The effects of corporate taxes on medium-sized and large firms

Tuomas Hiilamo* Juho Junttila†

1 Introduction

Corporate income taxation in the past quarter century is characterized by a global decline in the statutory corporate income tax (CIT). Most OECD countries have lowered their CIT rates, with the average statutory tax rate falling from 32.3 percent in 2000 to 24.1 percent in 2025 (OECD, 2025). A key motivation for these tax cuts has been to stimulate investment, employment and economic growth, both by incentivizing investment of retained earnings and lowering the cost of new capital by improving the international competitiveness of corporate taxation. A rich literature has analyzed the effects of corporate taxation on a range of different outcomes[1].

In this paper, we study the effects of two Finnish corporate tax reductions on the investments of large and medium sized firms. In 2012 the Finnish corporate tax rate was lowered from 26 to 24.5 percent and in 2014 it was further reduced to 20 percent.

We estimate the effects of the two successive tax reductions by comparing affected firms to unaffected firms across eleven European countries with a triple differences-in-differences framework. Prior analysis of the impact of these Finnish reforms on small firms from Harju et al. (2022), finds a null effects on investment. We extend the analysis to medium sized and large firms by utilizing cross country firm data from the ORBIS database. Our empirical design leverages the null-result from Harju et al. (2022) to estimate common time trends for Finnish firms. Then, we use data from multiple European countries to capture common trends in corporate growth of medium sized and large firms. Our key identification assumption is that in absence of the reform, average differences between small and medium to large firms would have had a similar trend across our comparison groups.

Our event study estimates find that net investment (change in assets divided by lagged assets) by medium-sized and large corporations remain stable across the tax cuts. In our main specification, we observe relatively small and statistically insignificant point estimates. These results on investment are robust across empirical models and outcome definitions. Nevertheless, in years after the second, larger tax reduction, we estimate a 5.6% increase in the number of employees.

Our results imply that medium sized and large firms investment responses to the CIT cuts were not drastically different from the small firms studied by Harju et al. (2022). However, our positive results on employment suggest that corporate taxation has differing impacts on investments in human capital compared to investments in capital assets. Our preferred explanation for this is that in imperfect capital markets, firms may use capital assets as collateral for financing, whereas human capital may not function as collateral to the same extend. Additionally, the dynamic estimates on employment shed light on relation between lumpy investment behavior and corporate taxation (Chen et al., 2023).

*University of Helsinki (UH) and Finnish Centre of Excellence in Tax Systems Research (FIT); tuomas.hiilamo@helsinki.fi

†UH, FIT and EDUCA Flagship; juho.junttila@helsinki.fi; Funding from the Research Council of Finland (grants 358924 and 358945).

[1]For a comprehensive review, see Fuest and Neumeier (2023).

Our analysis shows that elasticities vary across different magnitudes of tax cuts, suggesting that frictions may inhibit real responses to small tax cuts. Our findings match survey evidence from Germany (Winter et al., 2026), where responses by firms' decision makers imply that medium-to-large tax cuts would increase employment (non-linearly).

We produce two contributions to the literature on firm responses to corporate taxation. First, we contribute to the literature utilizing quasi-experimental variation from tax reforms to study firm responses on investment incentives. Studies have utilized geographical variation (Giroud & Rauh, 2019; Link et al., 2024) and variation in company form (Chodorow-Reich et al., 2024; Harju et al., 2022; Kennedy et al., 2026; Yagan, 2015). Our approach expands the study of CIT cuts to large corporations operating in a small open economy, with a empirical strategy that implicitly combines the both types of variation to approximate nationwide effects of the reforms. In within-nation studies, the effects on treated firms may influence competition between untreated firms, violating the stable unit treatment value assumption. Whereas our approach compares firms that plausibly operate in different markets. Second, we plan to contribute to the literature on the taxation of multinational corporations by studying responses by firm type.

2 Institutional details and data

At the start of 2012 Finland lowered its statutory corporate income tax rate from 26% to 24.5%, which was followed by another tax cut at the start of 2014 down to 20%.

The dividend taxation for owners of small firms was increased at the time of the reforms to offset the reduction in CIT, so that for Finnish residents the owner-level effective dividend tax rate stayed roughly at 26%. However, for the owners of large companies and foreign owners the 2014 reform typically reduced the effective dividend tax rate. Unlike Harju et al. (2022) who focused on the changes in incentives to invest using retained earnings, additionally, our estimates capture the effects of lowering the cost of new capital.

Our goal is to collect a sample of comparison firms, that were not affected by corporate income tax reductions or similar policies at the same time as the Finnish firms. We do this systematically in three steps. We begin by selecting a set of European countries that based on OECD (2025), did not change their CIT rates after 2008 and before 2014.

Next, rule out firms from countries where the coverage of Orbis is unfit for our empirical design (too few small firms). After the first two steps, we retain 11 comparison countries[2]. Finally, we attempt to identify any confounding policies by screening Annual Worldwide Corporate Tax Guides produced by Ernst & Young limited. We do this by extracting annual guides for each country for years 2008-2016 and flagging any year-by-year changes with a purpose built LLM agent[3]. We then review the flagged policy changes manually. While we keep all reviewed countries in the main sample, many countries enacted policies that can potentially confound our empirical design. We manually categorize the policies as primarily stimulating measures or primarily contracting measures and label each country accordingly.

For our empirical analysis, we compile a panel of firm-level balance sheet data from Bureau van Dijk's Orbis database. Our main sample is an unbalanced panel, covering

[2]These countries are Austria, Belgium, Germany, Spain, Italy, Ireland, Norway, Poland, Bulgaria, Croatia and Romania.

[3]The underlying model is Claude Opus 4.8.

471,895 corporations in 12 countries. Following Harju et al. (2022), we define a firm as small if its sales are above 100,000 euros and below 2,5 million euros in 2011. Firms above the cutoff are referred to as medium-sized and large.

In the main analysis, we follow the common practice of winsorizing at the 5% level from both tails.

3 Empirical strategy and preliminary results

To quantify the effects of Finland's CIT reduction within a triple-difference framework. We consider the following specification:

$$Y_{it} = \alpha_i + \mu_{tc} + (\gamma_t \times Large_i) + \beta(\textit{Reduct}_{it} \times Large_i) + \varepsilon_{it}, \tag{1}$$

where α_i denotes firm-fixed effects, μ_{tc} captures the country-year fixed effects, and interaction between $(\gamma_t \times Large_i)$ captures common time trends for large firms. $\textit{Reduct}_{it}$ is an indicator that takes the value of one for firms operating in Finland after 2011. Our coefficient of interest, β, captures the effect of the CIT tax reductions on medium-sized and large firms. In practice, we separate β as two indicators for each tax reform for the main estimates and as annual indicators for event study estimates. We stress that design relies on a previous result where small Finnish corporations did not change their behavior after the reform (Harju et al., 2022). Lastly, ε_{it} is the error term and we cluster standard errors at firm-level.

We present the event study estimates for equation 1 in Figure 1. Panels A and B of Figure 1 show that investment rates remain stable before and after the tax reductions. With the exception of 2008, none of the annual estimates are distinguishable from zero.

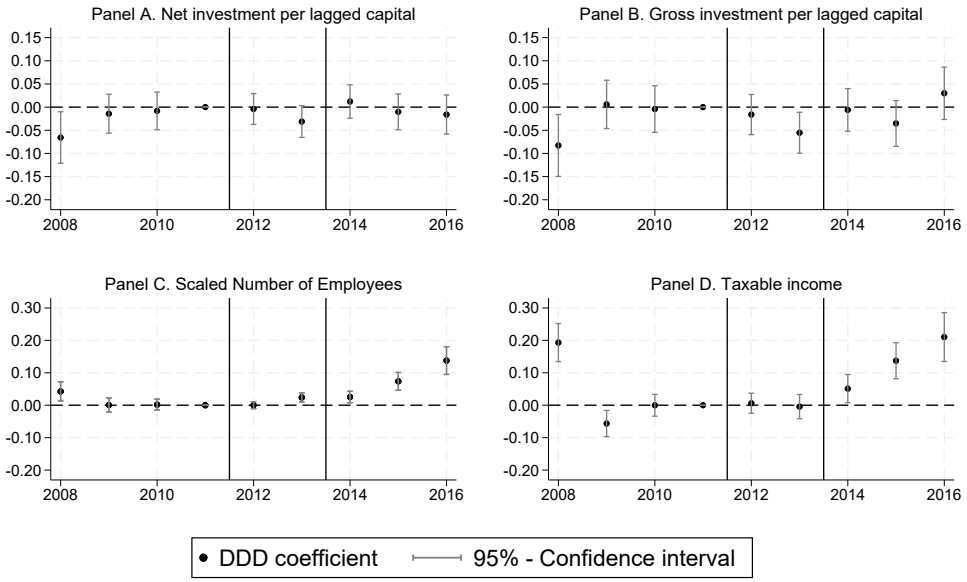


Figure 1: Event study estimates of Equation 1. Panels A and B depict annual estimates for net and gross investments, divided by lagged assets. Panels C-D present level outcomes, scaled by 2011 means of the respective outcome. The vertical lines represent the years 2012 and 2014, at the start of which the CIT cuts came into effect. All outcomes are winsored at 5% level. Scaling is done by dividing the estimates with the winsored sample mean of large treated firms in 2011. Standard errors are clustered at firm level.

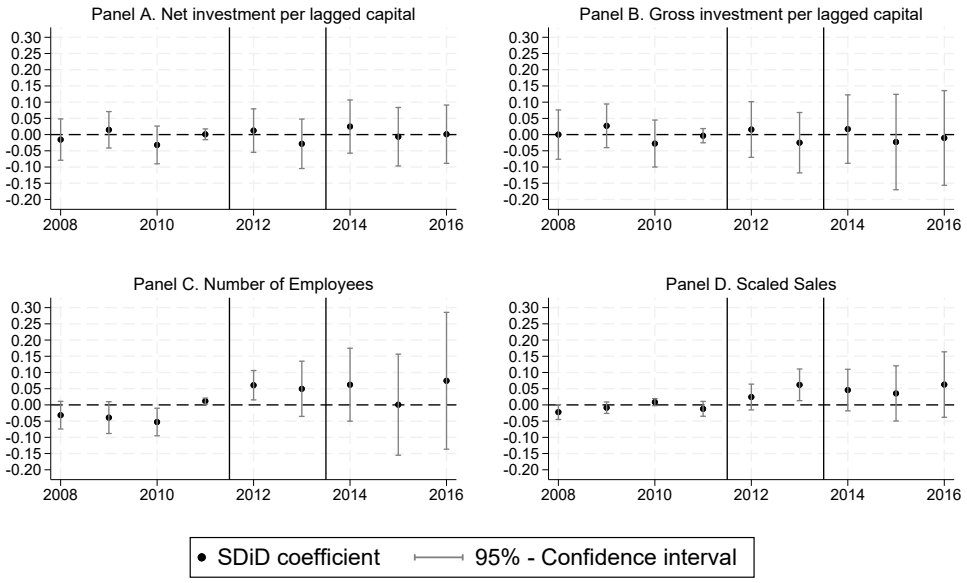


Figure 2: *Notes*: Synthetic Difference-in-difference (SDiD) estimates for medium sized and large firms, aggregated to industry-nation-year cells. A and B depict annual estimates for net and gross investments, divided by lagged assets. Panels C and D depict number of employees and sales divided by their winsorized mean of 2011 respectively. SDiD includes only control countries that did not raise CIT rates between 2008 and 2016: Belgium, Italy, Austria, Poland, Croatia, Romania, Germany, Ireland and Bulgaria.

However, we observe a clear increases in the number of employees and sales after the CIT reductions. In Panel C of 1, we present the effects on the number of employees scaled by the mean employee count in the base year. One year after the first tax reduction, we observe an effect corresponding to a 2.4% increase in employment. After the second, larger, tax reduction, the difference reaches 7.3% in 2015. In Panel D, we show that the taxable income remains stable after the first tax reduction and begins to increase only after 2014. Table 1 shows the point estimates for our outcomes of interest, averaged over both tax reductions and in Figure 2, we check that the main result are robust to SDID approach limited to large firms.

References

Chen, Z., Jiang, X., Liu, Z., Serrato, J. C. S., & Xu, D. Y. (2023). Tax policy and lumpy investment behaviour: Evidence from china's vat reform. *The Review of Economic Studies*, *90*(2), 634–674. https://doi.org/10.1093/restud/rdac027

Chodorow-Reich, G., Zidar, O., & Zwick, E. (2024). Lessons from the biggest business tax cut in us history. *Journal of Economic Perspectives*, *38*(3), 61–88. https://doi.org/10.1257/jep.38.3.61

Fuest, C., & Neumeier, F. (2023). Corporate taxation. *Annual Review of Economics*, *15*(Volume 15, 2023), 425–450. https://doi.org/https://doi.org/10.1146/annurev-economics-082322-014747

Giroud, X., & Rauh, J. (2019). State taxation and the reallocation of business activity: Evidence from establishment-level data. *Journal of Political Economy*, *127*(3), 1262–1316.

Harju, J., Koivisto, A., & Matikka, T. (2022). The effects of corporate taxes on small firms. *Journal of Public Economics*, *212*, 104704. https://doi.org/https://doi.org/10.1016/j.jpubeco.2022.104704

Kennedy, P. J., Dobridge, C. L., Landefeld, P., & Mortenson, J. (2026). Corporate tax cuts, firm growth, and workers' earnings. *American Economic Review, forthcoming*.

Table 1: Triple difference estimation results

	(1) Net inv./assets	(2) Gross inv./assets	(3) Employees	(4) Sales	(5) Taxable income
Panel A: Baseline estimates					
$\beta_{2012,2013}$	-0.001	-0.021	0.121	2.689	-0.024
	(0.013)	(0.016)	(0.262)	(0.389)	(0.021)
$\beta_{2014-2016}$	0.013	0.004	1.825	7.121	0.145
	(0.014)	(0.018)	(0.358)	(0.536)	(0.032)
Scaled $\beta_{2012,2013}$	-0.008	-0.053	0.004	0.045	-0.017
Scaled $\beta_{2014-2016}$	0.144	0.011	0.056	0.120	0.100
Firms	453,114	407,615	363,025	467,707	413,788
Panel B: Excluding stimulating					
$\beta_{2012,2013}$	-0.006	-0.027	0.116	2.531	-0.032
	(0.013)	(0.016)	(0.266)	(0.395)	(0.021)
$\beta_{2014-2016}$	0.008	-0.000	2.110	7.889	0.163
	(0.014)	(0.018)	(0.364)	(0.546)	(0.032)
Scaled $\beta_{2012,2013}$	-0.068	-0.067	0.004	0.043	-0.022
Scaled $\beta_{2014-2016}$	0.083	-0.000	0.065	0.133	0.112
Firms	308,508	274,537	226,238	318,298	263,848
Panel C: Excluding contracting					
$\beta_{2012,2013}$	0.003	-0.024	-0.326	3.462	-0.030
	(0.013)	(0.016)	(0.263)	(0.393)	(0.021)
$\beta_{2014-2016}$	0.019	0.001	1.616	7.437	0.141
	(0.014)	(0.018)	(0.359)	(0.540)	(0.032)
Scaled $\beta_{2012,2013}$	0.030	-0.059	-0.010	0.058	-0.020
Scaled $\beta_{2014-2016}$	0.203	0.003	0.050	0.125	0.097
Firms	363,067	343,718	306,184	373,801	373,989

All specifications include firm fixed effects and country-year fixed effects. Standard errors clustered at the firm level in parentheses. Scaled estimates divide the coefficient by the 2011 winsored mean of the outcome among large Finnish firms. Sales and taxable income are denoted in 100k euros.

Link, S., Menkhoff, M., Peichl, A., & Schüle, P. (2024). Downward revision of investment decisions after corporate tax hikes. *American Economic Journal: Economic Policy*, *16*(4), 194–222. https://doi.org/10.1257/pol.20220530

OECD. (2025). *Corporate tax statistics 2025*. https://doi.org/10.1787/6a915941-en

Winter, R., Doerrenberg, P., Eble, F., Rostum-Afschar, D., & Voget, J. (2026). The asymmetric incidence of business taxes: Survey evidence from German firms. *American Economic Journal: Economic Policy*. https://doi.org/10.1257/pol.20240436

Yagan, D. (2015). Capital tax reform and the real economy: The effects of the 2003 dividend tax cut. *American Economic Review*, *105*(12), 3531–63. https://doi.org/10.1257/aer.20130098