Corporate Taxation, Prices, and Inequality *

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SHORT SUMMARY, PLEASE DO NOT CIRCULATE

Abstract

This paper examines the incidence of a substantial and temporary corporate tax increase in France, targeting large firms with turnover above €250 million between 2011 and 2016. Using a difference-in-differences (DiD) framework and administrative data, we analyze the impact of this tax hike on output prices, wages, employment, and investment. Our identification strategy exploits the structure of tax groups, allowing us to exploit firm-level variation in exposure to the reform, which is driven by the turnover of the tax groups, conditional on the firm's own size as well as the size of the broader economic group the firm belongs to. We find evidence of significant pass-through to output prices (semi-elasticity of 0.5). In the labor market, we observe reductions in the total wage bill (semi-elasticity of 0.8) driven by declines in employment, particularly for mid-level workers, with minimal impact on average wages. Investment also contracted, with treated firms reducing their assets by up to 8% (semi-elasticity of 1.3). We also examine the market effects of the tax by analyzing the spillovers on the outcomes of untreated firms. These findings highlight the heterogeneous effects of corporate taxes, emphasizing their impact not only on shareholders but also on workers and consumers. Building on a model of monopolistic and monopsonistic competition, we find that workers bear 20% of the tax while consumers and firm-owners bear 40% of the tax each.

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Corporate tax rates have been in decline globally, raising concerns about their impact on public revenues (Zucman et al., 2022) and economic inequality (Nallareddy et al., 2022). Naturally, understanding the current burden of the CIT—whether it falls on workers, shareholders, or consumers—is essential for evaluating the consequences of its decline. Understanding the pass-through of the CIT into wages, prices, and investment is therefore all the more important: if workers bear a large share of the tax through lower wages or if consumers face higher prices, the progressivity of the CIT may be undermined (Serrato and Zidar, 2016, Fuest et al., 2018, Kennedy et al., 2024, Margolin, 2024).

This paper exploits a unique policy experiment in France, where an exceptional corporate tax was imposed on large businesses between 2011 and 2016. The reform created variation in tax treatment based on tax group turnover, with groups exceeding €250 million facing an additional 5% tax rate between 2011 and 2013, and an additional 10.7% tax rate between 2014 and 2016. We analyze how this tax affected prices, wages, employment, and investment, leveraging rich firm-level administrative datasets.

We find that the exceptional tax had significant effects on firms. Employment and investment strongly decreased following the introduction of the tax, with assets decreasing by up to 8 percentage points after the second tax increase. We also find evidence of pass-through to consumer prices. Moreover, we examine the market effects of the tax by analyzing how various outcomes evolved in untreated firms. We rationalize our results in a model of monopolistic and monopsonistic competition. We find that the incidence is mainly borne by firm-owners and consumers (40% each), while workers bear a smaller part of the incidence (20%). We conclude that the CIT stays a progressive tax, considering the important concentration of profits at the top of the income distribution.

Identification Our identification strategy exploits a specific feature of the French exceptional corporate surtax. Under the French tax code, related firms *can* consolidate their profits and losses by forming a tax group, provided that domestic subsidiaries are more than 95% owned by a French entity. Forming a tax group is optional, and its composition is determined by the parent company making tax groups a subset of ownership groups.

For firms in a tax group, liability for the surtax (applicable to tax units with turnover exceeding €250 million) is determined by the aggregate turnover of the tax group rather than the individual firm's own size. This feature introduces useful variation for identification: firms that are otherwise similar in key characteristics may or may not be subject to the surtax, depending solely on whether they are fiscally integrated into a tax group exceeding the threshold. Our identification strategy leverages this variation by comparing firms in tax groups liable for the surtax with similar firms that are not part of a tax group but would have been taxed had they been fiscally integrated.

Data We build a comprehensive set of administrative data, allowing us to observe several key margins of adjustment to CIT. We use the universe of tax returns in France for the period 2005-2017 provided by the French tax administration to retrieve the balance sheet and income statement of the firms. We merge this information with details about their tax consolidation status and their ownership, allowing us to build the "tax group" and the "ownership group" of each firm in the dataset, where the former is a subset of the later. We also add data from matched employer-employee dataset (DADS) which provides an exhaustive coverage of French firms and private sector employment and we add output price data from the French production price survey (OPISE) produced by INSEE (National Statistics Institute). This unique combination of data allows us to estimate the incidence of the CIT on input quantities, input prices, and output prices in an unified estimation framework.

Estimation Strategy We implement a difference-in-differences (DiD) framework that compares firms subject to the exceptional tax with similar firms that were exempt. We compare firms in a tax group, individually smaller than the €250 million threshold but for which the aggregated turnover of their tax group is larger than €250 million, to firms that are not part of a tax group but for which the consolidated turnover of the ownership group is larger than €250 million. Had these firms been fiscally integrated, they would have been subject to the tax. We estimate a dynamic DiD:

$$\ln(Y_{f(i)t}) = \sum_{\substack{k=2006 \\ k\neq 2010}}^{2017} \beta_k \times \mathbb{1}_{Treated_f^{t-j}} + \mu_f + \mu_{it} + \varepsilon_{ft}, \tag{1}$$

where $Y_{f(i)t}$ is the outcome of interest of firm f in sector i and year t. $\mathbb{1}_{Treated_f^{t-j}}$ is a dummy variable equal to 1 if at date t, firm f belongs to a tax group with a consolidated revenue larger than €250 million and 0 if a firm is part of an ownership group whose consolidated revenue of is larger than €250 million. μ_f and μ_{it} are firm and sector-year fixed effects respectively. The coefficients of interest, β_k, capture the average differences in outcomes between our treated and control firms in the same industry. We use 2010 as the reference year, allowing us to compare the trends of the two groups for several years prior to the introduction of the exceptional tax. Standard errors are clustered at the firm level.

The key identifying assumption is that treated and control groups would have trended similarly in absence of the tax rate change. We advance several points to support the validity of the common trend assumption. First, the exceptional tax was plausibly unanticipated. Moreover, tax consolidation lasts for five years, limiting treated firms' ability to anticipate the reform and adjust their behavior endogenously before the policy change. We also find no evidence of bunching around the policy threshold after the introduction of the exceptional tax. Second, the inclusion of industry-year fixed effects and the focus on large business groups allow us to compare firms that operate in the same sector and that belong to business groups of similar size. Third, our event-studies support the assumption

that we have parallel trends in the outcomes of our treated and control firms in the years directly prior to the introduction of the exceptional tax.

Our DiD framework is designed to evaluate the effects of the tax increase along four margins of adjustment: prices, wages, employment and investment. First, we estimate the pass-through of the tax to output prices using production price data at the firm level. Second, we assess the impact on labor market outcomes, including total wage bill, employment levels, and wage distribution within firms. Third, we examine how the tax affected investment, measured through changes in firm-level assets and capital expenditures.

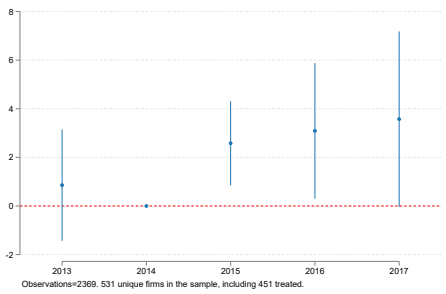
We test the sensitivity of our results to extensive robustness tests. First, we conduct a bunching analysis, to study whether the definition of the tax group around the threshold is manipulated at the time of the reform. We find no evidence of it. Second, we repeat our exercise but exclude entities around the threshold to prevent any manipulation. We also play with the definition of the treatment status by constraining firms to be treated several times between 2011 and 2016. Third, we provide different estimation strategies (interacted fixed effects, matching) to control for potential selection into tax consolidation status. Finally, we chose of placebo date of treatment and verify that estimated coefficients are small and non significantly different from zero.

Main results Our findings reveal that the corporate tax increase had significant and heterogeneous effects on firm behavior as we show in Figure 1. We find evidence of substantial pass-through to output prices, with treated firms increasing prices by approximately 2% following the tax hike, or a semi-elasticity of 0.5.[1]

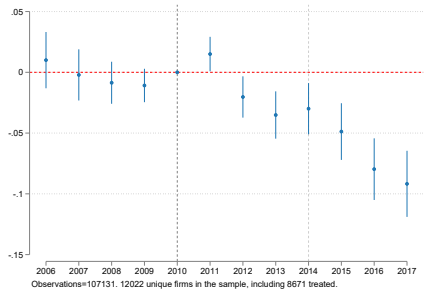
On the labor market side, we observe a reduction in the total wage bill of treated firms, driven primarily by lower employment levels rather than reductions in average wages. In an heterogeneity analysis, we find that the wage effect is most pronounced for mid-level workers in the upper middle part of the wage distribution who are between the 6th and the 7th deciles of the wage distribution. Lastly, we document a marked decline in investment, with treated firms reducing their capital stock by up to 8% after the second tax increase. This corresponds to a tax semi-elasticity of investment of 1.3.

Using the information on firm ownership, we can identify whether an MNE is foreign-owned or domestically-owned. We compare the outcomes of control and treated firms on the subsample of foreign MNEs and on the subsample of French MNEs and show that foreign MNEs seem to respond more markedly to the introduction of the exceptional tax than French MNEs along several dimensions. Prices, however, are a notable exception to this pattern as they evolved comparably among French

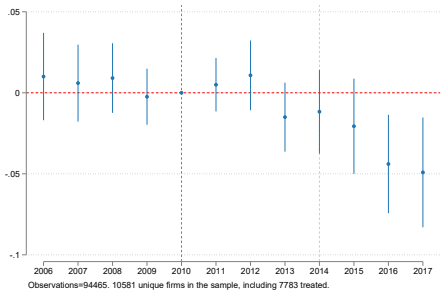
[1]The price data is only observed from 2013. We use the fact that the exceptional tax was raised from 5% to 10.7% in 2014, assuming that treated firms had already adjusted their prices to the 2011 shock in 2013. This assumption is supported by the non significant pre-trend coefficient.



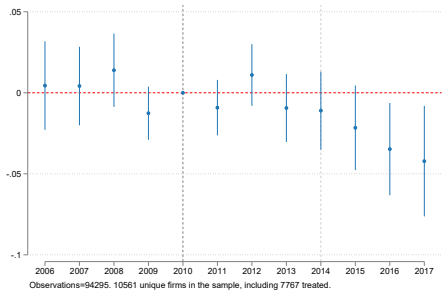
(a) Prices



(b) Total assets



(c) Wage bill



(d) Employment

Note: This figure shows the estimates of the event-study as presented in equation (1). 95% confidence interval are displayed. Robust standard errors are clustered at the firm level. Price data is only available from 2013. We use the fact that the level of the exceptional tax was raised from 5% to 10.7% in 2014 to study the reaction of output prices to the tax.

Figure 1: Event-studies: Prices, Total Assets, Wage Bill and Employment

and foreign MNEs. We also study the role of capital intensity as recent studies suggest that it is a key determinant of the CIT incidence (Fuest et al., 2018; Kennedy et al., 2024). As capital costs are often only partially tax-deductible while labor costs are fully tax-deductible, we show that capital-intensive firms react more strongly to the introduction of the exceptional tax.

Spillovers Our setting implies that only a subset of firms is subject to the exceptional tax. We study the spillovers created by the increase in taxation at both the group and industry levels.

At the group level, we first find that our effects hold when we include $group \times year$ fixed effects, confirming that the results hold within a group. We then examine spillovers on untreated units within economic groups by estimating the same regression on units not subject to the exceptional tax but belonging to groups where some units are taxed. To isolate these effects, we exclude taxed units from the regression. We find that untreated units in taxed groups experience a slight decline in investment and employment, suggesting no reallocation of activity within ownership structures in response to the increased tax burden. On the contrary, the burden of the tax appears to be partially absorbed by untreated units in the broader economic group.

Finally, we study spillovers at the industry level and find that untreated firms in industries more intensely exposed to the exceptional tax—measured by the industry share of the turnover of treated

units—increase their economic activity. This suggests that the tax creates market-level effects, potentially through changes in competitive dynamics, as taxed firms adjust their pricing, employment, or investment strategies in response to the higher tax burden.

Incidence To study the distributional impact of an increase in the CIT and rationalize the fact that we observe input and output price reaction to the introduction of the exceptional tax, we build a model of monopolistic and monopsonistic competition. We depart from the literature that usually assumes either a perfectly competitive output market and/or a perfectly competitive labor market to allow for both residual wage inequality and pass-through of the tax to consumer prices. Papers using local variations to study incidence (e.g. Serrato and Zidar, 2016; Fuest et al., 2018) inherently assume a competitive labor market to the extent that their unit of analysis (state or municipality) are good approximation for local labor markets. In contrast, other papers exploit cross-firm variation in the corporate tax burden within the same labor market (e.g. Arulampalam et al., 2012; Carbonnier et al., 2022; Risch, 2024; Kennedy et al., 2024; Carbonnier et al., 2022) where the firm-level effect of changes in CIT on wages can be most easily rationalized by model of imperfectly competitive labor market featuring residual wage inequality. Margolin (2024) provides a framework to assess the aggregate (i.e. economy-wide) distributional consequences of corporate taxes under monopsony power and discipline his model using French data similar to ours.

As standard in the literature, our model features an incomplete tax deductibility of capital expenses which make the cost of capital a function of the tax rate. Using envelope conditions, we derive the formula for tax incidence and find that consumers and firm-owners share a large part of the incidence (40%) each while labor bear a a lower part of the incidence (20%). Although these adjustment margins indicate partial shifting of the tax burden to workers and consumers, our analysis of French firm ownership data suggests that the CIT remains progressive, with the wealthy shouldering a disproportionate share of the burden.

Overall, our paper contributes to the literature by examining jointly the price effect and wage effect of a nation-wide increase in CIT in France that affected only firms that are part of large business groups. It also contributes to a better understanding of the role of business groups in channeling the firm and industry level reaction to tax shocks. These findings contribute to the ongoing debate about corporate tax policy amid declining global rates and have important implications for tax policy design, particularly as policymakers evaluate the progressivity and efficiency of corporate taxation in addressing economic inequality.

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