# Business Organization and Taxation of High-Income Professionals: Evidence from Canadian Doctors

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## Abstract

Small businesses can choose from a range of organizational forms, including sole-proprietorship, corporations, and others depending on legal regime in place. These decisions are shaped by both non-tax considerations (limited liability, regulatory environment, administrative and accounting costs, and legal standing) and tax implications (the relationship between individual and corporate tax rates, deductions and base for both, capital gains tax rates, special tax regimes and other tax incentives, and tax enforcement). We assess both tax and real economic implications of facilitating the option to incorporate by physicians in Canada. Specifically, we exploit the 2006 reform in Ontario which allowed physicians' family members to own shares in these businesses. The administrative datasets, which link individual tax returns with their ownership information on both incorporated and unincorporated businesses, allow us to trace their individual and businesses incomes and taxes as many as 12 years after the reform. We use a triple-differences design, comparing the outcomes of physicians in Ontario with the outcomes of other high-income professionals in Ontario, and making the same comparisons in the control provinces. We find that the reform substantially increased the rate of incorporation by physicians. Subsequently, their pre-tax personal income and taxes paid (aggregated at the family level) significantly decrease, while their pre-tax business income and corporate taxes substantially increase, providing evidence of income shifting from the personal side to the corporate side. Importantly, the overall taxable income (personal and corporate combined) increases while the average effective tax rate (defined as total taxes paid divided by overall taxable income) decreases after the reform. Taken together, these results are consistent with both tax avoidance through a corporation and real response via business expansion after incorporation. We plan to estimate the welfare impacts (measured by the change in excess burden per dollar of lost tax revenues) of this policy by using our reduced-form estimates on both behavioral responses and mechanical effects and by exploiting heterogeneous responses across age cohorts to proxy their life cycle.

# 1 Introduction

Small businesses can choose from a range of organizational forms including sole-proprietorship, partnerships, corporations, and others depending on the legal regime in place at a given time and country. These decisions are shaped by both non-tax considerations (limited liability, regulatory environment, administrative and accounting costs, and legal standing) and tax implications (the relationship between individual and corporate tax rates, deductions and base for both, capital gains tax rates, special tax regimes and other tax incentives, and tax enforcement). Importantly, analyzing the behavior of (especially but not just, small) businesses should not be done while abstracting from their owners. In fact, the line between business and individual considerations is often blurry or non-existent, especially for closely-held businesses, with business activity potentially mixed with personal consumption and saving objectives of the owners (see e.g., Alstadsæter, Kopczuk and Telle, 2014; Kopczuk and Zwick, 2020; Leite, 2024). This intersection of business and personal considerations raises a lot of issues that have been understudied in the literature, because of the difficulty in connecting individual-level and business-level data.

Relatedly, Smith et al. (2019) show that the growth of pass-through businesses (partnerships and corporations subject to individual income taxation) in the United States since the 1990s has been the driving force behind the growth of income inequality. The compositional change in organizational forms of business activities that correspond to it has been massive (Clarke and Kopczuk, 2017) and, yet, poorly understood. Tax incentives are one of the primary factors. In the literature on behavioral responses to taxation, one of the key problems is "income shifting" – a response to one type of taxation may show up as increased or reduced revenue from other taxes (Saez, Slemrod and Giertz, 2012). One of the prominent examples of that is precisely shifting between individual and corporate tax base that is possible by choosing appropriate organizational form, pursuing incorporation, retaining earnings, reclassifying wages as profits, and various forms of tax avoidance (see Kopczuk, 2023, for discussion). Recent interest in the extent of tax evasion at the top of the distribution has also focused on closely-held businesses that tax authorities have difficulty seeing through (Guyton et al., 2021). Finally, different countries have different legal and tax environments and, as the result, business income can be taxed predominantly by corporate taxation, as in Canada and United Kingdom, or have a half or more of it subject to individual income taxation, as in the United States, Germany and Japan ( Clarke and Kopczuk 2017; Joint Committee on Taxation 2013). Hence, these organizational issues are central to understanding behavioral responses to taxation; the extent, evolution and cross-country comparability of inequality; tax avoidance; and policy actions motivated or implied by all of these.

In this paper, we assess real and tax implications of the option to incorporate by Canadian physicians. In particular, we exploit the 2006 reform in Ontario which allowed physicians' fam-

ily members to own shares in these businesses. We leverage administrative datasets that merge individual tax returns with ownership information on both incorporated and unincorporated businesses, allowing us to trace their individual and businesses incomes for over 12 years following the reform. The Canadian tax system has a lower business tax rate for small businesses coupled with corporate tax integration, which nevertheless creates significant opportunities for tax planning through a corporation (Wolfson et al., 2016; Smart, 2021). Since the administrative data links tax records of individuals with their family members and businesses that they own, we can comprehensively observe household income (important for understanding income shifting within a family), income from all sources including that retained in closely held businesses, tax liability including individual income taxes, capital gains taxation, business-side taxation, and some aspects of real business activities (i.e., employment and capital investment). This rich data environment is crucial in the context where physicians can incorporate and represent income that was previously reported as individual professional income, but now gives rise to business revenue and profits instead.

We study physicians in Canada for the following reasons. First, it is a specific example of high-income professionals of the kind that played an important role for growing inequality (Smith et al., 2019; Gottlieb et al., 2023). Second, this is a group known to respond to tax incentives on the incorporation margin in some other countries (Romanov, 2006). These two reasons make it a potentially fruitful area for studying behavioral responses in an important and well-defined context with required data.[1]

To estimate the causal impacts of the reform, we use a triple-difference design, where we compare the outcomes of physicians in Ontario with the outcomes of other high-income professionals in Ontario, and make the same comparisons in the control provinces. We find that the reform substantially increased the rate of incorporation by physicians. Subsequently, we find significant changes in their overall taxable income and effective tax rates, which reflectbehavioral responses beyond a simple reallocation, such as business expansion (discussed in Section 4). In the next sections (2 and 3), we first describe our data, outcome variables, and empirical strategy.

## 2 Data and Outcome Variables

For our empirical analysis, we use the following datasets all merged at the individual level using the unique ID: (1) individual tax returns data (T1PMF) to identify individual income and tax information, (2) family data file (T1FF) to identify family-level income and tax information, (3)

[1]This context is also tied with the political economy of public expenditures: while the Canadian supply of health care is to a large extent private, spending is predominantly public and policy-makers choose to partially compensate physicians through tax breaks, with implications for the true fiscal cost and industrial organization of this important sector. However, we can abstract from these considerations by comparing across provinces and providing corroborating evidence for dentists who are not subject to the same considerations.

ownership data on incorporated businesses (T2S50), (4) firm-level balance sheet data (NALMF) to identify corporate income and tax information, and (5) ownership data on unincorporated businesses. We link these datasets at the individual level so that we have comprehensive information on the person's various income sources, taxes, ownership rates of incorporated and/or unincorporated businesses and their balance sheets. If the person is married, we also construct the combined income and tax information that accounts for the spouse and children.

All of these data run from 2001 to 2017, except for the ownership data on unincorporated businesses, which start in 2005. The relevant analysis sample is all individuals who ever own any incorporated or unincorporated business starting from 2005 (given that our data on unincorporated businesses start from 2005). We make this sample restriction to identify and focus on high-income professionals (i.e., doctors) since we do not observe the individual's occupation code, but instead only observe the industry code for each business – i.e., an individual who has ownership in a clinic (NAICS 6211, offices of physicians) is most likely to be a doctor, rather than a nurse or health care staff.

The main outcome variables are various measures of individual- and family-level income, such as total income, capital income (i.e., dividends), and labor income. We also look at taxes paid on their income both at the federal and at the provincial level.

To assess whether there is any income shifting from the personal side to the corporate one after incorporation, we directly examine the key outcomes at the firm level, such as pre-tax business income (defined as changes in retained earnings plus corporate taxes), corporate taxes paid (federal and provincial taxes combined), and gross profits. For individuals who incorporate their businesses only after the reform, these variables would be mechanically zero prior to the reform. Any subsequent changes in these outcomes reflect both the reallocation of income (from personal to corporate) and changes in businesses activities (i.e., firm expansions after incorporation). Therefore, we also examine overall taxable income and taxes paid, combining pre-tax personal income and taxes with pre-tax corporate income and taxes paid. Note that the overall taxable income would remain the same after incorporation if there is no change in real business activities. However, the combined taxes paid may decrease after incorporation via reallocation of income given that the marginal tax rate on corporate income is lower than the marginal tax rate on personal income. On the other hand, if there are large increases in business activities through firm expansions after incorporation, corporate income may increase substantially, which may lead to increases in corporate income. To check whether there is any change in real business activities, we also look at changes in the number of employees and capital investment.

# 3 Empirical Strategy

We use a triple-difference design to estimate the impact of decisions to incorporate on the business activities of small firms, and on the incomes received and taxes paid by business owners. The decision to incorporate reflects multiple factors, creating challenges in identifying the causal impact of incorporation events. To provide causal evidence, we focus on incorporation by Canadian physicians. In particular, we exploit the 2006 reform in Ontario which allowed physicians' family members to own shares in these businesses, creating opportunities for "income sprinkling" to family members and other forms of tax avoidance via the corporate form.

To assess the effects of this reform on the key outcomes, we first compare the outcomes of physicians in the treated province (Ontario) with the outcomes of people in similar professions (i.e., other health care professionals, lawyers, accountants) in Ontario before and after the policy change. The intuition is that other high-income professionals are similar to physicians in terms of their income level and tax planning, but their incentives to incorporate their businesses were unaffected by the reform. Then we make the same difference-in-differences comparisons in our control provinces (i.e., British Columbia). Our triple difference design would absorb any province-specific shocks or industry/occupation-specific shocks that may have coincided with the policy. The key identifying assumption behind our empirical design is that the affected and unaffected groups' outcomes would have trended similarly in the absence of the reform.

To validate our empirical design and visualize the reform's effects on the key outcomes, we estimate the following model:

$$Y_{it} = \sum_{\tau=2001}^{2017} \theta_\tau \cdot \mathbb{1}_{\{t=\tau\}} \cdot Physician_i \cdot ON_i + \sum_{\tau=2001}^{2017} \gamma_\tau \cdot \mathbb{1}_{\{t=\tau\}} \cdot Physician_i + \sum_{\tau=2001}^{2017} \lambda_\tau \cdot \mathbb{1}_{\{t=\tau\}} \cdot ON_i + \alpha_i + \phi_t + u_{it}, \tag{1}$$

where $Y_{it}$ is the outcome of individual $i$ in year $t$, $Physician_i$ is an indicator equal to one if the individual is a physician, $ON_i$ is an indicator equal to one if the individual is in Ontario, $\alpha_i$ are individual fixed effects, and $\phi_t$ are year fixed effects. Each coefficient $\theta_\tau$ measures the change in $Y_{it}$ for treated relative to control individuals in year $t = \tau$ and $\theta_{2005}$ is normalized to zero. Standard errors are clustered at the individual level.

To ensure that the control group (in other industries/occupations) is comparable to physicians, we match them based on their age bins, gender, marital status, and family size measured in 2005.

To study the life-cycle impacts of incorporation in more detail, we plan to exploit heterogeneous responses across different age cohorts (i.e., physicians in 30's, 40's, ..., in 2005) because the incentives to incorporate and behavioral responses to incorporation may differ significantly across their life cycle. For example, we'd expect younger physicians to expand their businesses much more upon incorporation and experience a larger increase in their overall taxable income.

# 4 Preliminary Results

To evaluate the impacts of the reform, we first look at the share of incorporated businesses.[2] We compare the incorporation rates of physicians in Ontario relative to those of other professionals in Ontario before and after the reform. Then we compare these differences relative to the same differences in our control provinces. As Figure 1 shows, we find a large and significant increase in incorporation rates for physicians in Ontario after the reform.

Next, we assess how pre-tax income and taxes change after the reform. As Figure 2 shows, the total personal income (including the spouse's income when married) decreases significantly for physicians in ON after 2006. In particular, as Figure 3 shows, the physician's employment income decreases sharply and almost immediately, while the dividend incomes rises (but not to the level where it offsets the fall in the labor income). Subsequently, the total personal taxes paid (the federal and provincial taxes combined) decreases relative to that of the control group after the reform. By contrast, we observe significant and large increases in incorporated businesses' pre-tax income and retained earnings for the treated group (Figure 4). Subsequently, we see increases in corporate income taxes paid (combining both federal and provincial ones), while the personal income taxes paid decreases (Figure 5). These findings suggest the reform not only provided strong incentives for physicians in Ontario to incorporate their businesses, but also to subsequently shift to and retain part of their income in the lower-taxed organizational form.

Assessing overall taxable income and taxes paid (combining both the personal side and the corporate side), however, shows that these results reflect something beyond the pure reallocation and tax-saving behaviors. We find that the combined taxable income actually goes up in the medium run, with a fall in the long run after the reform. Consequently, the overall tax burdens rise in the medium run and fall in the long run, leading to a reduction in the average effective tax rates (defined as total taxes divided by overall taxable income) (Figure 6). These results suggest that the post-reform increases in firms' retained earnings reflect not only reallocation effects, but also potentially increased business activities through firm expansions after incorporation. We find that the number of employees and capital investment at their firms increased for the treated group after the reform, providing some evidence of firm expansions (Figure 7).

To estimate the welfare impacts of this reform, we plan to measure the change in excess burden per dollar of lost tax revenues using our reduced-form estimates on these behavioral responses and mechanical effects. We also plan to exploit heterogeneous responses across age cohorts to proxy their life cycle, so that we can account for important dynamic effects we document in our current results.

[2]Note that the results discussed here are preliminary. The final results can be vetted out and publicly shared by April 17th.

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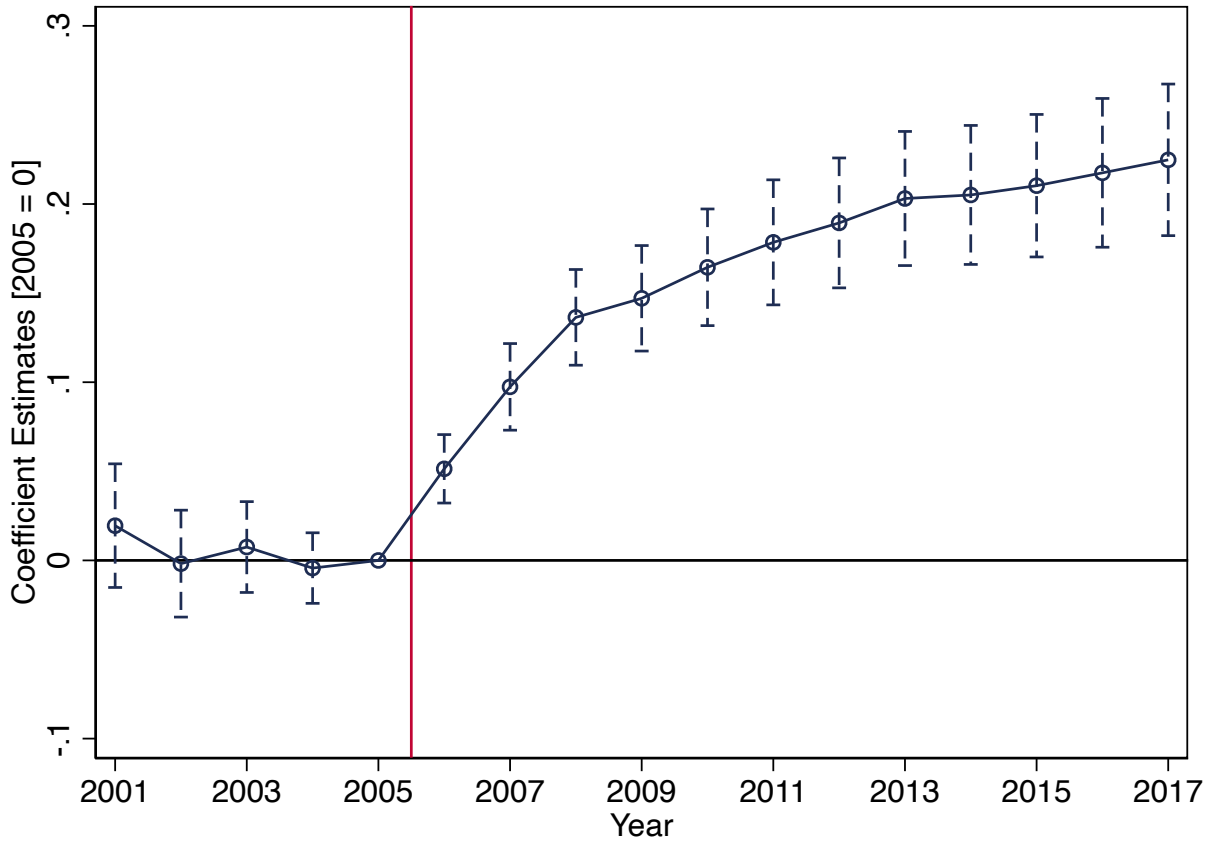
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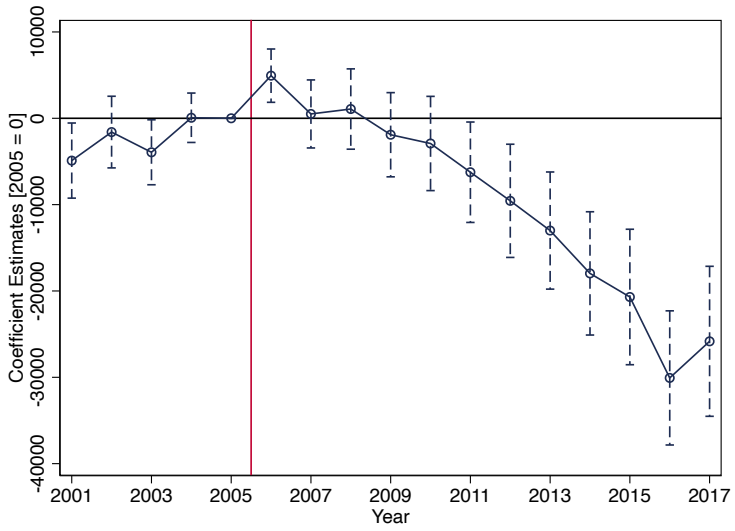
Figure 1: The Reform Effects on Incorporation



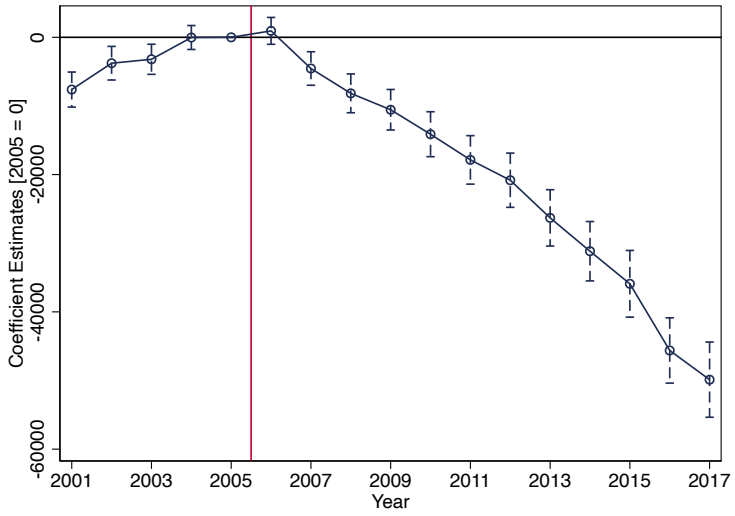

*Notes*:

Figure 2: The Reform Effects on Personal Taxable Income

(a) Taxable Income (family level)



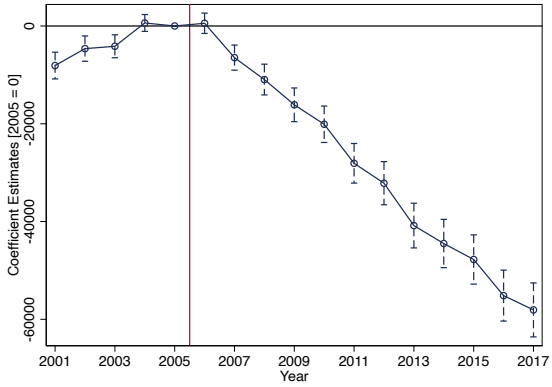

(b) Taxable Income (individual level)



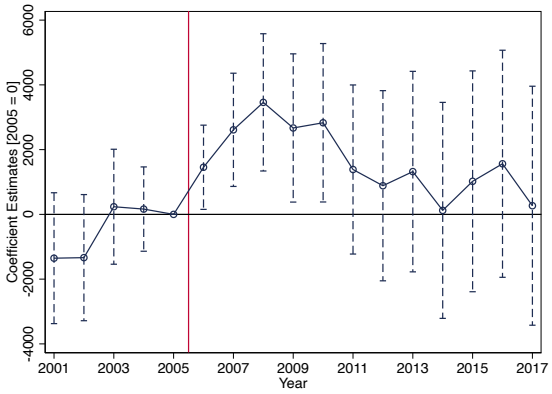

*Notes*:

Figure 3: The Reform Effects on Employment Income and Dividend Income

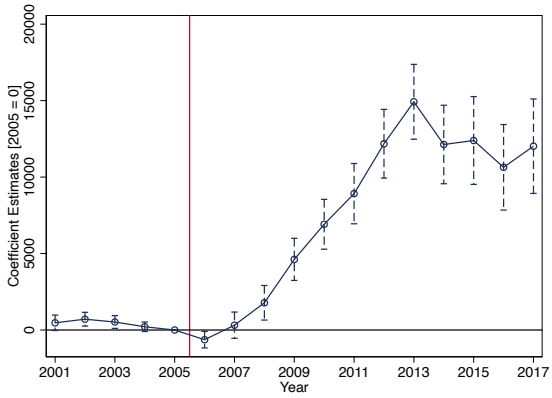
(a) Employment Income (doctor)



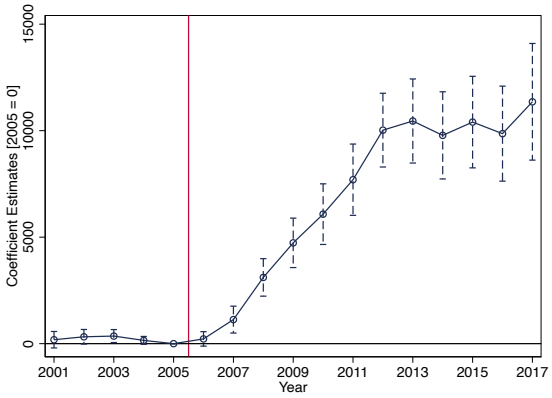

(b) Employment (spouse)




(c) Dividend Income (doctor)



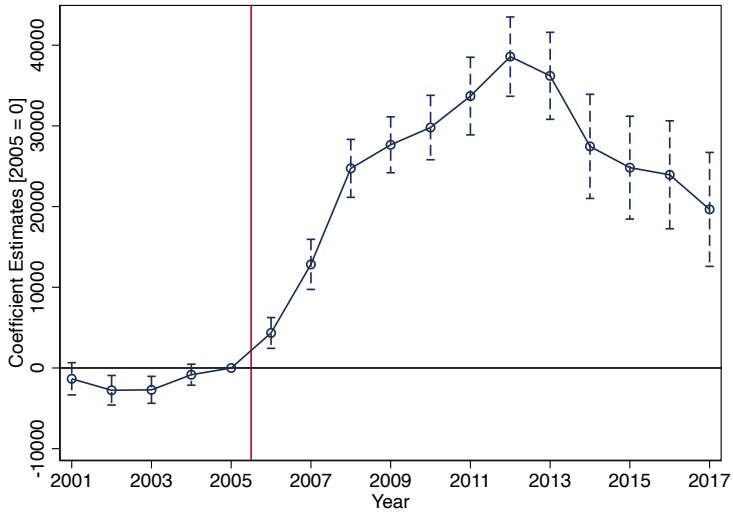

(d) Dividend (spouse)



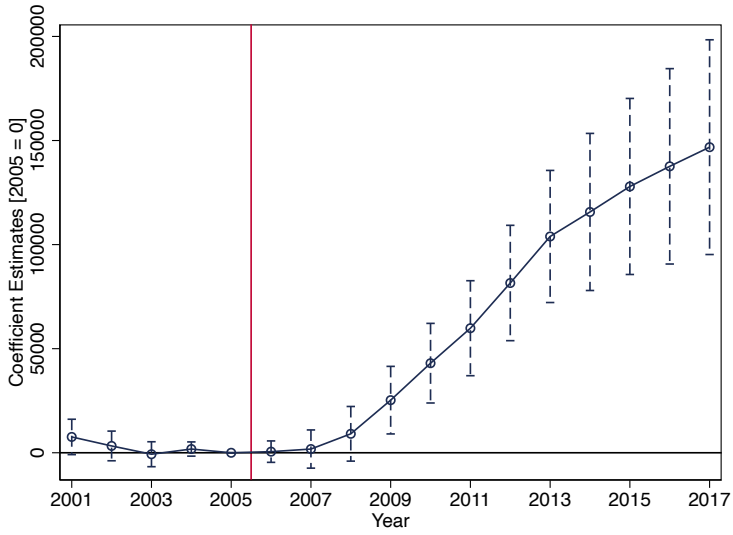

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Figure 4: The Reform Effects on Business Income and Retained Earnings

(a) Business Income (family level)



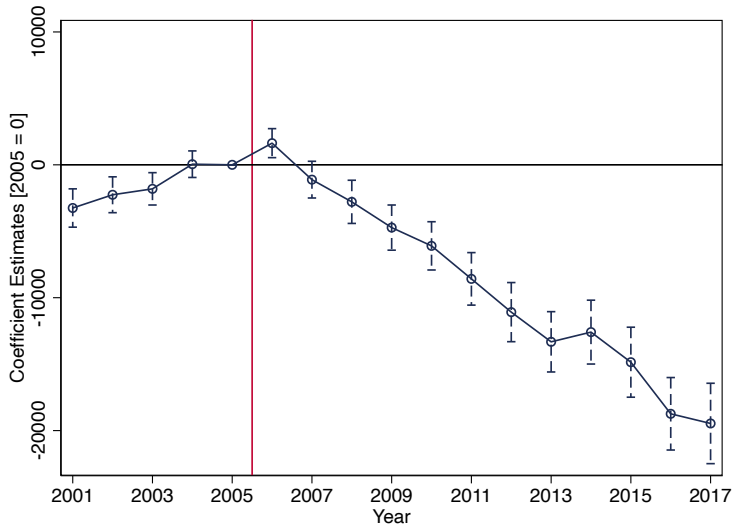

(b) Retained Earnings (family level)



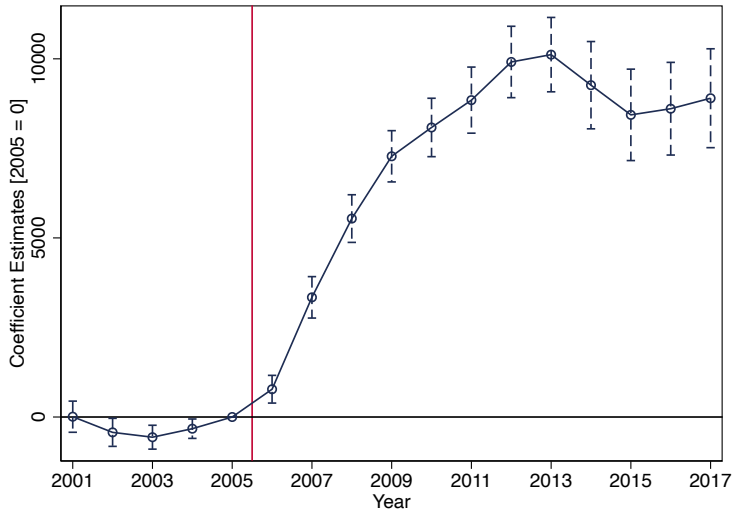

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Figure 5: The Reform Effects on Personal and Corporate Income Taxes

(a) Personal Income Taxes (family level)



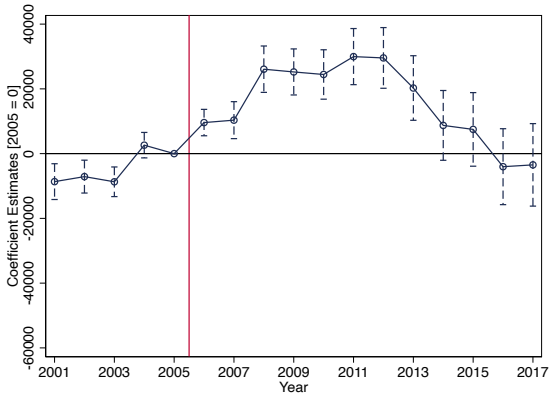

(b) Corporate Income Taxes (family level)



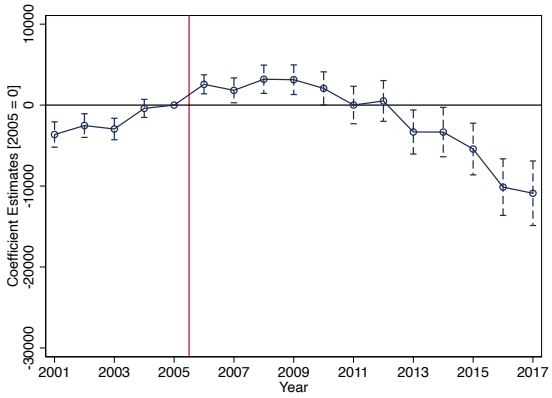

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Figure 6: The Reform Effects on Overall Taxable Income and Total Taxes Paid

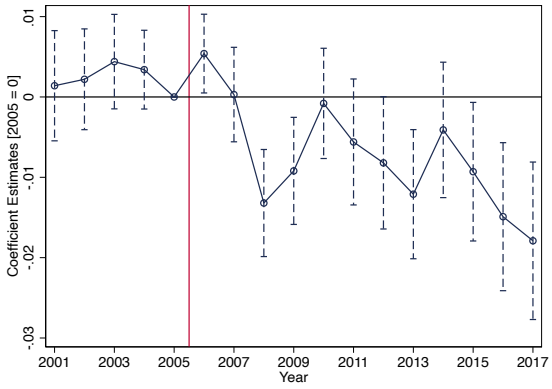
(a) Overall Taxable Income (family level)




(b) Total Taxes Paid (family level)



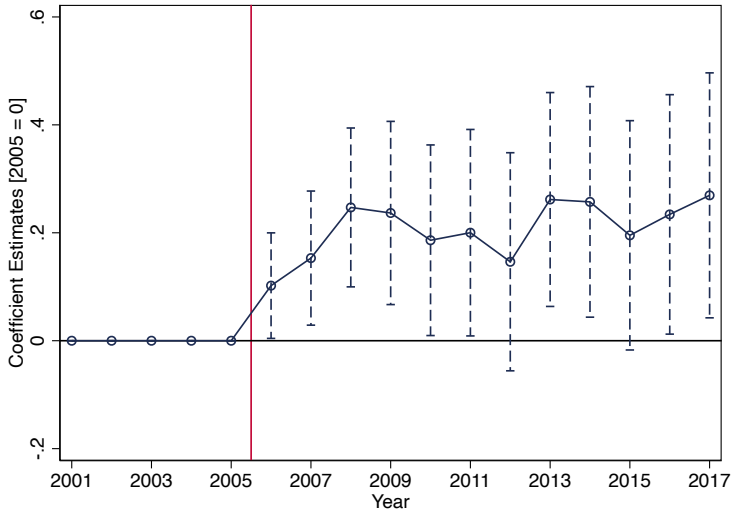

(c) Effective Tax Rates (family level)



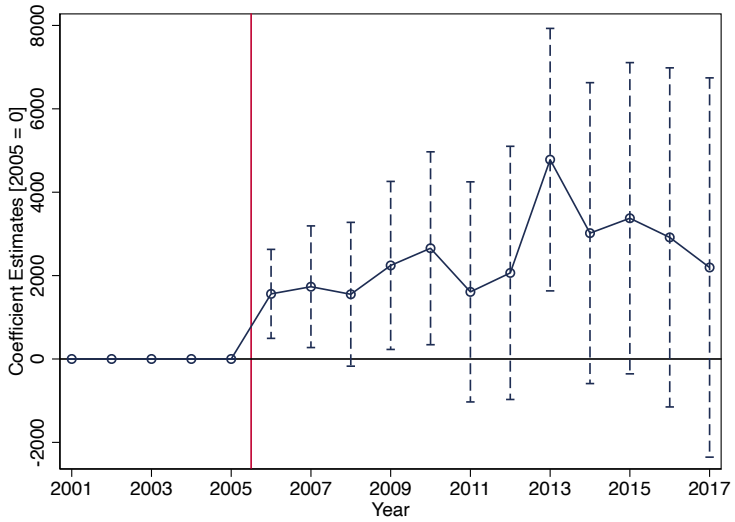

*Notes*:

Figure 7: The Reform Effects on Hiring and Capital Investment

(a) Number of Employees




(b) Capital Investment




*Notes*: The coefficient estimates are set to zero for pre-2005 years because we do not observe business-level information (i.e., employment and capital investment) for unincorporated businesses before 2005.