The Distribution of Corporate Tax Burdens with Excess Profits and Rent Sharing

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ABSTRACT

In standard public finance microsimulation models, shareholders bear the burden of taxes on corporate excess returns. Evidence suggests, however, that firms share rents with workers. As a result, the *more* power workers have, the *more* they bear the burden of taxes on excess returns. We review theory and evidence on excess profits and rent sharing, including recent evidence on the heterogeneous distribution of shared rents, and incorporate new assumptions into the Tax Policy Center microsimulation model. Our analysis suggests an unconventional result: the corporate income tax may exhibit a very high burden on labor and still be highly progressive.

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I. Introduction

Economists have devoted substantial attention to understanding the effects of the corporate income tax. The historic corporate tax changes in the Tax Cuts and Jobs Act of 2017 only heighten the importance of understanding these issues.

Understanding who bears the burden of the tax has proven to be an especially difficult issue. Corporate profits consist of two components: normal returns and super-normal returns. Normal returns can be thought of as the minimum risk-adjusted return necessary for a firm to make an investment. Super-normal returns – often called rents, excess returns, or excess profits – comprise any returns above the normal returns. Firms may earn super-normal returns through patents, special expertise or skills, luck, economies of scale, location-specific factors, monopoly power in product markets, monopsony power in labor markets, restrictive regulations, or other factors.

The distinction between normal and excess returns matters because taxes on each type of return are plausibly borne by different agents in the economy. A tax on the normal return would typically be expected to be shifted to some combination of all capital owners or workers (or possibly landowners or customers). In contrast, a tax on excess returns may not be shifted at all since a less than 100 percent tax on super-normal returns still leaves the firm with some super-normal returns. In that case, the tax on excess returns is borne by shareholders. This fact has led analysts to make statements of the following kind (with the numbers being hypothetical): "Forty percent of corporate returns are normal returns, which are divided half among workers and half among all capital owners; the remaining 60 percent of corporate returns are super-normal returns, which are borne by shareholders. As a result, workers bear 20 percent of corporate taxes, all capital owners bear another 20 percent, and corporate shareholders bear the remaining 60 percent."[1]

There is substantial empirical evidence, however, that firms share rents with their workers, in which case the burden of taxes on excess returns would be shared between workers and shareholders. The leads to a perhaps counter-intuitive result: the *more* power workers have, the *more* they able to command wages above the prevailing level, the *more* they bear the burden of taxes on excess returns. The effects of rent-sharing have been incorporated – with varying degrees of success and varying results – in a few previous theoretical analyses and in empirical investigations of the incidence of taxes on excess returns on wages and returns to capital.

In this paper, our goal is to more fully integrate the literature on rent-sharing into the quantitative microsimulation models that inform official government revenue estimates and the broader policy debate. Specifically, we use the Tax Policy Center microsimulation model (Nunns 2012) to examine the quantitative importance – for the overall progressivity of the corporate income tax – of replacing the assumption that shareholders bear the full burden of taxes on

[1]The Department of the Treasury (Cronin 2013, Power and Frerick 2016) and Tax Policy Center (Nunns 2012) follow this approach. Auerbach (2006), Gentry (2007), and Gravelle (2021) describe the logic behind this type of conclusion while also clarifying that there are situations where the assumptions may not hold.

excess returns with various assumptions that allow for workers and shareholders to share the burden in different ways.

A concise summary of the results (which are currently incomplete and not reported in this draft) is that incorporating rent sharing makes the corporate tax less progressive than assuming that shareholders bear the entire burden of taxes on excess returns, but the tax remains quite progressive, both because labor income is higher among high-income households than low-income households and because rent-sharing occurs primarily with high-income rather than low-income workers.

Section II presents four facts regarding excess profits and rent sharing, which have implications for the study of corporate taxes. Section III reviews previous theoretical and empirical analyses of the incidence of the corporate income tax. Section IV reviews the corporate tax incidence assumptions employed by CBO, Treasury, and the Tax Policy Center and uses the information described above to generate estimates of the quantitative importance of different rent-sharing assumptions for the distribution of corporate tax burdens across household income levels. Section V offers a short conclusion. (Abbreviated versions of each section follow below.)

II. Excess Profits and Rent Sharing

Rents are simply returns to labor or capital above the amount required to generate the observed supply of that factor. Quasi-rents arise in situations such as patents, where successful inventions generate high returns, but the presence of these high returns was necessary to induce the initial investment in the first place.

Four stylized facts about corporate excess profits and rent sharing between firms and workers are key for the incidence of the corporate income tax. First, excess returns are a substantial share of the corporate tax base, and that share has increased over time for reasons both internal and external to the corporate tax itself (Gentry and Hubbard 1997, Toder and Rueben 2007, Cronin et al. 2013, Power and Frerick 2016). This suggests the increasing importance of accounting for excess returns in examining the incidence of the corporate tax. Second, rents are shared with workers (Card et al, 2018, Slichter 1950, Krueger and Summers 1986, Blanchflower et al. 1996). This implies that workers share in the corporate tax burden via a bargaining mechanism that is distinct from, and in addition to, the general equilibrium incidence examined by Harberger (1962) and a large subsequent literature outlined in section III. Third, among the rents shared with workers, the predominant share accrues to those with high income or high skills. (Barth et al. 2016, Furman and Orszag 2018, Song et al. 2019, Kline et al. 2019, Carbonnier et al. 2019) This implies that they bear more of the burden of (or gain from) corporate tax changes than low-income workers. Fourth, for most workers (those with income below $150,000 per year), rent sharing has declined over time (Stansbury and Summers 2020, Furman and Orszag 2018). Controlling for other factors, this implies that the corporate tax has become more progressive over time. Taken together, these facts indicate that (a) due to rent-sharing, labor may bear more of a burden of the CIT than conventional analysis would suggest, and (b) the burden of the corporate income tax on labor may be quite heterogeneous across types of labor.

III. Previous Work on Corporate Tax Incidence[2]

A. Incidence with Normal Returns

Harberger (1962) provided the first formal model of corporate tax incidence. His model had several key features: (a) a general equilibrium framework with a corporate and non-corporate sector, where each sector produced a single good that was different from the one produced by the other; (b) a closed economy with fixed aggregate supply of capital and labor but the ability of factors to move between sectors; (c) a corporate tax that was imposed on all capital in the corporate sector; (d) an assumption that all corporate and non-corporate capital earn the normal return, and (e) a focus on long-term, comparative static outcomes. Under his preferred (and plausible) assumptions, the tax was borne by all capital owners in the corporate and non-corporate sectors, and not by labor. The Harberger model forms the basis of a large body of literature that extends the model in different ways to examine incidence issues to include many sectors (Shoven 1976), mutual production of goods (Gravelle and Kotlikoff 1989), open economy considerations (Bradford 1978, Kotlikoff and Summers 1987, Harberger 1995, Randolph 2006, Gravelle and Smetters 2006), and other issues (Auerbach 2006).

B. Incidence with Excess Returns

Arulampalam, Devereux, and Maffini (2012), henceforth ADM, provided the first model to explicitly incorporate rent sharing and wage bargaining into a standard model of corporate tax incidence. ADM refer to the general equilibrium effects of corporate taxes on the normal return and wages as the "indirect" effects. Their aim is to explore the "direct" effects – the impact of the corporate tax on wages, *holding constant* output, investment, and interest rates. The basic logic behind the model is subtle. The rents that go to labor in the form of higher wages are deductible from the firm's taxable income and thus do not directly affect the wage payment (Felix and Hines 2009, Gravelle 2021). Nevertheless, the presence of the tax reduces the amount of rents available to share and thus reduces wages. An analogy that may be useful is that, in the presence of expensing, the effective marginal tax rate on equity-financed investment is zero regardless of the statutory marginal tax rate. Nevertheless, if the investment is financed out of cash flow, an increase in the marginal tax rate on cash flow could reduce such investment, not through the price effect but through the reduction in cash flow.

In this framework, the wage that workers receive is the competitive wage plus a share of the after-tax rents that firms earn, where the share depends on the relative bargaining power of the worker and the firm and on the tax rate imposed on the firm. As a result, a higher corporate tax rate reduces wages through this direct bargaining effect, even holding macro variables constant. We emphasize that nothing in the framework requires that there is an employee union involved or even that there is an explicit bargaining process. We view the model as potentially characterizing a wide range of situations where the relative bargaining power of the parties (including institutional and macroeconomic factors) plays a role in wage determination. As discussed above, there is substantial evidence that such rent sharing takes place, even in

[2] Auerbach (2006, 2018), Gentry (2007), and Gravelle (2021) provide extensive reviews and interpretations of the literature.

environments and firms not characterized by union coverage or explicit bargaining.

C. Empirical Analysis of Corporate Tax Incidence

This section reviews empirical studies of the effect of corporate taxation on wages. The bottom line is that while previous work has generated substantial evidence that corporate taxes affect wages, the literature has two important shortcomings. First, it tends to treat labor as a homogenous group (apart from Fuest et al. (2018)). Second, it tends not to distinguish between different features of the corporate tax – depreciation rules versus the tax rate, for example – that might be expected to have different incidence effects for reasons noted above. In the next section, we turn to simulation models, which will allow us to distinguish the incidence effects of various features of the corporate tax on different types of labor.

IV. New estimates of distributional burdens (Incomplete)

In this section, we (will) provide estimates of the distributional burdens of the corporate income tax using the Tax Policy Center Microsimulation Model (Nunns 2012) and show the sensitivity of the results to different assumptions about rent sharing.

The model calculates federal income tax liability (and other tax measures) for households based on tax returns from the Internal Revenue Service Public Use Files, data merges with the Current Population Survey, the Survey of Consumer Finances, and other sources. The standard model specification is that 40 percent of the corporate tax base represents normal returns and the other 60 percent represents excess returns.[3] Normal returns are distributed equally to labor and all capital owners. Excess returns are distributed to shareholders. By way of comparison, the Treasury Department (Power and Frerick (2016) and Cronin et al. (2013)) employs a similar breakdown of normal and excess returns and similar incidence assumptions for each type of return. In contrast, the Congressional Budget Office distributes the corporate tax to labor and all capital owners.

While distributional analysis using cross-sectional samples is common, the procedure has important limits. It omits the short-run and dynamic impacts of taxes and focuses instead on the long-run impact; and it does not undertake welfare analysis, it simply distributes the cash value of the tax burdens (Auerbach 1993,2018).

We will examine the incidence of the corporate tax under various combinations of the following scenarios:

- What share of corporate profits represent excess returns under current policy (ranging from 20 percent to 100 percent)?
- What proportion of rents are shared with workers (ranging from 0 to about half)?
- How are shared rents distributed (among all workers or primarily among a high-income subset)?

[3] https://www.taxpolicycenter.org/resources/brief-description-tax-model

- How do changes in different policies affect the share of the corporate tax base that represents excess profits?

Our goal is not to identify a single "correct" distributional estimate: instead, we want to provide a range of estimates under different specifications of the relevant parameters. Rather, the underlying question is the extent to which incorporating rent sharing assumptions affects conclusions about the distribution of corporate tax burdens. We intend to use the best available estimates from the literature to construct "low," "median," and "high" levels of each of these parameters and combine them in a manner that allows for a reasonable range of concrete figures on both the labor/capital/shareholder incidence of the corporate income tax across household income levels.

V. Conclusion

The existence of rent sharing between workers and firms implies that workers bear some of the burden of the corporate income tax through a "direct" explicit or implicit bargaining mechanism, holding macroeconomic variables constant. This burden is in addition to any burden workers face from the "indirect" effect on wages that occur through changes in macroeconomic aggregates such as investment and output.

Our goal in this paper is to incorporate insights from the literature on rent sharing between firms and workers into analysis of the distributional effects of the corporate income tax. Our analysis suggests both that more of the tax than previously understood falls on "labor," but because rent sharing appears to be concentrated among high-income workers, we also find that the tax is quite progressive: shareholders, all capital owners, and high-income workers collectively bear the largest share of the tax, even with plausible rent sharing assumptions. Using the TPC microsimulation model, we can distinguish the effects of different components of the tax. Changes in depreciation or expensing rules affect only the normal return and thus are not affected by rent sharing assumptions. Changes in tax rates, however, affect both normal and excess returns, so the specification of rent sharing affects the distributional burden of such changes.

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