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The Corporate Income Tax and Workers' Wages: New Evidence from the 50 States

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Introduction

While state-local corporate tax revenue has remained relatively constant for several decades, bringing in roughly five percent of revenue, some states have significantly increased their reliance on corporate taxes while others have relied less on that revenue source. The average state corporate tax rate – defined as collections divided by state income – has risen from 2.6 percent several decades ago to 4.4 percent today.

This study examines this correlation between corporate tax rates and wages, and it finds a causal relationship. States with comparatively low corporate taxes have seen wages rise beyond what they would have otherwise. Specifically, a one percent drop in the average tax rate leads to a 0.014 percent rise in real wages five years later. In dollar terms, that means wages rise $2.50 for every one dollar reduction in state-local corporate income taxes.

The reverse is also true: A one percent hike in the average tax rate leads to a 0.014 percent drop in real wages, or roughly a $2.50 loss in wages for each one-dollar rise in corporate tax collections.

These results add to a growing literature in the international arena that compares changes in corporate tax rates and workers' wages. Altogether, this body of work draws

Key Findings:

- *States with high corporate income taxes have depressed their workers' wages over the long term, while states with low corporate taxes have boosted worker productivity and real wages.*
- *This finding is consistent with other research focusing on the international trend towards lower tax rates: high corporate taxes tend to depress real wages.*
    - *According to this study, on average, between 1970 and 2007, a one-dollar increase in the average state-local corporate tax rate caused a $2.50 dip in wages five years later, compared with lower-taxed states.*
- *A growing body of literature is showing that the burden of corporate income taxes falls predominantly on labor.*

into question the conventional wisdom that corporate taxes add to the progressivity of the tax system. If instead of burdening capital, the corporate tax primarily burdens labor, as this study finds, then the corporate income tax does not add to the progressivity of the tax system.

Corporate Taxes: Who Bears the Burden?

Political rhetoric about taxes often includes the phrase, "We need to ensure that businesses pay their fair share." This puzzles economists who believe that businesses can in no way *bear the economic burden* of a tax. After all, businesses are merely convenient ways of organizing economic activity, so while businesses write checks to pay the corporate tax (and other taxes), the burden of those taxes falls ultimately on the individuals who depend on the corporations, in their roles as investors, workers, or consumers. The crucial economic question for policy makers to answer is: how is the corporate tax burden divided up among those individuals?

The answer to the question – "Who bears the burden of the corporate income tax?" – is important because raising corporate income taxes has often been viewed as an effective way for governments to push the tax burden onto the people who can best afford it. As the conventional wisdom held, if the tax were borne primarily by owners of capital who tend to have higher incomes, then a high corporate income tax would make the tax system more progressive. This presumption that owners of capital shouldered most of the burden of the corporate income tax is being challenged with increasing frequency.

Evidence from the International Trend of Declining Corporate Tax Rates

Lately, observers have challenged the conventional wisdom by researching the recent wave of corporate rate cuts among developed nations. Studies have shown that in general, countries that cut their corporate tax rates enjoyed the largest gains in workers' wages.

The intuition behind this new research is straightforward: economic theory suggests that the least mobile factor of production is likely to bear the burden of a tax. In an increasingly global economy, labor is the least mobile because capital can flow freely across borders. Therefore, it is reasonable to expect most of the corporate tax burden to be borne by labor, not capital. It follows, therefore, that countries with low corporate tax rates will attract investment and generate capital formation. When workers have more capital to work with, their labor productivity and wages will rise.

The notion that at least some portion of the corporate tax is shifted to labor is not controversial. For example, even though a 1996 study by the Congressional Budget Office suggested that the corporate tax was probably borne primarily by owners of capital, it acknowledged that some of the tax was likely borne by labor. When a 1998 survey of public finance economists asked what percentage of the corporate tax falls on capital versus labor, the responses varied greatly, but the median response was 60 percent labor and 40 percent capital.

What is particularly interesting about the emerging research on the international experience is that it represents the only empirical research on the incidence of the corporate income tax, and it finds a substantial negative relationship between corporate tax rates and real wages. Moreover, the research finds somewhat different channels for the shifting of the corporate tax onto labor. Consider the following studies: [1]

- Arulampalam, Devereux, and Maffini (2008) consider the extent of labor's

1 A recent review of some of this research is provided by Gentry (2007). Gravelle and Hungerford (2008) question the results reported by some of these studies as being so large as to be implausible and also raise a number of methodological issues.

corporate tax burden in a bargaining framework between firms and workers over a firm's economic rents. This contrasts with studying changes in capital intensity, the traditional mechanism through which the corporate tax might be borne by labor. This paper uses data on 55,082 firms in nine countries from 1996 through 2003 and finds that nearly the whole of an additional dollar in taxes was passed on to workers in the form of lower wages.

- Hassett and Mathur (2006) estimate the relationship between wages and corporate tax rates using a sample of 72 countries from 1981 through 2002. They focus on the effect of the statutory corporate tax rate on manufacturing wages, and they report large effects: a 1 percentage point reduction in corporate tax rates leads to a 0.8 percent increase in real manufacturing wages. The study also focuses on the spatial dimensions of international tax competition and finds a correlation between high-tax neighbors and high domestic wages, suggesting that nations are able to attract investment by enacting lower tax rates than their neighbors. Finally, this paper finds that the responsiveness of wages to corporate taxes is greater in small countries.

- Felix (2007) uses aggregated data on wages differentiated by skill level from 19 developed countries over the 1979 to 2000 period. This study also finds large effects of the corporate income tax on wages: a ten percentage point increase in the corporate tax rate is found to reduce annual gross wages by 7 percent. These estimates suggest that labor's burden of the corporate tax is four times the magnitude of the corporate tax revenue collected in the United States.

- Desai, Foley and Hines (2007) use data aggregated from a panel of U.S. multinational corporations operating in 50 countries between 1989 through 2004 to estimate jointly the impact of the corporate income tax on the wage rate and the rate of profit.[2] In their base specification, they report that 57 percent of the corporate tax is borne by labor but express their results as a range: between 45 and 75 percent of the corporate income tax is borne by labor across a range of specifications.

Evidence from the Fifty States

Rather than focusing on the experience abroad, the study we summarize here, *Tax Foundation Working Paper No. 8,* "Corporate Taxes and Wages: Evidence from the 50 States," looks at the experience within the United States to consider the same question. Using state level data from 1970 through 2007, and controlling for labor market variables such as unionization, right-to-work laws, and demographic features of the population, this new research considers whether workers in those states with the largest reductions (or the smallest increases) in state and local corporate taxes saw their wages grow the fastest.

In the aggregate, the share of state and local revenues contributed by corporate taxes has remained relatively constant at roughly 5 percent over the past several decades. The average state corporate tax rate has risen from 2.6 percent several decades ago to 4.4 percent today.[3] Despite this general trend, some states have increased their reliance on corporate taxes while others have reduced it through changes in both the corporate tax rate and the tax base. These changes provide the variation needed to determine whether lower corporate taxes tend to produce gains in workers' real wages.

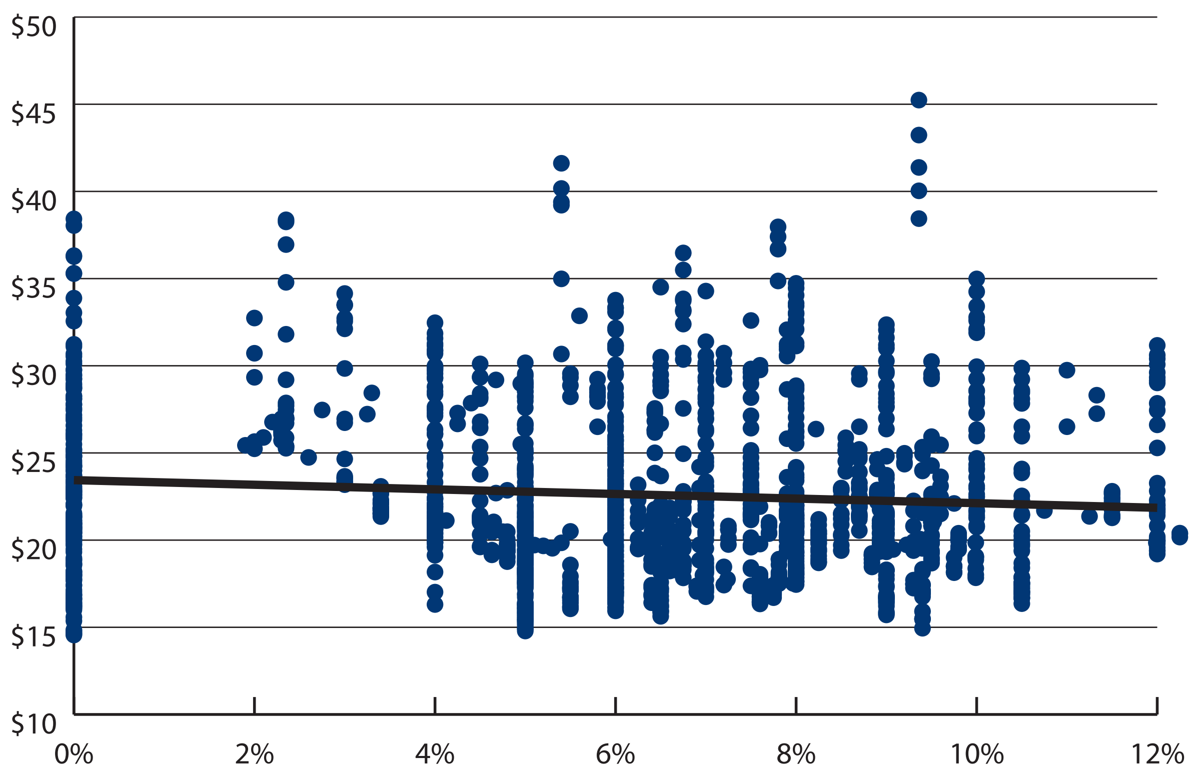
2 Data from four cross-sections in 1989, 1994, 1999 and 2004 are used for estimation.

3 The rate here is not the statutory rate, but an average rate calculated by dividing state income into corporate tax collections.

The chart below shows the simple relationship between state corporate tax rates and the real average hourly earnings of production workers. The negative correlation implied by the downward sloping line suggests that higher corporate taxes lead to lower real wages. This study examines this correlation in more detail, taking into account other factors, and finds a causal relationship: states with higher corporate taxes tend to have lower wages.

How do wages in a state react when the state-local corporate tax rises by 1 percent? The result in this study is a drop of 0.014 percent. What does this result imply for workers' wages? Let's consider what would happen if the average state corporate tax rate were increased by 1 percent. In 2002, total state and local corporate tax collections were $28.2 billion and a 1 percent increase in the average tax rate would have brought in an additional $282 million. According to the framework used by this study, we could expect average hourly earnings to react negatively after a five-year lag and fall by 0.014 percent. Average hourly earnings for production workers were $18 per hour in 2007. A 0.014 percent drop in those wages would amount to about $5 per worker after being annualized. But, when aggregated over all roughly 145 million workers in the economy, it would translate into a drop of about $715 million in lower wages for U.S. workers, a significantly negative response to a $282 million tax hike. This implies that wages can be expected to fall by about $2.50 for every dollar in additional revenue (i.e., the $715 million drop in wages divided by the hypothetical $282 million tax increase). This result is substantially smaller than the

Figure 1
Relationship of Real Hourly Earnings for Production Workers and the Top Statutory State and Local Corporate Tax Rate 1970-2007



results implied by Hassett and Mathur (2006) and Felix (2007), and roughly twice the result from Harberger's (2006) theoretically based calculations.[4]

The reverse is also true. A one percent decrease in the average tax rate can be expected to lead to a 0.014 percent increase in real wages, or roughly a $2.50 gain in wages for each one-dollar reduction in corporate tax collections. This finding holds up under a number of different specifications.

How can labor bear a burden larger than the corporate tax itself?[5] The intuition behind this result is two-fold. The tax cannot be borne by capital because capital is mobile and its after-tax return is unaffected by the change in the tax. Similarly, the tax will generally not be passed forward to consumers through higher prices provided the good is tradable and its price unable to adjust because of international price competition. Thus, the only channel for the tax to be absorbed is through the price of labor. The fall in wages, however, will apply for all labor, not just labor in the taxed sector. Thus, as a first approximation, labor may well bear more than the full burden of the tax, especially for a small economy.

Conclusion

One rationale for the corporate income tax is to provide a "backstop" to the individual income tax; that is, to ensure that the return to capital, if not taxed under the individual income tax is at least taxed through the corporate income tax. The conventional wisdom has also been that the corporate income tax adds to the progressivity of the tax system because capital income is earned disproportionately by those with higher incomes. Both of these rationales presume that the corporate income tax is borne, in some way, by owners of capital. Increasingly, however, this view is coming under fire. Research focusing on the experience from abroad has found that countries increasing their corporate tax rates the most have experienced the largest decreases in workers' wages. Now, new research based on the experience of the 50 states reinforces this view: states with higher corporate taxes tend to have lower real wages.

This emerging research should give pause to state and federal policy makers who are attempting to increase the progressivity of the tax code by increasing corporate income taxes. If the tax is borne by primarily by labor, such policy changes are not likely to increase the progressivity of the tax code.

References

Arulampalam, Wiji, Michael P. Devereux and Giorgia Maffini. (2008). "The Direct Incidence of Corporate Income Tax on Wages." Oxford University Centre for Business Taxation, WP 07/07, May.

Congressional Budget Office. *The Incidence of the Corporate Income Tax* CBO Paper, March 1996.

Desai, Mihir A., C. Fritz Foley and James R. Hines. (2007). "Labor and Capital Shares of the Corporate Tax Burden: International Evidence." Prepared for International Tax Policy Forum Conference, Who Pays the Corporate Tax in an Open Economy, December 18, 2007.

Felix, Alison R. (2007). "Passing the Burden: Corporate Tax Incidence in an Open Economy." Federal Reserve Bank of Kansas City (October).

Felix, Alison R. (2009). "Do State Corporate Income Taxes Reduce Wages." Federal Reserve Bank of Kansas City Economic Review, Second Quarter.

4 Harberger (2006) calculated that, based on a set of plausible assumptions, labor might well bear 130 percent of the corporate income tax.

5 For a more detailed discussion of how labor can bear more than 100 percent of the corporate income tax see Harberger (2006).

Gentry, William. (2007). "A Review of the Evidence on the Incidence of the Corporate Income Tax." U.S. Department of the Treasury, Office of Tax Analysis Working Paper 101, (December).

Gravelle, Jane and Thomas Hungerford. (2008). "Corporate Tax Reform: Issues for Congress." Congressional Research Service, Report for Congress, July 24, 2008.

Harberger, Arnold C. (2006). "Corporate Tax Incidence: Reflections on what is Known, Unknown, and Unknowable." In *Fundamental Tax Reform: Issues, Choices and Implications*, ed. John W. Diamond and George R. Zodrow. (Cambridge: MIT Press).

Hassett, Kevin and Aparna Mathur, "Taxes and Wages," American Enterprise Institute Working Paper No. 128, (Washington, DC), June 2006.

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