Top Marginal Tax Rates and Within-Firm Income Inequality


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Extended Abstract

Behavioral responses to changes in top marginal income tax rates have been central to the overall debate on income inequality in the United States for decades. Yet, because standard models of optimal taxation assume that firms do not change behavior in response to individual income tax policy, the role of the firm as an important intermediary in this relationship has been largely neglected. Recently, theoretical work has emerged showing how optimal tax rates can depend on the rent-sharing behavior of firms.\(^1\) If the behavioral responses to a tax reform include, to some extent, a transfer of rents, then redistribution does not only occur directly through the tax reform, but also through transfers occurring in the broader economy. On the other hand, pure supply-side responses may affect productivity of firms and spillover to compensation or hiring practices of those not directly subject to the tax reform. Accordingly, spillovers from behavioral responses carry important implications for the equity-efficiency tradeoff inherent in income taxation.

This paper uses linked employer-employee tax microdata to study the role of the firm in mediating responses to individual income taxation. I address the question: does individual income taxation affect the form or distribution of compensation within firms? Particularly, are there within-firm spillovers associated with changes to the top marginal tax rates, and are these spillovers attributable to supply-side or rent-sharing responses of top-bracket income earners?

I find that recent increases in the top marginal U.S. tax rate are associated with reductions in within-firm inequality, with larger reductions among firms more exposed to the top rate changes. To isolate spillovers from the tax policy, I develop instruments for firm-level variation in exposure of lower-bracket workers to top rate changes. I then use instrumental variable (IV) and continuous difference-in-difference (DID) regression models to separately identify the labor supply and rent-sharing responses.

As a foundation, I present a model which shows how linking individual income reports to firm-level income reports allows for a decomposition of observed responses to changes in the top marginal tax rates into avoidance, supply-side and rent-sharing responses. The model uses rate changes as shocks to labor supply and rent-sharing incentives, with differing predictions for changes in the joint relationship between firm productivity and employee compensation depending on the form of the response. To test the predictions of the model, I use a new linked employer-employee panel dataset created from U.S. tax records. These data allow me to i) observe various income sources across the entire income distribution, ii) observe all employees working at a given firm, and iii) link individual income reports to the income reports of the employing firm. The linkage between individual and firm income reports is the novel feature which allows for the disaggregation of behavioral responses.

The American Taxpayer Relief Act of 2012 (ATRA) provides an opportunity for examining behavioral responses to changes in the top marginal tax rate. This legislation increased the top marginal tax rate on income, employment income and capital gains, but left the tax schedule essentially unchanged at lower income levels. Saez (2016) estimates that the ATRA effectively raised the top marginal tax rate on very high income Americans, those near the top 1% of the income distribution, by approximately 9.5 percentage points for capital income and 6.5 percentage points for labor income. The relative simplicity of this tax reform, and that it affects top income earners but not lower-bracket earners, make it particularly useful for evaluating spillover effects.

This is the first paper to use administrative micro data to disaggregate responses of top tax rates into labor supply and rent-sharing responses. This disaggregation contributes to our understanding of the equity-efficiency trade-off of income taxation, as well as interpretations and estimation of observed responses to tax reforms. I examine the implications of the empirical results for optimal taxation and for the relationship between top marginal tax rates and the income distribution. Relatedly, evidence of rent-sharing responses has implications for the interaction between labor market imperfections, tax policy and labor market institutions.

\(^1\)Piketty, Saez and Stantcheva (2014) and Rothschild and Schaefer (2012) each present models where optimal top marginal tax rates depend on the degree of rent-sharing in the economy.
Finally, I address the consequences of spillovers for estimation of behavioral responses to income taxation using DID methods. Spillovers to the control group, often constructed using workers not directly subject to the tax change, may violate the identifying “parallel trends” assumption of DID models.

The analysis proceeds in the following steps:

First, I present evidence of changes in the within-firm income distribution following the ATRA. I document an average decrease in within-firm income dispersion following the top rate hikes, marking a sharp change in a seven year trend of increasing within-firm inequality. If top-bracket employees respond to top rate hikes, even if there is no spillover to the compensation of lower-bracket employees, this would still result in a decrease in income dispersion. The patterns show that decreases in within-firm income distributions are in part attributable to increases in reported income at in lower quantiles of the income distribution, among workers not directly subject to the rate change.

Next, I provide evidence suggesting that the changes in within-firm inequality are plausibly attributable to the top rate changes. I use a DID model comparing changes in within-firm income dispersion before and after the top rate change, where the treatment is the number of top-bracket workers at a firm. This treatment is a proxy for exposure of lower-bracket employees to the top rate changes. The DID estimate can be interpreted as the differential change in within-firm income dispersion associated with having an additional top-bracket worker in the firm. I find that for various dispersion measures and income concepts, the DID estimate is negative and highly precise. In terms of the underlying hypothesis, this implies that firms with more employees exposed to the top rate changes experienced differential reductions of within-firm inequality.

While this evidence is suggestive of systematic changes in compensation, consistent with a rent-sharing response, it does not establish a causal rent-sharing response. In order to identify a potential causal relationship, I first present a model which provides testable predictions of the income responses of top and lower-bracket employees in the presence of labor supply and rent-sharing responses. Since lower-bracket employees have no incentive to change their labor supply in response to the change in top rates, any systematic changes in their compensation are attributable to spillovers from responses of top-bracket workers. The main prediction of the model is that lower-bracket compensation can increase, decrease or stay the same as a result of real responses of top-bracket employees, but if there is a rent-sharing response lower-bracket incomes will unambiguously increase relative to firm productivity. The model highlights the importance of estimating the joint relationship between firm productivity and top and lower-bracket compensation for separately identifying labor supply and rent-sharing responses.

Next, I use the linked administrative data to test the predictions of the model, starting with an investigation of a true supply-side response. Though the data do not contain hours worked, the classical measure of labor supply, the firm income reports contain various firm-level productivity measures. If those that receive the highest compensation from their firms - active owners, officers, executives, and top managers - change their labor supply, we might expect this to affect the productivity of their firms. I test whether there is any systematic relationship between the income response of top employees and firm productivity.

The key to estimating the rent-sharing elasticity is to isolate the response of lower-bracket employees to changes in the top marginal tax rate. Since lower-bracket employees face no direct change in their tax rate, the identifying variation is exposure of lower-bracket employees to the top rate changes through their firms. First, I use the number of top-bracket employees in the firm as proxy for exposure. As an extreme example, we expect lower-bracket workers in firms with no top-bracket workers to be unaffected by top rate changes and those in firms to with top-bracket workers to be exposed to the rate change. Second, lower-bracket workers in firms where top-bracket workers are more responsive to the rate changes are more exposed to the rate changes. Therefore, I use the anticipation response, or income retiming response, of top-bracket employees in a firm as an instrument for exposure. Lower-bracket employees of firms whose top-bracket
employees shift more income in anticipation of the tax change are considered to be more exposed to the rate change.\textsuperscript{2}

I use continuous DID and IV regression methods to identify within-firm spillovers of responses to top rate change. To isolate rent-sharing responses, I estimate the effects of ATRA on the relationship between worker compensation and firm-level productivity measures. An additional feature involves conducting the analysis separately for C-corporations and S-corporations. Using tax reports from S-corporations allows me to observe distributions of profits to all owners of the firm, including both active and passive owners. This provides the opportunity for even sharper tests of rent-sharing responses.

\textsuperscript{2}The instrument is violated if sharp increases in top-bracket compensation in 2012 are correlated with lower-bracket incomes for reasons other than the tax change. The most likely example would be productivity or demand shocks experienced by certain firms which resulted in higher compensation for top-bracket employees and compensation changes for lower-bracket employees. This is another reason it is particularly important to be able to condition on firm-level productivity measures.
References


