A Simple Model of Corporate Tax Incidence

By Dustin Swonder and Damián Vergara*

Corporate taxes are hotly debated, with concerns about their impacts on shareholders, workers, and investment at the forefront. Advocates of raising corporate taxes argue that they effectively redistribute from high-income firm owners to other agents in the economy. Skeptics emphasize that a multitude of low-tax global investment opportunities render corporate taxation self-defeating: it fails to capture revenue from capital owners who flee to lower-tax shores, stifles investment, and reduces wages.

Canonical scholarship underpinning this debate frequently assumes one or the other of these polar cases by restricting capital to be either unresponsive or infinitely sensitive to taxation. A textbook neoclassical model of profit maximization with a linear profit tax predicts that corporate taxes are non-distortionary, whereas the standard model of an open economy with mobile capital and fixed labor supply predicts that changes in corporate taxes are fully borne by workers through lower wages. More advanced theoretical literature, beginning with Harberger (1962) and extending more recently to Suárez Serrato and Zidar (2016, 2023), can deliver more nuanced and sensible predictions, but at the expense of tractability: conclusions depend on a large set of unknown, difficult-to-estimate, parameters.

In this note, we present a much simpler model based on Vergara (2023) capable of delivering finite responses to corporate taxes in wages, employment, profits, and capital. The analysis incorporates general equilibrium effects in the labor market which mediate corporate tax impacts. The model's incidence predictions depend primarily on an easy-to-evaluate parameter: firms' capital intensity. That is, the model predicts that manufacturing firms should be more responsive to corporate taxes than services firms, which resembles recent empirical evidence on corporate tax incidence. As the model is intentionally oversimplified, caveats and potential extensions are discussed in the conclusions.

I. Empirical Evidence

The past decade has witnessed a surge in empirical analyses of corporate tax incidence. These studies reject extreme predictions that one class of agents bears all the costs of corporate taxation, instead suggesting that firm owners, workers, and other factors of production share the burden of the corporate tax. Fuest, Peichl and Siegloch (2018) find that workers bear 51% of the tax burden in Germany. Suárez Serrato and Zidar (2016, 2023) and Kennedy et al. (2023) find that US firm owners bear close to half the incidence of taxation, while workers bear around 40%.[1] Risch (Forthcoming) finds a slightly larger burden on US firm owners, perhaps due to his focus on pass-through businesses.

These studies also show that firm heterogeneity and, in particular, their degree of capital intensity, matters for incidence. Fuest, Peichl and Siegloch (2018) find that German local corporate tax changes have larger wage effects on manufacturing firms, in line with US evidence from Cloyne, Kurt and Surico (2023) showing that goods-producing sectors are much more responsive to corporate tax changes than labor-intensive services industries. Kennedy et al. (2023) also find that responses to corporate taxes are stronger in capital-intensive firms.

* Swonder: UC Berkeley, 530 Evans Hall, MC 3880, Berkeley CA 94720, dswonder@berkeley.edu. Vergara: Princeton University, Industrial Relations Section, Louis A. Simpson International Bldg, Princeton, NJ 08544, damianvergara@princeton.edu. For very helpful comments, we thank Aart Gerritsen, Alan Auerbach, Patrick Kennedy, and Owen Zidar.

[1] Suárez Serrato and Zidar (2016, 2023) also include landowners in their analysis, and find that they bear 10 to 15% of the burden of corporate taxation.

This finding is consistent with a larger literature which finds investment responses to tax policy among manufacturers (Ohrn, 2018; Garrett, Ohrn and Suárez Serrato, 2020; Curtis et al., 2022).

II. Model

Motivated by these facts, we propose a model adapted from Vergara (2023) where the burden of the corporate tax is shared between workers and firm owners and the capital intensity embedded in the firm's production technology is an important source of incidence heterogeneity.

The model is static and features two populations and perfect competition. First, a continuum of equally productive workers of measure 1 observe the equilibrium wage, w, and decide whether to participate in the labor market. Workers' participation costs, c, are distributed according to a CDF F and density f. Workers get utility $w - c$ when working and 0 when not working. Then, workers work whenever $w \geq c$, so the aggregate labor supply curve is given by $F(w)$. The market-level extensive margin labor supply elasticity is given by $\epsilon^S = f(w)w/F(w)$, where we omit the dependence on w to simplify notation. ϵ^S represents the percentage increase in aggregate employment supplied after a 1% increase in the market wage.

Second, a population of N capitalists are endowed with a domestic revenue function $\phi(k, l)$ that depends on capital, k, and workers, l. To fix ideas, we consider a standard CES revenue function:

$$\phi(k, l) = \psi \left(ak^\rho + (1-a)l^\rho\right)^{\frac{v}{\rho}},$$

where ψ represents productivity, $a \in (0, 1)$ represents capital intensity, $\rho = (\sigma - 1)/\sigma$ with σ the elasticity of substitution between capital and labor, and v represents returns to scale. To study a case with positive profits, we assume $v < 1$, so $\phi(k, l)$ exhibits decreasing returns to scale (DRS).

Capitalists allocate a stock of capital, $\overline{k}$, between their domestic production and a foreign investment opportunity offering a fixed after-tax return, r^*. Capitalists take w as given and choose labor demand l and domestic capital, k_D, to maximize:

$$\Pi = (1-t)\pi_D + \left(\overline{k} - k_D\right) r^*,$$

where $\pi_D = \phi(k_D, l) - wl$ are domestic pre-tax profits and t is the domestic corporate tax rate.[2] The first-order conditions yield:

$$\begin{aligned} \frac{\partial \Pi}{\partial l} &: \quad \phi_l(k_D, l) = w, \\ \frac{\partial \Pi}{\partial k_D} &: \quad \phi_k(k_D, l) = \frac{r^*}{(1-t)}, \end{aligned}$$

defining the demand for labor, $l(w, t)$, and the supply of domestic capital, $k_D(w, t)$.[3]

In equilibrium, the labor market clears, so that the condition $F(w) = Nl(w, t)$ determines the wage level w as a function of t, respecting workers' participation constraint and the capitalists' first-order conditions. We denote equilibrium employment by L.

The polar cases discussed in the introduction arise as particular cases in our model. If capital is completely immobile, which amounts to assuming $r^* = 0$, then $k_D^* = \overline{k}$ and t affects only after-tax profits, not labor demand or domestic capital. This is the stylized case of non-distortionary profit taxation. By contrast, when $\rho = v = 1$, so technology is linear, the return to domestic capital is constant and equal to ψa. Departing from $\psi a(1-t) = r^*$, any increase in t leads the capitalist to allocate all capital to the foreign investment opportunity.[4]

III. An Analytical Example

To obtain analytical results, we first consider the case where $\rho \to 0$ so the revenue function is Cobb-Douglas with DRS:

$$\phi(k, l) = \psi \left(k^a l^{1-a}\right)^v.$$

In the Online Appendix, we derive ex-

[2] Implicit in this formulation is the inability of capitalists to expense capital costs. Extending to full expensing would affect some of the results below.

[3] Factor demands also depend on r^*, but we omit this argument since r^* is assumed fixed in the analysis.

[4] Alternatively, neoclassical models usually achieve this conclusion by assuming that the investor is a different agent than the firm owner, so decreasing returns are not internalized if external investors are price-takers.

pressions for $l(w,t)$ and $k_D(w,t)$, and use them, together with the labor market clearing condition, to compute elasticities with respect to the net of the tax rate for employment, ε_L, wage, ε_w, capital demand, ε_{k_D}, and domestic pre-tax profits, ε_{π_D}, defined as $\varepsilon_x = d\log x/d\log(1-t)$.

Four main results emerge. First, the elasticities are positive and bounded: the model predicts that a tax cut induces *finite* increases in employment, wages, domestic capital, and domestic pre-tax profits.

Second, responses to corporate tax changes are increasing in the degree of capital intensity of the production function. Formally, $\partial\varepsilon_x/\partial a > 0$ for $x \in \{L, w, k_D, \pi_D\}$. If a firm requires a great deal of capital to operate, marginal distortions between domestic and foreign investment can be quantitatively important. In contrast, if a firm requires little capital to operate, the capital allocation problem has only a minor impact on the firm's problem. This result reflects the empirical evidence that firms in manufacturing are more responsive to corporate taxes than firms in services industries.

Third, general equilibrium effects in the labor market attenuate the real effects of the corporate tax on employment and domestic capital. A corporate tax cut increases labor demand and capital supply. The upward shift in labor demand, however, generates an increase in equilibrium wages which, in turn, generates a corresponding decrease in labor demand and capital supply, attenuating the firm's response. This attenuation is mediated by the labor supply elasticity. We show that $\partial\varepsilon_L/\partial\epsilon^S$ and $\partial\varepsilon_{k_D}/\partial\epsilon^S$ are positive: the more elastic aggregate labor supply is, the less responsive the wage is to changes in labor demand and, therefore, the larger the real effects of the corporate tax.

Fourth, the model predicts a positive relationship between employment and wage responses. This comovement is also mediated by the labor supply elasticity: the labor market equilibrium condition implies that $\epsilon^S\varepsilon_w = \varepsilon_L$. Intuitively, corporate taxes shift labor demand, so changes in employment are along the labor supply curve.

IV. Numerical Comparative Statics

To make analytical progress, the previous section assumes that the elasticity of substitution between capital and labor is 1. We relax this assumption by showing numerical simulations using different values for ρ. We present these exercises only to illustrate the qualitative mechanics of the model; robust quantitative assessments require rigorous estimation of the primitives beyond the scope of this note.

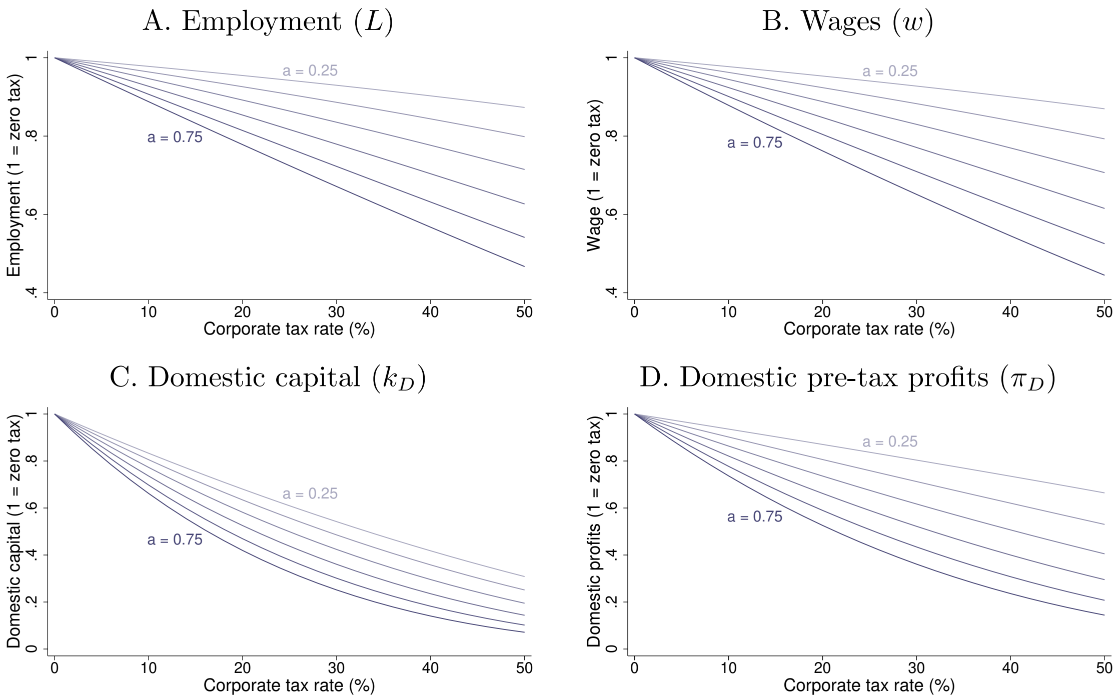
Our baseline simulation sets $\rho = 0.2$ ($\sigma = 1.25$), the preferred estimate of Karabarbounis and Neiman (2013). We set $v = 0.79$ following Lamadon, Mogstad and Setzler (2022). The foreign after-tax return to capital is set to $r^* = 4.2\%$, which we obtain by applying a global net-of-tax rate on capital of 70% (Bachas et al., 2022) to a global pre-tax return of 6% (Piketty and Zucman, 2014).[5] Finally, we (arbitrarily) set $N = 10$, $\psi = 0.15$, and assume $c \sim \exp(0.2)$.

Figure 1 shows how capital intensity governs the effect of corporate taxation on employment, wages, domestic capital, and domestic pre-tax profits. Within each plot, values are normalized to be equal to 1 when $t = 0$, and lighter curves assume lower levels of capital intensity than darker curves, with a ranging from 0.25 to 0.75. Corporate taxation reduces employment, wages, domestic capital, and domestic pre-tax profits. These reductions, however, are significantly smaller when production is less capital-intensive. For example, when $a = 0.25$, a corporate tax of 30% generates a 7.3% reduction in employment relative to the non-tax scenario. However, when $a = 0.75$, the corresponding reduction in employment is around 33.3%. Other conclusions from the analysis in the previous section also carry through: responses to corporate taxation are finite, bounded, and smooth, and employment and wage responses to corporate taxation closely resemble one another.

These qualitative conclusions are preserved when capital and labor are even

[5] The ratio of global capital to global output is around 500%, which paired with a global capital share of around 30% yields a return of 30%/500%=6%.

FIGURE 1. COMPARATIVE STATICS WITH RESPECT TO THE CORPORATE TAX RATE, t



Note: This figure shows how the employment, wage, domestic capital, and domestic pre-tax profit responses to the corporate tax depend on the capital intensity, a, of the firm. In each figure, the outcome is normalized to be equal to 1 under $t = 0$, and the different lines represent different values of a, from $a = 0.25$ (lighter) to $a = 0.75$ (darker). These figures use $\rho = 0.20$, $v = 0.79$, $r^* = 0.042$, $N = 10$, $\psi = 0.15$, and $c \sim \exp(0.2)$.

more complementary, as is depicted in Figure B.1 which reproduces the results using $\rho = -1$ ($\sigma = 0.5$). This change primarily alters the slope of responses to corporate taxation and compresses the range of responses across levels of capital intensity. Intuitively, a tax discouraging the use of capital affects both capital- and labor-intensive firms if firms cannot substitute capital for labor to attenuate the tax shock.

Interestingly, when capital and labor are sufficiently substitutable, the theoretical effects of the corporate tax on wages and employment are reversed, as shown in Figure B.2. The discouraging effect on domestic capital, which decreases labor demand when capital and labor are complements, now increases labor demand as firms aggressively substitute capital for labor. When ρ is large enough, substitution effects dominate scale effects, so employment and wages (modestly) rise with the corporate tax rate. This analysis illuminates that empirical studies of the employment impacts of corporate tax cuts are informative about capital-labor substitutability. Evidence that tax cuts create jobs must cast doubt on the argument that capital and labor are highly substitutable. Finally, these figures reveal that when ρ is large, the capital intensity of production is less relevant for mediating incidence.

V. Discussion

Our analysis suggests that the corporate tax may efficiently tax the profits of labor-intensive service firms but distort the decisions of capital-intensive manufacturing firms.[6] Because our simplifying assumptions come at the expense of generality, we discuss below some caveats and suggestions for future work.

[6] These results, however, do not directly speak to the revenue potential across industries, $\pi_D(1 + \epsilon_{\pi_D})$, since that also depends on the profit levels.

First, the model depicts a reduced-form representation of the notion of capital income. In practice, returns to capital manifest variously in firm profits, dividends, capital gains, and even financial returns to passive investment and savings. Hence, real-world taxation of capital income is much more complicated than a linear corporate tax on firm profits (e.g., Hines, 2017; Chen et al., 2023). To explore the incidence of different instruments and their interaction, our model would need to further micro-found the investment decision stage and consider additional agents such as passive investors and/or financial institutions.

Second, the model considers real responses to corporate taxes. In practice, profit shifting and tax avoidance are drivers of corporate tax distortions as well (e.g., Hines and Rice, 1994; Cooper et al., 2016; Slemrod, 2019; Tørsløv, Wier and Zucman, 2023). Our work motivates further study of the relationship between capital intensity and avoidance opportunities and, more broadly, possible interactions between real and avoidance responses which affect incidence (Suárez Serrato, 2019; Bilicka, Qi and Xing, 2022; Chodorow-Reich et al., 2023).

Third, the model is static, which precludes a nuanced analysis of firms' investment decisions. Our analysis may be interpreted, to a first approximation, as a steady-state analysis, although parameters such as a, ψ, and $\overline{k}$ may not be fixed in the long run. An interesting extension would be to endogenize technological parameters to study the long-run effects of corporate taxes on industry composition, productivity, and global capital accumulation.

Fourth, the limited heterogeneity of the model yields a unique wage rate rather than a realistic wage distribution. Empirical evidence, however, finds that corporate tax cuts mostly benefit workers at the top of the within-firm wage distribution (Kennedy et al., 2023; Ohrn, 2023; Risch, Forthcoming). Rationalizing the heterogeneous impacts across workers within firms is an interesting question for future research.

Fifth, the model assumes perfect competition, which implies that DRS are the exclusive source of domestic profits. A more realistic model with imperfect competition in product and labor markets may provide additional insights, for example, by shedding light on whether the source of profits matters for the policy implications.

Sixth, the aforementioned heterogeneity raises questions for policy design. If distortions vary with capital intensity, industry-specific corporate taxes may increase the efficiency of profit taxation. Since industry-specific taxes may be difficult to implement and enforce, alternative policies to tax profits that have differential sectoral incidence may be desirable. For example, Vergara (2023) argues that when labor-intensive firms pay lower wages, a minimum wage can redistribute profits while relaxing corporate tax distortions in capital-intensive industries. Studying the interaction with other policy instruments seems a fruitful avenue for future research.

REFERENCES

Bachas, Pierre, Matthew H Fisher-Post, Anders Jensen, and Gabriel Zucman. 2022. "Globalization and factor income taxation." National Bureau of Economic Research.

Bilicka, Katarzyna, Yaxuan Qi, and Jing Xing. 2022. "Real responses to anti-tax avoidance policies: Evidence from the UK worldwide debt cap." *Journal of Public Economics*, 214.

Chen, Zhao, Xian Jiang, Zhikuo Liu, Juan Carlos Suárez Serrato, and Daniel Yi Xu. 2023. "Tax policy and lumpy investment behaviour: Evidence from China's VAT reform." *The Review of Economic Studies*, 90(2): 634–674.

Chodorow-Reich, Gabriel, Matthew Smith, Owen Zidar, and Eric Zwick. 2023. "Tax Policy and Investment in a Global Economy." *Working Paper.*

Cloyne, James, Ezgi Kurt, and Paolo Surico. 2023. "Who gains from corporate tax cuts?" *Working Paper.*

Cooper, Michael, John McClelland, James Pearce, Richard Prisinzano,

Joseph Sullivan, Danny Yagan, Owen Zidar, and Eric Zwick. 2016. "Business in the United States: Who owns it, and how much tax do they pay?" *Tax Policy and the Economy*, 30(1): 91–128.

Curtis, Mark, Daniel Garrett, Eric Ohrn, Kevin Roberts, and Juan Carlos Suárez Serrato. 2022. "Capital investment and labor demand: Evidence from 21st century tax policy." *Working Paper.*

Fuest, Clemens, Andreas Peichl, and Sebastian Siegloch. 2018. "Do higher corporate taxes reduce wages? Micro evidence from Germany." *American Economic Review*, 108(2): 393–418.

Garrett, Daniel, Eric Ohrn, and Juan Carlos Suárez Serrato. 2020. "Tax policy and local labor market behavior." *American Economic Review: Insights*, 2(1): 83–100.

Harberger, Arnold. 1962. "The incidence of the corporation income tax." *Journal of Political Economy*, 70(3): 215–240.

Hines, James. 2017. "Business tax burdens and tax reform." *Brookings Papers on Economic Activity*, 2017(2): 449–477.

Hines, James, and Eric Rice. 1994. "Fiscal paradise: Foreign tax havens and American business." *The Quarterly Journal of Economics*, 109(1): 149–182.

Karabarbounis, Loukas, and Brent Neiman. 2013. "The Global Decline of the Labor Share*." *The Quarterly Journal of Economics*, 129(1): 61–103.

Kennedy, Patrick, Christine Dobridge, Paul Landefeld, and Jake Mortenson. 2023. "The efficiency-equity tradeoff of the corporate income tax: Evidence from the Tax Cuts and Jobs Act." *Working Paper.*

Lamadon, Thibaut, Magne Mogstad, and Bradley Setzler. 2022. "Imperfect competition, compensating differentials, and rent sharing in the US labor market." *American Economic Review*, 112(1): 169–212.

Ohrn, Eric. 2018. "The effect of corporate taxation on investment and financial policy: Evidence from the DPAD." *American Economic Journal: Economic Policy*, 10(2): 272–301.

Ohrn, Eric. 2023. "Corporate tax breaks and executive compensation." *American Economic Journal: Economic Policy*, 15(3): 215–255.

Piketty, Thomas, and Gabriel Zucman. 2014. "Capital is back: Wealth-income ratios in rich countries 1700–2010." *The Quarterly Journal of Economics*, 129(3): 1255–1310.

Risch, Max. Forthcoming. "Does taxing business owners affect employees? Evidence from a change in the top marginal tax rate." *The Quarterly Journal of Economics.*

Slemrod, Joel. 2019. "Tax compliance and enforcement." *Journal of Economic Literature*, 57(4): 904–954.

Suárez Serrato, Juan Carlos. 2019. "Unintended consequences of eliminating tax havens." *Working Paper.*

Suárez Serrato, Juan Carlos, and Owen Zidar. 2016. "Who benefits from state corporate tax cuts? A local labor markets approach with heterogeneous firms." *American Economic Review*, 106(9): 2582–2624.

Suárez Serrato, Juan Carlos, and Owen Zidar. 2023. "Who benefits from state corporate tax cuts? A local labor market approach with heterogeneous firms: Further results." *Working Paper.*

Tørsløv, Thomas, Ludvig Wier, and Gabriel Zucman. 2023. "The missing profits of nations." *The Review of Economic Studies*, 90(3): 1499–1534.

Vergara, Damian. 2023. "Minimum wages and optimal redistribution: The role of firm profits." *Working Paper.*

Online Appendix

A. Analytical results

In the Cobb-Douglas case, we have that $\phi_k = \phi v a k_D^{-1}$ and $\phi_l = \phi v(1-a)l^{-1}$. Combining both first-order conditions yields $al/(1-a)k_D = r^*/(1-t)w$. Then, some simple algebra allows us to compute closed-form solutions for factor demands:

$$\begin{aligned} k_D(w,t) &= (v\psi)^{\frac{1}{1-v}} \left[\frac{a(1-t)}{r^*}\right]^{\frac{1-(1-a)v}{1-v}} \left[\frac{1-a}{w}\right]^{\frac{(1-a)v}{1-v}}, \\ l(w,t) &= (v\psi)^{\frac{1}{1-v}} \left[\frac{a(1-t)}{r^*}\right]^{\frac{av}{1-v}} \left[\frac{1-a}{w}\right]^{\frac{1-av}{1-v}}. \end{aligned}$$

Taking logs and differentiating yields:

$$\begin{aligned} d\log k_D(w,t) &= \frac{1-(1-a)v}{1-v} d\log(1-t) - \frac{(1-a)v}{1-v} d\log w, \\ d\log l(w,t) &= \frac{av}{1-v} d\log(1-t) - \frac{1-av}{1-v} d\log w, \end{aligned}$$

where we assumed $d\log v = d\log\psi = d\log a = d\log r^* = 0$. Let $\epsilon^S = f(w)w/L$ denote the labor supply elasticity. Then, differentiating the labor market equilibrium yields:

$$f(w)dw = Ndl(w,t) \quad \Leftrightarrow \quad \epsilon^S d\log w = d\log l(w,t).$$

Replacing in the input demands we get:

$$\begin{aligned} d\log k_D(w,t) &= \frac{1-(1-a)v}{1-v} d\log(1-t) - \frac{(1-a)v}{\epsilon^S(1-v)} d\log l(w,t), \\ d\log l(w,t) &= \frac{av}{1-v} d\log(1-t) - \frac{1-av}{\epsilon^S(1-v)} d\log l(w,t). \end{aligned}$$

Starting from the labor demand equation, we have that:

$$\varepsilon_l = \frac{d\log l(w,t)}{d\log(1-t)} = \left(1 + \frac{1-av}{\epsilon^S(1-v)}\right)^{-1} \frac{av}{1-v} = \frac{\epsilon^S av}{\epsilon^S(1-v)+1-av},$$

and $\varepsilon_w = \left(\epsilon^S\right)^{-1} \varepsilon_l$. Note that $d\log L = d\log(Nl(w,t)) = d\log N + d\log l(w,t)$, so $\varepsilon_l = \varepsilon_L$ when N is fixed. Assuming that ϵ^S is locally constant, it follows that:

$$\frac{\partial \varepsilon_l}{\partial a} = \frac{\epsilon^S v\left(\epsilon^S(1-v)+1\right)}{\left(\epsilon^S(1-v)+1-av\right)^2} = \frac{\varepsilon_l(\epsilon^S(1-v)+1)}{a(\epsilon^S(1-v)+1-av)} > 0.$$

Regarding capital, using the expressions above, it follows that:

$$\begin{aligned} \varepsilon_k = \frac{d\log k_D(w,t)}{d\log(1-t)} &= \frac{1-(1-a)v}{1-v} - \frac{(1-a)v}{\epsilon^S(1-v)} \frac{d\log l(w,t)}{d\log(1-t)}, \\ &= \frac{1}{1-v}\left(1-(1-a)v - \frac{(1-a)av^2}{\epsilon^S(1-v)+1-av}\right), \\ &= \frac{1}{1-v}\left(1 - \frac{\left(\epsilon^S(1-v)+1\right)(1-a)v}{\epsilon^S(1-v)+1-av}\right). \end{aligned}$$

Note that $\varepsilon_k > 0$ since $\left(\epsilon^S(1-v)+1\right)(1-a)v < \epsilon^S(1-v)+1-av$ if and only if $v<1$. Then:

$$\begin{aligned}
\frac{\partial \varepsilon_k}{\partial a} &= \frac{-1}{1-v}\left(\frac{-\left(\epsilon^S(1-v)+1\right)v\left(\epsilon^S(1-v)+1-av\right)+\left(\epsilon^S(1-v)+1\right)(1-a)v^2}{\left(\epsilon^S(1-v)+1-av\right)^2}\right),\\
&= \frac{-\left(\epsilon^S(1-v)+1\right)v}{1-v}\left(\frac{-\left(\epsilon^S(1-v)+1-av\right)+(1-a)v}{\left(\epsilon^S(1-v)+1-av\right)^2}\right),\\
&= \frac{-\left(\epsilon^S(1-v)+1\right)v}{1-v}\left(\frac{-\left(\epsilon^S+1\right)(1-v)}{\left(\epsilon^S(1-v)+1-av\right)^2}\right) > 0.
\end{aligned}$$

By comparing the expressions, we can also note that $\varepsilon_k > \varepsilon_l$ if and only if $\epsilon^S(1-v)+1>0$, a condition that always holds in this model.

Regarding effects on pre-tax profits, introducing the optimal factor demands in the pre-tax profits function yields, after some algebra:

$$\pi_D(w,t) = \left(\frac{a(1-t)}{r^*}\right)^{\frac{av}{1-v}}\left(\frac{1}{w}\right)^{\frac{v(1-a)}{1-v}}\Omega,$$

where $\Omega = \psi(v\psi)^{\frac{v}{1-v}}(1-a)^{\frac{v(1-a)}{1-v}} - (v\psi)^{\frac{1}{1-v}}(1-a)^{\frac{1-av}{1-v}}$ is a constant. Then:

$$d\log\pi_D(w,t) = \frac{av}{1-v}d\log(1-t) - \frac{v(1-a)}{1-v}d\log w,$$

so

$$\varepsilon_\pi = \frac{d\log\pi_D(w,t)}{d\log(1-t)} = \frac{av}{1-v} - \frac{v(1-a)}{\epsilon^S(1-v)}\varepsilon_l.$$

Then:

$$\begin{aligned}
\frac{\partial\varepsilon_\pi}{\partial a} &= \frac{v}{1-v} + \frac{v\varepsilon_l}{\epsilon^S(1-v)} - \frac{v(1-a)}{\epsilon^S(1-v)}\frac{\partial\varepsilon_l}{\partial a},\\
&= \frac{v}{1-v}\left(1+\frac{av}{\epsilon^S(1-v)+1-av} - \frac{(1-a)v(\epsilon^S(1-v)+1)}{\left(\epsilon^S(1-v)+1-av\right)^2}\right).
\end{aligned}$$

Then, $\partial\varepsilon_\pi/\partial a > 0$ if:

$$1+\frac{av}{\epsilon^S(1-v)+1-av} - \frac{(1-a)v(\epsilon^S(1-v)+1)}{\left(\epsilon^S(1-v)+1-av\right)^2} > 0,$$

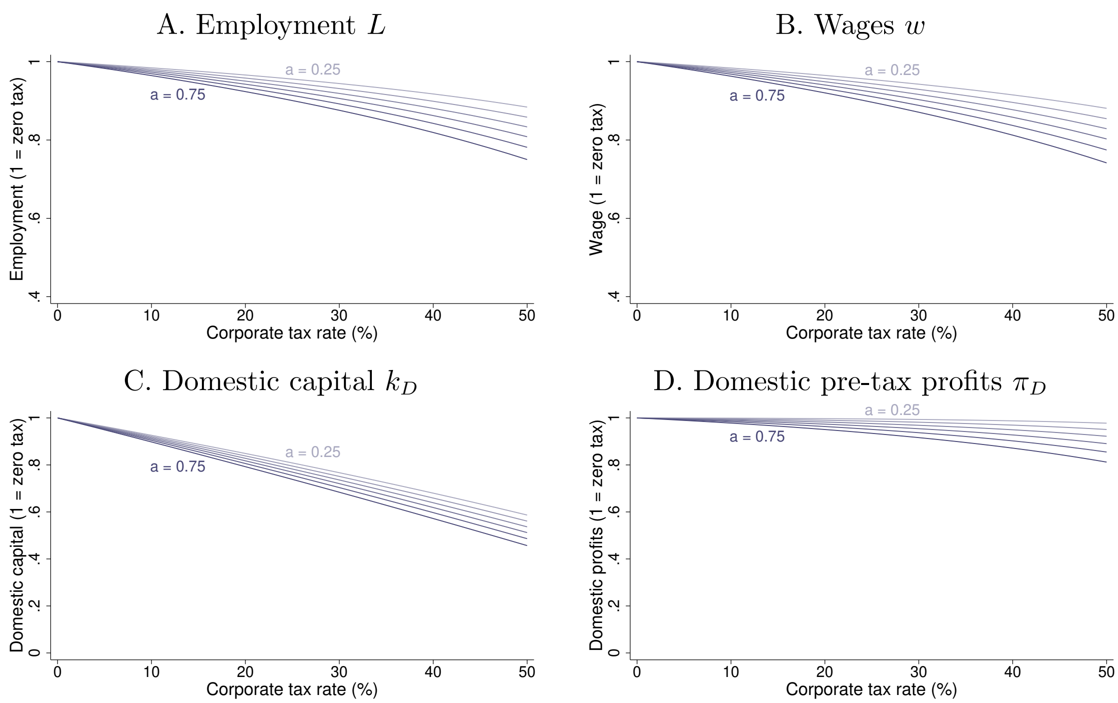
which holds if $\epsilon^S(1-v)+1>0$, a condition that is always true. Then, $\partial\varepsilon_\pi/\partial a > 0$.

Finally, to see the role of wage adjustments in mediating factor demands, we have that:

$$\begin{aligned}
\frac{\partial\varepsilon_l}{\partial\epsilon^S} &= \frac{1-av}{\left(\epsilon^S(1-v)+1-av\right)^2} > 0,\\
\frac{\partial\varepsilon_k}{\partial\epsilon^S} &= \frac{(1-a)av^2}{\left(\epsilon^S(1-v)+1-av\right)^2} > 0.
\end{aligned}$$

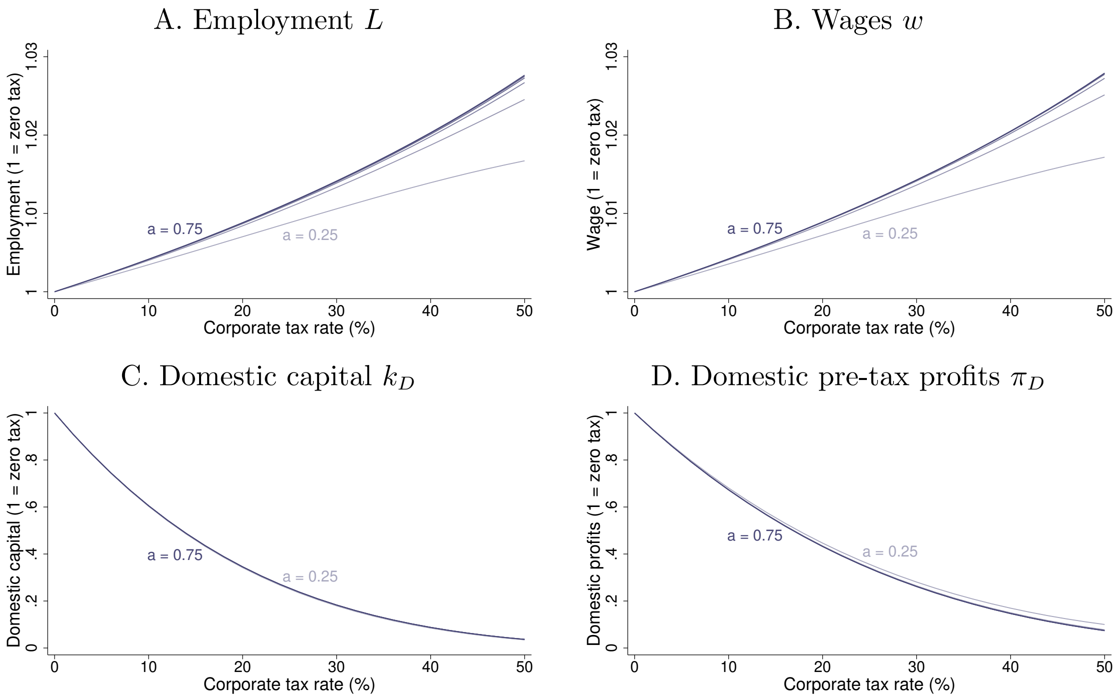
B. *Additional Figures*

Figure B.1. Comparative statics with respect to the corporate tax rate, t, low capital-labor substitution ($\rho = -1$)



Note: This figure shows how the employment, wage, domestic capital, and domestic pre-tax profit responses to the corporate tax depend on the capital intensity, a, of the firm. In each figure, the outcome is normalized to be equal to 1 under $t = 0$, and the different lines represent different values of a, from $a = 0.25$ (lighter) to $a = 0.75$ (darker). These figures use $\rho = -1$, $v = 0.79$, $r^* = 0.042$, $N = 10$, $\psi = 0.15$, and $c \sim \exp(0.2)$.

FIGURE B.2. COMPARATIVE STATICS WITH RESPECT TO THE CORPORATE TAX RATE, t, HIGH CAPITAL-LABOR SUBSTITUTION ($\rho = 0.8$)



Note: This figure shows how the employment, wage, domestic capital, and domestic pre-tax profit responses to the corporate tax depend on the capital intensity, a, of the firm. In each figure, the outcome is normalized to be equal to 1 under $t = 0$, and the different lines represent different values of a, from $a = 0.25$ (lighter) to $a = 0.75$ (darker). These figures use $\rho = 0.8$, $v = 0.79$, $r^* = 0.042$, $N = 10$, $\psi = 0.15$, and $c \sim \exp(0.2)$.