_{t+1} = (1 - \tau_l)W_t e_t h_t + (1 - \tau_k)[r_{t-1}a_t + \pi_t(a_t, z_t)] + (1 - \tau_a)a_t.$$

TABLE 2—OPTIMAL POLICY, UTILITARIAN PLANNER

	Tax capital income	Tax wealth	Tax capital income and wealth
<i>Panel A. Tax schedule</i>			
Labor income tax	53.2	55.6	53.2
Capital income tax	65.6	—	65.6
Wealth tax	—	4.3	0.0
PV lump-sum transfer	29.7	28.4	29.7
<i>Panel B. Welfare change</i>			
Utilitarian welfare	9.5	5.6	9.5
Bottom one-third	32.2	26.6	32.2
Middle one-third	8.8	4.2	8.8
Top one-third	−8.7	−10.8	−8.7
Workers	12.2	5.9	12.2
Entrepreneurs	−8.7	3.6	−8.7

Notes: Panel A reports the optimal tax rates, expressed in percent, and the annuitized present discounted value of lump-sum transfers as a percent of GDP per capita in the initial steady state. Panel B reports the consumption-equivalent welfare gains from implementing optimal reforms, also expressed in percent.

Given this specification, allowing the government to tax capital income as well as wealth implicitly allows it to tax returns to entrepreneurial activity at a different rate than returns to labor market activity and risk-free saving. This is in contrast to the status quo in the United States and in our benchmark model, in which all these activities are taxed at a uniform rate.

A. Optimal Policy

We next report the optimal policies chosen by a utilitarian planner and the associated welfare gains. To understand the relative merits of capital income and wealth taxation, we proceed incrementally. We first allow the government to tax capital and labor income only, and set $\tau_a = 0$. We then consider the case in which the government can only tax labor income and wealth, and impose $\tau_k = 0$. Finally, we consider the unrestricted case in which the government can use all three tax instruments.

The first column of Table 2 shows that when the wealth tax is restricted to zero, the planner taxes capital income at 65.6 percent, a rate higher than the 53.2 percent rate on labor income. This result is in contrast to Boar and Midrigan (2022), who find that in an economy without entrepreneurs, it is optimal to tax capital income at a lower rate than labor income. Optimal policy increases utilitarian welfare by 9.5 percent, primarily reflecting gains concentrated in the bottom third of the welfare distribution. These households experience an increase in utilitarian welfare of 32.2 percent, reflecting a large increase in lump-sum transfers. Since lump-sum transfers adjust during the transition to balance the government's budget, we gauge their size by reporting their annuitized present value. This is equal to 29.7 percent of the prereform per capita GDP, or 81 percent larger than under the status quo. Households in the middle of the distribution benefit as well, albeit to a lesser extent (8.8 percent), while households at the top lose 8.8 percent. Recall that all these numbers are in consumption-equivalent units. We also note that taxing capital income

greatly benefits workers whose utilitarian welfare increases by 12.2 percent, at the expense of entrepreneurs whose welfare falls by 8.7 percent.

The second column of the table shows that when the capital income tax is instead restricted to zero, the planner taxes wealth at 4.3 percent and utilitarian welfare only increases by 5.6 percent. Relative to the policy that taxes capital income, all terciles of the initial welfare distribution are faring worse. For example, the bottom third of the distribution gains only 26.6 percent and the middle third gains only 4.2 percent. Since under this reform the planner no longer taxes entrepreneurial income, entrepreneurs experience welfare gains of 3.6 percent. However, workers experience smaller welfare gains, of only 5.9 percent. These results reflect that a wealth tax is less redistributive compared to a capital income tax. The lower amount of redistribution is reflected in a lower increase in lump-sum transfers (28.4 percent of prereform GDP, or a 73 percent increase relative to the status quo), as well as large income and wealth taxes. Altogether, this reform redistributes less from the relatively wealthy entrepreneurs toward workers.

Lastly, the third column of Table 2 reports the consequence of allowing the government to simultaneously tax capital income and wealth. The optimal wealth tax is equal to zero, even though we did not impose any restrictions on its sign. Consequently, there are no welfare gains from introducing a wealth tax provided that capital and labor income taxes are chosen optimally. As we show below, depending on the preference for redistribution embedded in the social welfare function, it might be optimal to tax or subsidize wealth accumulation, but the welfare consequences of introducing a wealth tax are relatively small.

To further illustrate the equity-efficiency trade-off entailed by capital income and wealth taxes, the top row of Figure 1 shows the transition dynamics of output Y_t , the losses from misallocation Z_t/Z_t^* , and the aggregate capital wedge $\bar{\phi}_t$ upon implementing the optimal capital income tax and wealth tax reforms in isolation. The bottom row plots the transition dynamics of the wealth share of entrepreneurs and the Gini coefficients of the wealth and consumption distributions.

We note that output falls substantially under both reforms because of the distortions in the labor and savings choices induced by higher taxes, but output falls more when we tax capital income. The differential response of output reflects that under capital income taxes, financial frictions become more severe. First, the losses from misallocation increase, as shown in the middle panel. Second, the aggregate capital wedge increases as well, resulting in a decline in the capital-output ratio. Intuitively, a capital income tax disproportionately affects productive entrepreneurs' ability to save and grow out of the borrowing constraints. In contrast, a wealth tax improves allocative efficiency, nearly halving the losses from misallocation, and also reduces the aggregate capital wedge. These findings corroborate the insight of Guvenen et al. (2019), who point out that a wealth tax may improve allocative efficiency by reducing the relative tax burden of productive entrepreneurs.

However, since these misallocation losses are relatively small to begin with, the efficiency gains from wealth taxation are swamped by its redistributive consequences. As the second row of the figure shows, an optimally chosen wealth tax increases the wealth share of entrepreneurs from 44 percent in the initial steady state to 75 percent in the new one. This leads to a higher increase in wealth inequality relative to what a capital income tax reform achieves, and a smaller decline in consumption

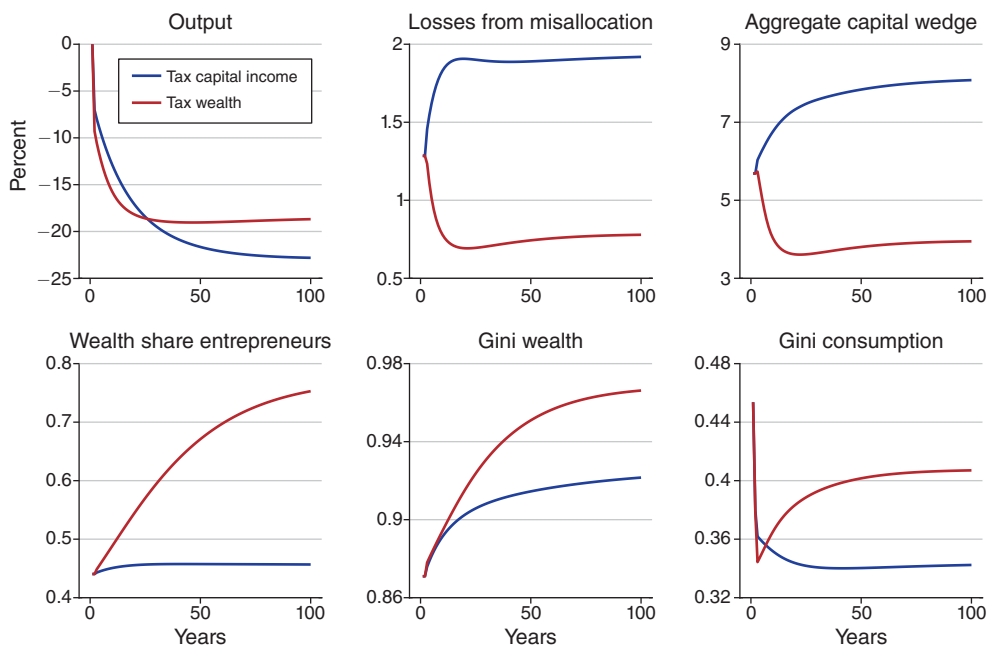


FIGURE 1. EFFECT OF CAPITAL INCOME AND WEALTH TAXES

Notes: The figure reports the dynamics of aggregate variables following the implementation of the optimal capital income and wealth tax reforms. The numbers in the top panels are expressed in percent. The numbers in the bottom panels are expressed in levels.

inequality. Interestingly, wealth inequality increases under both reforms because they increase lump-sum transfers and reduce the incentives to work and save of the poor. This suggests that measures of wealth inequality do not necessarily capture inequality in welfare, which decreases under both reforms.

Overall, we conclude that a capital income tax is preferred to a wealth tax. This result differs from Guvenen et al. (2019), who argue that a wealth tax is preferable to taxing capital income. Our analysis deviates from theirs along a number of dimensions. In contrast to Guvenen et al. (2019), in our framework entrepreneurs coexist with unconstrained corporate firms and operate a technology that uses both capital and labor. Our losses from misallocation are therefore much smaller than in their setting (1.3 percent versus 20 percent). In addition, we target the large wealth and income concentration in the hands of entrepreneurs, allow for lump-sum transfers, and conduct optimal policy taking transition dynamics into account. Though there is much debate about how large are the losses from misallocation induced by financial frictions,⁷ our insight applies more broadly: one cannot evaluate the relative merits of wealth and capital income taxation without factoring in their distributional implications.

⁷ See Boar, Gorea, and Midrigan (2022), who argue that commonly used measures of dispersion in average returns to private business wealth are not informative about the degree of misallocation induced by financial frictions. A wide range of models of firm dynamics, with or without financial constraints, can match the dispersion of average returns in the data but have different implications for the distribution of marginal returns.

TABLE 3—OPTIMAL POLICY, ALTERNATIVE SOCIAL WELFARE FUNCTIONS

	Tax capital income	Tax wealth	Tax capital income and wealth
<i>Panel A. Maximize average welfare</i>			
Labor income tax	47.1	50.3	48.5
Capital income tax	49.0	—	63.6
Wealth tax	—	1.5	−1.0
Average welfare	1.7	−0.4	2.0
<i>Panel B. Maximize Rawlsian welfare</i>			
Labor income tax	72.8	74.6	72.6
Capital income tax	72.4	—	63.3
Wealth tax	—	6.6	1.1
Rawlsian welfare	74.1	67.5	74.6

Notes: Panel A reports the optimal tax rates and the consumption-equivalent welfare gains from implementing optimal reforms that maximize average welfare. Panel B reports the optimal tax rates and the consumption-equivalent welfare gains from implementing optimal reforms that maximize Rawlsian welfare. All numbers are expressed in percent.

B. Alternative Social Welfare Functions

We next gauge the robustness of our results to alternative social welfare functions. Table 3 summarizes the optimal tax schedules and the implied welfare gains for a planner who seeks to maximize average welfare ($\Delta = 0$) and a planner who seeks to maximize the welfare of the poorest agent ($\Delta = \infty$).

We find that, irrespective of the preference for redistribution, a capital income tax is preferable to a wealth tax. A planner who seeks to maximize average welfare and can only tax capital income in addition to labor income is able to increase average welfare by 1.7 percent. In contrast, if this planner can only tax wealth in addition to labor income, optimal policy reduces average welfare relative to the status quo by 0.4 percent. Moreover, even when the planner can tax both capital income and wealth, the marginal welfare gains from introducing a wealth tax are small. The optimally chosen wealth tax is equal to -1 percent and generates welfare gains of 2 percent, only slightly larger than the 1.7 percent that can be attained without subsidizing wealth. We draw a similar conclusion for a Rawlsian planner. This planner sets the wealth tax to 1.1 percent and is able to increase the welfare of the poorest household by 74.6 percent, very similar to the 74.1 percent increase it can achieve without a wealth tax. Not surprisingly, the stronger the planner's preference for redistribution, the larger are tax rates on labor income, capital income, and wealth.

C. Nonlinear Taxes

We next show that our conclusion that a capital income tax is preferred to a wealth tax and that the marginal gains of introducing a wealth tax are small is robust to allowing for nonlinear income and wealth taxes. We assume that the government taxes labor income $W_t e_t h_t$, capital income $ra_t + \pi_t$, and wealth a_t using tax schedules of the form $T_s(y) = y - (1 - \tau_s)(y^{1-\xi_s}/1 - \xi_s)$, where y represents the base subject to taxation and $s \in \{l, k, a\}$. As earlier, τ_s governs the average level of taxes and ξ_s governs the slope of the tax schedule.

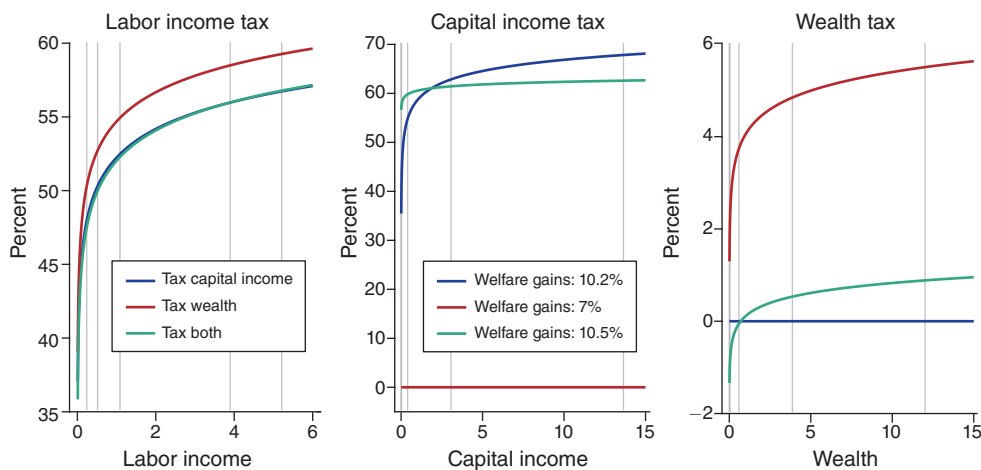


FIGURE 2. NONLINEAR TAXES

Notes: The lines represent the optimal marginal taxes on labor income, capital income, and wealth. Vertical bars represent the twenty-fifth, fiftieth, seventy-fifth, ninety-fifth, and ninety-ninth percentiles of the income and wealth distributions in the initial steady state. The x-axes report income (wealth) relative to mean income (wealth) in the initial steady state. The legend in the middle panel reports the welfare gains from each experiment.

Because tax parameters are not easily interpretable on their own, Figure 2 depicts the optimal marginal labor income, capital income, and wealth tax schedules as a function of their respective tax base. As before, we consider three experiments in which, in addition to taxing labor income, the government also taxes capital income, wealth, or both capital income and wealth.

We make three observations. First, optimal marginal income and wealth taxes are upward sloping, reflecting the large inequality in the economy. Second, in line with our baseline results, taxing capital income yields higher welfare gains than taxing wealth (10.2 percent versus 7 percent). Moreover, when the planner can tax both capital income and wealth, the optimal wealth tax is relatively low and the incremental gains from introducing the wealth tax are small as well (10.5 percent versus 10.2 percent). Third, allowing for nonlinear marginal taxes generates only small additional welfare gains compared to the flat tax schedule reported in Table 2, a point that echoes the findings of Boar and Midrigan (2022) in an economy without entrepreneurs.

IV. Conclusion

When private business owners are financially constrained, they differ in their returns to saving. As pointed out by Guvenen et al. (2019), this heterogeneity in rates of return implies a nontrivial distinction between capital income and wealth taxation. This paper characterizes the optimal tax on capital income and wealth in an economy with private businesses that reproduces the degree of inequality observed in the United States, as well as the large income and wealth shares of private business owners.

We find that capital income taxation is preferred to wealth taxation if the government is restricted to taxing only one of these in isolation. This is because the redistribution motive dominates the efficiency gains from increasing the wealth share of private business owners. When the planner is able to tax both capital income and wealth, the incremental gains from wealth taxation are small and the optimal wealth tax is close to zero. This result is robust to the planner's preference for redistribution, as well as to allowing for nonlinear income and wealth taxes.

In deriving our results, we kept the model purposefully simple to highlight the trade-off between efficiency and redistribution induced by wealth and capital income taxes. In doing so, we abstracted from a number of considerations: occupational choice and lifecycle dynamics, as well as allowing for a richer income process to capture the evidence in Guvenen, Ozkan, and Song (2014). We also assumed perfect competition in the product market and thus abstracted from inefficiencies due to markups. We conjecture that allowing for such distortions would reduce the optimal level of taxes as higher taxes would further amplify the distortions from monopoly power. We believe that extending our analysis along these dimensions is an important avenue for future work.

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