Do Firms Avoid Health Insurance Mandates? Evidence from the Self-Funding of Employer Plans

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Abstract

I analyze the extent to which firms self-fund their health insurance plans to avoid complying with state regulations. I focus on requirements to cover costly procedures or providers, and study their impact on smaller firms, who are most exposed to these mandates. Using administrative data on health plans and a difference-in-differences design, I find that mandates substantially increase the likelihood of self-funding. This increase is concentrated among firms not reporting any stop-loss insurance and among industries with higher average premiums. As a placebo test, I estimate a precise null effect among larger firms who are less exposed to these mandates.

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1 Introduction

Employers play a crucial role in shaping the health insurance options of workers and their families in the United States, with half of the population receiving their coverage from an employer (KFF, 2024). However, little is known about how employers decide what plans to offer. These decisions have large implications for workers and their families, because the offerings at a firm are a limited subset of all available plans; 42% of establishments only offer one plan (AHRQ, n.d.). Furthermore, the choices made by firms may not be optimal for workers – for example, if firms have imperfect information about worker preferences or if satisfying these preferences is not profit-maximizing.

I focus on an important but understudied dimension of employer choice: whether to fully insure or to self-fund their health plan(s). Many employers offer self-funded health insurance plans, meaning the firm bears the financial risk of healthcare claims itself. In 2025, 67% of workers with employer-sponsored coverage were in self-funded plans, up from 46% in 1999 (KFF 2025, see Figure 1). This increase may be explained in part by the fact that self-funding allows firms to avoid state-level regulations. In particular, while plans at fully insured firms must comply with state requirements that health insurance covers specific procedures or providers ("mandated benefits"), plans at self-funded firms are exempt. However, self-funding is not particularly salient to workers, and the extent to which these high rates of self-funding reflect worker preferences is unclear. Because self-funding is consequential yet inconspicous, in 2019 New York began to require health insurance ID cards to clearly state whether the plan was fully insured or self-funded. This requirement, announced alongside a new mandate to cover HIV-prevention drugs, aimed to ensure that all individuals "are armed with vital insurance information" and those "with state-regulated health plans receive consumer protections guaranteed by state law" (New York State DFS, 2019).

In this paper, I examine how self-funding among firms responds when states require insurance to cover new benefits, using difference-in-differences and event study designs to estimate the causal effect. Mandated benefits vary widely in their expected costs – while

some mandates increase the cost of insurance by less than $1 per person per year (e.g., blood screening for lead), others cost more than $100 per person per year (e.g., mental healthcare). To understand how firms respond to changes in the costs of coverage, I use only mandates that increase premiums by 1% or more and exclude mandates with negligible costs. I focus on the years 1999 to 2008 because this was a particularly active period for adding new mandates; the number of (costly) mandates nationwide grew from 528 to 676 (Figure 2).[1] In my baseline specification, I consider a binary treatment that compares states before and after the passage of the first *new* mandate during my time period. As a result, the mandates that existed prior to 1999 do not directly contribute to my estimates, which are identified from variation within states. Because some states pass multiple mandates in this period or even within the same year, I also consider specifications excluding these states or with a non-binary measure of treatment.

I use an administrative dataset on the employee benefits offered by firms, the Form 5500 Series. This dataset is ideal for my setting because the Form 5500 must be filed by all private-sector firms with 100 or more employees, providing near universal coverage of firms participating in the "large-group" health insurance market. While firms with fewer than 100 employees are not required to submit the Form 5500, they are also much less likely to be affected by the policy changes I study: in most states, firms in the "small-group" market were allowed to waive mandated benefits even if fully insured (Jensen and Morrisey, 1999).[2]

At the other end of the spectrum, larger firms are also unlikely to respond to new mandated benefits, for several reasons. First, larger firms are more likely to be self-funded at baseline, and thus are simply less exposed to new mandates. Second, because larger firms tend to offer more generous health insurance overall, the mandates may be less burdensome or even not binding. Larger firms offer plans with lower deductibles and out-of-pocket maximums, are more likely to cover benefits like GLP-1 drugs or menopause support (KFF,

[1] Including mandates with negligible costs, the number of mandates grew from 1,187 to 1,647.

[2] The regulatory environment for the "small-group" market also differs substantially in other ways. States independently determine what size of firm is eligible for the large-group market, as high as 100 full-time equivalents but typically at 50.

2025) and, conditional on being self-funded, are more likely to offer the benefits covered by mandates (Gruber, 1994*b*). Third, the larger firms that remain fully insured should be those with the highest switching costs; they may have already seriously considered self-funding and decided against it. Finally, a limitation of the Form 5500 dataset is that I only observe one state per firm, i.e., the headquarters address. To the extent that larger firms are more likely to operate in additional states, a new mandate in their observed state will apply to a smaller proportion of their total workforce. For all these reasons, I focus primarily on the smaller half of firms in the Form 5500, those with 100 to 250 employees at baseline, and use larger firms as a placebo test.[3]

Among these firms, I find that mandates increase self-funding rates by 2.8 percentage points, reflecting an 11% increase over baseline. This indicates substantial avoidance of mandates among these firms, highlighting the importance of accounting for self-funding when studying how mandated benefits affect workers. Because self-funded firms do not have to comply with *any* state regulations of health insurance, firms that avoid new mandates are also no longer required to offer benefits that were mandated previously or may be mandated in the future. Furthermore, self-funded firms do not pay taxes on their insurance premiums, which are levied on fully insured firms by nearly all states (at rates as high as 4%). The effects I find persist for at least four years after the mandate, suggesting that self-funding in untreated states does not catch up to that of treated states in the short-run. I also find that the increase in self-funding is concentrated among firms not reporting stop-loss insurance. I document heterogeneous treatment effects across industry groups, with bigger effects in sectors with higher average premiums. I do not detect an effect on self-funding among larger firms (250+ employees), thus indicating that the effects I find among smaller firms are not a result of state-wide trends or unobserved changes affecting all firms.

[3] I categorize firms as small or large using their number of employees in the first year they are observed, to allow for the possibility that employment changes in response to mandates. The cutoff of 250 is close to the median and was chosen to match the U.S. Census Bureau's classification of firm sizes, but I show that my results are similar if I use higher or lower cutoffs.

An alternative way that firms could avoid mandates is by ceasing to offer health coverage at all.[4] However, I do not detect a statistically significant effect of mandates on the rates of offering health coverage, and the 95% confidence interval excludes changes larger than 3% in either direction. Because self-funding is only defined conditional on offering health coverage, this result also reduces concern that mandates affected selection into my main analysis sample. In addition, I estimate null effects of mandates on employment, and I show suggestive evidence that small firms were either less likely to offer any benefits or to operate at all, but the effects are imprecisely estimated and I am not able to distinguish between these two possibilities. These results provide additional context for the finding in Sloan and Conover (1998) that mandated benefits reduce the probability that *individuals* are covered by insurance. In particular, these reductions may have occurred because small firms ceased to offer any benefits or to operate entirely, rather than from firms dropping health coverage or reducing employment.

A potential concern with my research design is that mandated benefits may be endogenous to self-funding rates of firms – for example, policymakers could be reacting to their state's trends in self-funding when deciding whether or not to pass additional mandates. To address this concern, I provide evidence that treated and untreated states were trending similarly prior to the mandates, supporting a causal interpretation of my estimates. Because I consider a staggered adoption design, my results could be biased if the treatment effect is heterogeneous across states or time (de Chaisemartin and D'Haultfœuille, 2020; Callaway and Sant'Anna, 2021; Goodman-Bacon, 2021; Sun and Abraham, 2021). This issue is of particular concern in my setting, because "treatment" includes mandates with varying effects on costs (though mandates with negligible costs are excluded), as well as states that passed more than one mandate in the same year or soon after. Reassuringly, my results are qualitatively and quantitatively consistent when I use an alternative estimator that is robust

[4] Firms were not required to offer insurance health insurance to workers during the time period of study (though offer rates did not noticeably change when the Affordable Care Act began to require this).

to heterogeneous treatment effects and allows for a non-binary measure of treatment i.e., the number of mandates passed.

Another potential concern is that the external validity of my results could be limited to the extent that the time period I study, 1999–2008, is different from the landscape following the Affordable Care Act (ACA). The ACA included many reforms, especially to the individual market for insurance. However, the relationship between state-level regulations and self-funding for firms with 100 or more employees remains unchanged today – self-funded firms do not have to comply with state mandated benefits. The ACA may have reduced the flow of *new* mandates, because in some cases it requires states to pay for the associated premium increase in the individual and small-group markets. (Office of Legislative Research, 2019).[5] However, the rule did not completely deter the passage of new mandates, with the Centers for Medicare and Medicaid Services recently increasing reporting requirements for new mandates out of concern that states were not calculating their payments appropriately (CMS, 2020). Furthermore, the rule did not provide any incentives for states to roll-back existing mandates, and the mandates studied here may still contribute to self-funding rates today.[6]

The welfare implications of firms avoiding mandated benefits are theoretically ambiguous, and depend on whether or not the mandates themselves are welfare-improving. In the canonical model of Summers (1989), a mandate will bind only if workers value the benefit at less than the cost to provide it; otherwise, firms should have offered the benefit voluntarily. As a result, mandates reduce wages, employment, and welfare. However, there may also be welfare gains if mandates reduce adverse selection and thus the cost of providing the benefit (Einav and Finkelstein, 2011; Ericson and Sydnor, 2017; Marone and Sabety, 2022). Furthermore, a growing body of empirical evidence suggests that the plans offered by firms may not perfectly reflect worker preferences (e.g., Cebul et al., 2011; Fang and Gavazza,

[5] This rule applies only to mandates passed after 2011.

[6] The ACA also included a federal mandate that insurance cover preventative health services without cost-sharing, superceding state-level mandates in this category. But its broader Essential Health Benefits requirements do not apply to firms in the large-group market, whether they are fully insured or self-funded.

2011; Liu and Sydnor, 2022).[7] Taking these choice and labor market frictions into account, restricting the set of available plans – i.e., by requiring plans to include specific benefits – could increase welfare. To the extent that firms avoid mandated benefits, welfare changes are attenuated in both directions: wage and employment losses will be mitigated, but any consumer protection gains (from removing "bad" options) would be diminished as well. In Appendix B, I discuss the theoretical considerations for mandated benefits, avoidance, and the associated welfare implications in more detail.

My work contributes to several lines of literature. First, it relates to the overarching question of how firms make decisions about the health insurance plans they offer to workers. This paper is the first to study the impact of mandated benefits on self-funding at small firms – a group that is disproportionately fully insured and thus exposed to the mandates. Jensen, Cotter and Morrisey (1995) and Park (2000) analyze firms of all sizes using survey data, relying on a few hundred firms or a single year respectively, and report null effects. I use a decade of administrative data and a quasi-experimental research design, and show that these prior estimates mask important heterogeneity across firm size. Dalton and Holland (2019) analyze 3,000 publicly-listed firms with a two-way fixed effects design, and find no effect of mandates on self-funding. I show that while this null result can be generalized to a broader set of large firms, it does not extend to firms all sizes.

Much of the remaining literature on firm decisions has focused on how rising healthcare costs jointly affect employee premium contributions and wages (Sommers, 2005; Baicker and Chandra, 2006; Clemens and Cutler, 2014; Lubotsky and Olson, 2015; Anand, 2017; Meiselbach et al., 2022). Unlike these studies, my paper addresses how firms select the *design* of plans, not just how to share premium costs with workers. The limited other work in this area includes Moran, Chernew and Hirth (2001) and Bundorf (2002), who show

[7] Even firms' *observation* of worker preferences is complicated by evidence that individuals themselves frequently fail to make rationalizable choices with respect to health insurance and healthcare (Chandra, Gruber and McKnight, 2010; Choudhry et al., 2011; Kling et al., 2012; Baicker, Mullainathan and Schwartzstein, 2015; Bhargava, Loewenstein and Sydnor, 2017; Gross, Layton and Prinz, 2022; Brot-Goldberg et al., 2024; Chandra, Flack and Obermeyer, 2024).

that firm choices about the generosity and diversity of plans vary somewhat with worker age, gender, and income; Meiselbach and Abraham (2023) who show that minimum wage increases are passed through to plan deductibles; and Tilipman (2022) who shows that firms weigh the preferences of some workers more than others when selecting provider networks.

My work also contributes to the literatures that study the effects of mandated benefits. Building on the work of Summers (1989), a wide range of studies have analyzed how mandated benefits are passed through to individuals via decreased wages, decreased job creation, decreased probability of being covered by health insurance, and increased employee premium contributions (Gruber, 1994*a*; Sloan and Conover, 1998; Mathur, 2010; Bailey and Blascak, 2016). By documenting an avoidance response by firms to mandates, I show that these existing estimates of pass-through to workers are understated, as this literature does not account for the self-funding status of firms. If firms avoid mandates, the net effect on wages will be smaller than if avoidance were not available, and a portion of the impact on workers will be systematically overlooked. With respect to the rates of firms offering health coverage, my results complement those of Jensen and Gabel (1992) and Gruber (1994*b*), who study even smaller firms with fewer than 50 or 100 employees respectively, and also do not detect any statistically significant effect of mandates. This paper also complements the work of Mulligan (2020) and Dillender, Heinrich and Houseman (2022), who study how employment and hours per worker responded to the ACA mandate that insurance be offered at all. I study a different context yet show a similar result, in that small firms are willing and able to reorganize aspects of their business in order to avoid costly health insurance regulations.

2 Institutional Setting

Employer-sponsored health insurance is the primary way that working-age adults receive health coverage in the U.S. About two-thirds of all firms offer health coverage, including 97% of firms with 200 or more workers, and these figures have remained steady over the past

several decades (KFF, 2025). Health coverage also plays an extremely important role in how workers are paid – it is typically the most expensive non-wage component, constituting 8% of total compensation (BLS, 2023). Firms offering health coverage can structure their plans to be fully insured or self-funded, and this choice has substantial implications for a firm's obligations and finances. There are four main differences:

Payments: Under full insurance, the firm pays monthly premiums to an insurance carrier. Premiums are experience-rated, meaning that they are customized to the firm based on firm characteristics and its claims history.[8] However, premiums are negotiated and set for the length of the contract (up to several years). Under self-funding, the firm pays a fixed fee to an insurer to administer the plan, but pays employee healthcare claims itself.

Financial risk: Under full insurance, the insurer bears risk – if healthcare claims are unusually high in a month or year, the firm continues to pay the same premium. On the other hand, a self-funded firm bears the financial risk of high claims. (Self-funded firms may also purchase stop-loss coverage, which can limit the amount that the firm pays in claims; see further discussion in Section 5.2.)

Plan design: Fully insured firms have less control over the design of health plans. Self-funded plans can customize the benefits covered, cost-sharing arrangements, and even the provider network to a greater degree.

Compliance: The plans that fully insured firms buy from insurers must comply with all federal and state regulations. While self-funded plans must comply with federal regulations, they are also covered by the Employee Retirement Income Security Act of 1974 (ERISA) which pre-empts state regulations (McCuskey, 2022). As a result, self-funded plans do not have to comply with any state health insurance regulations. For example, at the onset of the COVID-19 pandemic, many states passed laws requiring coverage of telehealth services.

[8] I focus exclusively on firms with 100 or more employees. Firms with fewer employees (fewer than 50 or 100, depending on the state) participate in the small-group market. Those plans were a mix of medically underwritten, experience-rated, community-rated prior to the ACA, and community-rated after the ACA (Hall and McCue, 2021).

But because these laws were at the state level, they only applied to fully insured firms, and self-funded firms were not required to comply.

To employees, the experience of using their health coverage is approximately the same under the two types of plan – the appearance of insurance cards and the process of finding, using, and paying for care are almost identical. Insurance cards for self-funded plans typically include the name of the plan administrator and a statement that they provide administrative services only. Appendix Figure A1 includes an example health insurance card for a self-funded plan that is administered by Anthem Blue Cross.

The primary drawback to firms of self-funding is the assumption of financial risk. Each individual's healthcare claims are uncertain, and the distribution of claims is highly skewed: among ages 18-64, the top 1% of individuals account for 23% of healthcare spending (Ortaliza et al., 2021). As a result, self-funded firms can face much higher costs (relative to if they were fully insured) if only a few of their employees experience large health shocks. Thus, the variance of these firms' potential claims is an important consideration in their financial planning. Small firms can spread the risk across fewer employees for less predictable claims, and are correspondingly less likely to self-fund. Consistent with self-funding being costly for small firms, those that are self-funded report higher total premiums (or premium equivalents) than those that are fully insured, while among larger firms the relationship reverses (KFF, 2009). Relatedly, Dalton and Holland (2019) show that firms that have more difficulty accessing liquidity or higher opportunity cost of investments are less likely to self-fund, because higher than anticipated claims are more burdensome to them.[9]

The primary appeal to firms of self-funding is the flexibilty in plan design. In particular, because self-funded firms can avoid state regulations, they are excluded from state laws that require health insurance to cover specific benefits or providers. Many factors could influence how appealing this option is to firms – for example, mandated benefits may be inconsistent

[9] Note that the variance of claims can affect the choices of firms without any assumption about the firm's risk preferences – for example, a risk-neutral firm facing a non-linear budget constraint due to limited liquidity.

with a firm's "values," or the firm may expect many more mandates to occur in the future. In this paper, I focus on the most tangible factor in how appealing self-funding is to firms: the cost of adding new mandated benefits to their health coverage plan.

3 Data

3.1 Form 5500 Series

I use the Form 5500 Series, an administrative dataset on employee benefit plans. This form is submitted on an annual basis to jointly satisfy reporting requirements with the Department of Labor and Internal Revenue Service; firms face penalties for non-filing and responses are subject to audit. I focus on the time period 1999 (first available) to 2008 (to avoid any anticipation of the 2010 Affordable Care Act). As discussed in Section 1, the ACA made no changes to the relationship between mandated benefits and self-funding for firms with 100 or more employees.

Firms are required to file the Form 5500 for each employee benefit plan with 100 or more participants. An employee benefit plan includes one or more of: health, dental, vision, life insurance/death benefits, temporary or long-term disability, supplemental unemployment, severance, prepaid legal, scholarship, apprenticeship and training, or housing.[10] The mapping of benefits to Form 5500 filings ("plans") is at the firm's discretion: firms may choose to submit a single filing that covers all of their benefits, submit multiple filings such as one for health and one for dental, or (rarely) submit separate filings for separate health coverage options. In order to weight all firms equally regardless of what they choose, I aggregate the set of filings to the firm level. I also exclude a small number of multi-employer filings, i.e., plans that cover employees at more than one firm.

[10] I focus only on welfare benefits, though the Form 5500 also separately collects information on pension/retirement benefits.

Each filing includes the number of plan participants, which are measured as of the end of the plan year, reflect individuals rather than full-time equivalents, and do not include family (e.g., spouse and dependents enrolled in an employee's health plan). Because I do not observe the number of employees directly, I define the firm's number of employees as the number of participants in its largest filing. For example, if a firm has 100 participants in one health plan, 200 participants in a second health plan, and 300 participants in a life insurance plan, I will count them as having 300 employees. As a result, this measure may exclude employees who are not eligible for any benefits, such as part-time workers. A few firms report implausibly large numbers of participants, so I exclude the top 1% of firms by size.

For filings that include health benefits, the Form 5500 data do not directly specify whether the coverage is fully insured or self-funded, but firms are required to provide details about insurance contracts and how benefits are paid for. The Department of Labor provides detailed guidance for identifying self-funded plans using a variety of factors, which I follow (DOL, 2021). The most important factor in identifying fully insured plans is the presence of health insurance contract details, and the most important factor in identifying self-funded plans is indication that benefits are paid from general assets or a trust.

Some filings include details on one or more health insurance contracts, but the number of insured persons is much lower than the number of plan participants. For example, consider a firm that has 800 employees with self-funded coverage and 200 employees with fully insured coverage. This firm could file a single Form 5500, listing the number of participants as 1,000 and describing an insurance contract covering 200 people. Following the Department of Labor, I classify these filings as self-funded if the health insurance contracts cover less than half of the total participants. The prevalence of this situation increases substantially with firm size, and results in an additional 6% of firms being classified as self-funded. However, I show that my results are robust to classifying such cases as fully insured instead.[11]

[11] An example of when this would matter is if the firm had 200 employees with fully insured health coverage, and 800 employees with no health benefits but who are covered under a different benefit such as disability or life insurance that is part of the same filing. Thus, the overall Form 5500 will list 1,000 participants, but inferring that the remaining 800 are self-funded would be incorrect.

Most firms (78%) have only one filing for health benefits, and most of the firms with multiple filings are either entirely fully insured or entirely self-funded. However, 6% of firms have both a fully insured filing and a self-funded filing. In my primary specification, I classify firms as self-funded if any of their filings are self-funded. This definition captures the extensive margin of firm decisions and is the least affected by firm discretion over how to file. Returning to the example above, if the firm decided to file two Form 5500s, it would have one fully insured filing and one self-funded filing. Under both filing choices, I would classify this firm overall as self-funded. As an alternative specification, I also show results using the participant-weighted average of self-funding across a firm's filings. This mostly impacts larger firms: both the likelihood of having multiple filings and the likelihood of non-agreement (conditional on having multiple) are strongly increasing in firm size.

Among self-funded firms, I additionally look for reported stop-loss insurance, which provides protection from losses above a specified amount (discussed further in Section 5.2). I also consider as outcomes the (log) number of employees; whether the firm offers any health coverage; and whether firms submit a Form 5500 with any benefits, though I cannot distinguish firms that are not operating from those that do not offer any type of benefit at all (e.g., life insurance or long-term disability). The Form 5500 data includes limited other information about the firm such as industry (6-digit NAICS code) and address. A limitation of this dataset is that only one address is observed per firm. As a result, I treat each firm as though all of its employees are in the same state as its headquarters, an assumption which is more plausible for smaller firms.[12]

Figure 3(a) shows the distribution of firm size among firms offering health coverage. Most firms are small; across all years, the median number of employees is 342. Furthermore, size is an important determinant of self-funding rates – as shown in Figure 3(b), larger firms are much more likely to be self-funded. As a result, my empirical approach allows the

[12] While precise data on the prevalence of multi-state firms is not easily available, size is a strong determinant of the number of establishments at a firm. Firms with 100-499 employees have 4 establishments on average, while 500+ employee firms have 64 establishments on average (U.S. Census Bureau, 2008).

response of smaller firms to differ from the response of larger firms. For simplicity I follow the U.S. Census Bureau's classification of firm sizes in selecting a cutoff of 250 employees, but my results are similar if I use higher or lower cutoffs.

Table 1 shows summary statistics for firms overall, for firms with 100-250 employees, and for firms with more than 250 employees. Because firm size could be endogenous to the passage of mandated benefits, when separating firms by size I use employment in the first year the firm is observed. The sample of firms offering health coverage includes more than 300,000 observations across 56,000 firms, with smaller firms making up 48% of observations and 57% of firms. Over the course of the 10 year period, firms are observed for 5 years on average, which reflects an improbable amount of entry and exit and is likely due to firms changing their Employee Identification Number (EIN). To better connect firms over time, I allow for changes in EIN if the firm name and address remain the same. Even so, the low tenure indicates that this methodology does not perfectly capture changes. As a result, I refrain from using firm fixed effects in my analysis, replacing them with 6-digit NAICS code fixed effects (interacted with state and year).

Overall 33% of firms are self-funded, with self-funding rates of 25% among smaller firms and 41% among larger firms. As a point of comparison, I calculate the same statistics using the KFF Employer Health Benefits Survey microdata.[13] This comparison suggests that self-funding among larger firms may be somewhat undercounted (41% from the Form 5500 vs. 52% from KFF). Relatedly, Appendix Figure A2 shows the impact of using the two alternative methods described above for classifying firms as self-funded. These methods matter most for the largest firms, who are more likely to have multiple coverage options and/or multiple Form 5500 filings. Furthermore, it may be that larger firms have more complex structures overall, such as multiple EINs, making it more challenging to identify their funding status – or, in the case of the KFF data, potentially less likely that a single

[13] In order to make as close a comparison as possible, I restrict to firms with 100 or more employees and to the years from 2000 to 2008 (firm-level self-funding data is not available in 1999). Averages reflect each firm's largest health plan and are calculated using employer weights.

survey respondent has insight into the entire firm. On the other hand, I find that self-funding is similar between the two data sources for all firms (33% from the Form 5500 vs. 32% from KFF) and for smaller firms (25% from the Form 5500 vs. 23% from KFF), and only 5% of firms with 100-250 employees are affected by either of the alternative classification methodologies. Taken together, these figures suggest that self-funding is most accurately measured and the least sensitive to methodological choices for smaller firms.

3.2 State Benefit Mandates

Data on mandates comes from the Blue Cross Blue Shield Assocation (Laudicina, Gardner and Holland, 2013). This report identifies state-level mandates that specific procedures, providers, or persons be covered by insurance, as well as the year in which each mandate was passed.[14] All states have at least one mandate, ranging from 8 mandates in Idaho to 39 mandates in Maryland in 1998.

There is substantial heterogeneity in the cost of incorporating these mandates into a health plan. In particular, many mandates are expected to have negligible effects on insurance premiums, while a few mandates are expected to be quite costly. Mandated benefits with very low costs may be used by a small number of people, be associated with low spending per person, or both. Despite this, prior work in this area has often focused on effects from the *total number* of mandates, implicitly treating every mandate as equally costly.

To account for this heterogeneity, I use cost estimates from several sources (described below) to exclude mandates with negligible effects on premiums. These sources rely on claims data for fully insured plans, calculate the total spending associated with the mandated benefits, and average the spending across all plan participants. Thus, the cost estimates are relative to zero spending on these benefits, and will overstate the marginal cost increase if firms offered the benefit prior to the mandate. On the other hand, the cost estimates are measured among fully insured plans, and may be understated if the firms that would expe-

[14] Mandates typically take effect within a year of passage, and firms switching to self-funding likely do so at the beginning of their benefit year.

rience high spending on the mandated benefits switch to being self-funded. The estimates do account for potential moral hazard in that they measure spending after the benefits have been mandated, rather than before.

The primary source of mandates costs comes from the Council of Affordable Health Insurance (CAHI), a research and advocacy association of insurance carriers, in 2009. CAHI provides cost estimates across all states, which is important because the exact coverage and language of each mandate can vary from state to state (e.g., for mandated infertility treatment benefits, the number of IVF cycles that are covered may vary from state to state.) As a result, CAHI estimates whether each mandate will increase costs by: less than 1%, 1-3%, 3-5%, and 5-10%. One limitation of this approach is that the "less than 1%" category continues to mask a significant amount of heterogeneity in costs. Therefore, I supplement using reports from three states who study the costs associated with their own mandates and provide numerical estimates: Connecticut in 2009, Massachussetts in 2013, and Rhode Island in 2014. These states are representative in terms of the number of mandates in 1998 as well as the number of additional mandates passed. However, my results are similar if I only rely on the cost estimates from CAHI to identify costly mandates.

There are 60 mandates that are newly enacted in one or more states in my time period of study. Of these, I include the 19 mandates that are estimated by CAHI to cost at least 1% of premiums. For the remaining 41 mandates, I look for any estimate across the three state reports that the mandate will cost more than $50 per person per year, and I find an additional 2 (Diabetic Supplies & Education and Home Health Care). Thus, I include in my analysis 21 mandates that at least one source has identified as costly, and I exclude the remaining 39 mandates that no source has identified as costly. The costly mandates have mean (median) estimated costs of $63 ($28), while the excluded mandates have estimated of costs of $11 ($2). Appendix Figure A3 depicts my methodology for identifying costly mandates.

From 1998 to 2008, the average number of costly mandates in a state increased from 10.3 to 13.2 (see Appendix Figure A4).[15] This growth occurred throughout the distribution, with similar increases in the median and the interquartile range. The list of mandates and the frequency with which they contribute to my causal estimates are show in Appendix Table A1.

4 Empirical Approach

I analyze the impact of mandated benefits using a difference-in-differences design with a two-way fixed effects specification. I estimate the following:

$$Y_{it} = \beta \; Mandate_{st} + \gamma_{sj} + \delta_{tj} + X'_{it} \; \theta + \varepsilon_{it} \tag{1}$$

where Y_{it} represents the outcome for firm i in year t, such as whether the firm is self-funded. Because firms appear to frequently change their EIN (as discussed in Section 3.1), I refrain from using firm fixed effects. Instead, to flexibly control for time-invariant characteristics, I include state-by-industry fixed effects γ_{sj} where industry j is the 6-digit NAICS code. These fixed effects ensure that estimates are identified from variation within state-industry cells, rather than cross-sectional comparisons. Year-by-industry fixed effects δ_{tj} control for idiosyncratic time effects that can vary across industries. The fine-grained fixed effects I include are potentially important because health insurance outcomes vary across industries (see Section 5.5), so a single set of state and time fixed effects may not be sufficient for capturing geographic variation or time shocks. In my preferred specification, I additionally control for two time-varying characteristics X_{it}: the contemporaneous number of employees at the firm, as well as the number of negligible cost mandates in each state for a given year (mandates that do not contribute to the definition of treatment below). However, my results are similar when I use simple state and year fixed effects and/or exclude these controls. In all specifications, standard errors are clustered at the state level i.e., the level of treatment.

[15] Appendix Figure A4(a) focuses on costly mandates. The distribution for all mandates, including those with negligible cost estimates, can be found in Appendix Figure A4(b).

The treatment variable, $Mandate_{st}$, is an indicator equal to one in the years after state s passes any costly mandate (including the year of passage). By considering a binary treatment, I am comparing states before and after their passage of the first new mandate during my time period. Because my results are identified from variation within states, mandates that existed prior to 1999 do not contribute to the estimated effects. While most states pass only one mandate at a time, some states pass multiple mandates within a year. Figure 4 shows variation by state in the intensity of treatment: 31 states pass a single mandate at the time of treatment; 16 states including D.C. added between two and four mandates; and 4 states do not pass any mandates in this time period (are never treated).[16] I include all states in my main specification, such that my estimates are the effect of "changing the number of mandates for the first time" rather than the effect of one additional mandate. However, my results are similar if I exclude the states that added more than one mandate. All but 18 states go on to pass more mandates in subsequent years, but my results are also similar when excluding these states from the analysis.

In order to interpret β as the causal effect of mandates on firm outcomes, the standard difference-in-differences parallel trends assumption must hold. In my setting, this requires that mandates are uncorrelated with other unobserved time-varying determinants of firm outcomes related to the health insurance plans they offer to workers. In other words, in the absence of mandates, there would have been no change in firm outcomes among treated states relative to states that did not pass mandates. To test the plausibility of this assumption, I expand Equation (1) to an event study framework with leads and lags:

$$Y_{it} = \sum_{k \neq -1} \beta_k \; 1\{t - \tau_s = k\} + \gamma_{sj} + \delta_{tj} + X'_{it} \; \theta + \varepsilon_{it} \tag{2}$$

For $k < -1$, the β_k coefficients estimate anticipatory responses of firm outcomes k years before the state passes any costly mandate, relative to the year immediately prior. If these lead coefficients are very close to zero, then treated and control firms were trending similarly

[16] The number of mandates passed is not strongly related to the number of mandates in existence as of 1998 (Figure A5), with a correlation of only -0.095.

prior to the mandate, lending support to the assumption that they would have continued to do so in the absence of any mandates. Conversely, for $k > -1$, the β_k coefficients estimate the response k years after the mandate, and allow me to examine how the response of firms evolves over time.[17]

Recent work has shown that two-way fixed effect specifications, as those described above, can lead to biased estimates if the treatment effect is heterogeneous between groups or over time (de Chaisemartin and D'Haultfœuille, 2020; Callaway and Sant'Anna, 2021; Goodman-Bacon, 2021; Sun and Abraham, 2021). Heterogeneous treatment effects are particularly likely in my setting, because "treatment" includes mandates with varying effects on costs (though mandates with negligible costs are excluded), as well as states that passed more than one mandate in the same year or soon after. Therefore, I also estimate effects using an alternative estimator that is robust to heterogeneous treatment effects. I use the estimator from de Chaisemartin and D'Haultfœuille (2026) for several reasons. First, this estimator allows for dyamic effects, akin to an event study, where the treatment effect may grow or shrink over time. Similarly, placebo effects can also be estimated to test the parallel trends assumption. Finally, unlike other robust estimators, the de Chaisemartin and D'Haultfœuille (2026) estimator also allows for non-binary treatment, which is ideal for my setting because some states pass more than one mandate.

My primary sample is firms with between 100 to 250 employees at baseline i.e., the first year they are observed. These firms represent the smaller half of the large-group health insurance market, meaning they are the least likely to be self-funded at baseline and thus the most exposed to the new mandates. In contrast, larger firms are those that are the least exposed to new mandates: they are more likely to be self-funded at baseline and thus already be exempt; they offer more generous health insurance overall; and they are more likely to offer mandated benefits once self-funded (Gruber, 1994*b*; KFF, 2025). For all outcomes studied,

[17] When estimating Equation (2), I consider event times -5 to 3, where 0 is the year of treatment. Event times of -6 and earlier are binned into one indicator, and event times of 4 and later are binned into another indicator (not shown). For comparison, when estimating Equation (1), I exclude event times of -6 and earlier, as well as 4 and later. My results are similar when considering narrower event windows.

I use firms with more than 250 employees as a placebo test, thus increasing confidence that the changes I see are due to the mandated benefits rather than state-wide trends over time. While firms with fewer than 100 employees are not required to submit the Form 5500, they are also not likely to be affected by the mandates, because most states allowed firms in this "small-group" market to waive mandated benefits even if they were fully insured (Jensen and Morrisey, 1999).

5 Results

5.1 Self-Funding

Figure 5(a) shows the results from the event study and difference-in-differences specifications in Equations (1) and (2), among my primary sample of firms with fewer than 250 employees that offer health insurance. In the pre-period, the event study estimates are statistically indistinguishable from zero and are not strongly trending up nor down. After the new mandates, self-funding rates increase sharply by 1.7 percentage points (7%) in the first year and rise steadily to a 3.8 percentage point increase (15%) by the fourth year. The pooled difference-in-difference estimate is a 2.8 percentage point (11%) increase and statistically significant at the 99% level.

Figure 5(b) shows the same results for firms with more than 250 employees. There is no evidence of pre-trends, and both the event study and pooled difference-in-difference estimates are statistically insignificant and close to zero. These results suggest that smaller firms are being driven towards self-funding by policies that have less impact on larger firms (i.e., the mandated benefits), rather than reflecting confounding state-wide policies or trends.

I conduct a series of robustness checks to test whether my results are sensitive to alternative samples or specifications:

Reduced fixed effects and controls: Appendix Figure A6 shows results where the state-by-industry and year-by-industry fixed effects are replaced by state-by-sector and year-by-

sector fixed effects (where sector is the 2-digit NAICS), or replaced by simple state and year fixed effects. Also shown are results from regressions that do not control for the number of contemporaneous employees at the firm or the number of negligible cost mandates in each state for a given year. Across all specifications, the estimates for both small and large firms are quantitatively and qualitatively similar.

Robust to heterogeneous treatment effects: In order to address concerns that two-way fixed effects specifications may be biased when effects are heterogeneous across groups or time, I turn to the robust estimator from de Chaisemartin and D'Haultfœuille (2026). The results are shown in Appendix Figure A7. I do not detect evidence of pre-trends for small or large firms. For small firms, self-funding rates rise after the passage of new mandates. Note that the coefficients plotted in the figure are analagous to those from an event study design, in that they estimate the effect of "changing the number of mandates for the first time" k periods after the change. However, they are estimated by comparing the evolution of outcomes in states that add new mandates only to those that have not yet added mandates (rather than to all states, including already-treated states). In addition, this estimation strategy allows me to calculate the average effect of one additional mandate in a way that is robust to heterogeneous treatment effects. I show these average effects for small and large firms. For small firms, I estimate that an additional mandate increases self-funding by 1.8 percentage points and the 95% confidence interval does not include zero. For large firms, the post-period coefficients show a slight upward trend, but neither the individual coefficients nor the average effect are statistically distinguishable from zero.

Alternate definitions of self-funding: In Appendix Figure A8, I show results using two alternative methodologies for classifying firms as self-funded (see Section 3.1 and Appendix Figure A2 for details). For both small and large firms, results are very similar regardless of the methodology used.

Alternate definitions of small firms: Appendix Figure A9 shows how the estimates change as the cutoff between small and large firms varies from 200 to 350. Across this range,

the results are similar in magnitude and statistical significance. If anything, the difference between the two groups grows as the cutoff increases.

Excluding states with additional mandates: I consider several restrictions on the set of states used. Results are similar if I exclude states that pass additional mandates after the treatment year (Appendix Figure A10); exclude states that pass two or more mandates in the treatment year (A11); or exclude states that passed mandates in any of the four years prior to the treatment year (A12). Because many states pass mandates in 1999 (A13), I also show estimates excluding these states, and find similar results (A14).

Excluding non-CAHI mandates: In Appendix Figure A15 I consider only the mandates identifies by CAHI as costly. The estimates are similar in magnitude and statistical significance.

5.2 Stop-Loss Insurance

Under self-funding, the risk associated with unexpectedly high healthcare claims remains with the firm, rather than being assumed by a health insurance carrier. However, firms can mitigate this risk by purchasing a separate stop-loss insurance policy, which will cover claims above a specified amount. Stop-loss insurance does not entirely remove the firm's risk, and the amount of risk protection depends on the level of claims before which benefits begin. In 2011, the average stop-loss policy began paying after $200,000 in claims per employee (KFF, 2011). Nevertheless, to shed light on the new risks borne by small firms, I estimate the effect of mandated benefits on self-funding with versus without stop-loss insurance.

The Form 5500 is an imperfect data source for measuring stop-loss coverage, because whether a firm is required to report such a policy depends on who the beneficiary is. If the stop-loss policy is paid for using employee contributions or out of a plan trust, or if stop-loss reimbursements offset employee contributions or return to a plan trust, then the stop-loss policy should be reported as part of the Form 5500. On the other hand, if the stop-loss policy is paid for out of the firm's general assets, and the beneficiary is the firm rather than

the employees or the benefit plan itself, then it does not need to be reported. As a result, Form 5500 stop-loss coverage is understood to be a lower bound (DOL, 2021). Conditional on self-funding, 25% of small firms and 28% of all firms report having stop-loss insurance. In 2011, KFF estimated that 58% of workers in self-funded plans are covered by stop-loss insurance, indicating that the Form 5500 undercounts by a substantial margin (KFF, 2011).

Given the caveat above, Figure 6(a) estimates the effect of mandates, where the outcome is an indicator for whether the firm is self-funded but does not report stop-loss coverage. In Figure 6(b), the outcome is an indicator for whether the firm is self-funded and reports stop-loss coverage. For both figures, the sample is the set of small firms that offer health coverage (the same as in Figure 5). I find self-funding without stop-loss insurance increases by 2.3 percentage points, which is 80% of the increase in self-funding overall. Self-funding with stop-loss insurance makes up the remaining 20% based on the point estimate alone, but this is not statistically different from zero.

One potential explanation is that the firms switching into self-funding are not purchasing stop-loss insurance to mitigate their new risks. However, another potential explanation is that the firms switching into self-funding are in fact purchasing stop-loss insurance, but exclusively in a manner that does not require Form 5500 reporting. This would be most likely for firms that do not indicate having a plan trust (health benefits are paid out of general assets). In Appendix Figure A16, I show that of firms self-funding in response to mandates, about half are using a plan trust. However, my results still cannot rule out the possibility that these firms establish a plan trust while also adding stop-loss insurance paid for by and paying out into the firm's general assets.

5.3 Offering Health Coverage

Another way that small firms could avoid complying with mandated benefits is by ceasing to offer health coverage at all. Furthermore, if mandates do affect the rates of offering

health coverage, estimates of the effect on self-funding may be biased due to selection, as self-funding is only observed for firms that offer coverage.

Figure 7(a) estimates the effect of mandates on firm rates of offering health coverage. For this analysis, my sample is the set of small firms that report offering any benefits through the Form 5500 in a given year. The difference-in-differences coefficient is close to zero and not statisically significant, and the 95% confidence interval excludes changes larger than 3% in either direction. The event study pre-period coefficients show a slight downward trend from periods -5 to -3, but otherwise remain very close to zero and not statistically significant. This result suggests that new costly mandates did not have a significant effect on the rates of firms offering health coverage to workers, and also reduces any potential concern that the sample of firms for which I observe self-funding status could be changing in response to mandates.

5.4 Employment & Reporting Any Benefits

I also study two additional margins along which firms may respond to mandates: employment and reporting any benefits.[18] Figure 7(b) shows the estimated effects of mandates on (log) employment among firms with fewer than 250 employees at baseline. The difference-in-differences coefficient is not statistically different from zero, and the 95% confidence interval excludes changes larger than 1.7% in either direction.

Figure 7(c) shows the estimated effect of mandates on whether firms report any benefits at all. For this outcome, the sample is small firms that *ever* report any benefits. Firms would not report benefits if they do not offer any of the (non-retirement) benefits associated with the Form 5500, or if they are no longer in operation. While a limitation of the data is that I am not able to distinguish between these two mechanisms, I look for evidence of a response on net. The difference-in-differences analysis shows a 0.8 percentage point decrease in the likelihood of reporting any benefits at all. However, the event study coefficients show a clear

[18] In these specification two, contemporaneous employment is not included as a control.

pre-trend, complicating inference. The coefficient pattern would be consistent with firms in treated states simply continuing a declining trend that precedes the mandates. To the extent that the difference-in-differences estimate has a causal interpretation, this finding can help reconcile the null effect I find in Figures 7(a) and 7(b) with prior work from Sloan and Conover (1998) showing that mandates reduce the probability that individuals are covered by insurance. In particular, individuals could lose insurance when small firms drop all kinds of benefits or cease to operate, rather than firms dropping health coverage specifically or reducing employment.

5.5 Industry Heterogeneity

Self-funding, while important, is only one of many aspects of health plan design. While firm-level data on premiums and deductibles is not included in the Form 5500 data, variation in these characteristics across industry groups can shed light on how the other components of health insurance interact with the decision to self-fund.[19]

I first document the extent to which the effect of mandates on self-funding is heterogeneous across industries by interacting the treatment variable with indicators for nine industrial sectors. The coefficients and 95% confidence intervals are shown in Appendix Figure A17. Small firms in the other services, wholesale trade, and construction sectors have the largest responses, followed by professional services, financial services & real estate, and mining & manufacturing. Retail trade and agriculture, fishing & forestry are close to zero, and while utilities & transportation has a negative point estimate, it is also less precisely estimated due to consisting of fewer firms.

Next, I examine how these treatment effects are related to sector-level averages for total premiums, employee premium contributions, and deductibles from the Medical Expenditure

[19] The Form 5500 includes premium information for fully insured firms only; as a result, direct estimates of the effect on premiums would be biased due to selection into self-funding. The analysis below uses premiums for fully insured firms and premium-equivalents for self-funded firms.

Panel Survey – Insurance Component public use data (AHRQ, n.d.).[20] Figure 8 shows the results. The number of firms in each sector offering health insurance in 1999 determines the size of each marker, and is also used to weight the line of best fit and correlation. I find that the treatment effect on self-funding is positively correlated with total premiums (72% correlation) and employee premium contributions (69% correlation). These results suggest that firms in industries with low premiums can respond to the cost of mandated benefits along those margins, but firms in industries with high premiums cannot and thus turn to self-funding as a margin of adjustment. By contrast, there is little correlation with average deductibles (15%).

6 Discussion & Conclusion

This paper provides empirical evidence that state mandated benefits increase the self-funding of health insurance among smaller firms. These firms, with between 100 and 250 employees, are those that are most exposed to the new mandates and the least likely to be self-funded at baseline. It is possible that these firms may have eventually grown in size to the point that self-funding would be desirable even in the absence of a mandate. However, the effects that I find persist (and even increase) for at least four years, suggesting that such "catch-up" by non-treated firms, if any, only occurs in the long-run.

I do not find any effect on self-funding rates among larger firms, which are more likely to be self-funded at baseline. One possibility is mandated benefits are less burdensome or even not binding for larger firms, who offer more generous health insurance overall and are, conditional on being self-funded, more likely to offer the benefits covered by mandates (Gruber, 1994*b*; KFF, 2025). Another interpretation is that the larger firms that remain fully insured are those that have the highest switching costs, or have the most out-of-state

[20] For total premiums and employee premium contributions, I use statistics from 2000 as this is the earliest available year with NAICS industry definitions. For deductibles, I use 2002 as it is the earliest year available. Because detailed breakdowns by firm size are not available, these averages include firms of any size.

employees to whom the mandate does not apply. Regardless, the lack of response among larger firms provides reassurance that the effect I find is due to changes that particularly affect small firms (i.e., mandated benefits), rather than to other changes or trends affecting all firms in the state.

My findings complicate the interpretation of other estimated effects of mandated benefits. On one hand, previous work has shown that mandated benefits increase healthcare utilization, reduce patient spending, improve health outcomes, and reduce mortality (Bitler and Carpenter, 2016; Ettner et al., 2016; Carney, 2021; Son, 2022). On the other hand, while I do not find any evidence on employment or rates of offering health insurance, other work has found that mandated benefits reduce wages and raise employee premium contributions (Gruber, 1994*a*; Bailey and Blascak, 2016). Because these policies lead more firms to self-fund, all of these effects – both the upsides and the costs – are understated relative to a world where avoidance is not allowed, meaning that a portion of the impact on workers has been systematically overlooked. Furthermore, the workers affected by the costs may not even experience the benefits, if the firms avoiding new mandates are also passing some of the costs of self-funding through to wages.[21]

A limitation of the Form 5500 data is that I do not observe any details about the specific benefits covered by a plan – as a result, I cannot rule out the possibility that firms switch to self-funding but still cover the benefit. However, treated and control firms trend very similarly prior to the mandate, and self-funding rates at treated firms rise right after the mandate is passed. These findings suggest that the mandates have a causal effect on the attractiveness of self-funding to firms. Because costly mandates make flexibility in plan design and exemption from state regulations more valuable, I consider my results to be suggestive evidence that firms are avoiding providing the mandated benefit.

[21] Among firms with fewer than 200 employees, self-funded firms report higher total premiums/premium equivalents on average than those that are fully insured, providing empirical evidence that the costs of self-funding can be meaningfully large (KFF, 2009).

Mandated benefits could also make self-funding more attractive above and beyond the costs of covering that specific benefit. If the mandate succeeds in bringing coverage of the benefit to additional workers, this may reduce adverse selection in the market for that benefit. For example, if infertility treatment is covered by more firms after the mandate, each individual firm may find that utilization is lower and more predictable, making self-funding less financially risky. Alternatively, the mandate could increase adverse selection, if workers likely to use it shift towards the remaining fully insured firms, thus increasing costs and making self-funding even more appealing.

Firms' self-funding as a consequence of mandates presents a significant challenge for policy. When firms self-fund, they are no longer required to comply with *any* state regulations for health insurance. Policymakers considering whether or not to mandate a new benefit must account for the fact that a firm switching to self-funding may drop benefits associated with older mandates, and also will not be required to comply with any future mandates. Thus, policymakers must consider a dynamic problem where stricter policies today may lead to reduced regulatory scope tomorrow. For example, when states mandated greater coverage of telehealth at the beginning of the COVID-19 pandemic, all firms that had decided to self-fund previously were exempted, even if no new firms became self-funded.

States also pass laws along other dimensions, such as California's 2017 law protecting consumers from surprise medical bills, which did not apply to self-funded firms until it was superceded by a federal law in 2022. Self-funded firms are also generally not required to participate in state all-payer claims databases, limiting the ability for policymakers and researchers to understand healthcare utilization and pricing. Finally, nearly all states require fully insured firms to pay taxes on their insurance premiums, as high as 4%, but these do not apply to self-funded firms. My results show that mandated benefits reduce the reach of all other regulations, and furthermore raise the possibility that, to the extent regulations such as premium taxes are costly, they may similarly drive more firms to self-fund.

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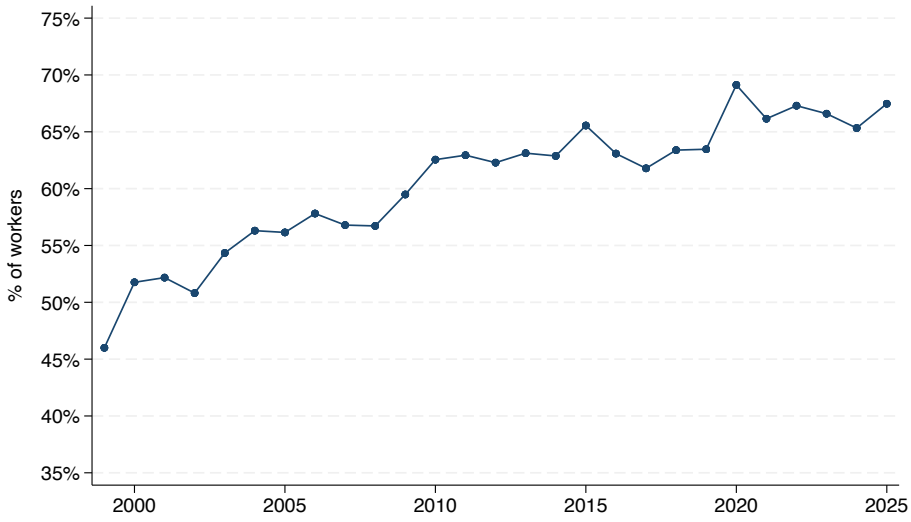
Table 1: Summary Statistics 1999-2008

	All Firms	Emp. in 1st year ≤ 250	Emp. in 1st year > 250
(a) Firms that offer health:			
Observations	297,862	144,099	153,763
Firms	56,019	31,968	24,051
Years in sample	5.32	4.51	6.39
	(3.18)	(2.93)	(3.17)
Employees (1st year)	563.50	152.13	1,110.28
	(1,205.75)	(41.66)	(1,691.17)
Employees	883.33	257.29	1,470.01
	(1,662.42)	(346.96)	(2,128.21)
Self-funded	0.33	0.25	0.41
	(0.47)	(0.43)	(0.49)
(b) All firms:			
Observations	341,221	170,758	170,463
Firms	62,404	36,558	25,846
Years in sample	5.47	4.67	6.60
	(3.29)	(3.06)	(3.28)
Employees (1st year)	553.94	150.36	1,124.79
	(1,211.34)	(41.41)	(1,727.49)
Employees	850.60	247.10	1,455.14
	(1,635.16)	(333.19)	(2,123.83)
Offers health	0.87	0.84	0.90
	(0.33)	(0.36)	(0.30)

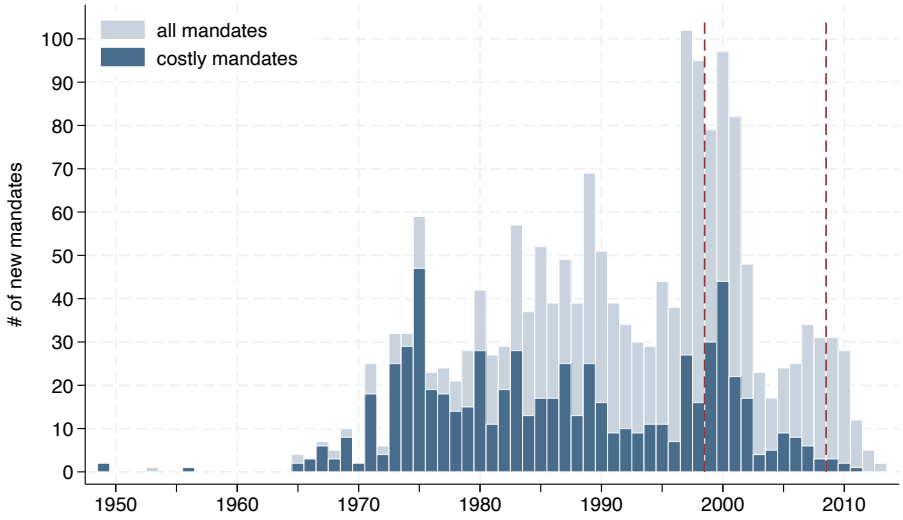
Notes: This table provides summary statistics for (a) firms that offer health coverage, and (b) all firms that offer any benefits. Only firms with 100 or more employees are included, and statistics are shown separately for firms that have +/– 250 employees in the first year they are observed. Among firms that offer health coverage, the median size in the first year of observation is 215 employees, and the median size overall is 344 employees.

Figure 1: Prevalence of Self-Funding Over Time



Notes: This figure shows the percent of covered workers who are enrolled in self-funded plans. Data from KFF Employer Health Benefits Survey, based on each firm's largest plan.

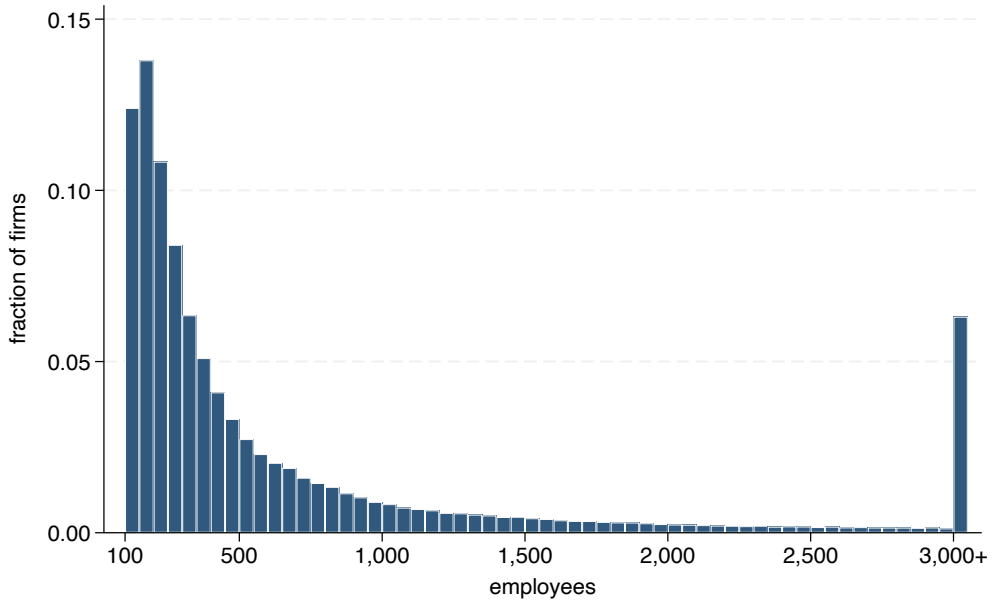
Figure 2: New Mandated Benefits Over Time



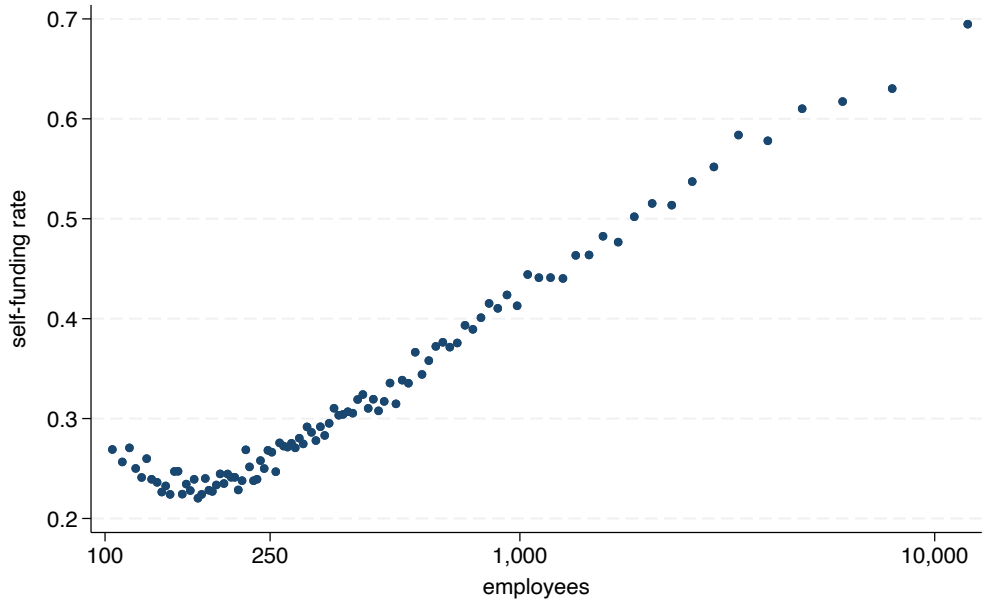
Notes: This figure shows the number of new mandated benefits in the U.S. in each year. The total number of new mandates is shown, as well as the number of new mandates that are expected to raise premiums by 1% or more. This paper focuses on costly mandates passed in years 1999-2008.

Figure 3: Firm Size and Self-Funding

(a) Distribution of Firm Size

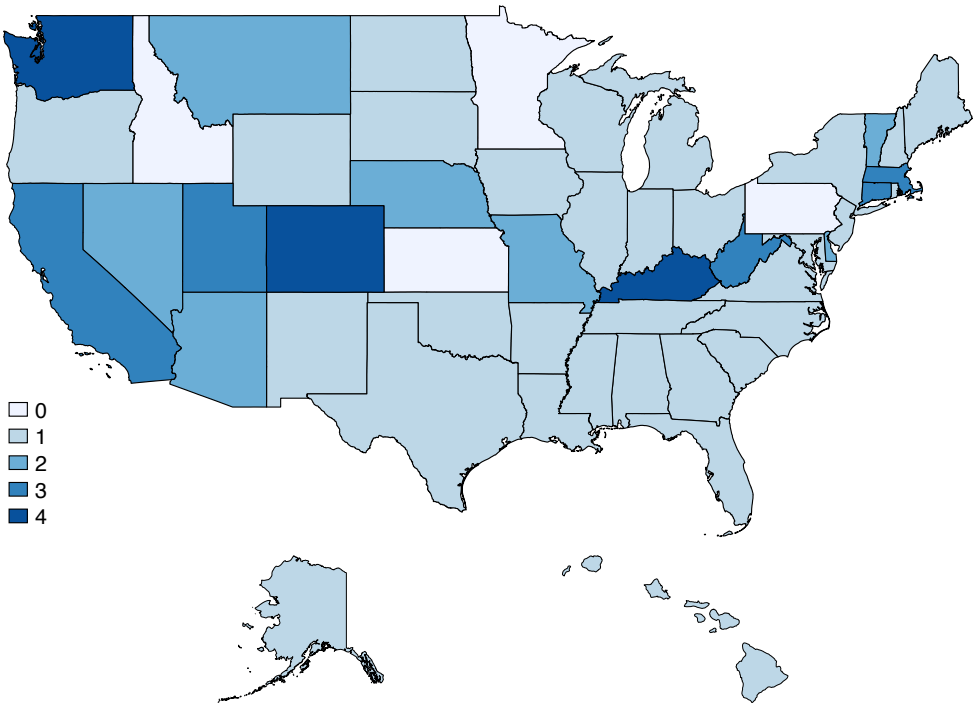


(b) Self-Funding Rates by Firm Size



Notes: These figures characterize the size of firms that offer health coverage. Figure (a) shows a histogram of firm size, where the last bin includes all firms with 3,000 or more employees. Figure (b) shows a binscatter for the relationship between firm size and self-funding rates, where each marker represents 1% of the sample.

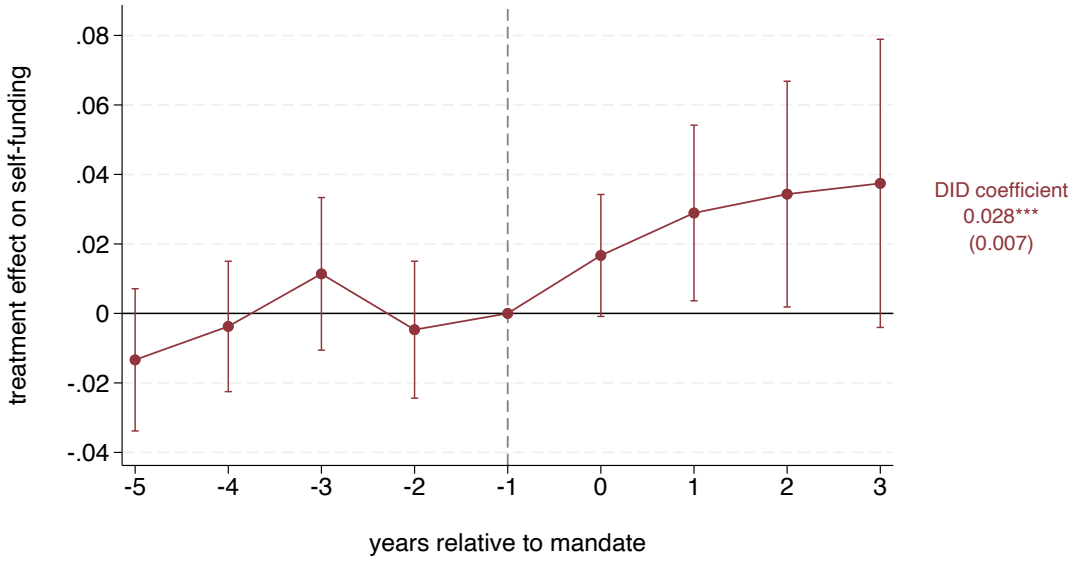
Figure 4: Variation in Number of Mandates Passed in Treatment Year



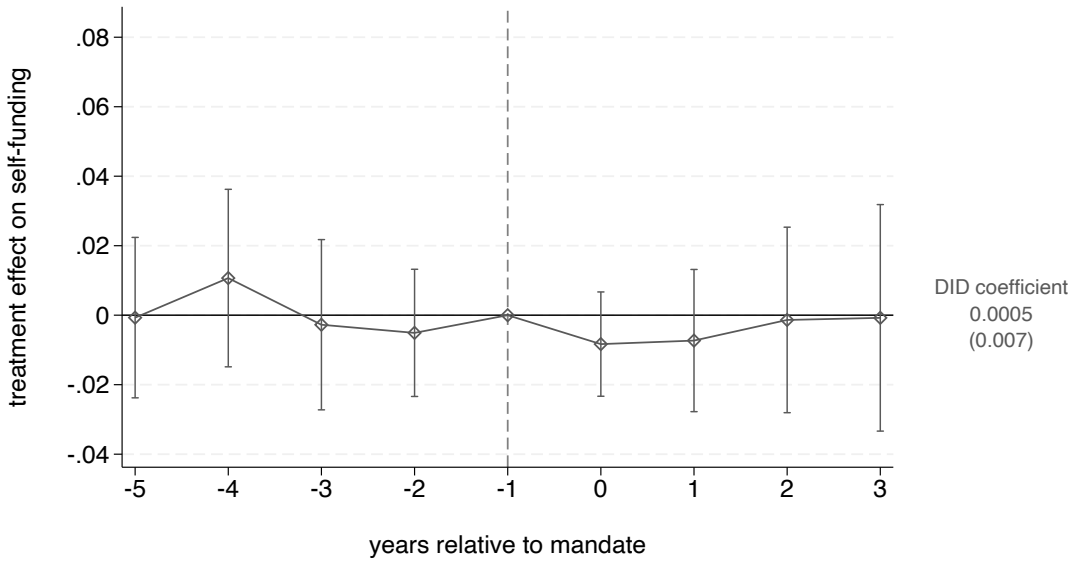
Notes: This figure shows the variation by state in the number of mandates passed in the treatment year. 31 states pass only one mandate in the treatment year; 8 states including DC pass two mandates in the same year; 5 states pass three mandates; and 3 states pass four mandates. There are 4 states that do not pass any mandates in the study period (never treated).

Figure 5: Effect of Mandates on Self-Funding

(a) Firms with $\leq$ 250 Employees



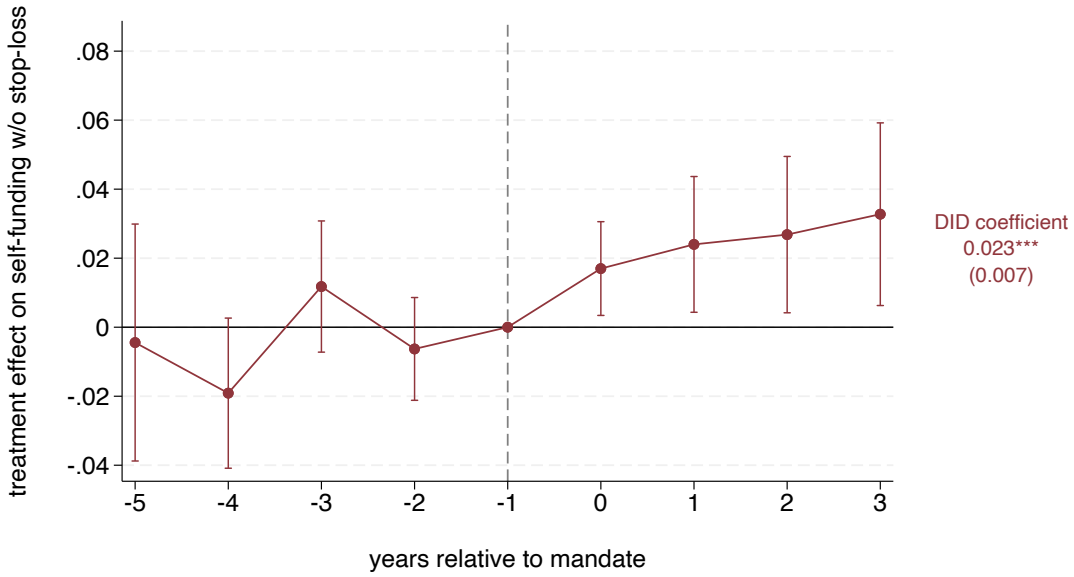
(b) Firms with $>$ 250 Employees



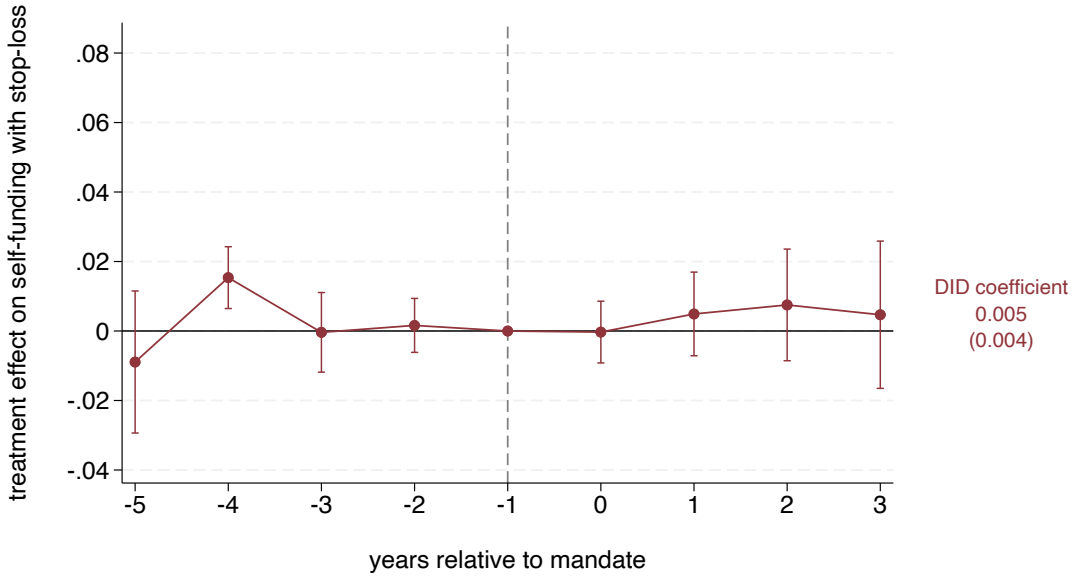
Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage. Figure (a) includes firms with 100-250 employees at baseline and Figure (b) includes firms with more than 250 employees at baseline. For both figures, only firms that offer health coverage are included. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state (mandates that do not contribute to the definition of treatment). Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 6: Effect of Mandates on Stop-Loss Coverage

(a) Self-Funding without Stop-Loss

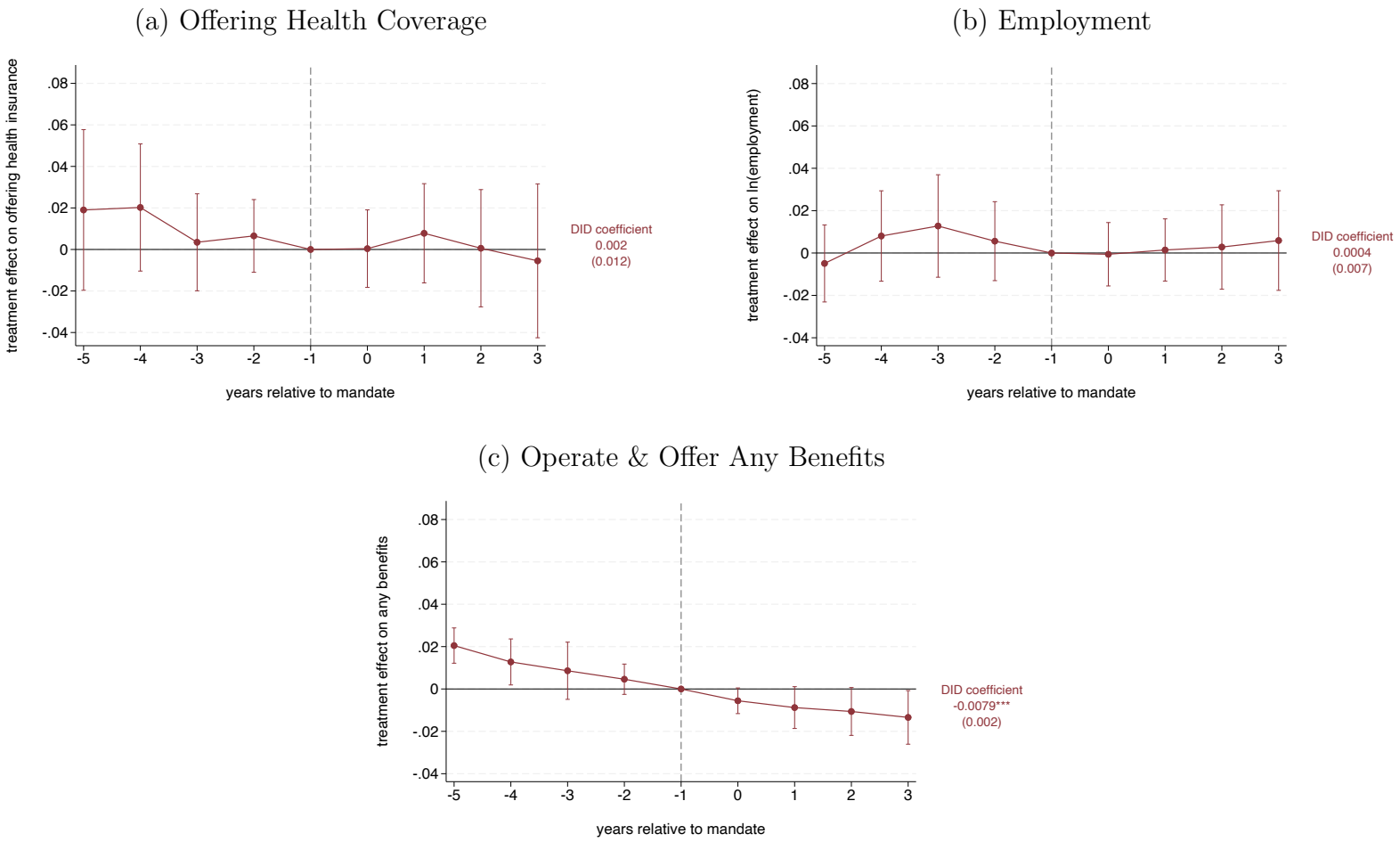


(b) Self-Funding with Stop-Loss



Notes: These figures show the estimated effect of mandated benefits on whether firms (a) self-fund but do not report stop-loss coverage and (b) self-fund and report stop-loss coverage. Both figures include firms that offer health coverage with 100-250 employees at baseline. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state (mandates that do not contribute to the definition of treatment). Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

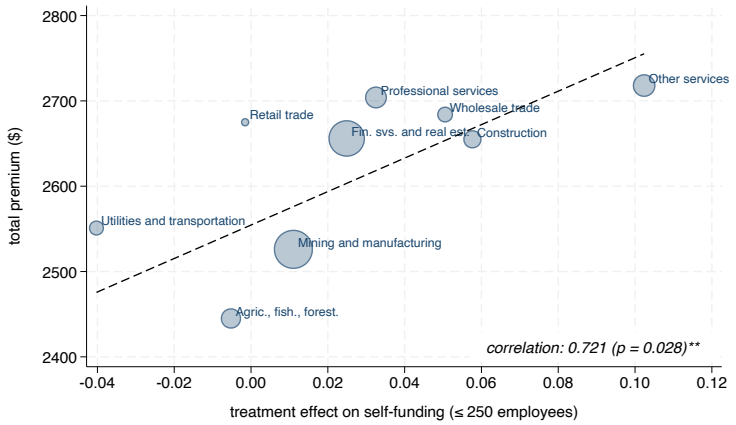
Figure 7: Additional Margins of Adjustment



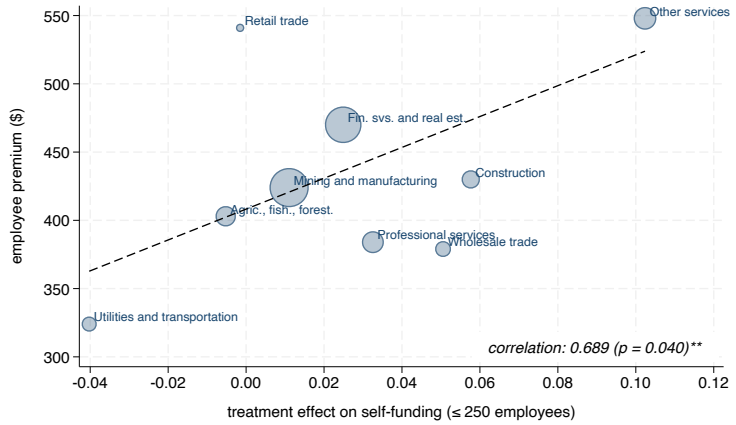
Notes: These figures show the estimated effect of mandated benefits on other margins of adjustment among firms with 100-250 employees at baseline. The outcome for Figure (a) is whether firms offer any health coverage, and the outcome for Figure (b) is (log) employment, both among firms that report offering any benefits through the Form 5500. The outcome for Figure (c) is whether firms file the Form 5500 i.e., operate and offer any benefits, where the sample is all firms that ever offer any benefits. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees (figure (a) only) and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 8: Correlation of Sector Characteristics and Treatment Effects

(a) Total Premium



(b) Employee Premium Contribution



(c) Deductible

Notes: These figures show the relationship between the effect of mandates on self-funding and other aspects of health insurance plan design. The horizontal axis shows the estimated treatment effect for firms in each industrial sector, from a single difference-in-differences regression where the treatment indicator is interacted with sector indicators (see Appendix Figure A17 for the 95% confidence intervals). The vertical axis shows sector-level averages for (a) total premiums (or premium equivalents), (b) employee premium contributions, and (c) deductibles. The number of firms in each sector in 1999 determines the size of each marker, and is used to weight the line of best fit and correlation. Average premiums and deductibles are from the MEPS-IC public use data in 2000-2002. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Online Appendix

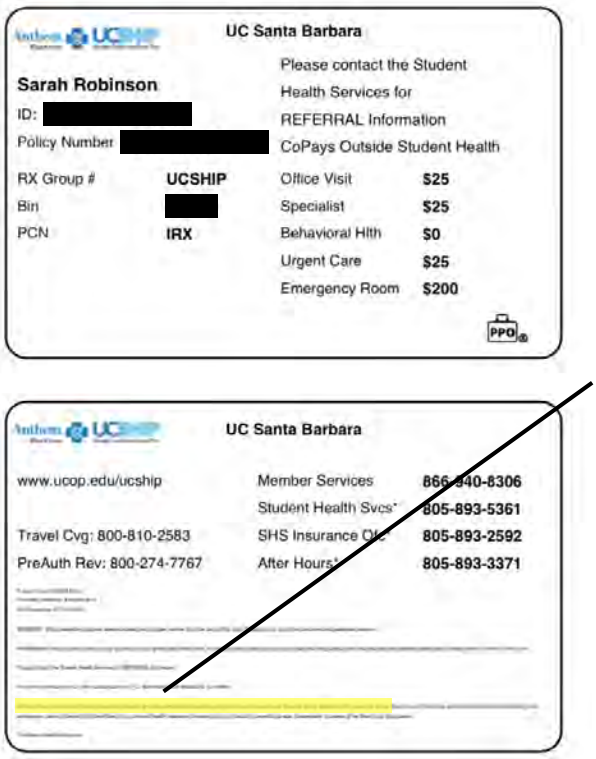
APPENDIX

Table A1: Mandates Contributing to Treatment

Mandate	# Times Passed	# Times Passed in Treatment Year	# Times Passed Alone in Treatment Year
Acupuncturists	5	1	1
Alcoholism Treatment	2		
Ambulatory Surgery	1		
Chiropractors	3	3	
Contraceptives	26	13	7
Conversion to Non-Group	4	2	
Dentists	2	2	
Diabetic Supplies & Education	19	14	6
Handicapped Dependents	2	1	
Home Health Care	1		
Infertility Treatment	5		
Maternity	6	3	2
Mental Health (General)	9	5	2
Mental Health (Parity)	29	13	7
Optometrists	7	4	
Osteopaths	3	3	
Physical Therapists	3	1	
Psychologists	1	1	
Rehabilitation Services	3		
Social Workers	1	1	
Well Child Care	16	7	6

Notes: This table lists the (costly) mandates that occur during the time period of study. The first column details the number of times the mandate was passed overall. The second column details the number of times that the mandate was passed in the treatment year. The third column details the number of states where the mandate was the only mandate passed in the treatment year.

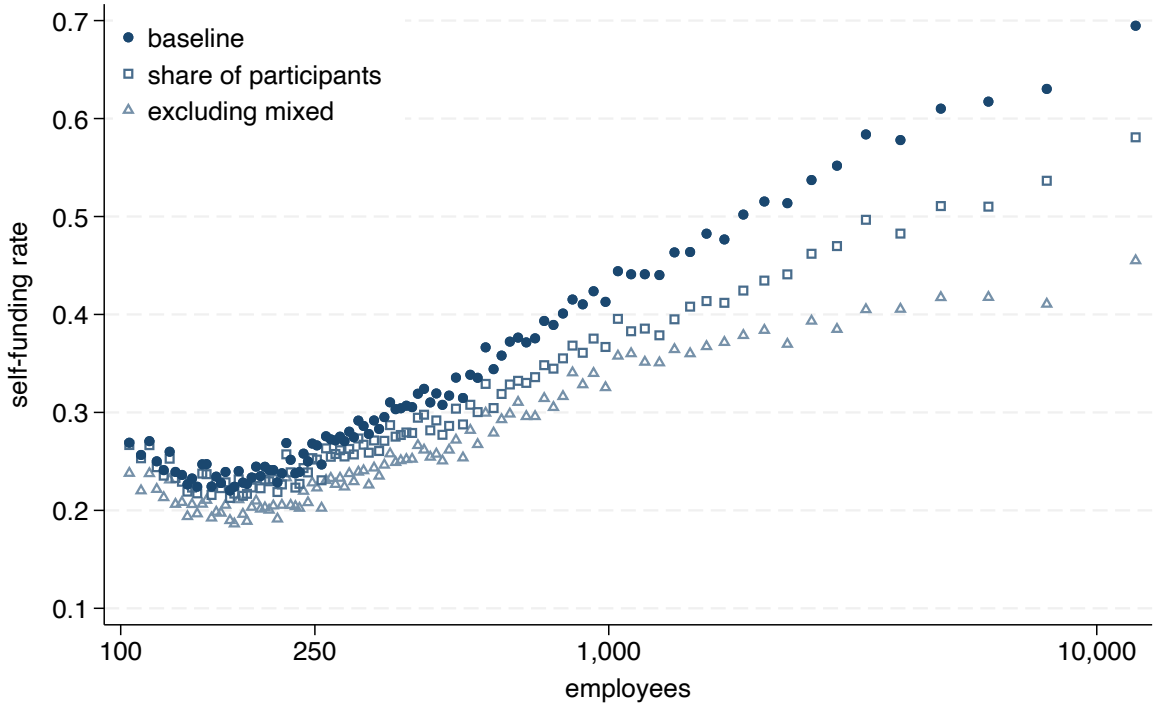
Figure A1: Sample Health Insurance Card



"Anthem Blue Cross Life and Health Insurance Company provides administrative services only and does not assume any financial risk or obligation with respect to claims."

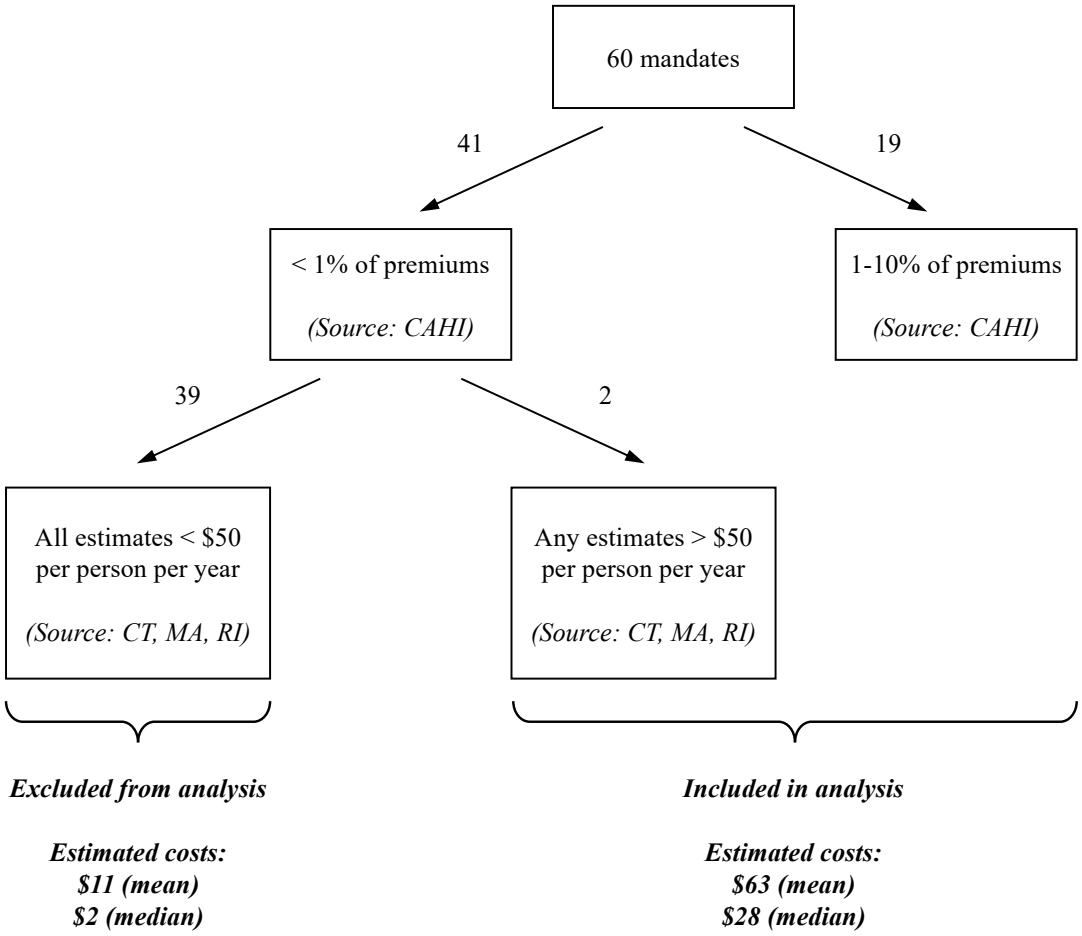
Notes: This figure shows an example of an insurance card. The highlight and expanded text is the indication that this insurance plan is self-funded.

Figure A2: Alternative Definitions of Self-Funding



Notes: This figure shows how alternative methods of identifying self-funding vary by firm size. For each method, the series shows a binscatter for the relationship between firm size and self-funding rates, where each marker represents 1% of the sample. The solid markers show the baseline definition of self-funding used throughout the paper: whether the firm files any Form 5500 with self-funded health coverage. The square markers differ when a firm files both a self-funded Form 5500 and a fully insured Form 5500, and defines self-funding as the share of participants in self-funded filings. The triangle markers consider a Form 5500 as being fully insured if any health insurance contract information is provided, even if those contracts cover only a small number of individuals. Overall, 89% of firms and 95% of firms with 100-250 employees are classified the same way regardless of methodology. See Section 3.1 for additional details.

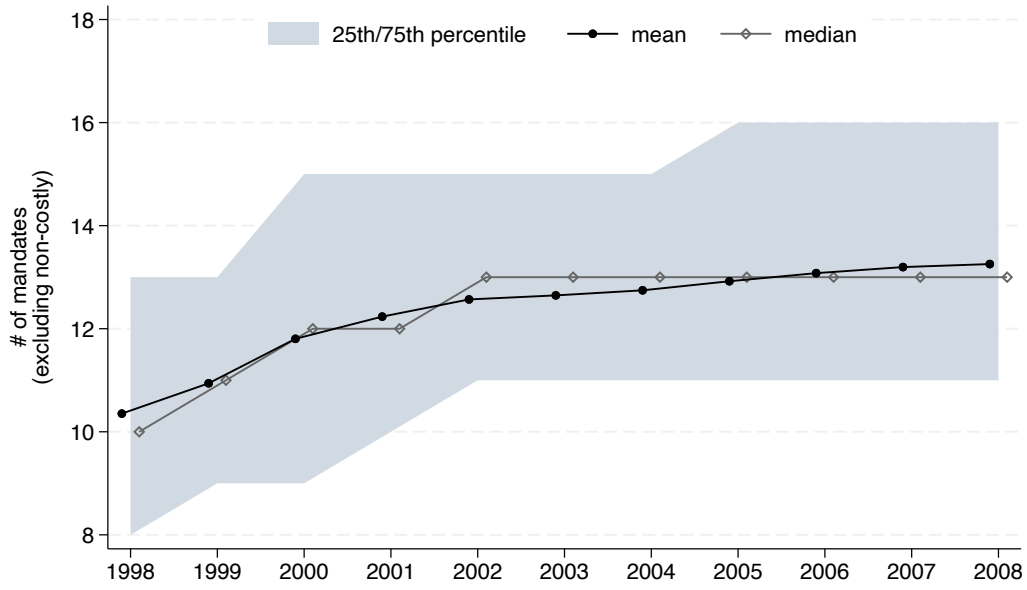
Figure A3: Identifying Costly Mandates



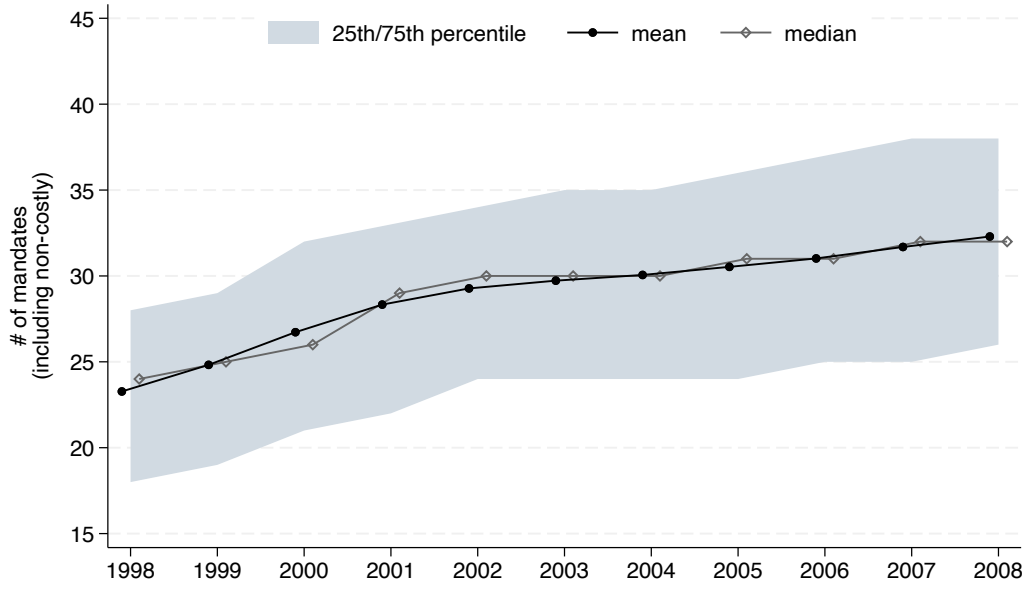
Notes: This figure shows the process for identifying costly mandates. I include all mandates that are estimated by the Council of Affordable Health Insurance (CAHI) to increase premiums by at least 1%. For the remaining mandates, I look for any estimate in three state reports (Connecticut in 2009, Massachussetts in 2013, and Rhode Island in 2014) that the mandate will cost more than $50 per person per year.

Figure A4: Mandates Over Time

(a) Mandates Over Time

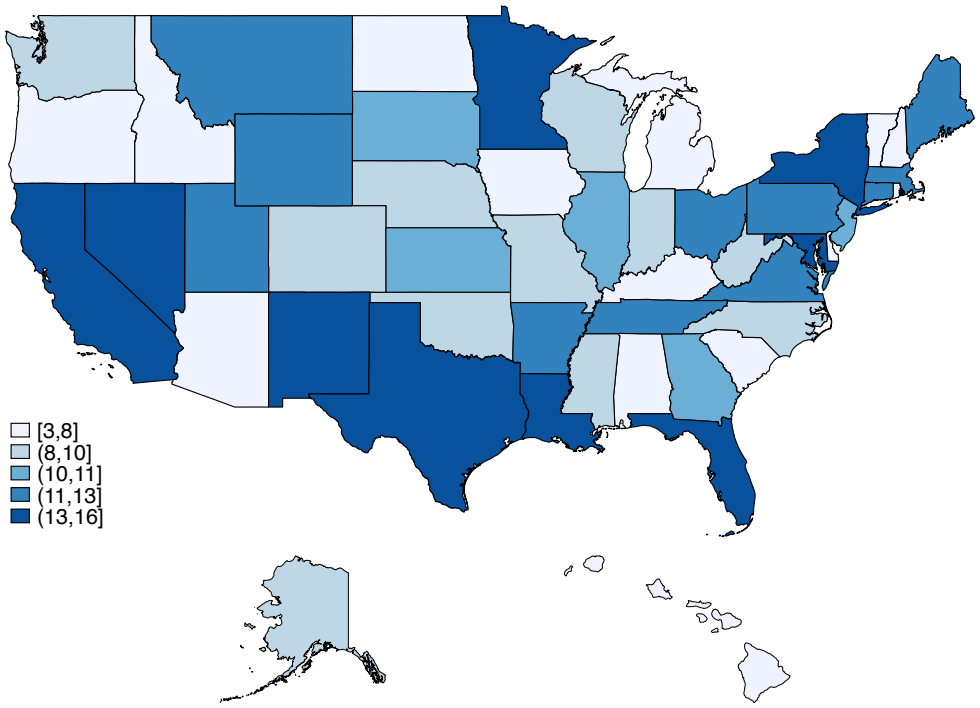


(b) Mandates Over Time Including Negligible Cost Mandates



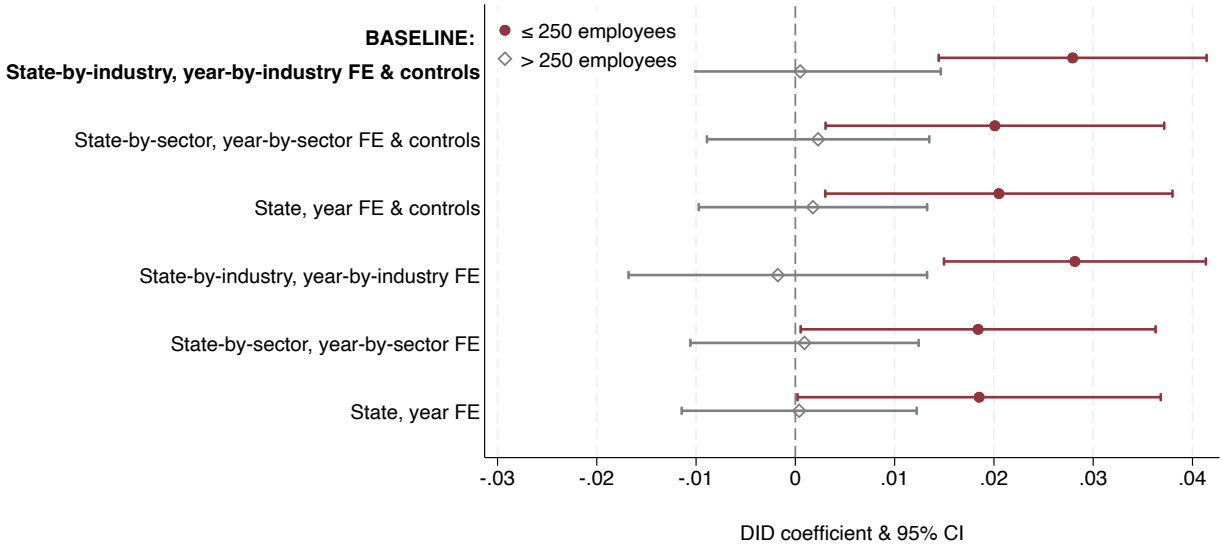
Notes: This figure shows the distribution of mandates across states over time. In each year, the mean number of mandates across states is shown. The median, 25th percentile, and 75th percentile are also shown. In Figure (a), only the costly mandates used in the analysis are included. In Figure (b), mandates with negligible effects on costs are also included.

Figure A5: Number of Mandates by State in 1998



Notes: This figure shows the number of mandates in each state in the baseline year of 1998.

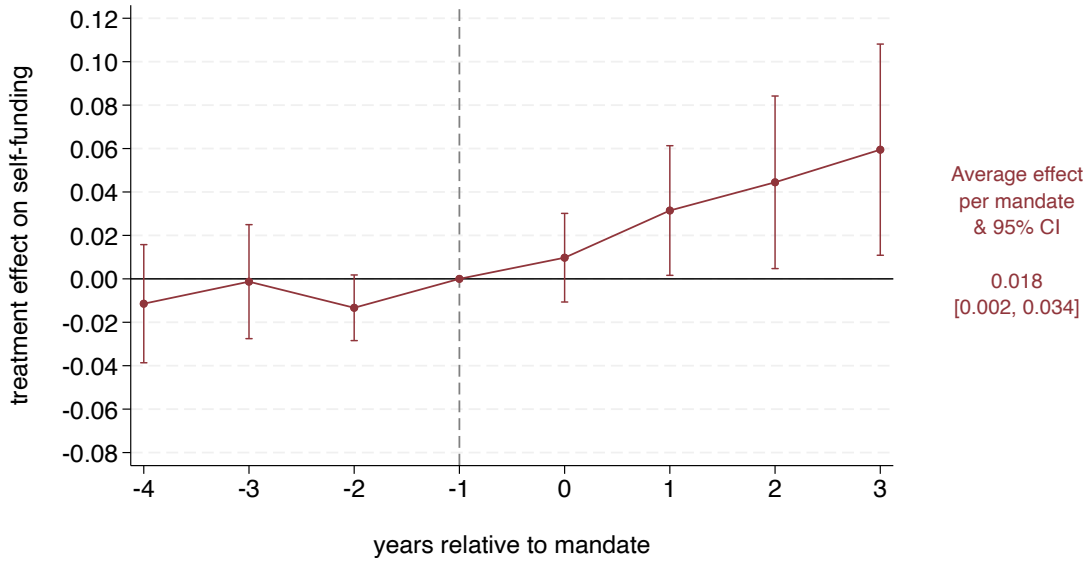
Figure A6: Effect of Mandates on Self-Funding
with Additional Fixed Effects and Controls



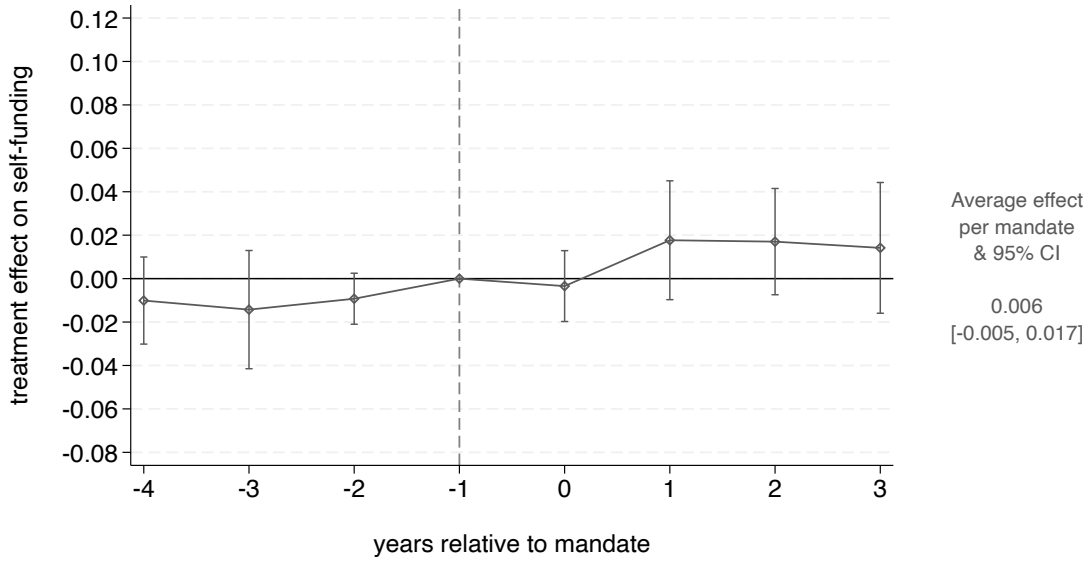
Notes: This figure shows the estimated effect of mandated benefits on whether firms self-fund their health coverage, using varying sets of fixed effects and controls. Difference-in-differences estimates and 95% confidence intervals are shown separately for samples with 100-250 employees (red) and with more than 250 employees (grey) that offer health coverage. Industry is defined by the 6-digit NAICS code and sector is defined by the 2-digit NAICS code. Controls refer to the number of contemporaneous employees at the firm as well as the number of negligible cost mandates in each state (mandates that do not contribute to the definition of treatment). Standard errors are clustered at the state level.

Figure A7: Effect of Mandates on Self-Funding
Robust DID Estimation

(a) Firms with $\leq$ 250 Employees



(b) Firms with $>$ 250 Employees

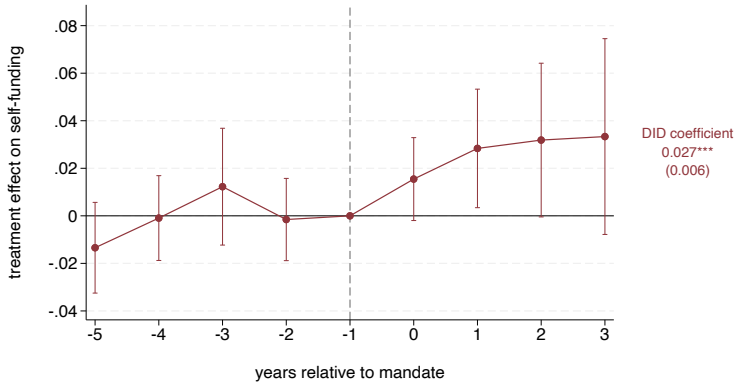


Notes: This figure shows the estimated effect of mandated benefits on whether firms self-fund their health coverage, using the robust estimator from de Chaisemartin and D'Haultfœuille (2026). Results are estimated separately for small firms and for large firms that offer health coverage. The treatment variable is the number of costly mandates in a year, beyond the number existing in 1998. Standard errors are clustered at the state level.

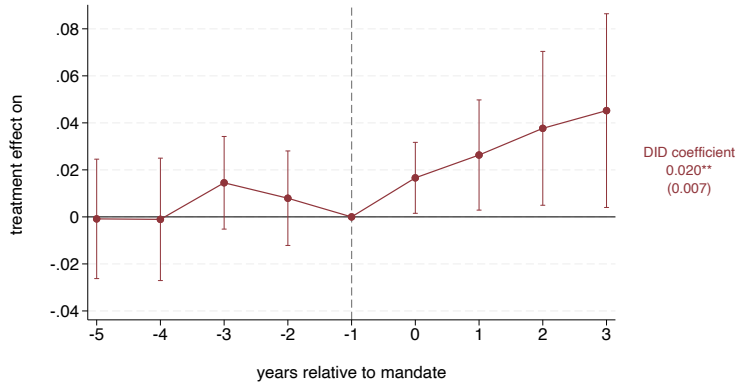
Figure A8: Effect of Mandates on Self-Funding Using Alternative Definitions of Self-Funding

Firms with $\leq$ 250 Employees

(a) Share of Participants

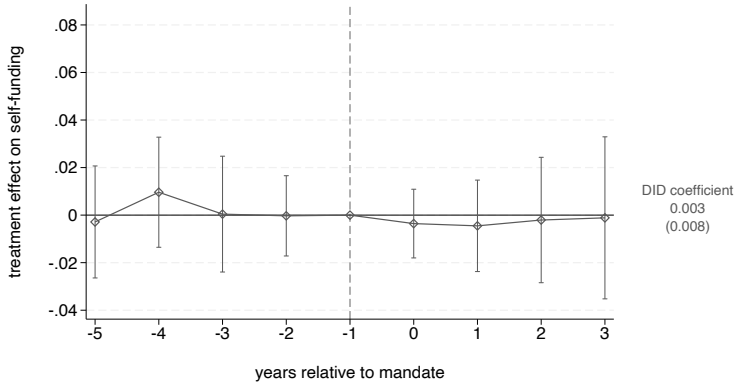


(b) Excluding Mixed

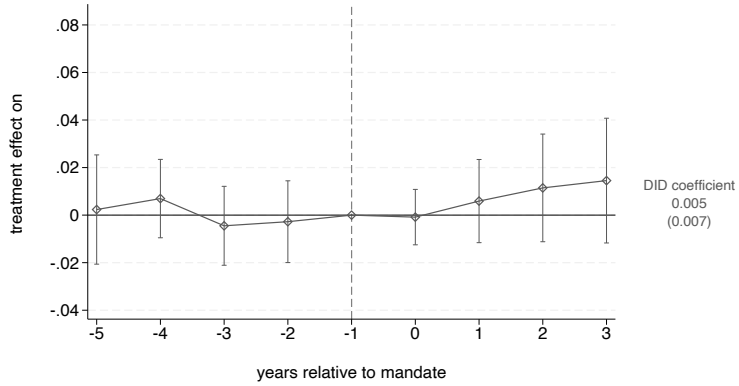


Firms with > 250 Employees

(c) Share of Participants

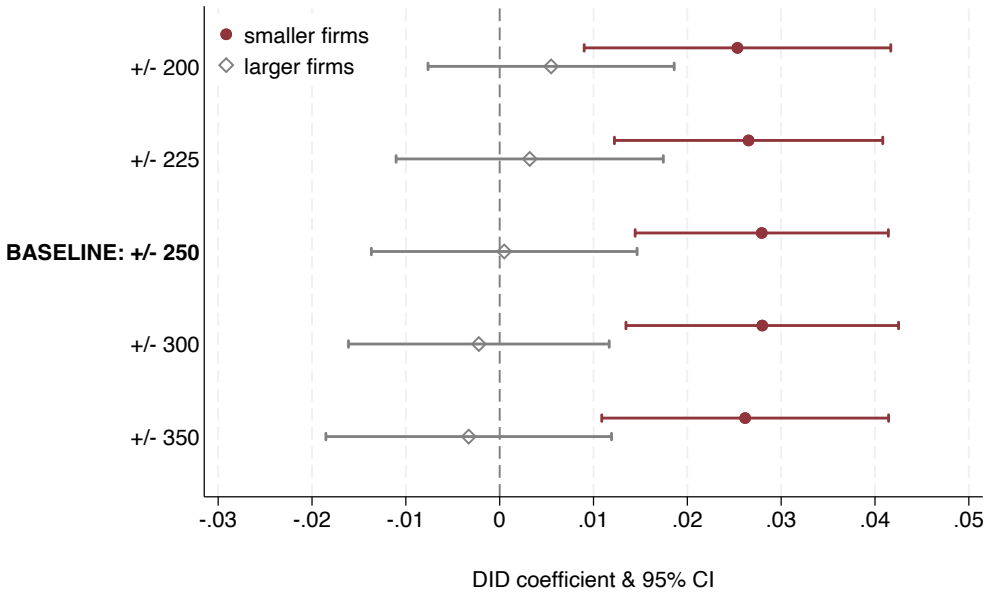


(d) Excluding Mixed



Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage, using alternative methods of identifying self-funding. See Section 3.1 and Appendix Figure A2 for additional details on these alternative methods. Figures (a) and (b) include firms with 100-250 employees at baseline and Figures (c) and (d) include firms with more than 250 employees at baseline, always among firms that offer health coverage. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

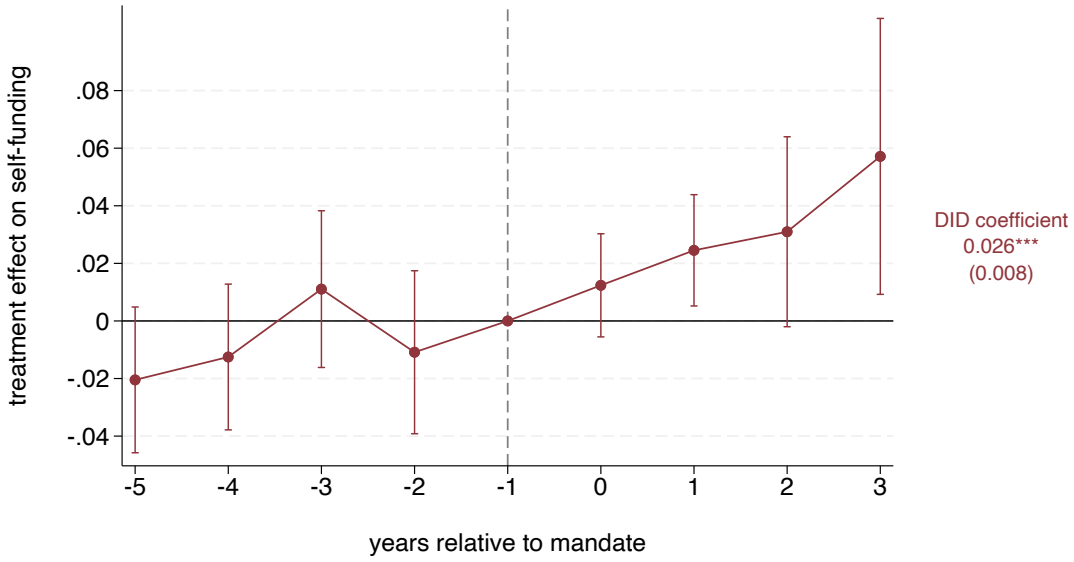
Figure A9: Alternate Definitions of Small Firms



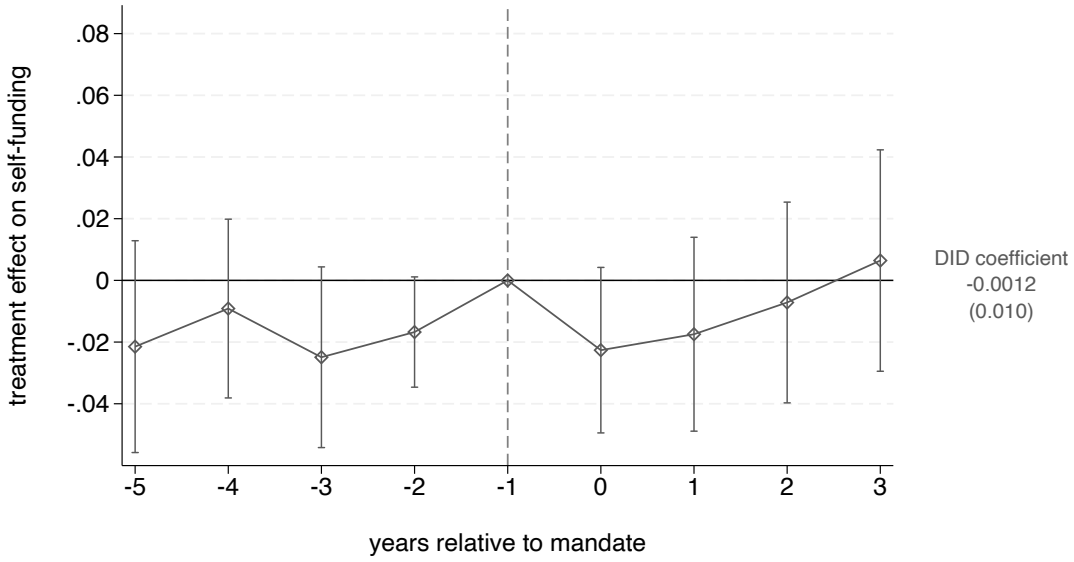
Notes: This figure shows the estimated effect of mandated benefits on whether firms self-fund their health coverage, using varying cutoffs between smaller and larger firms. Difference-in-differences estimates and 95% confidence intervals are shown separately for samples with smaller firms (red) and larger firms (grey) that offer health coverage. All regressions include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level.

Figure A10: Excluding States with Additional Mandates After Treatment Year

(a) Firms with $\leq$ 250 Employees



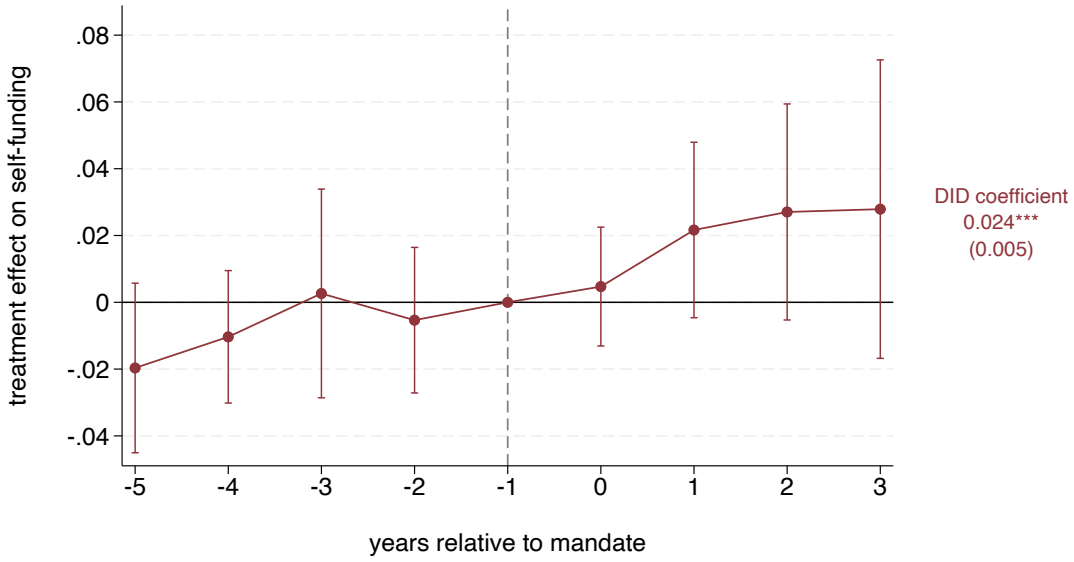
(b) Firms with $>$ 250 Employees



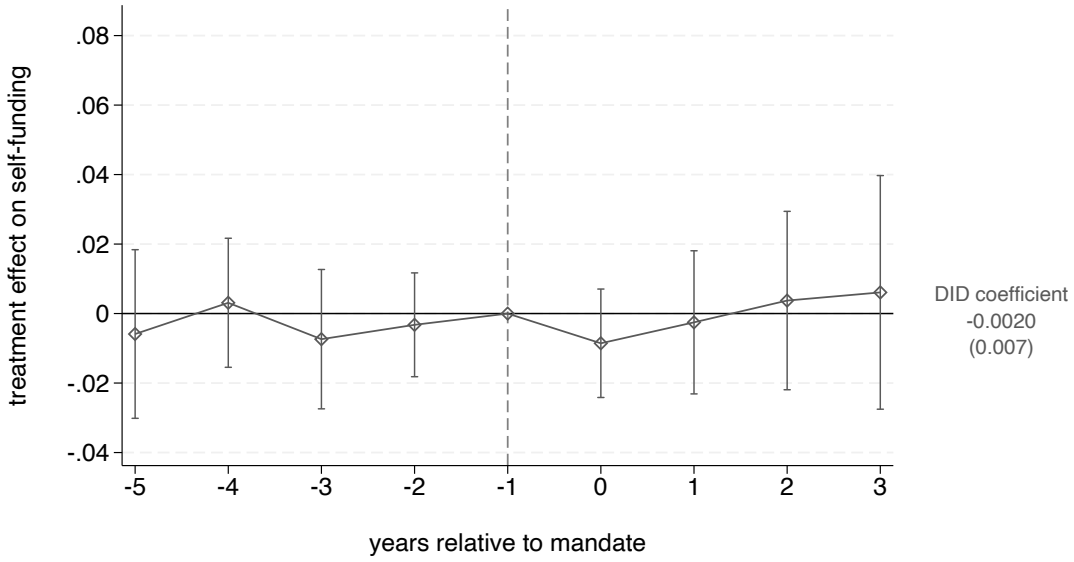
Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage, where states that passed additional mandates after the treatment year are excluded entirely. Figure (a) includes firms with 100-250 employees at baseline and Figure (b) includes firms with more than 250 employees at baseline. For both figures, only firms that offer health coverage are included. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A11: Excluding States with More than One Mandate in Treatment Year

(a) Firms with $\leq$ 250 Employees



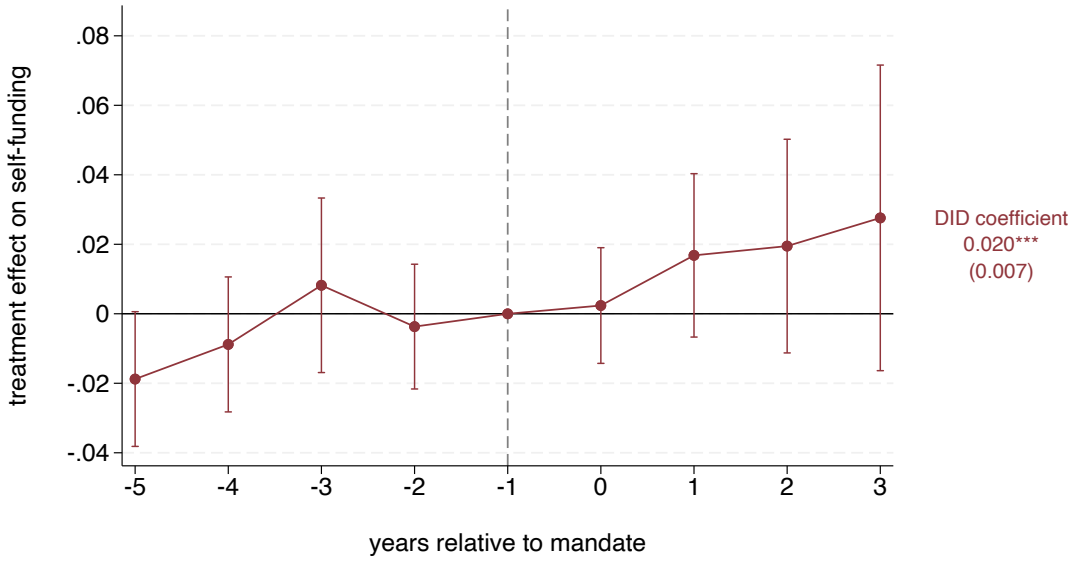
(b) Firms with $>$ 250 Employees



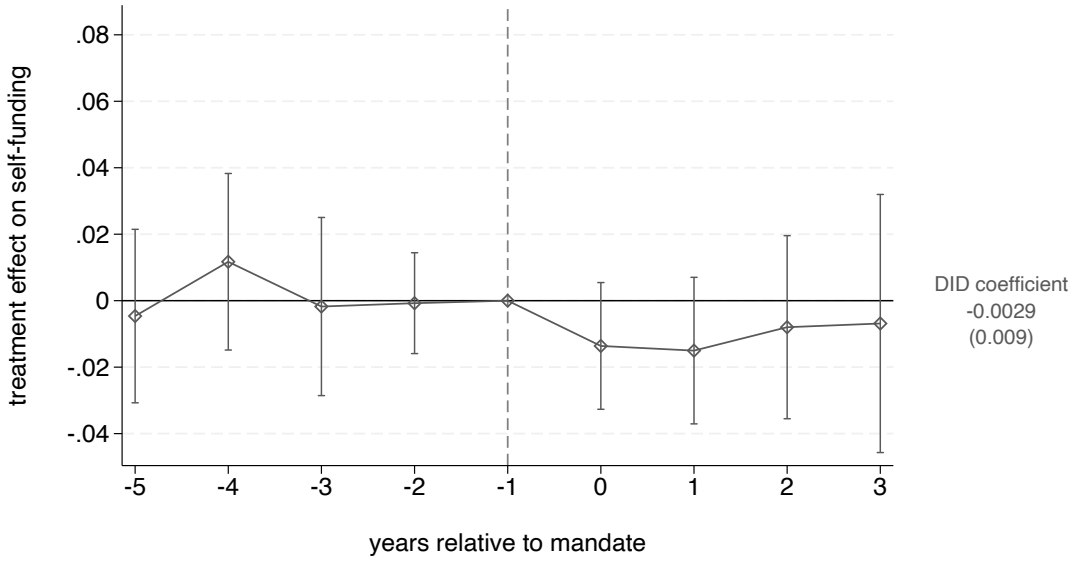
Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage, where states that passed more than one mandate in the treatment year are excluded entirely. Figure (a) includes firms with 100-250 employees at baseline and Figure (b) includes firms with more than 250 employees at baseline. For both figures, only firms that offer health coverage are included. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A12: Excluding States with New Mandates
in Four Years Prior to Treatment

(a) Firms with $\leq$ 250 Employees

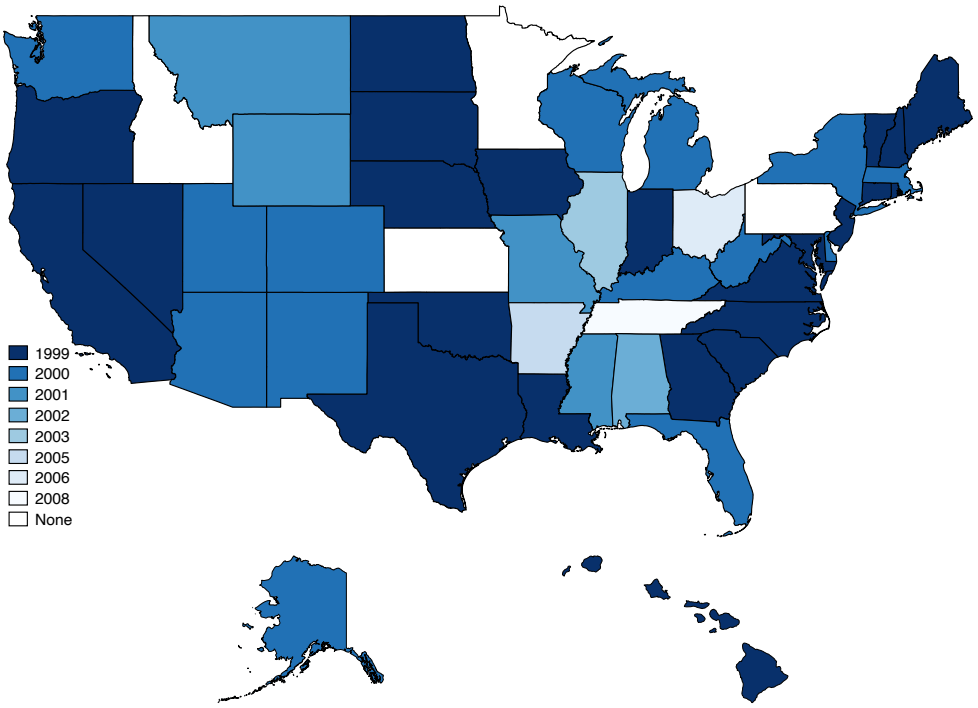


(b) Firms with $>$ 250 Employees



Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage, where states that passed mandates in the four years previous to the treatment year are excluded entirely. Figure (a) includes firms with 100-250 employees at baseline and Figure (b) includes firms with more than 250 employees at baseline. For both figures, only firms that offer health coverage are included. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

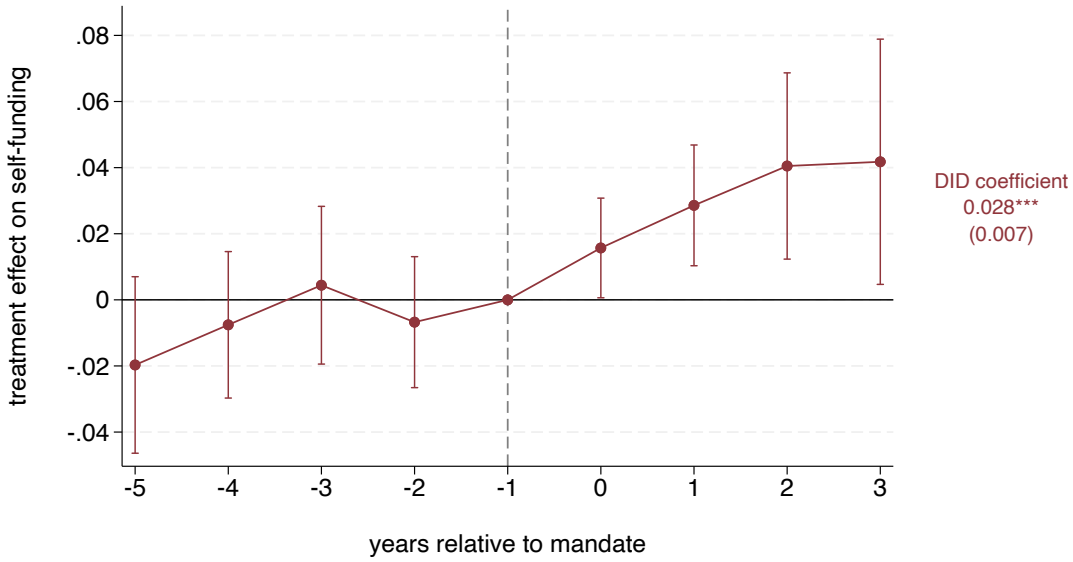
Figure A13: Year of Treatment by State



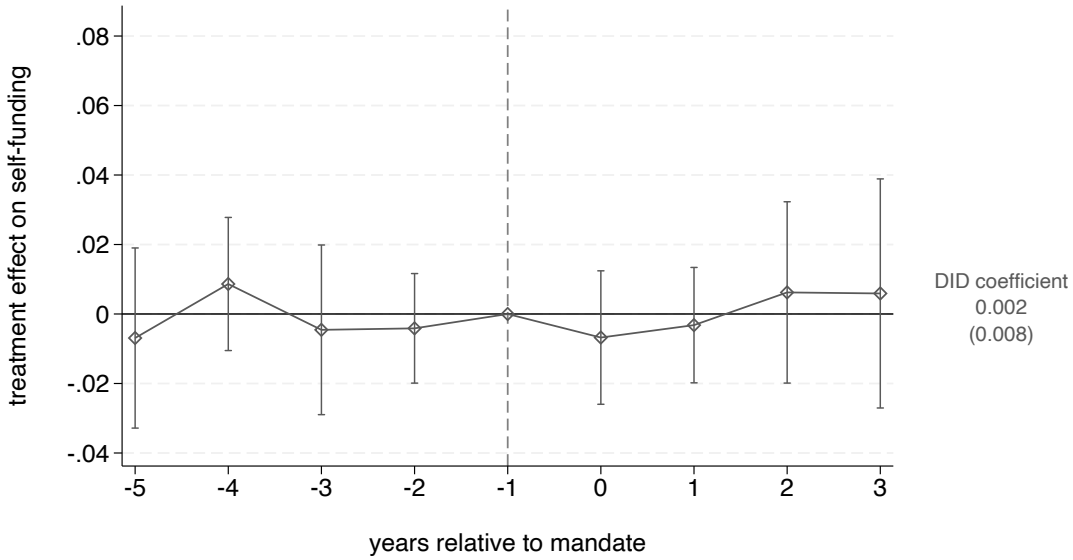
Notes: This figure shows the year of treatment for each state (the first year that state passes any costly mandate).

Figure A14: Excluding States with Mandates in 1999

(a) Firms with $\leq$ 250 Employees



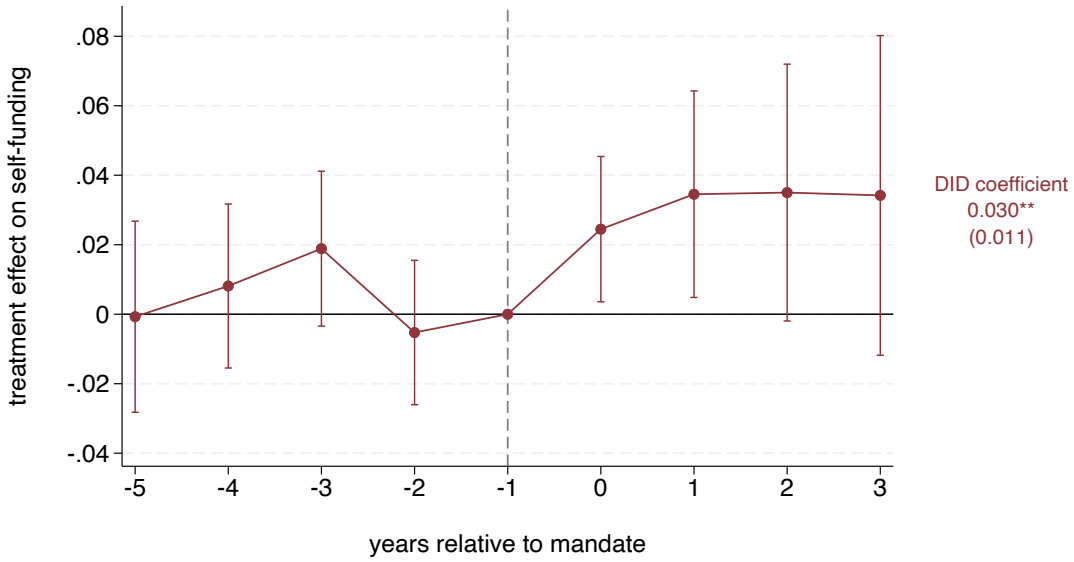
(b) Firms with $>$ 250 Employees



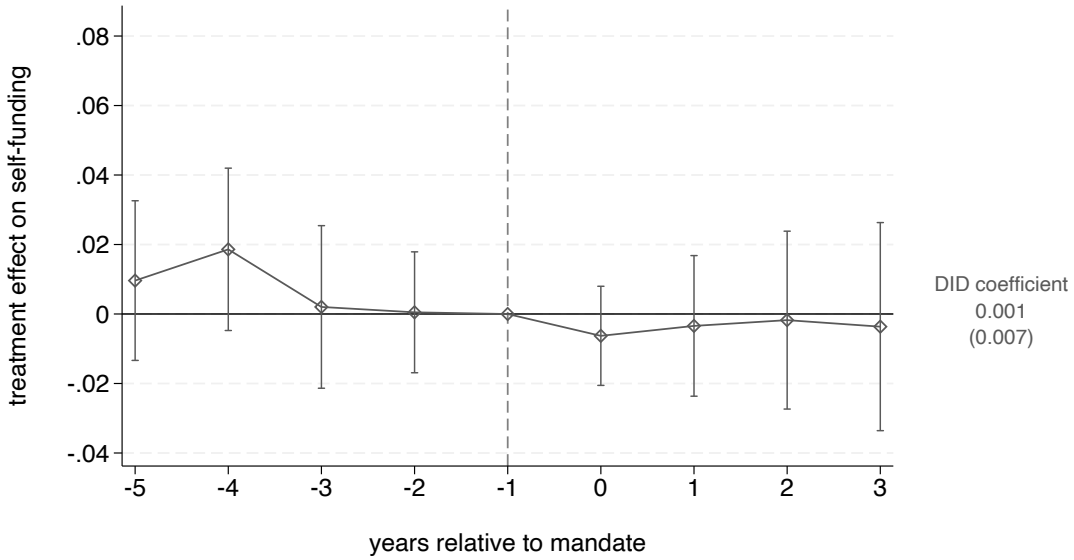
Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage, where states that passed mandates in 1999 are excluded entirely. Figure (a) includes firms with 100-250 employees at baseline and Figure (b) includes firms with more than 250 employees at baseline. For both figures, only firms that offer health coverage are included. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A15: Identifying Costly Mandates with CAHI Only

(a) Firms with $\leq$ 250 Employees



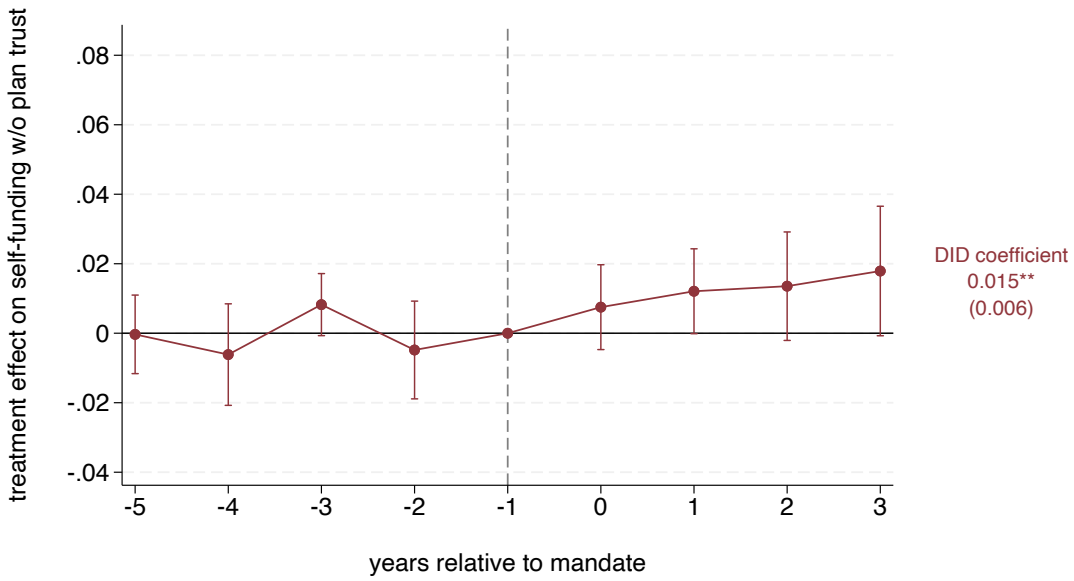
(b) Firms with $>$ 250 Employees



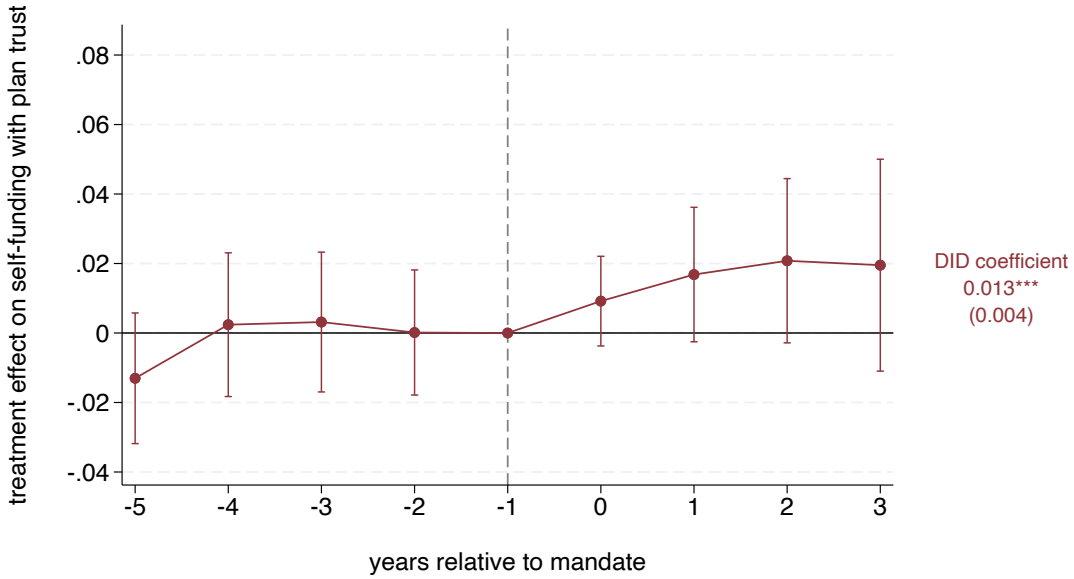
Notes: These figures show the estimated effect of mandated benefits on whether firms self-fund their health coverage, using only the 19 costly mandates identified by CAHI (see Figure A3). Figure (a) includes firms with 100-250 employees at baseline and Figure (b) includes firms with more than 250 employees at baseline. For both figures, only firms that offer health coverage are included. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A16: Effect of Mandates on Existence of Plan Trust

(a) Self-Funding without Plan Trust

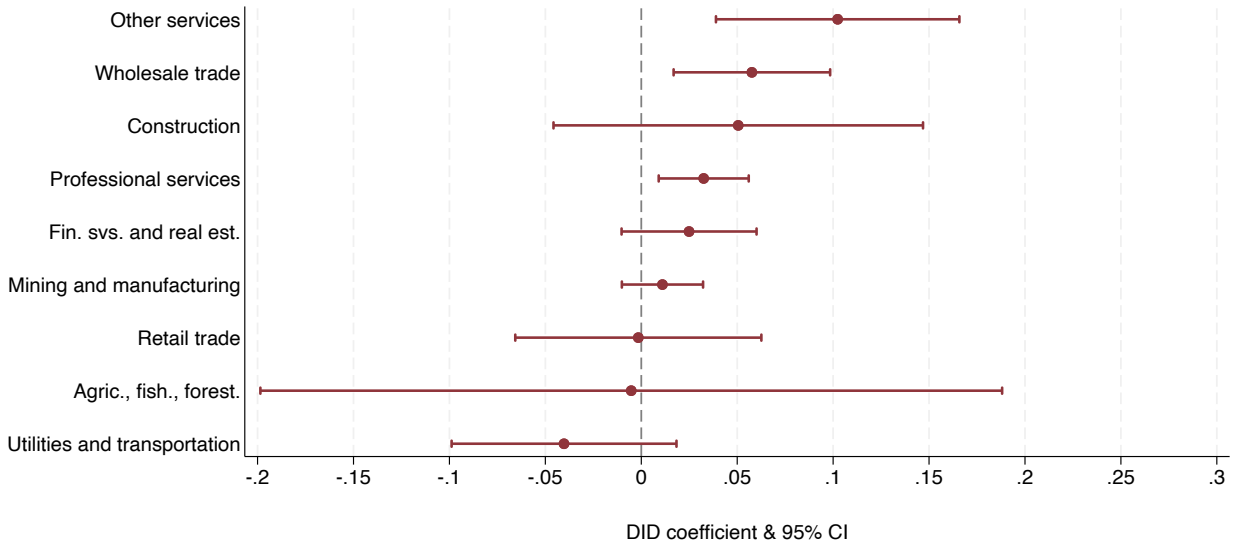


(b) Self-Funding with Plan Trust



Notes: These figures show the estimated effect of mandated benefits on whether firms (a) self-fund but provide no indication of a plan trust and (b) self-fund and indicate the presence of a plan trust. Both figures include firms that offer health coverage with 100-250 employees at baseline. Event study and difference-in-differences estimates are from regressions that include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state (mandates that do not contribute to the definition of treatment). Standard errors are clustered at the state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A17: Effect of Mandates on Self-Funding by Sector



Notes: This figure shows the estimated effect of mandated benefits on whether firms self-fund their health coverage, separately by industrial sector. Difference-in-differences estimates by sector and 95% confidence intervals are from a single regression that interacts treatment with sector, where sector is a 2-digit NAICS code. Regressions also include state-by-industry and year-by-industry fixed effects, where industry is a 6-digit NAICS code, plus controls for the contemporaneous number of employees and the number of negligible cost mandates in the state. The sample includes all firms with 100-250 employees offering health coverage. Standard errors are clustered at the state level.

B Theoretical Framework

I examine the theoretical considerations for how firms may respond to mandated benefits. First, I consider the canonical model of mandated benefits from Summers (1989). Second, I expand this model to allow for avoidance. Third, I briefly discuss several factors not captured in this model, which empirical evidence suggests are quantitatively important and which have countervailing implications for welfare. Fourth, I describe how this framework applies to my empirical setting.

Consider labor demand D and labor supply S, which are both functions of the wage w, such that the equilibrium wage and employment satisfy:

$$D(w_0) = S(w_0) \tag{3}$$

Next consider a benefit that is valued by workers at v, but costs firms c to provide. If workers value the benefit more than it costs ($v > c$), it will be offered regardless of any mandate, leaving both firms and workers better off. However, if employees value the benefit less than it costs ($v < c$), the benefit will only be offered if mandated, in which case the new equilibrium will be given by:

$$D(w_1 + c) = S(w_1 + v) \tag{4}$$

As shown in Figure B1(a), the labor demand curve shifts down by the amount that the firm must pay for the benefit, and the supply curve also shifts down to the extent that workers are willing to accept a lower wage in exchange. In the case where $v = c$ such that workers value the benefit at its cost, the mandate has no effect other than how total compensation (wages + value of benefits) is broken down between the two components: $w_1 + v = w_0$. However, as workers' value v decreases, compensation, employment, and welfare also decrease. In particular, the effects of the mandate are equivalent to those from a tax of $(c - v)$. Like a

tax, the degree of pass-through to worker wages is determined by the relative wage elasticity of workers and firms.

I extend this model to allow firms to avoid the mandate, such that firms can pay a to not provide the benefit. If the firm does not avoid, then the situation remains as above in Figure B1(a). However if the firm does avoid, the equilibrium would be given by:

$$D(w_2 + a) = S(w_2) \tag{5}$$

where the labor demand curve shifts down, but the labor supply curve is unchanged because the workers do not receive the benefit. Relative to no mandate, welfare is decreased, but the comparison between compliance (L_1, w_1) and avoidance (L_2, w_2) is ambiguous. In particular, it depends on the cost to provide the benefit (c), how much workers value it (v) as well as the cost to avoid (a). If the cost of avoiding is high such that $a > c - v$, then workers and firms will be better off if the firm complies. Otherwise, if $a < c - v$, as in Figure B1(b), then the firm will choose to avoid, making itself and workers better off. Thus, in this model, the option to avoid mitigates welfare losses from the mandates themselves. Note that an econometrician who observes only wages and employment but not avoidance will underestimate the degree of pass-through to workers. In particular, she would observe workers receiving wage w_2, when wages would actually be lower, at w_1, if firms were not able to avoid. Furthermore, she may assume that workers are still receiving the value of the benefit such that compensation is $w_2 + v$, when in fact they do not and are only compensated by w_2.

In this simple model, the cost of providing the benefit (c) as well as the value of the benefit to workers (v) are observed and fixed. However, c may depend on time-variant characteristics of the market for the benefit, as well as firm preferences beyond the direct financial cost. In addition, firms may be able to lower wages by more or less than v in exchange for offering the benefit. While fully characterizing a model that incorporates these features is beyond the scope of this paper, I generalize the simple model to allow for them.

Thus, I consider firms as avoiding the mandate if:

$$a \ < \ c(\theta, \eta) - \phi(v, \varepsilon) \tag{6}$$

As before, a is the cost of avoiding. I allow the cost of complying with the mandate $c(\cdot)$ to be a function that varies with θ, a measure of adverse selection into the benefit, as well as η, a measure of the firm's preferences. The firm weighs these costs against the amount that could be passed through to workers, $\phi(\cdot)$, which is a function of how much workers value the benefit v and some error ε rather than simply the value alone.

Furthermore, theoretical and empirical work suggest that these additional factors play a significant role. As a result, a richer model accounting for these factors would show that restricting the set of available plans (for example, by mandating plans to cover specific benefits) can increase welfare, in which case firm avoidance of the mandates would be welfare-diminishing. I briefly discuss these factors below. In particular, they each explain how workers could value the benefit more than it would cost to provide, yet the benefit would not exist absent a mandate (or in the presence of a mandate that can be avoided).

Adverse selection: The welfare losses from mandates described above may be offset by welfare gains if mandates reduce adverse selection. Prior to the mandate, workers may have selected into firms offering the benefit based on their likelihood of using it. The cost of providing the benefit (c) would reflect this selection, such that workers at other firms may not find it worthwhile even if it were efficient to insure them (Akerlof, 1970; Rothschild and Stiglitz, 1976). Thus, with adverse selection, reducing the choice of plans available could theoretically increase welfare by decreasing the cost of providing it (Einav and Finkelstein, 2011; Ericson and Sydnor, 2017; Marone and Sabety, 2022). In this case, if firms also select into avoiding mandates, avoidance would reduce welfare.

Individual choice frictions: In the simple model described above, firms know how much their workers value a given benefit, and in the absence of a mandate will provide benefits that are valued more than they cost. But if employees do not maximize their own preferences,

it will be difficult for firms to gather the information needed to do so on their behalf – in other words, the plan, employee premium contribution, and wage *bundle* may not the bundle that workers most prefer, among the options the firm is willing to provide. Empirical work has documented that individuals frequently fail to make rationalizable choices with respect to health insurance and healthcare, and thus employers may misperceive workers' true preferences (v) with some error (ε). For example, employees frequently select dominated plans and generally seem not to understand how insurance works (Bhargava, Loewenstein and Sydnor, 2017; Brot-Goldberg et al., 2024; Leive, Friedberg and Davis, 2026). Individuals also experience frictions when using healthcare: they respond to small increases in out-of-pocket prices by reducing high-value care, which ultimately increases mortality (Chandra, Gruber and McKnight, 2010; Choudhry et al., 2011; Baicker, Mullainathan and Schwartzstein, 2015; Brot-Goldberg et al., 2024; Chandra, Flack and Obermeyer, 2024; Gross, Layton and Prinz, 2022).

Firm choice frictions: Even if firms do know the preferences of workers, it can be difficult to actually offer a health insurance plan that is best suited to these preferences. Firms encounter substantial search frictions when making a selection from the wide range of potential plans (Cebul et al., 2011), similar to the frictions that individuals face when comparing many options (Kling et al., 2012). These frictions compound the baseline difficulty that firms face in aggregating heterogeneous worker preferences into a small number of offered plans (Goldstein and Pauly, 1976; Moran, Chernew and Hirth, 2001; Bundorf, 2002). As a result, the cost of providing a benefit (c) may depend on firm factors such as search costs that are beyond the direct financial cost.

Firm incentives: Furthermore, maximizing worker preferences may not be profit-maximizing. Liu and Sydnor (2022) show that a large fraction of firms offer a dominated plan – meaning a plan that is financially worse for every employee, regardless of how much healthcare they use, compared to another plan offered at the same firm. This finding, that firms offer plans that none of their workers should take, is difficult to reconcile with the stan-

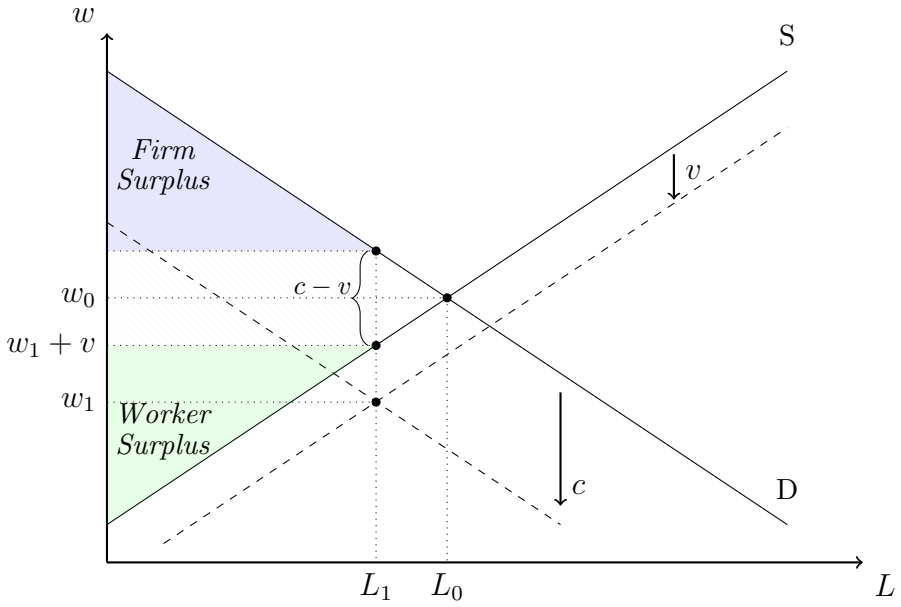
dard frictionless model. Liu and Sydnor (2022) go on to provide suggestive evidence that firms may differentially favor high-deductible plans. Firm preferences of this type would be reflected in the cost to the firm of providing certain benefits (c). In addition, Fang and Gavazza (2011) show that employee turnover and frictions in the labor market lead firms to underinvest in employee health (raising expenditures in retirement). Thus, frictions in the labor market could be reflected in the degree to which firms have incentives to respond to worker preferences (v).

Altogether, these factors suggest that in a richer theoretical model, restricting plan options by mandating benefits may in fact increase (and thus avoidance would decrease) welfare. Finally, to apply this model to avoidance via self-funding, it is important to note that self-funding exempts firms from *all* mandated benefits, including previously enacted ones. In addition, the costs to a firm of self-funding are unlikely to vary substantially with the number of mandated benefits. As a result, it may be most appropriate to think of a new mandate as an increase in the cost of complying with mandated benefits (c), and potentially an increase in the value of mandated benefits to workers (v), without much change in the cost of avoiding (a). If so, firms with low avoidance cost may already be self-funded by the time I observe them, and not affected by new mandates at all. Thus, we may expect the firms avoiding new mandates (marginal firms) to have higher costs of avoidance, compared to the firms that are already self-funded (inframarginal firms). Additionally, to the extent that new mandates change the cost of complying with mandated benefits, we may expect that firms facing higher marginal compliance costs (firms for whom it is more costly to provide new benefits) to be the firms with an avoidance response.

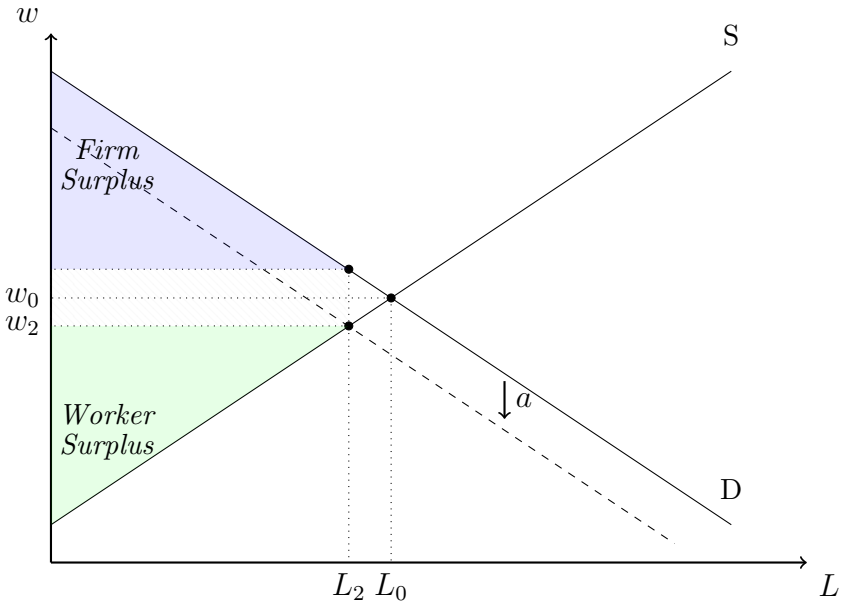
APPENDIX

Figure B1: Simple Theoretical Framework

(a) No Avoidance



(b) With Avoidance



Notes: Figure (a) shows a simple model of mandated benefits as in Summers (1989), for a mandate that costs firms c to provide and is valued by workers at v. In Figure (b), I extend this model to allow firms to avoid complying with the mandate by paying a.