# Corporate Behavior When Running the Firm for Stakeholders: Evidence from Hospitals*

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We study how stakeholder orientation impacts firm management and performance. We exploit state-level law changes governing the conversion of hospitals from nonprofit to for-profit and find that for-profit orientation reduces hospital spending on emergency rooms and Medicaid patients, while increasing focus on revenue and affecting investment decisions. Consistent with spillovers, nonprofit hospitals located near converting hospitals experience increased emergency room visits and expenditures. We investigate governance channels that align corporate behavior with stakeholders and find that converted for-profit hospitals adjust their boards by replacing MDs with MBAs, and that the tax code is a major source of governance for nonprofits.

*keywords*: Hospitals, for-profit, conversion of healthcare institutions laws, governance, stakeholders

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## Disclosures

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Corporate governance research traditionally assumes that corporate managers maximize shareholder value. However, a recent strand of the literature emphasizes the balancing of the interests of shareholders with those of a broader set of stakeholders (e.g., corporate social responsibility), and more work is needed to determine the degree to which this change in managerial focus affects firm behavior (Graham, 2022). One particularly important, yet not well understood, area of investigation is the behavior of nonprofit entities that explicitly focus on benefiting the community at large as opposed to primarily benefiting shareholders. In this paper, we study the effects of an entity's type of stakeholder orientation (i.e., shareholder versus stakeholder focus) by comparing the behavior of nonprofit firms and for-profit firms in the hospital sector.

A key challenge when comparing nonprofit organizations with for-profit organizations is that the two types of organizations are generally not evenly spread across the economy. While there are few nonprofits in, for example, the industrial or commodities industries, nonprofits comprise an overwhelming majority of museums and universities. Although theory predicts large differences in the objective functions and governance mechanisms used by both types of entities (Glaeser, 2002), identifying the effect of stakeholder orientation on firm behavior is difficult, among other challenges, due to the lack of variation in stakeholder orientation within industries.

We overcome this challenge by studying how the choice of stakeholders, or for-profit orientation, affects corporate behavior in a sector in which both nonprofits and for-profits directly compete: the hospital sector. Healthcare spending makes up 19.7% of U.S. gross domestic product (GDP), with hospitals accounting for about a third of this spending, and hospitals are of utmost importance to their communities through both health outcomes and economic activity. About four out of every five hospitals are nonprofits, either because they are operated by the government or because they belong to private nonprofit organizations.[1] The share of for-profit hospitals has increased over recent decades, leading policymakers and

[1]See data from Center for Medicare and Medicaid Services and Bureau of Economic Analysis (available at https://tinyurl.com/576va8dj and https://www.bea.gov/data/gdp/gdp-industry).

patients to question whether for-profit hospitals provide the same quality and affordability of care as their nonprofit-oriented counterparts. Of particular concern is the possibility that, as hospitals shift from serving the interests of a broad set of stakeholders to serving the interests of shareholders, they could reduce unprofitable operations that have high community value. On the other hand, others argue that hospitals, after converting to for-profit, may experience efficiency gains that allow them to improve both their financial performance and the provision of community benefits. This concern looms large given recent evidence on the importance of hospital finances for both hospital investment (Adelino et al., 2015) and clinical decision-making (Adelino et al., 2022; Bourveau et al., 2024; Cornaggia et al., 2024; Einav et al., 2018). Our paper contributes to this important debate by investigating the causal effect of for-profit orientation on a series of financial and operating outcomes for hospitals.

Identifying the effect of for-profit orientation on hospital outcomes is also challenging due to the inherent non-randomness of the choice to convert a hospital to *for-profit*. Non-profit hospitals often become for-profit after periods of prolonged weak financial performance, which leaves their assets depleted and limits their ability to finance crucial investments. For-profit conversion is usually a last resort to avoid closing the hospital altogether.[2] Thus, worsening hospital outcomes after a conversion may not be due to the conversion itself, but rather the result of the hospital's prior downward trajectory. Alternatively, steady or improved hospital outcomes after a conversion could merely reflect the replacement of inefficient management or the alleviation of financial frictions following the change in ownership.

We address this identification challenge by exploiting variation in the decision to convert a nonprofit hospital to for-profit that results from state-level changes in laws pertaining to the conversion of healthcare institutions. These laws often require mandatory approval of conversions by actors such as the state attorney general (AG) or a state public health agency, effectively creating hurdles to the conversion of nonprofit hospitals to for-profit. Specifically, we construct an index that tracks the introduction and removal of various provisions in these

[2]See, for example, the Government Accountability Office (GAO) report (available at https://web.archive.org/web/20210514074045/https://www.gao.gov/assets/hehs-98-24.pdf).

laws from 1990 to 2020 across all 50 U.S. states and use this index as an instrumental variable (IV) for the for-profit conversion decision. We show that the index is a strong predictor of the likelihood that hospitals convert to for-profit: hospitals in states with higher legal hurdles to conversion are substantially less likely to convert to for-profit. Several tests support the validity of our IV. First, the legal provisions that we exploit are uniquely targeted toward the transition from nonprofit to for-profit. We show that these laws do not affect the likelihood of hospitals transitioning in the opposite direction (i.e., from for-profit to nonprofit). Similarly, we find that these laws do not impact mergers and acquisitions activity unrelated to changes to for-profit status. Second, we carefully consider the institutional and legal context of our setting (Karpoff and Wittry, 2018). Our framework considers existing "first generation" laws regulating the conversion of healthcare institutions, and we show that our results are not driven by the potential simultaneous passage of minor conversion requirements, such as public hearings. We further show that conversion law changes are not associated with political elections and are largely bipartisan. Moreover, we show that the effect of the index on for-profit conversion is not driven by lobbying or by a small number of hospitals that are targeted by specific legislation. Third, we show that the passage of conversion of healthcare institution laws is not associated with the economic fundamentals of states or population trends, does not alter the average level of competition between hospitals, and is not the reaction to previous (or ongoing) hospital conversion waves. Instead, we show that conversion laws are partially driven by geographic spillovers of state-level legislation from neighboring states. Overall, our results are consistent with the index affecting hospital outcomes only through the for-profit conversion decision (i.e., the exclusion restriction).

Using this IV regression approach, we find that hospitals that shift from stakeholder to shareholder orientation decrease the provision of unprofitable community-oriented services. Specifically, we find that converted hospitals reduce emergency room (ER) spending and ER outpatient visits, a central source of charitable (uncompensated) hospital care. Moreover, we find that for-profit conversion leads to fewer unprofitable Medicaid patients treated and to a

decrease in intensive care unit (ICU) beds available associated with less profitable trauma, psychiatric, and pulmonary patients. Finally, we document reductions in the provision of social worker services, which are important for communities and patients, but are not profit centers.

As for-profit hospitals decrease unprofitable activities, where do they direct their resources? We find that for-profit hospitals increase their emphasis on revenue generation by increasing the number of profitable surgeries and the number of profitable surgical ICU beds, while reducing facility and payroll expenses. Hospitals that shift to serving shareholders also experience a worsening of quality of care. We find that patient satisfaction significantly declines following a hospital for-profit conversion and that local medical costs increase.

Next, we also examine investment activity. As hospitals convert to for-profit and change their objective function, they may become more sensitive to monetary considerations. Similarly, nonprofit hospitals may place a greater emphasis on serving undeserved communities and patients, relative to for-profit hospitals. Consistent with these conjectures, we show that for-profit hospitals increase their capital expenditure more than nonprofit hospitals during periods of higher returns to the healthcare sector, whereas nonprofit hospitals increase capital expenditure more when faced with higher community needs, as proxied by the growth of uninsured patients in the area.

More broadly, we also document that changes in hospital focus have effects that go beyond just the converting hospital. After for-profit conversion, the number of patients treated by neighboring nonprofit ERs rises as the number of patients fall in the newly converted for-profit hospital. Since these additional patients increase the costs and strain on nonprofit hospitals, this result is consistent with for-profit conversions generating costly spillover effects.

Overall, our results show that for-profit hospitals cut down on unprofitable services, while simultaneously increasing their focus on revenue generation and profits. However, many of the services that for-profit hospitals stop favoring are typically associated with high commu-

nity value. Due to the identification mechanism from our IV setup, these findings allow us to interpret changes in hospital behavior directly with stakeholder orientation while filtering out confounding events around conversions, such as management changes or alleviation of financial constraints. [CH: took out previous sentence about concerns around social welfare. no gains from that, pisses off Health econ people]

Finally, we explore the mechanisms that connect stakeholder orientation and hospital behavior. Lewellen et al. (2023) document that corporate governance in nonprofit hospitals is relatively weak. How do nonprofit hospitals successfully align their actions with their mission? First, our findings point to a novel channel of corporate governance in nonprofits: the tax code. The services that hospitals reduce after conversion to for-profit are required prior to conversion to retain federal tax-exempt status under the Internal Revenue Service (IRS) code. To the best of our knowledge, this is the first evidence of the tax code acting as a corporate governance mechanism. Finally, we show that hospitals also leverage traditional corporate governance channels to align their actions. Specifically, we show that for-profit hospitals adjust their board composition by replacing MDs with MBAs.

Our paper relates to a growing literature on financial incentives and governance in the nonprofit sector (Glaeser, 2002; Graham, 2022; Babenko et al., 2021). Adelino, Lewellen, and W McCartney (2022) show that hospitals with stronger connections to physicians responded differently to the 2007–2008 Financial Crisis than their counterparts. Babenko et al. (2021) find that regulatory pressure can reduce the rents extracted by CEOs of nonprofits, effectively substituting shareholder pressure with regulatory pressure. Lewellen (2022) finds that female CEOs manage hospitals similarly to male CEOs, and Otero and Munoz (2022) finds that CEOs impact mortality rates at the hospitals they manage. Lewellen et al. (2023) study the governance structure of nonprofit hospitals and show that nonprofit governance structures lack the attributes that the literature has traditionally associated with "good governance" in the for-profit setting. We complement the existing literature by showing that the type of orientation (i.e. stakeholder focus or shareholder focus) and its underlying objective

function itself, in addition to particular governance mechanisms, affect the management and performance of nonprofits. We further highlight governance decisions that facilitate the alignment of corporate actions with stakeholders, such as the changes in board composition after conversion.

Duggan (2000) exploits a change in California's medical system that affected hospital profitability to distinguish between two potential explanations for why nonprofit hospitals may behave differently than for-profit hospitals. The first explanation relates to the ease of appropriating profits (Glaeser and Shleifer, 2001), whereas the second explanation relates to nonprofit managers being more altruistic. By contrasting private and public organizations, the paper concludes that hospital's ownership structure is a key driver of hospital behavior.[3] Our paper shows differences in the broader behavior of for-profit and nonprofit hospitals regardless of whether hospitals are private or public. Consistent with the finding in Duggan (2000) that private for-profit and not-for-profit hospitals react similarly to profitable business opportunities, our results show that despite increases in some domains of profitability following conversion, the overall profitability of hospitals does not improve due to increased tax burden and lower public financial support. In other words, the market for hospital services appears reasonably competitive, meaning not-for-profit hospitals are forced to chase profitable opportunities, and for-profit hospitals cannot create substantial profits after accounting for the increased tax burden and lost public support following conversion. The corollary to this realization is that the public obtains roughly the same amount of community value from not-for-profit hospitals as it invests in them via monetary support. Finally, out paper provides a novel explanation for these differences: governance by tax code, where the behavior of not for profit hospitals is aligned with their mission not via classic corporate governance mechanisms but via the financial incentives provided by the tax code, such as their exemption from federal and local (property) taxes or government support for charity care. **[CH: I think this is really cool but it feels out of place in intro. maybe**

[3]This finding is confirmed in an event study around hospital takeovers (Duggan et al., 2023).

**consider moving it into the conclusion?]**

Our paper also relates to the literature studying the effect of private equity ownership on healthcare outcomes (Harrington et al., 2012; Pradhan et al., 2013; Gupta et al., 2021; Gandhi et al., 2020; Bruch et al., 2020; Gao et al., 2021; Aghamolla et al., 2023), and its impact on the interactions between hospitals and government programs (Liu, 2021). This research largely focuses on nursing homes, which are predominantly private for-profit organizations, and consequently study the differences between "traditional" for-profit organizations and for-profit organizations where profit motives are amplified by private equity. Our paper complements this research by examining the differences in hospital outcomes between for-profits and *nonprofits*. Thus, our paper focuses on changes in stakeholder orientation rather than on changes in the *intensity* of shareholder orientation.

Finally, a large literature in health economics and public health examines the relationship between for-profit status and hospital behavior.[4] However, most of these studies are case studies or correlational in nature, and are often constrained by small, localized samples. Thus, it is not surprising that the literature shows a wide range of mixed results.[5] To our knowledge, our paper is the first to establish a *causal* relationship between for-profit orientation and a wide set of hospital outcomes.

## 1. Data and sample selection

### 1.1. Primary data

We obtain data from several sources. Hospital characteristics come from the American Hospital Association's (AHA) database, which is compiled from the annual survey of the AHA to its member hospitals (which comprise nearly all hospitals in the U.S.). These data include information regarding the types of hospital ownership, which we use to classify

[4]See Sloan (2000) for an overview of the early literature.

[5]For example, Joynt et al. (2014) find positive effects of for-profit orientation, whereas Horwitz (2005a) and Paul et al. (2020) find opposite results. Other studies of nonprofits and for-profits in the hospital sector yielding mixed results include Needleman et al. (1999), Young and Desai (1999), Hadley et al. (2001), Sloan et al. (2001), Sloan (2002), David (2009), and Hansen and Sundaram (2018).

hospitals into government, non-government (i.e., private nonprofit), and investor-owned (i.e., for-profit). In addition, these data include detailed information about hospital expenses on facilities and payroll, the number of hospital beds and their use and social worker activities.

Next, we merge the previous data with data from the Healthcare Cost Report Information System (HCRIS). The HCRIS provides information from annual cost reports submitted to the Center for Medicare and Medicaid Services (CMS) by all Medicare institutional providers, including hospitals. The data from 1995 to 2021 are publicly available from the CMS's website. We extend our sample back to 1991 by requesting additional data from the CMS. These data include important variables for our empirical analyses, such as the costs of operating ERs, Medicaid inpatient days, and hospital assets and liabilities. Finally, we manually collect information on conversion of healthcare institutions laws. We describe these data and how we use it in more detail in Section 2.

### 1.2. Secondary data and final sample

We merge our primary data with several macroeconomic variables at the state level. Data on unemployment rates, population, and income per capita come from the Bureau of Economic Analysis (BEA). In addition, we obtain information on state-level healthcare spending from CMS, Medicare reimbursements and Medicare mortality rates at the health service areas (HSAs) level from the Dartmouth Atlas Project, and data on state-level age-adjusted mortality rates from the Centers for Disease Control and Prevention (CDC) WONDER database. Finally, we measure hospital care quality using patient evaluations from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) data. These patient evaluations are based on patient satisfaction surveys mandated by the CMS that are administered to a random sample of adult patients across various medical conditions after their discharge. The core questions cover the critical aspects of patients' hospital experiences.

Our final dataset is organized at the hospital-year level, spanning from 1991 to 2019, and includes all U.S. community hospitals, keeping those that are nonprofit at the beginning of

our sample period.[6] After excluding data with missing observations, our final sample consists of 5,064 hospitals, of which 509 eventually convert from nonprofit to for-profit during our sample period.[7] Figure 1 shows the types of hospitals involved in these conversions. The majority (76%) of hospitals that convert were private hospitals, whereas a split based on whether the converted hospital was a standalone hospital or part of a healthcare system shows 57% of hospitals in the former group and 43% in the latter (Panel A). In contrast, only 17% of hospitals remain standalone after conversion, and 20% of conversions are funded by private equity funds. Overall, most conversions involve private standalone hospitals and larger for-profit healthcare systems.

[Insert Figure1 here]

Finally, we winsorize all continuous variables at the 1% level. Table 1 presents summary statistics for nonprofit hospitals (Panel A) and for-profit hospitals (Panel B). For-profit hospitals have fewer hospital beds, as well as lower payroll and facility expenses.

[Insert Table 1 here]

## 2. Empirical framework

The main objective of this paper is to study the effect of stakeholder orientation on the management and performance of hospitals. Thus, the baseline regression is of the form

$$Y_{i,t} = \alpha_1 + \beta_1 For\ profit_{i,s,t} + X'_{i,l,t}\Gamma_1 + \epsilon_{1,i,s,t}, \tag{1}$$

where $Y_{i,t}$ is the outcome of interest (e.g., ER expenditures) of hospital $i$ in year $t$. $For\ profit_{i,t}$ is an indicator variable that takes the value of 1 if hospital $i$ has for-profit status in year $t$,

[6] This is consistent with the difference-in-differences literature that stresses the importance of excluding *always-treated* observations (De Chaisemartin and d'Haultfoeuille, 2022). In Section 7.2, we show that our main results are robust to including these observations. Community hospitals exclude federal Veterans Affairs hospitals since which operate under their own separate regulatory framework.

[7] Figure IA.1 of the Internet Appendix plots the number of for-profit conversions over time and shows that there is significant variation in the timing of conversions throughout our sample period.

and $X'_{i,s,t}$ is a vector of hospital-level control variables, state-level economic indicators, and hospital and year fixed effects.

However, estimating Equation (1) is unlikely to be informative. The main challenge in identifying the effect of for-profit status on hospital outcomes is that hospitals do not change status randomly. Nonprofit hospitals mostly convert to for-profit following long periods of poor performance, which draw down reserves to a degree that they cannot continue to finance their ongoing operations or the necessary capital investments (Sloan et al., 2007).[8] We confirm this conjecture in Table IA.1 of the Internet Appendix, where we compare summary statistics for nonprofit hospitals which later converted to for-profits with those of hospitals which never convert. Hospitals which converted to for-profit tend to be smaller and have worse financial performance, which is consistent with the idea that hospital conversions occur at the end of a period of deteriorating financial performance. Thus, a simplistic comparison of hospital outcomes before and after conversion does not allow differentiating between the effect of alleviating capital constraints, a change in ownership and management, and the effect of being "for-profit" (i.e., $\beta_1$ is likely to be biased). Possibly due to this challenge, early studies on this topic have not found a consistent connection between hospital for-profit status and hospital actions (Sloan et al., 2001; Joynt et al., 2014).

To overcome this challenge, we exploit variation in stakeholder orientation that results from state-level law changes governing the conversion of hospitals from nonprofit to for-profit. About half of U.S. states have passed legislation regulating the conversion of healthcare institutions. These laws, many of which were passed beginning in the late 1990s, feature several provisions limiting the ability of charitable hospitals to convert to for-profit. We focus on the three types of provisions typically considered to be the most relevant. Specifically, we consider provisions that require for-profit conversions to be approved by the state's AG or by another state-level agency. We also consider the requirement of a "certificate of need" (CON), which mandates the review of major changes of ownership and investment in the healthcare

[8] Lu and Lu (2021) describe a similar dynamic in the nursing home sector, with financially underperforming nursing homes being the most likely to convert to for-profit status.

sector.[9]

We construct an index based on these three types of legal provisions for all 50 U.S. states going back to 1990. The index captures the introduction and the removal of these regulatory hurdles. For example, an index equal to 0 signals a state without impediments to conversion, whereas an index equal to 3 signals a state that requires AG approval, second agency approval, as well as a CON. Therefore, a higher index value indicates more hurdles for a nonprofit hospital to convert to for-profit. Figure **2** plots the geographic distribution of the index in 1990 (Panel A) and 2010 (Panel B).[10] Overall, the figure shows that there is substantial variation in the value of the index both across states and time.[11]

[Insert Figure **2** Here]

To overcome the selection concern described above and identify the effect of stakeholder orientation on hospital outcomes, we follow a two-stage least-squares/IV (2SLS/IV) framework. More specifically, we use the previously described index as an instrument for the hospital's for-profit conversion decision. From here on, we refer to this index as the *conversion index*. Thus, the first-stage regression is

$$For\ profit_{i,t} = \alpha_2 + \beta_2 Conversion\ index_{i,s,t-1} + X'_{i,s,t}\Gamma_2 + \epsilon_{2,i,s,t}, \tag{2}$$

where $Conversion\ index_{i,s,t-1}$ is our measure of the level of regulatory hurdles to for-profit conversions of hospitals in hospital $i$'s state $s$ in year $t-1$ (i.e., the index is lagged one year). The second-stage regression is

[9]Note that these provisions consist of "hard vetoes," which can prevent hospital conversions if exercised. CON provisions were originally introduced to curb excessive competition in the healthcare sector and were effectively mandatory under federal law from 1974 until 1987.

[10]Figure IA.**2** of the Internet Appendix plots the distributions in 2000 and 2019.

[11]The index increases over time for most states except for Alabama and Illinois. We find 29 changes in the index in 27 states throughout our sample period. Index changes range from -2 (representing the removal of two provisions) to +3 (representing the introduction of all three provisions). Many changes occurred in an initial wave in the late 1990s; however, there were also 9 changes after the year 2000. Table IA.**2** of the Internet Appendix presents summary statistics for the conversion index and its components.

$$Y_{i,t} = \alpha_3 + \beta_3 \widehat{For\ profit}_{i,t} + X'_{i,s,t}\Gamma_3 + \epsilon_{3,i,s,t}, \tag{3}$$

where $\widehat{For\ profit}_{i,t}$ are the fitted values from Equation (2). If the conversion index is a valid instrument, then $\beta_3$ is consistent.

In addition, for-profit hospitals tend to be smaller than nonprofit hospitals and for-profit owners could downsize hospitals to save costs or expand them to increase revenue. Thus, a change in for-profit status may coincide with shifts in the size of hospital operations. To avoid the possibility that our results are driven by contemporaneous changes in hospital size, rather than a shift in the priorities of management, we scale hospital-level outcome variables (i.e., $Y_{i,t}$) by the number of inpatient beds.

Finally, since our main focus is to study the effect of for-profit status on hospital-level outcomes, we cluster standard errors at the level of treatment (Abadie et al. (2023)), that is, the hospital level. Thus, our regressions account for serial correlation in error terms within a hospital (e.g. Aghamolla et al. (2021), Gao et al. (2021), Lewellen et al. (2023), Gupta et al. (2021)). Our approach is also similar to other 2SLS estimations that exploit IVs that vary at the state level with a more granular unit of treatment (e.g., Jackson et al. (2016)). We show that our results are robust to clustering on the state level instead in Appendix Tables IA.**3** and IA.**4**. Finally in Appendix Table IA.**5** we show that results are robust to using Anderson Rubin weak instrument robust standard errors.

## 3. The conversion index as an instrument

### 3.1. First-stage regression

We begin our analysis by estimating the first-stage regression from Equation (2). For ease of interpretability, we standardize $For\ profit$ to have a mean of zero and standard deviation of one (i.e., coefficients represent the effect of changing the variable by one standard deviation). Table **2** shows the estimation results.

[Insert Table 2 here]

The most basic specification in column 1, which only includes hospital and year fixed effects, yields a coefficient estimate on the conversion index of -0.067, statistically significant at the 1% level. This coefficient indicates that laws governing the conversion of health-care institutions prevent hospital for-profit conversions and is consistent with the relevance condition of the IV estimation being satisfied.

However, it is possible that both the conversion decisions and the legal environment surrounding the conversion could be driven by a state's size, growth, or the economic cycle more generally. In column 2 of Table 2, we control for these potential confounding factors by adding state-level controls for income per capita, population size, and unemployment rate. In addition, since the summary statistics in Table IA.1 show that hospitals that decide to convert to for-profit status are different from other hospitals in both size and financial dimensions, we also add controls for the characteristics of hospitals (column 3) and their financials (column 4). In all specifications, our coefficient estimates on the conversion index remain stable both in terms of economic and statistical significance, with our most stringent specification yielding a coefficient of -0.058.

The conversion index shows not only economic relevance but also statistical power. The Kleibergen-Paap $F$-statistic of the entirety of the first stage is 17.24, well above the critical Stock and Yogo level for a maximum 10% bias in instrument size, and the individual $F$-statistic for the index in the most stringent specification is close to 16. Thus, the conversion index not only meets the relevance condition but also shows properties that alleviate the concern of a weak instrument.

In the Internet Appendix, we present a series of additional robustness tests for our first-stage regressions. First, in Table IA.6, we show that our results are robust to variations in the degree to which we lag the conversion index. Specifically, first-stage coefficient estimates are robust to either not lagging the conversion index at all or lagging it by two years. Second, in column 1 of Table IA.7, we show that our results are robust to an event-centering

approach that alleviates potential concerns with the staggered two-way fixed effects model in our analysis.[12] Finally, in column 2 of Table IA.7, we collapse the conversion index into a single indicator taking the value 1 for all observations in which at least one conversion of healthcare institutions law is enacted. Results remain unchanged.

### 3.2. Additional instrument validation

Next, we investigate potential alternative channels through which the conversion index may impact hospital behavior and affect the validity of the exclusion restriction of our IV estimation. Studies exploiting state-level law changes need to carefully account for the legal and institutional context. Specifically, we implement three main groups of tests proposed in Karpoff and Wittry (2018) to validate the conversion index as an instrumental variable. We also investigate what drives changes in hospital conversion laws.

#### 3.2.1 Lobbying and politics

The first set of tests focuses on one of the main challenges that studies exploiting law changes face: the possibility of lobbying. If a subset of affected firms were to influence the legislative process to suit their needs, the identifying assumption of the quasi-exogeneity of the law changes would be violated. For example, in the case of business combination laws, Karpoff and Wittry (2018) show that the effects on firm behavior following the passage of these laws are concentrated in companies which had actively lobbied for them.

To alleviate the concern that lobbying could impact our findings, we conduct a detailed news search in the two-year window surrounding each of the 29 conversion law changes that occur in our sample period. We then re-estimate our first-stage regression, excluding those states that show evidence of lobbying. The results are presented in Table 3.

[Insert Table 3 here]

[12]The inclusion of event-time fixed effects drastically reduces our sample by 60% as we can only draw inference from states with actual law changes. However, the inference is still that a higher level of anti-conversion legislation reduces the propensity of conversion, even in this restricted sample.

In column 1 of Table 3, we exclude states in which we identify lobbying that is directly linked to the passage of conversion of healthcare institutions laws. In column 2, we exclude states in which we identify general medical sector lobbying surrounding the passage of conversion of healthcare institutions laws, without reference to the specific laws (i.e., "indirect lobbying").[13] In both cases, the first-stage coefficient remains statistically and economically very similar to that obtained from the full-sample estimation. In columns 3 and 4, we exclude states in which the lobbying effort can be traced to for-profit and nonprofit groups, respectively, to address the possibility that lobbying could be particularly strong if it comes from one specific group of hospitals (e.g., for-profit hospital associations). Our first-stage regression results remain robust, alleviating concerns that lobbying could drive our findings.

Another potential concern with the law changes that we use is that they may result from broader political posturing around elections. For example, if politicians running for office make hospital conversion part of their campaign, the passage of these laws may systematically coincide with gubernatorial elections or other political and economic changes surrounding them. This can be an even bigger concern if one of the two main political parties systematically champions laws governing the conversion of healthcare institutions, meaning their passage systemically coincides with the election of governors from one specific party.

To address this concern, we collect data on gubernatorial elections surrounding the passage of all 29 law changes in our sample. First, we note that there is no pattern of partisan preferences among those changes. Of the 29 law changes, 12 were passed by Democratic governors, 15 by Republican governors, and two by independents.[14] Thus, changes in laws governing the conversion of healthcare institutions appear to be non-partisan. Regardless, in column 5 of Table 3, we exclude states in which the passage of laws governing the conversion of healthcare institutions coincided with gubernatorial election years and we find that the

[13]Such indirect lobbying includes, for example, fights over the privatization of state-owned insurance companies.

[14]In the two states that reduced the hurdles to conversion, one reduction occurred under a Democratic governor and one reduction occurred under a Republican governor.

first-stage regression coefficient remains almost unchanged.

### 3.2.2 First-generation and second-generation laws

A second set of potentially relevant factors that may affect the instrument's validity are the historical development of legal provisions.[15] In our setting, the candidate likely to be the most relevant among "historical" laws is the CON provision. CON laws are intended to control healthcare costs by avoiding unnecessary overinvestment in healthcare facilities and the laws require state approval for major capital investments in healthcare. For-profit conversions often trigger these clauses, either because CON laws explicitly cover merger activity or because the conversion is associated with (dis)investments.[16]

To avoid the possibility that the legacy presence of CON laws drives our results, we carefully track CON law levels throughout our sample period, to avoid instances where laws are first abolished and then reestablished. In addition, we include these first-generation CON laws as part of our conversion index, making sure we take their presence into account.

Our two other index components, approval by the state AG or other agencies, are novel features introduced in laws governing the conversion of healthcare institutions in the late 1990s. In Panel A of Table 4, we separately investigate the three components of our index. We find that each index component, not just CON laws, is negatively associated with hospitals' for-profit conversions. Thus, each of our individual index components is an important, independent measure of legal hurdles against hospital conversions to for-profit status.

[Insert Table 4 here]

The final challenge, in the spirit of Karpoff and Wittry (2018), is the potential presence of

[15] For example, in the case of business combination laws, Karpoff and Wittry (2018) show that in some cases the laws studied were in fact second-generation laws which partly reinstated previous provisions.

[16] The first CON law was introduced in New York in 1964 (Simpson, 1985). In 1975, Congress passed the National Health Planning and Resources Development Act (NHPRDA) which effectively mandated state-level CON laws for access to federal funds. As a result, all states except Louisiana had CON laws in place by 1982. In 1987, the federal mandate on CON laws was repealed, and, as a result, 32 states had a CON law in place at the start of our sample period.

other rules and laws that might overlap with the one studied in a specific setting.[17] To address this potential concern, we collect additional data on numerous other laws and regulations regarding the for-profit conversion of hospitals. Specifically, we investigate various provisions contained in two types of model legislation that influenced many conversion laws: (1) the 1997 National Association of Attorneys General model act and (2) the 2003 model act created by two non-governmental organizations, Community Catalyst and Consumers Union.[18]

These model acts contain a variety of rules regarding various aspects of the hospital conversion process that are of lesser importance than an outright veto power (e.g., a requirement of a public hearing), as measured by our conversion index. These rules could nonetheless act as a deterrent for hospital conversion. Thus, we collect additional information in each state and year on the presence of the following secondary provisions: (1) the requirement of an advanced written notice to the state AG before conversion, (2) a non-binding form of AG recommendation (i.e., an AG's right to question the conversion), (3) the possibility of a public notice or public hearings, and (4) whether the law allows for ex-post monitoring of the transaction.

In Panel B of Table 4, we re-estimate our first-stage regression using indicator variables for each secondary provision as the main independent variable. We find that all four secondary components from the model legislation have an economically and statistically insignificant association with for-profit conversions.

### 3.2.3 Other tests

**Effects on general M&A activity**. Another concern related to the instrument's validity is that laws governing the conversion of healthcare institutions may not merely impact the conversion of hospitals to for-profit status, but also reduce the likelihood of conversions in the opposite direction, or hamper mergers and acquisitions (M&A) activity more generally.

[17]For example, in the case of business combination laws, contemporaneous poison pill measures may confound inference.

[18]See the U.S. Government Accountability Office report at https://www.gao.gov/assets/hehs-98-24.pdf.

Thus, we begin by investigating whether laws governing the conversion of healthcare institutions also impact conversions from for-profit to nonprofit. If our index also impacted this type of conversion, our results may not capture the effect of for-profit conversion, but rather an effect from a decrease in nonprofit conversion. To test for this possibility, we create a sample of beginning-of-sample-period for-profit hospitals analogous to our main sample construction, and construct a new indicator variable, *Nonprofit*, that takes value 1 if a hospital is a nonprofit. We estimate regressions similar to our first-stage regressions using *Nonprofit* as dependent variable and report the results in Table IA.8 of the Internet Appendix. Column 1 shows no evidence of a relationship between laws governing the conversion of healthcare institutions and conversion from for-profit to nonprofit.

To examine the concern that laws governing the conversion of healthcare institutions capture a generally negative climate for M&A activity in the healthcare sector, we obtain data on mergers from Cooper et al. (2019), which covers 2000 to 2014. The data show that, while some mergers lead to a change to from nonprofit to for-profit, most mergers are between institutions of the same for-profit status. Out of the 1,137 merger events for 985 hospitals in our sample, only 78 (8%) led to a for-profit conversion. In column 2 of Table IA.8, we investigate whether conversion laws impact merger activity more broadly, rather than just through for-profit conversion. The outcome variable is *Target*, an indicator that takes the value 1 if a hospital is the target of an M&A transaction in a given year (regardless of whether the takeover attempt is by a for-profit or nonprofit hospital). We find no statistical or economically significant relationship between conversion of healthcare laws and broader M&A activity.

**Effects on market competition**. Finally, we investigate whether conversion laws are associated with changes in market competition. One additional challenge to the exclusion restriction may be that states with more stringent laws see a generally lower level of hospital concentration, resulting in lower competition that may affect hospital behavior. In Table IA.9 of the Internet Appendix, we present results from panel regressions of county-level

Herfindahl-Hirschman indices on the conversion index. If conversion laws are associated with lower competition, regression coefficients should be positive.[19] However, the coefficients associated with the index are economically very small and statistically insignificant in all specifications, providing no support for the notion that laws governing the conversion of healthcare institutions could be associated with changes in the competitive environment of hospitals.

### 3.3. Determinants of the conversion index

We conclude this section by investigating what drives changes in hospital conversion laws. For example, failed for-profit conversions could lead state legislators to regulate hospital for-profit conversions, or the willingness of states to modify conversion laws may be related to state healthcare provisions such as hospital care spending, hospital discharges, and mortality rate. Alternatively, conversion index changes could be due to an ongoing conversion wave. In this case, changes in conversion status would drive the index rather than the index impacting conversions. Finally, changes in hospital conversion laws may be driven by economic fundamentals or political partisanship.

In Table IA.**10** of the Internet Appendix, we estimate regressions of year-over-year changes in the conversion index on a wide range of variables that attempt to capture the previously described potential drivers, and do not find economically meaningful relationships between any of the variables and changes in the index.[20]

While the previous results *rule out* various potential explanations for the conversion index and are reassuring from an empirical identification standpoint, they fail to provide an explanation as to why the conversion index changes and laws governing the conversion of

[19] The HHI is constructed annually on the facility level.

[20] Specifically, we include measures related to hospital spending and discharges, age-adjusted mortality rates, population size, population income, unemployment rate, number of hospitals, number of for-profit conversions, number of failed for-profit conversions, and the political party in control of the governorship. We define a for-profit conversion as "failed" when the hospital shuts down within 5 years after conversion. The only variable that is statistically significant at the 10% level is the number of previous for-profit conversions. However, the variable has an economically very small effect. A one-standard-deviation increase in the number of conversions in our sample (1.06) is associated with an index change of 0.01 points.

healthcare institutions are adopted. Anecdotal accounts suggest that these laws could be driven by (1) a national trend with a series of law changes undertaken during the 1990s following the publication of the association of state attorneys general model act and (2) geographical clustering.[21] In fact, an extensive literature in political sciences documents geographic spillovers of state-level legislation (Walker, 1969; Foster, 1978), including healthcare policy (Carter and LaPlant, 1997).

We examine (and confirm) the previous two possibilities empirically through two tests. First, we find a positive correlation between the adoption of state-level conversion of healthcare statutes within neighboring states of 0.2.[22] Second, in Table **5**, we estimate ordinary least squares (OLS) regressions of the home-state index on neighboring and non-neighboring index averages.

[Insert Table **5** here]

Column 1 confirms the positive correlation between the index in a state with that of its neighbors (coefficient of 0.348, statistically significant at the 1% level). In column 2, we add the average conversion index of non-neighboring states as an additional control variable. The conversion index is explained by the indices of both neighboring and non-neighboring states, with indices of neighboring states having a slightly higher explanatory power. Taken together, we find that laws governing the conversion of healthcare institutions cluster in time and space.

We further investigate what degree of our index is driven by lobbying. To this end, we report simple correlations between our measures of political influence and the conversion index

[21] See https://tinyurl.com/5dfjj7fp and https://tinyurl.com/mftfzzvn.

[22] Due to differences in state size, we consider states as neighbors if they belong to the same BEA economic area. The eight BEA economic areas are: (1) New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), (2) Mideast (Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania), (3) Great Lakes (Illinois, Indiana, Michigan, Ohio, and Wisconsin), (4) Plains (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota), (5) Southeast (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia), (6) Southwest (Arizona, New Mexico, Oklahoma, and Texas), (7) Rocky Mountains (Colorado, Idaho, Montana, Utah, and Wyoming), and (8) Far West (Alaska, California, Hawaii, Nevada, Oregon, and Washington).

in appendix Table IA.**11**. We find that there is a slight positive correlation between direct lobbying, and lobbying by not-for-profit entities with the index. While these correlations speak to the role of lobbying in driving lawmaking, these values reflect upper bounds to its effectiveness. Since we only look for lobbying around actual index changes, we mechanically exclude instances where lobbying was ineffective at moving law. Notably even with this bias towards efficacy, the largest recorded correlation is 0.19, meaning the predominant amount of our index changes is unrelated to lobbying, which is consistent with the preceding exercise that shows that our results remain robust when excluding index changes associated with concurrent lobbying.

Overall, the evidence presented in this section shows that, while the law changes that we utilize are not random and somehwat associated with the political process, they seem independent of factors (other than the for-profit conversion decision of hospitals) that may correlate with hospital outcomes, supporting the validity of our IV (i.e., the exclusion restriction).

## 4. Shareholder focus and firm behavior

### 4.1. Hospital output with high community value

We begin this section by examining whether for-profit orientation reduces the provision of generally unprofitable, community-oriented services. Specifically, the most prominent of the activities we examine is the provision of ER care, irrespective of patients' ability to pay. ERs provide basic medical services as a form of safety net and are a major source of charity care (Horwitz, 2005b; Morganti et al., 2013). Therefore, our first outcome of interest is hospital ER expenditures. As hospitals change from nonprofit to for-profit, they might cut back expenditures on this cost center.

Panel A of Table **6** presents the results from estimating Equation (3) using ER expenses as the dependent variable. For ease of interpretation, we standardize our main instrumented indicator variable, *For-profit*, so that the coefficient estimate can be interpreted as the change

in the outcome variable resulting from a one-standard-deviation change in the (instrumented) likelihood of being for-profit. In columns 1 through 4, we progressively control for state-level characteristics, hospital-level characteristics, and hospital financials. The coefficient associated with for-profit conversion ranges from -0.058 to -0.049. Specifically, in our most stringent specification (column 4), a one-standard-deviation increase in the likelihood of being for-profit decreases ER expenditures per bed by $55,000, a substantial amount compared to the sample mean of about $40,000. This large economic magnitude likely reflects that the IV coefficient estimate captures the local average treatment effect (LATE) on ER expenditures on those hospitals that would have converted to nonprofit in the absence of laws governing the conversion of healthcare institutions, that is, the compliers. As previously shown in Table IA.**1**, these compliers are likely hospitals in substantial financial trouble, which in turn may amplify the effect of for-profit orientation.

[Insert Table **6** here]

Another major cost center with high community value is the provision of services to Medicaid patients. Private insurance pays hospitals about 75% higher average rates than Medicaid (Selden et al., 2015), and Medicaid reimbursement covered just 87 cents for every dollar of costs in 2017, on average.[23] Thus, one could expect a reduction in the provision of medical services to Medicaid patients after hospitals' become for-profit. We test this conjecture by estimating Equation (3) with Medicaid inpatient days as the dependent variable, and report the results in Panel B of Table **6**.

The results show that, across specifications, a one-standard-deviation increase in the likelihood of becoming for-profit leads to between 11 and 13 fewer Medicaid inpatient days per bed, consistent with hospitals cutting lower-paying Medicaid interactions if they become for-profit.

[23]See Dranove and White (1998) and Frakt (2011) for evidence on Medicaid reimbursement in earlier years.

In the Internet Appendix, we examine additional unprofitable community-oriented services: the provision of critical care beds not associated with surgery and social worker services.[24] Column 1 of Table IA.12 shows that for-profit hospitals reduce the provision of non-surgical ICU beds. Similarly, in column 2, we find that, while 87% of our sample hospitals provide social services, a one-standard-deviation increase in the likelihood of being for-profit reduces the prevalence of social worker services by a sizable 15.2 percentage points (ppt).

Taken together, the previous results suggest that for-profit orientation reduces the provision of unprofitable, community-oriented services, consistent with a change in stakeholder orientation away from communities and toward shareholders.

### 4.2. Profit-generating activity

For-profit hospitals may not merely reduce unprofitable activities that provide community benefits but also increase their focus on revenue generation. Next, we examine this possibility.

Column 1 of Table 7 presents results from the second stage of our 2SLS estimation for the number of surgical ICU beds. There is a substantial increase in the number of surgical ICU beds at for-profit hospitals. As surgeries are considered a particularly profitable part of hospitals' operations, this result is consistent with the idea that for-profit hospitals have a stronger focus on profits, and it stands in contrast to the reduction in non-surgical ICU beds we documented previously.

[Insert Table 7 here]

In columns 2 and 3 of Table 7, we turn our attention toward the cost side of hospital operations, in addition to costs associated with the provision of community benefits. First, we find that for-profit status is associated with substantially lower facility expenses (column 2).

[24]These beds include cardiac, neonatal, pediatric, burn, and other ICU beds (Barrett et al., 2015; Horwitz, 2005b). Social worker services are not revenue generating but are associated with lower rates of readmission after treatment. Therefore, they provide benefits to patients and their communities, but not to hospitals (Steketee et al., 2017).

In addition, Glaeser (2002) predicts that in the absence of shareholders as residual claimants, nonprofits should have a tendency to overspend on personnel, particularly personnel close to management. Consistent with this idea, column 3 shows a decrease in payroll expenses by for-profits. These results could reflect either a general increase in efficiency, or a substitution of doctors with less-trained and lower-paid professionals such as nurse practitioners (Geurts-Laurant et al., 2004; Laurant et al., 2018; Goryakin et al., 2011). Overall, the results in this section support the idea that hospitals with for-profit orientation cut costs and expenditures while increasing revenue to increase margins.

While the focus of our study is on the provision of community benefits and operational twists, it is a matter worth studying if for profit conversions increase *aggregate profitability*. While for-profit owners might be able to improve efficiency, lowering community benefits and costs while increasing revenue, they also lose out on some key advantages of not-for-profit providers. First, they lose substantial tax benefits particularly with respect to local property taxes, which not for profit hospitals do not have to pay. Second, not for profit hospitals benefit from unique financial flows such as donations and government grants. It is therefore ex ante unclear if for profit hospitals can manage to substantially increase total profitability. In Internet Appendix Table IA.**??** we test this question. In column 1, we find that indeed total profitability of hospitals is not increasing statistically significantly despite our earlier findings on costs and revenues. One explanation for this lack of improved profitability is the result in column 2 which shows a significant drop in cash flow from donations and grant programs. What is explaining these findings? While our study cannot comprehensively asses the general equilibrium implications of conversions, one potential explanation is that the market for control in hospitals is efficiently priced. The benefits which the government obtains from community benefits roughly equals the support provided by the government via tax breaks and grants.

### 4.3. Investment activity

For-profit orientation may not just impact day-to-day operating decisions, but also long-term capital investment decisions. For example, investment decisions of for-profit hospitals may be more sensitive to monetary considerations, such as cost of capital or investment opportunities. In addition, if the objective function of nonprofit hospitals places substantial emphasis on serving undeserved communities and patients, then an increase in the demand for (unprofitable) health services may trigger an increase in capital investment for these hospitals. We test for these possibilities in Table 8.

[Insert Table 8 here]

In columns 1 and 2, we split our sample on a time dimension, namely whether a calendar year featured above- or bellow-median healthcare-sector stock returns, provided by Kenneth French's website. The effect of for-profit status on capital investment is positive and statistically significant during years of high stock performance, but negative and statistically insignificant otherwise. That is, for-profit hospitals seem to exhibit a greater sensitivity of their capital investment plans to perceived profit opportunities than nonprofit hospitals.

Next, in columns 3 and 4 of Table 8, we split our sample based on the long-term growth of the uninsured population in the hospital's county. We obtain the share of uninsured population from the U.S. Census, and due to data availability, this test is restricted to 2000–2019. Relative to nonprofit hospitals, for-profit hospital decrease investment in areas that see an increase in unprofitable, uninsured patients, and increase investment in areas with more growth of insured (i.e., lucrative) population.

Overall, the results in Table 8 are consistent with the different objective functions of for-profits and nonprofits driving their capital investment decisions. For-profit hospitals are more sensitive to market signals about future profitability, whereas nonprofit hospitals are more sensitive to increased community needs.

### 4.4. Patient outcomes

A shift from stakeholder to shareholder orientation could impact hospitals beyond their financial focus; it could impact the provision and quality of healthcare itself. In this section, we examine this possibility. We measure hospital care quality using (mandatory) CMS patient satisfaction survey data.[25] Because rating scales differ across the survey's questions, we follow the literature and define the outcome variable of interest as the share of patients who give the highest rating to each question (e.g. Aghamolla et al. 2021). Finally, since these data are only available for a subset of our hospitals and starting in 2005, we estimate OLS regressions instead of 2SLS regressions due to power limitations from losing two thirds of our sample.

Table 9 presents OLS regressions where the dependent variables are different measures of patient satisfaction (e.g., quality of doctor and staff communication, quality of pain management, hospital rating) and the independent variable of interest is the indicator variable for for-profit status. Results show that, across all question categories, patient satisfaction decreases after nonprofit hospitals convert to for-profit. Specifically, patients at for-profit hospitals report having received less help from medical professionals regarding their health concerns (column 1). Likewise, patients report poorer hospital ratings and that they are less willing to recommend the hospital to others (columns 2 and 3). Overall, the results in Table 9 are consistent with our previous findings that for-profit hospitals tend to reduce facility and payroll expenses, which increases profits for shareholders while reducing the benefits to important stakeholders (i.e., the patients).

[Insert Table 9 here]

In the Internet Appendix, we examine the effect of for-profit orientation on health outcomes for the community more broadly. We focus on local medical costs and mortality. Specifically, from the Dartmouth Health Atlas Project, we obtain HSA-level measures of

[25]These data are available at https://data.cms.gov/provider-data/dataset/dgck-syfz

price-adjusted Medicare reimbursements per enrollee and age-adjusted percent of deaths among Medicare enrollees. Since we are limited to regional health data, we restrict the sample to HSA regions with only one hospital, where the conversion from nonprofit to for-profit of the only hospital in the area is most likely to influence our health measures.

The 2SLS results in Table IA.**15** show that for-profit status is positively associated with local medical costs (column 1), but it is unrelated to local mortality rates (column 2). Overall, the results in this section indicate a general deterioration in health outcomes following a for-profit conversion. These findings are consistent with observed declines in patient health and compliance with care standards at nursing homes after private equity buyouts (Gupta et al., 2021).

### 4.5. Spillover effects

A change in a hospital's corporate behavior resulting from a change in stakeholder orientation may impact not just the converted hospital itself, but also the surrounding hospitals. For example, if a converted hospital downsizes its ER, some of the unmet demand for ER services from local residents might spill over into the neighboring hospitals (due to longer waiting times, lower quality of care, or simply because the downsized ER is not able to take all patients). Such spillovers to neighboring hospitals could explain part of the effects on the patient outcomes documented in the previous section. In this section, we take an initial step toward the analysis of spillover effects stemming from hospital conversion to for-profit. To do so, we estimate a difference-in-differences specification that captures the effect of for-profit conversions on the neighboring nonprofit hospitals. Specifically, we estimate the following regression:

$$Y_{i,t} = \alpha_4 + \beta_4 Nonprofit \times Post\ conversion_{i,s,t} + X'_{i,s,t}\Gamma_4 + \epsilon_{4,i,s,t}, \tag{4}$$

where the explanatory variable of interest is $Nonprofit \times Post\ conversion_{i,s,t}$, the interaction of two indicator variables. The first variable, $Nonprofit$, is an indicator for the nonprofit

status of a hospital. The second variable, *Post conversion*, is an indicator that takes the value 1 in years following the for-profit conversion of a hospital in the same HSA. The outcome variables of interest are the number of ER visits (column 1 of Table 10) and the total cost of ER (column 2 of Table 10). If hospitals converting to for-profit downsize their ERs, one could expect an increased burden from higher utilization (and costs) to neighboring nonprofit hospitals. Consistent with this idea, we find a positive and statistically significant increase in both the volume and cost of ER care for nonprofit hospitals following a for-profit conversion of a neighboring hospital. To the best of our knowledge, this is the first evidence of such spillover effects in the literature and this evidence can inform the current policy debate on the consequences of hospital for-profit conversion.

[Insert Table 10 here]

## 5. Corporate governance channels

This section discusses different ways in which both classic governance channels and the tax code may connect hospital operations to objective functions serving different types of stakeholders.

### 5.1. Corporate governance through boards

The main mechanism through which the actions of organizations are aligned with the interests of stakeholders is the board of directors. We obtain data on board composition for a subset of for-profit and nonprofit hospitals from BoardEx.[26] Specifically, we examine the mix of educational and professional backgrounds of directors following for-profit conversion. Table 11 presents the results of OLS regressions of changes in board composition on changes to for-profit.

[26]Board composition data is available more widely for nonprofit hospitals through regulatory filings, but not for for-profit hospitals. We choose to limit our sample to hospitals in BoardEx to have the most comparable subsets of hospitals.

[Insert Table 11 here]

In column 1, the dependent variable is an indicator for having at least one board member holding an MBA or JD degree. The coefficient estimate of 0.268 indicates that for-profit conversion is associated with a 26.8 ppt increase in the likelihood that the board features at least one board member with an MBA or JD, that is, business-oriented professional degrees. On the other hand, column 2 (which considers an indicator for at least one board member holding a MD degree as dependent variable) shows that there is a 37.5 ppt decrease in the likelihood of having at least one MD on the board, on average. These results are consistent with for-profit owners shifting the expertise and focus of the board, the main governance organ, to business rather than to medicine. These results are also consistent with the larger sample summary statistics and analyses of governance in hospitals provided by Lewellen et al. (2023).

### 5.2. Corporate governance through the tax code

Hospitals have historically had nonprofit status in the U.S. Early hospitals were essentially charitable organizations providing basic healthcare to ordinary citizens, financed exclusively through donations. Tax exemption for these charitable hospitals has been a staple of American tax codes since the 1984 Wilson-Gorman Tariff Act (Arnsberger et al., 2008; Gentry and Penrod, 2007). Over time, legislators became concerned that the tax-exempt status of private foundations could be abused for tax evasion, leading to changes in the Tax Reform Act of 1969 that require tighter documentation of the charitable nature of operations to qualify for tax exemption.[27]

Specifically, the IRS calls for six provisions for hospitals to qualify for nonprofit status: (1) operating an ER open to all, regardless of ability to pay; (2) maintaining a board of directors drawn from the community; (3) maintaining an open medical staff policy; (4) pro-

[27]See IRC section 501(c)(3) at https://www.irs.gov/charities-non-profits/charitable-hospitals-general-requirements-for-tax-exemption-under-section-501c3.

viding hospital care for all patients able to pay, including those who pay their bills through public programs such as Medicaid and Medicare; (5) using surplus funds to improve facilities, equipment, and patient care; and (6) using surplus funds to advance medical training, education, and research.

Hospitals that qualify for tax-exempt status under these conditions are exempt from most federal and state taxes, including tax on corporate profits or property taxes. These hospitals also qualify for charitable donations and enjoy effectively subsidized access to capital through the tax-exempt status of their bonds (Gentry and Penrod, 2007). The idea behind the tax exemption is that hospitals use these benefits to finance the provision set out in the tax code, which are unprofitable. Of particular concern are Medicaid patients (Selden et al., 2015) and ERs, which constitute a bulk of uncompensated care (Horwitz, 2005b; Morganti et al., 2013) and require subsidization. Therefore, we hypothesize that for-profit hospitals would scale back these services after they are no longer required to provide them.

Our results are consistent with these tax incentives being a major driver that aligns hospital behavior with stakeholders. As hospitals convert from nonprofit to for-profit, we show that they reduce all these activities that were previously mandated by the tax code to retain tax-exempt status. As shown in the previous sections, newly converted for-profit hospitals shuffle their boards and reduce the size of their ER and treatment of Medicaid patients. The tax code appears to be (at least partially) a substitute for the weak traditional governance mechanics in nonprofit hospitals documented in Lewellen et al. (2023).

## 6. Cross-sectional heterogeneity

In this section, we investigate whether the effects we document vary in the cross section based on pre-conversion ownership status (i.e., private versus public) and patient income. We focus on the subset of outcomes that relate to the provision of community benefits by hospitals.

### 6.1. Ownership status

We first consider heterogeneity in responses to for-profit status based on hospital pre-conversion ownership. Decision-makers in private nonprofit hospitals could be as responsive to incentives as their counterparts in for-profit facilities, as it relates to revenue generation. If private nonprofit hospitals behave similarly to for-profit hospitals, our results could be mainly driven by the privatization process, rather than by the conversion from nonprofit to for-profit.

To examine this possibility, we split our sample based on hospital pre-conversion status into public nonprofit hospitals and private nonprofit hospitals. We then repeat our previous IV estimation with our main dependent variables of interest for each subsample. The results, in Table IA.**13** of the Internet Appendix, show a similar effect of for-profit status for both public nonprofit hospitals (Panel A) and private nonprofit hospitals (Panel B). In particular, the magnitude of effects of for-profit status on private nonprofit hospitals are relatively larger than those for public nonprofit hospitals. Overall, these results show that our main results are not simply driven by public hospital for-profit conversion but also by private hospital conversion.

### 6.2. Patient income

Next, we examine potential differences in hospital conversion responses based on residents' income. Magge et al. (2013) estimate that more than one-third of low-income adults are underinsured and that 8% and 13% of adults defer or delay obtaining medical care or prescription medications, respectively. After for-profit conversion, profit-maximizing hospitals could be more likely to implement budget cuts if they service more low-income patients. In this case, our main results could be amplified for for-profit hospitals in poor neighborhoods.

To examine this, we split the sample based on the median value of resident income at the county in which hospitals are located based on information from the BEA website and match it to our sample based on the hospital's address. Table IA.**14** of the Internet Appendix shows

that for-profit conversion negatively and significantly affects hospital behavior regardless of the type of county where the hospital is located. However, it is worth noting that the magnitudes of the effects of for-profit status appear to be slightly larger for hospitals located in relatively richer counties (i.e., the economic magnitude of the coefficient of interest is larger in Panel A than in Panel B).

## 7. Additional tests

### 7.1. OLS and reduced-form regression results

Although OLS is subject to selection concerns and is likely to provide biased estimates, we present these results in the Internet Appendix for completeness and benchmarking purposes. Specifically, in Panel A of Table IA.16, we regress the majority of the outcome variables that we consider in our previous tests on the indicator for for-profit conversion. We find that, for the most part, OLS produces statistically significant results. However, although the signs of the OLS regressions are consistent with our IV results, coefficient magnitudes are often larger for the IV regressions, highlighting the need for an empirical strategy such as the one we utilize. In addition, this difference is likely partially driven by the fact that our IV estimation captures a local average treatment effect (LATE) as opposed to a more general average treatment effect. Since converting hospitals tend to be in financial distress, alleviating financial constraints and replacing under performing management allows these hospitals to operate without large cuts to expenses and community benefits. The tailwind from improved efficiency and capitalization partially masks the reduced community benefit provision from stakeholder orientation.

In addition, in Panel B of Table IA.16, we present the reduced-form regression for the majority of our IV estimations. Specifically, we regress our set of outcome variables on the conversion index and find that the coefficients of interest are statistically significant for all specifications, with signs that are consistent with our IV coefficient estimates.

In another test, we investigate whether our choice to scale outcomes by hospital beds

could induce bias in our tests. Effectively scaling by total beds corresponds to scaling by maximum theoretical capacity. If not-for-profit hospitals manage to achieve higher realized utilization of beds, our findings might be biased. In the internet appendix Table IA.**20** that results remain robust when scaled by inpatient days, that is, realized utilization rather than theoretical capacity.

### 7.2. 2SLS regressions including for-profit hospitals at start of sample

Finally, our main sample focuses only on potentially-treated hospitals, that is, only considers hospitals that are nonprofit at the beginning of our sample period, analogous to best practices in the difference-in-differences literature. In Appendix Table IA.**17** of the Internet Appendix, we show that including hospitals that are for-profit at the beginning of our sample does not impact our results.

### 7.3. Additional tests on legal background

Although Table **4** shows that all three individual components of our conversion index are associated with a drop in for-profit status, not all of them are purely targeted at for-profit conversions. Specifically, CON laws are broad statutes that can be triggered in a variety of contexts (i.e., they are not limited to hospital conversions). Thus, in Table **19** of the Internet Appendix, we confirm that the other two components of the index (which are solely associated with hospital conversion events) generate not just robust, but consistently stronger second-stage result compared to the conversion index.

Finally, we conclude this section by presenting 2SLS regressions that control for the secondary legal provisions discussed in Section 3.2.2. Results are presented in Table IA.**23** of the Internet Appendix. All our previous results hold, with the only exception being our result on Medicaid inpatient days becoming slightly less significant. Overall, while we cannot entirely rule out the influence of other legal provisions not captured by the model acts we consider, these results are reassuring in that one of the most obvious competing legal

frameworks is not driving our results.

### 7.4. Impulse response

Our main tests speak to changes in averages of the outcome variables between the pre- and post-conversion period. However, an important remaining question is the speed of adjustment. In Internet Appendix Table IA.**21**, we show that our results remain very similar when we lead outcomes by 1 (panel A) and 2 (Panel B) years, respectively. In effect these tests compare pre-conversion averages to post-conversion average 1 and 2 years removed from the conversion event. If effects were slowly ramping up over time, the estimates in Table IA.**21** would be larger than those in our main specification. However, we find little to no change in coefficient estimates across all outcomes. If anything, it appears as if effects set in more quickly for business processes (costs and revenues) and are slower to adjust for community benefits (ER expenditure and medicaid days), which could be consistent with the common practice of contractually agreeing a continuation of these services for some years following conversion. The absolute change in coefficients is, however, small, limiting our ability to conclude such an effect with certainty.

## 8. Conclusion

We examine how the objective function of firms in the form of different stakeholder orientations impacts firm behavior. We compare for-profit and nonprofit hospitals and introduce a novel index of state-level legislation governing for-profit conversion of healthcare institutions. We overcome the non-randomness of stakeholder orientation by using this index as an instrument for a hospital's for-profit conversion decision. We show that for-profit hospitals systematically pivot their behavior consistent with a change in their objective function. For-profit hospitals reduce operations with large community benefits but high financial costs, such as ERs that provide the bulk of charity care, while simultaneously increasing revenue by expanding profitable surgeries and cutting costs. Finally, converted hospitals also tilt capital

investment away from community needs in lieu of more (privately) profitable opportunities.

The owners of these for-profit hospitals align the actions of their organizations with their new objective function through standard corporate governance mechanisms, such as changing the composition of the board of directors. At the same time, our evidence is also consistent with the tax code (i.e., government oversight) being important to align nonprofit hospital behavior with the objectives of their communities.

Our findings raise concerns that for-profit hospitals may prioritize profitability at the expense of community benefits. Moreover, these costs may be amplified by negative spillover effects, such as increased ER costs and volume at neighboring nonprofit hospitals following a for-profit conversion, as well as the declines in patient satisfaction that we document. However, it is important to highlight that our setting does not allow to measure the overall welfare consequences of for-profit conversions. Reductions in medical staff and expenses might reflect improved efficiency. However, the decrease in community benefits, such as charity care, should be weighted against the benefits of higher tax revenue following for-profit conversions. Our paper takes an important first step in the direction of establishing a causal link between firm stakeholder orientation and firm behavior. Estimating the aggregate welfare implications of these events is an important question that we leave for future research.

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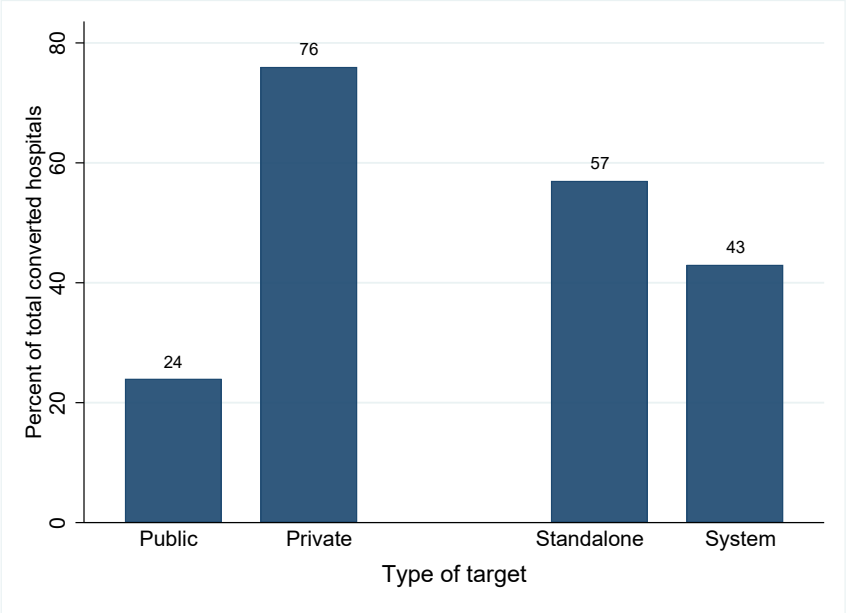
**Figure 1**
**Types of hospitals involved in for-profit conversions**
This figure shows the types of hospitals involved in for-profit conversions. Panel A shows the type of hospital that converts based on organizational structure *prior to conversion*. The panel distinguishes between (1) public nonprofit hospitals and private nonprofit hospitals and (2) standalone hospitals and those that are part of a healthcare system. Panel B shows the type of for-profit conversion based on *post-conversion status*. The panel distinguishes between (1) standalone entities after conversion and hospitals that become part of a healthcare system and (2) conversions backed by private equity and those not associated with private equity.

**Panel A: Pre-conversion type**




**Panel B: Post-conversion type**

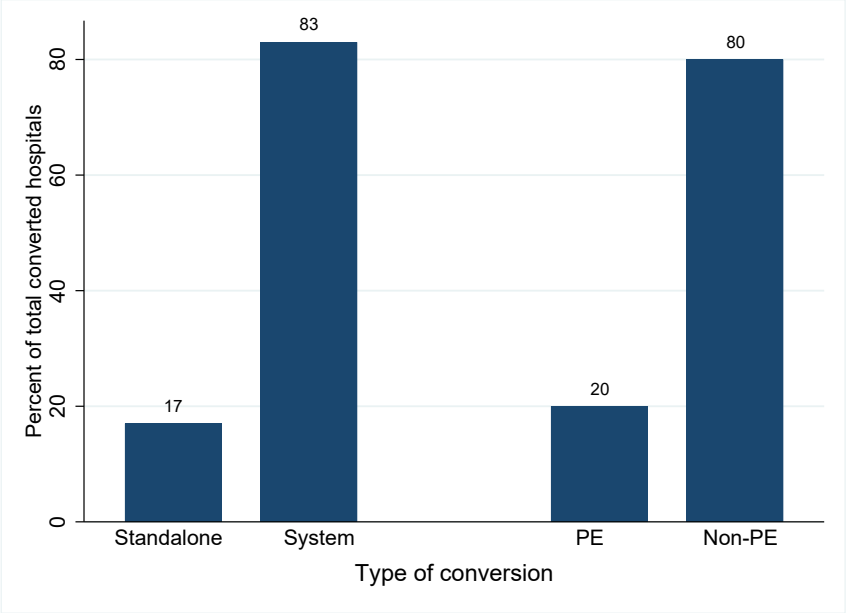
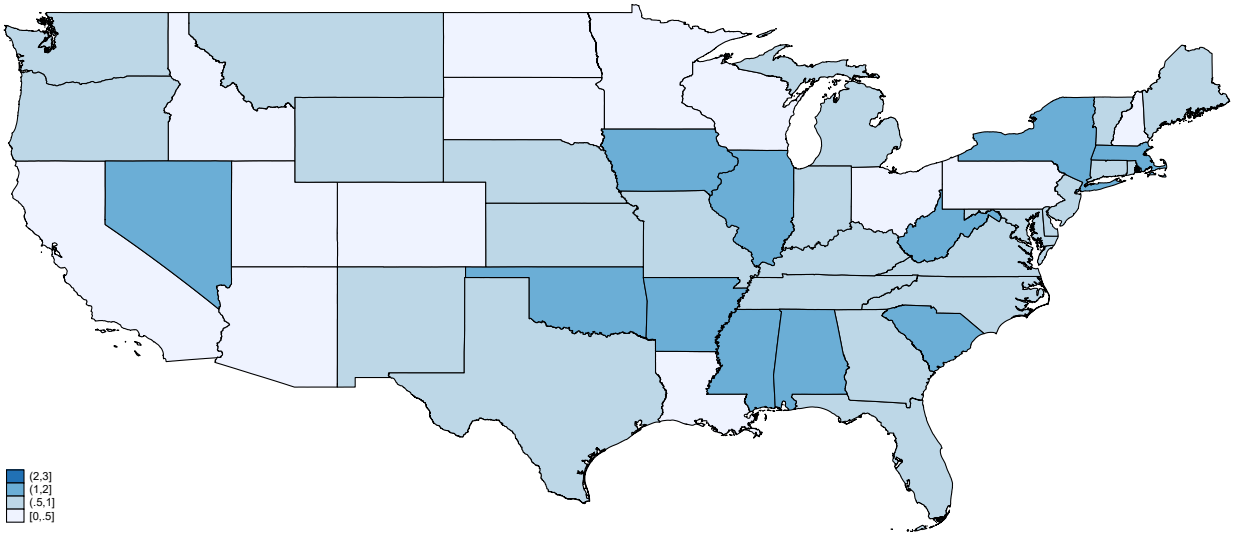


**Figure 2**
**Conversion index by state and time**
This figure shows the level of the conversion index across the contiguous states in 1990 (Panel A) and 2010 (Panel B). Darkers area represents higher index values, which indicates greater regulatory hurdles to hospitals' for-profit conversions.

**Panel A: 1990**




**Panel B: 2010**

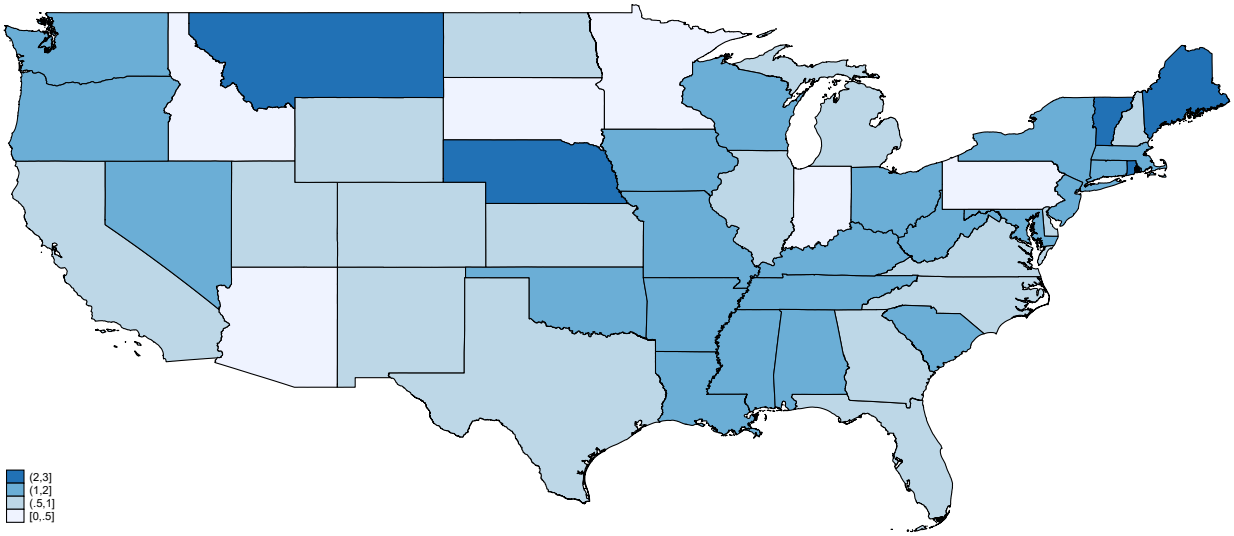


**Table 1**
**Data summary**
This table describes the data. Panels A and B describe the samples of for-profit and nonprofit hospitals, respectively. Hospital characteristics information is obtained from the AHA annual survey, and hospital financial information is obtained from the HCRIS. The sample period spans from 1991 to 2019. Federal-owned hospitals and hospitals that are for-profit at the beginning of the sample period are excluded, and variables are winsorized at the 1% level.

**Panel A: For-profit hospitals**

| | *N* | Mean | SD | p10 | p50 | p90 |
|---|---|---|---|---|---|---|
| Hospital beds | 5,096 | 145.97 | 123.62 | 25.00 | 112.00 | 332.00 |
| Payroll expenses ($,million) | 5,096 | 0.21 | 0.13 | 0.08 | 0.19 | 0.37 |
| Facility expenses ($,million) | 5,096 | 0.56 | 0.36 | 0.21 | 0.48 | 1.00 |
| Surgical ICU beds | 3,769 | 0.06 | 0.05 | 0.00 | 0.06 | 0.13 |
| Other ICU beds | 3,524 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 |
| Revenues ($,million) | 5,096 | 0.60 | 0.43 | 0.20 | 0.50 | 1.08 |
| ER expenses ($,million) | 5,096 | 0.04 | 0.04 | 0.01 | 0.03 | 0.08 |
| Medicaid days | 4,904 | 20.78 | 22.26 | 1.92 | 13.51 | 48.29 |
| ER visits | 5,096 | 190.98 | 132.48 | 61.69 | 160.76 | 366.14 |
| Social worker services | 3,769 | 80.45 | 39.67 | 0.00 | 100.00 | 100.00 |
| Assets ($,million) | 5,096 | 74.58 | 98.64 | 3.65 | 40.40 | 187.81 |
| Liabilities ($,million) | 5,086 | 51.51 | 69.09 | 2.39 | 25.13 | 131.03 |
| Leverage | 5,096 | 0.85 | 0.55 | 0.17 | 0.79 | 1.67 |

**Panel B: Nonprofit hospitals**

| | *N* | Mean | SD | p10 | p50 | p90 |
|---|---|---|---|---|---|---|
| Hospital beds | 99579 | 171.55 | 179.10 | 25.00 | 105.00 | 413.00 |
| Payroll expenses ($,million) | 99579 | 0.26 | 0.20 | 0.07 | 0.20 | 0.52 |
| Facility expenses ($,million) | 99579 | 0.63 | 0.51 | 0.14 | 0.48 | 1.31 |
| Surgical ICU beds | 88323 | 0.05 | 0.05 | 0.00 | 0.05 | 0.12 |
| Other ICU beds | 74978 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 |
| Revenues ($,million) | 99579 | 0.64 | 0.54 | 0.13 | 0.48 | 1.35 |
| ER expenses ($,million) | 99579 | 0.04 | 0.04 | 0.01 | 0.03 | 0.09 |
| Medicaid days | 97042 | 21.02 | 24.22 | 1.40 | 13.32 | 48.82 |
| ER visits | 99579 | 175.29 | 130.78 | 41.33 | 146.98 | 343.84 |
| Social worker services | 88316 | 87.25 | 33.35 | 0.00 | 100.00 | 100.00 |
| Assets ($,million) | 99579 | 157.96 | 284.82 | 4.78 | 49.96 | 414.36 |
| Liabilities ($,million) | 99536 | 74.97 | 144.46 | 1.40 | 21.04 | 196.32 |
| Leverage | 99579 | 0.50 | 0.34 | 0.14 | 0.44 | 0.89 |

**Table 2**
**First stage: For-profit status and the conversion index**
This table shows first-stage estimates of the instrumental variable regressions. The dependent variable is an indicator of whether a hospital is for-profit. The independent variable of interest is *conversion index*, which represents the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year, and the for-profit indicator is standardized to have a mean of zero and a standard deviation of one. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | For-profit | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Conversion index | -0.071*** | -0.062*** | -0.063*** | -0.058*** |
| | (0.014) | (0.014) | (0.014) | (0.014) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 104,675 | 104,675 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.59 | 0.59 | 0.59 | 0.60 |
| $F$-statistic | 24.91 | 18.89 | 18.94 | 17.24 |
| Mean of dependent variable | 0.05 | 0.05 | 0.05 | 0.05 |

**Table 3**

**For-profit status and the conversion index excluding states with lobbying or election years**

This table shows first-stage estimates of the instrumental variable regressions for various sub-samples. Column 1 excludes states where lobbying is directly linked to the passage of laws governing the conversion of healthcare institutions. Column 2 excludes states where general healthcare-related lobbying was identified (without reference to the specific conversion law). Column 3 excludes states in which lobbying efforts can be traced to for-profit hospital groups. Column 4 excludes states in which lobbying efforts can be traced to nonprofit hospital groups. Column 5 excludes states where the passage of laws governing the conversion of healthcare institutions coincided with gubernatorial elections. Column 6 excludes states where there is lobbying or the passage of laws governing the conversion of healthcare institutions coincided with gubernatorial elections The dependent variable is an indicator of whether a hospital is for-profit. The independent variable of interest is *conversion index*, the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year and the for-profit indicator is standardized to have a mean of zero and a standard deviation of one. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Sub-sample excluding | Direct lobby (1) | Indirect lobby (2) | For-profit lobby (3) | Nonprofit lobby (4) | Election years (5) | Combine (6) |
|---|---|---|---|---|---|---|
| Conversion index | -0.088*** | -0.092*** | -0.062*** | -0.087*** | -0.061*** | -0.075*** |
| | (0.015) | (0.018) | (0.015) | (0.017) | (0.016) | (0.019) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| $N$ | 92,197 | 82,750 | 92,238 | 91,982 | 93,384 | 76,600 |
| Adj.$R^2$ | 0.59 | 0.58 | 0.58 | 0.59 | 0.59 | 0.57 |
| Mean of dependent var. | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |

**Table 4**
**For-profit status and first- and second-generation state laws**
Panel A shows regressions of the for-profit indicator on the individual conversion index components. The dependent variable is an indicator of whether a hospital is for-profit. The independent variables of interest are the components of conversion index, namely Certificate of Need (CON) requirements, Attorney General (AG) approval, and approval from other agencies. The index components are lagged by one year and the for-profit indicator is standardized to have a mean of zero and standard deviation of one. Panel B shows regression of the for-profit indicator on additional, advisory laws. The dependent variable is an indicator of whether a hospital is for-profit. The independent variables are various advisory requirements, which include giving advanced notice, AG non-binding review, public disclosure hearing, and ex-post monitoring. The components are lagged by one year and the for-profit indicator is standardized to have a mean of zero and standard deviation of one. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

**Panel A: Conversion index components**

| Dependent variable | For-profit | | |
|---|---|---|---|
| | (1) | (2) | (3) |
| Certificate of need | -0.069* | | |
| | (0.041) | | |
| AG approval | | -0.051* | |
| | | (0.027) | |
| Approval from other agencies | | | -0.122*** |
| | | | (0.026) |
| Hospital FE | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes |
| $N$ | 104,675 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.60 | 0.60 | 0.60 |
| Mean of dependent variable | 0.05 | 0.05 | 0.05 |

**Panel B: Additional state-level laws**

| Dependent variable | For-profit | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Advanced notice | 0.032 | | | |
| | (0.024) | | | |
| AG non-binding review | | 0.019 | | |
| | | (0.036) | | |
| Public disclosure hearing | | | 0.017 | |
| | | | (0.023) | |
| Ex-post monitoring | | | | 0.012 |
| | | | | (0.028) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 104,675 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.60 | 0.60 | 0.60 | 0.60 |
| Mean of dependent variable | 0.05 | 0.05 | 0.05 | 0.05 |

**Table 5**
**Geographic spillovers of state-level legislation and the conversion index**
This table shows the regression of home-state conversion index on neighboring and non-neighboring conversion index averages. In column 1, the independent variable of interest is the average of the conversion index of the states in the same home state's BEA economic area. The eight BEA economic areas are: (1) New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), (2) Mideast (Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania), (3) Great Lakes (Illinois, Indiana, Michigan, Ohio, and Wisconsin), (4) Plains (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota), (5) Southeast (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia), (6) Southwest (Arizona, New Mexico, Oklahoma, and Texas), (7) Rocky Mountains (Colorado, Idaho, Montana, Utah, and Wyoming), and (8) Far West (Alaska, California, Hawaii, Nevada, Oregon, and Washington). In column 2, the additional independent variable of interest is the average of the conversion index of the states far away from the home state's BEA economic area. Independent variables are lagged by one year and the sample covers 1991 to 2019. All regressions are estimated using OLS. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | Home state conversion index | |
|---|---|---|
| | (1) | (2) |
| Average neighboring state index | 0.348*** | 0.297*** |
| | (0.048) | (0.050) |
| Average non-neighboring state index | | 0.231*** |
| | | (0.066) |
| $N$ | 1,479 | 1,479 |
| Adj.$R^2$ | 0.03 | 0.04 |
| Mean of dependent variable | 1.39 | 1.39 |

**Table 6**

**Second stage: The effect of for-profit conversion on ER expenses and Medicaid days**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage (in Table 2), the conversion index is used as an instrument for for-profit conversion. In the second stage, the dependent variable in panel A, ER expenses, represents emergency room expenditures. In panel B, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one. Dependent variables are scaled by hospital size. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

**Panel A**

| Dependent variable | ER expenses | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| For-profit | -0.049*** | -0.058*** | -0.052*** | -0.055*** |
| | (0.012) | (0.016) | (0.014) | (0.015) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 104,675 | 104,675 | 104,675 | 104,675 |
| $F$-statistic | 24.91 | 18.89 | 18.94 | 17.24 |
| Mean of dependent variable | 0.04 | 0.04 | 0.04 | 0.04 |

**Panel B**

| Dependent variable | Medicaid days | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| For-profit | -11.256*** | -12.889** | -11.666** | -11.635** |
| | (4.338) | (5.048) | (4.837) | (5.205) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 101,939 | 101,939 | 101,939 | 101,939 |
| $F$-statistic | 30.79 | 24.09 | 24.15 | 21.92 |
| Mean of dependent variable | 21.01 | 21.01 | 21.01 | 21.01 |

**Table 7**

**Second stage: The effect of for-profit conversion on profit-generating activity**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage (in Table 2), the conversion index is used as an instrument for for-profit conversion. In the second stage, the dependent variable in column 1, surgical ICU beds, represents the total number of surgical ICU beds. In column 2, the dependent variable is facility expenses. In column 3, the dependent variable is total payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one. Dependent variables are scaled by hospital size. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | Revenue center (Surgical ICU beds) (1) | Physical infrastructure (Facility expenses) (2) | Labor expenses (Payroll expenses) (3) |
|---|---|---|---|
| For-profit | 0.051*** | -0.872*** | -0.370*** |
| | (0.017) | (0.223) | (0.094) |
| Hospital FE | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes |
| $N$ | 92,047 | 104,675 | 104,675 |
| $F$-statistic | 20.61 | 17.24 | 17.24 |
| Mean of dependent variable | 0.05 | 0.63 | 0.26 |

**Table 8**
**Second stage: The effect of for-profit conversion on hospital investment**
This table shows second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. The dependent variable is hospital investment spending, which is constructed as two-year hospital fixed assets growth. Columns 1 and 2 present a sample split based on years that feature below and above median healthcare industry market return, a proxy for cost of capital and investment opportunities. Healthcare industry return is obtained from Kenneth French's website. Columns 3 and 4 present a sample split based on below and above median uninsured population growth from 2000 to 2019, a measure for the demand for unprofitable services. *Difference* represents the difference between the coefficient from the below column and the coefficient from the above column. The fitted value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Dependent variables are scaled by hospital size. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | Hospital investment spending | | | |
|---|---|---|---|---|
| | Healthcare return | | Uninsured growth | |
| | Below | Above | Below | Above |
| | (1) | (2) | (3) | (4) |
| For-profit | -0.007 | 0.099** | 0.066 | -0.048 |
| | (0.028) | (0.048) | (0.048) | (0.038) |
| *Difference* | -0.106** | | 0.114* | |
| | (0.045) | | (0.061) | |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes |
| $N$ | 54,513 | 41,477 | 55,289 | 40,657 |
| $F$-statistic | 15.87 | 12.38 | 8.92 | 4.76 |
| Mean of dependent variable | 0.03 | 0.03 | 0.03 | 0.03 |

**Table 9**
**The effect of for-profit conversion on care quality: patients' perspectives**
This table shows regressions of measures of patient satisfaction on a for-profit indicator. The dependent variables are the share of patients giving the highest rating to questions on whether they felt they received the help they needed, overall hospital rating, and whether they would recommend this hospital to others, respectively. The independent variable is an indicator of whether a hospital is for-profit. The sample spans 2009 to 2019. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | Help received (1) | Hospital rating (2) | Patient recommend (3) |
|---|---|---|---|
| For-profit | -1.325*** | -0.821* | -1.086** |
| | (0.418) | (0.422) | (0.448) |
| Hospital FE | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes |
| $N$ | 35,773 | 35,776 | 35,776 |
| Adj.$R^2$ | 0.00 | 0.00 | 0.00 |
| Mean of dependent variable | 66.30 | 69.36 | 70.26 |

**Table 10**
**The effect of for-profit conversion on neighboring hospitals**
This table shows regressions with the independent variable of interest *Nonprofit* × *Post Conversion*, the interaction of the indicator *Nonprofit* and *Post Conversion* , an indicator taking the value of 1 in years following the for-profit conversion of a hospital in the same Hospital Service Area, (HSA). We obtain HSA data from the Dartmouth Health Atlas. An HSA is a collection of ZIP codes whose residents receive most of their hospital services from a common set of hospitals. In column 1, the dependent variable, ER visits, represents the number of emergency room outpatient visits. In column 2, the dependent variable, ER expenses, represents the emergency room expenditures. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Dependent variables are scaled by hospital size. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | ER visits<br>(1) | ER expenses<br>(2) |
|---|---|---|
| Nonprofit × Post Conversion | 3.796*<br>(2.125) | 0.002***<br>(0.001) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 104,675 | 104,675 |
| Adj.$R^2$ | 0.77 | 0.79 |
| Mean of dependent variable | 176.05 | 0.04 |

**Table 11**
**The effect of for-profit conversion on board composition**
This table shows regressions of the for-profit indicator on a hospital's board composition. In column 1, the dependent variable is an indicator of the presence of at least one director holding an MBA or JD degree. In column 2, the dependent variable is an indicator of the presence of at least one director holding an MD degree. The independent variable is an indicator of whether a hospital is for-profit. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | MBA or JD<br>(1) | MD<br>(2) |
|---|---|---|
| For-profit | 0.268*** | -0.375** |
| | (0.079) | (0.170) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 776 | 776 |
| Adj.$R^2$ | 0.80 | 0.71 |
| Mean of dependent variable | 0.40 | 0.41 |

# Internet Appendix
# Corporate Behavior When Running the Firm for Stakeholders: Evidence from Hospitals

## A. Supplementary figures and tables

**Figure IA.1**
**Number of for-profit conversions per year**
This figure shows the number of conversions from nonprofit to for-profit per year over the sample period.

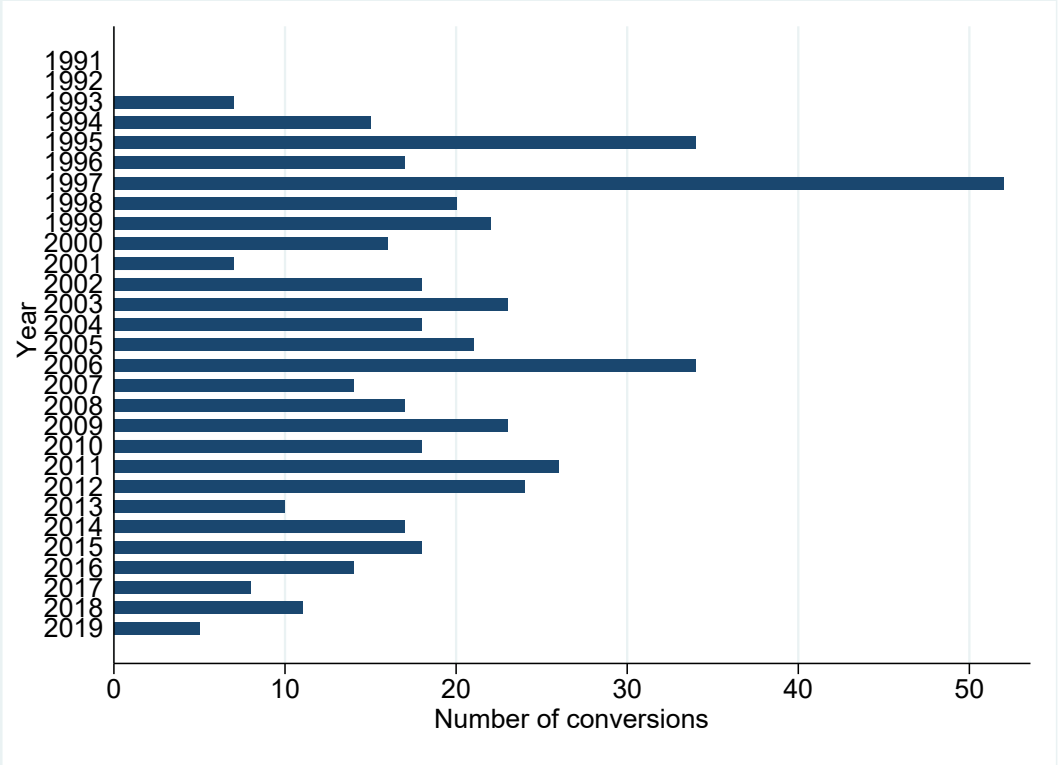
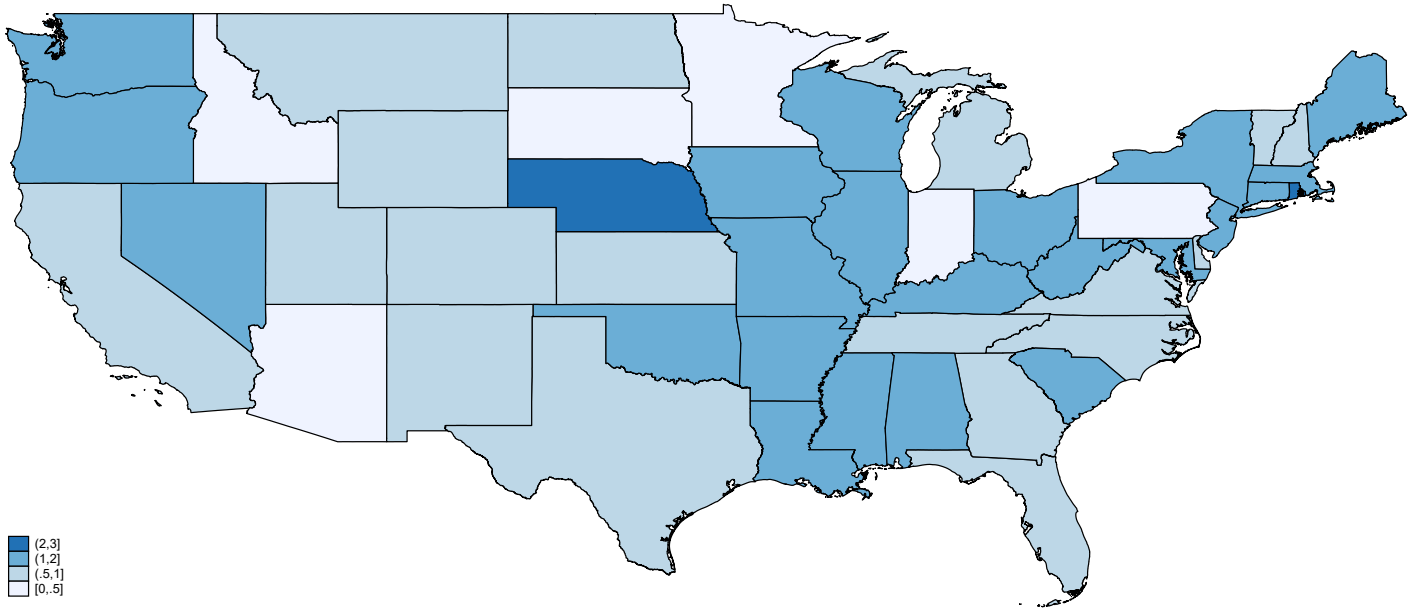


**Figure IA.2**
**Conversion index by state and time (2000 and 2019)**
This figure complements Figure 2 by showing the value of conversion index by state in 2000 (Panel A) and in 2019 (Panel B). The darker areas represent a higher value of the index, which indicates a higher level of regulatory hurdles to hospitals' for-profit conversions.

**Panel A: 2000**




**Panel B: 2019**

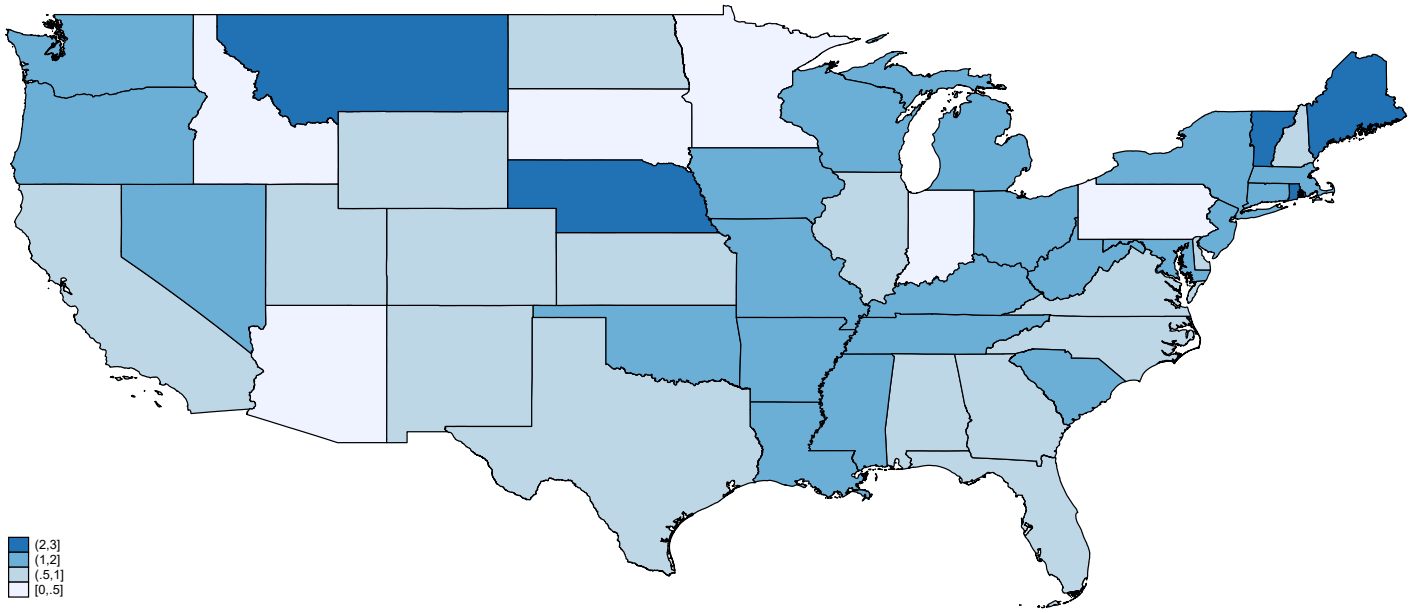


**Table IA.1**
**Data summary**
This table compares those nonprofit hospitals that eventually converted with hospitals that have never converted. Hospital characteristics variables are obtained from AHA and hospital financial variables are obtained from the HCRIS. The sample period spans from 1991 to 2019. Federal-owned hospitals and hospitals that are for-profit at the beginning of the sample period are excluded, and variables are winsorized at the 1% level. $p$-values are based on heteroscedasticity-robust standard errors clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| **Hospital groups** | Converted hospitals | Nonconverted hospitals | Difference |
|---|---|---|---|
| Hospital beds | 152.05 | 172.60 | 20.55*** |
| Payroll expenses ($,million) | 0.17 | 0.26 | 0.09*** |
| Facility expenses ($,million) | 0.41 | 0.64 | 0.23*** |
| Surgical ICU beds | 0.05 | 0.05 | -0.00* |
| Other ICU beds | 0.00 | 0.01 | 0.00*** |
| Revenues ($,million) | 0.43 | 0.65 | 0.22*** |
| ER expenses ($,million) | 0.03 | 0.04 | 0.01*** |
| Medicaid days | 21.66 | 20.97 | -0.68* |
| ER visits | 170.30 | 175.41 | 5.11** |
| Social worker services | 84.99 | 87.34 | 2.35*** |
| Assets ($,million) | 82.67 | 162.35 | 79.67*** |
| Liabilities ($,million) | 48.38 | 76.50 | 28.13*** |
| Leverage | 0.63 | 0.49 | -0.14*** |

**Table IA.2**
**Conversion index summary**
This table describes the conversion index and the legal provisions comprising it. The components include Certificate of need (CON) laws, binding Attorney General (AG) approval, and approval from other agencies. AG approval is an indicator that equals one if a state requires for-profit conversions to be approved by the state's attorney general. Approval from other agencies is an indicator that equals one if a state requires for-profit conversions to be approved by other agencies besides the state's attorney general, most commonly state departments of health. CON law required is an indicator that equals one if a state has the requirement of a "certificate of need," which mandates the review of major changes of ownership and investment in the healthcare sector. Finally, the composite index is constructed based on three types of legal provisions, which captures the introduction and the removal of these regulatory hurdles. The sample period spans 1990 to 2019.

| | *N* | Mean | SD | p10 | p50 | p90 |
|---|---|---|---|---|---|---|
| Approval from other agencies | 1,530 | 0.47 | 0.50 | 0.00 | 0.00 | 1.00 |
| AG approval | 1,530 | 0.24 | 0.43 | 0.00 | 0.00 | 1.00 |
| CON Law required | 1,530 | 0.67 | 0.47 | 0.00 | 1.00 | 1.00 |
| Conversion index | 1,530 | 1.38 | 0.83 | 0.00 | 1.00 | 2.00 |

**Table IA.3**
**Robustness: First stage regressions cluster by state**
This table shows the first-stage estimates of the instrumental variable regressions. The dependent variable is an indicator for whether a hospital is for-profit. The independent variable of interest is conversion index, the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year and the for-profit indicator is standardized to have a mean of zero and standard deviation of one. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by state. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | For-profit | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Conversion index | -0.071** | -0.062** | -0.063** | -0.058** |
| | (0.031) | (0.030) | (0.030) | (0.028) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 104,675 | 104,675 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.59 | 0.59 | 0.59 | 0.60 |
| Mean of dependent variable | 0.05 | 0.05 | 0.05 | 0.05 |

**Table IA.4**
**Robustness: regressions cluster by state**
This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by state. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.055* | -11.635 | 0.051 | -0.872** | -0.370** |
| | (0.031) | (19.459) | (0.064) | (0.420) | (0.171) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 101,939 | 92,047 | 104,675 | 104,675 |
| $F$-statistic | 4.26 | 6.26 | 5.61 | 4.26 | 4.26 |
| Mean of dependent variable | 0.04 | 21.01 | 0.05 | 0.63 | 0.26 |

**Table IA.5**
**Robustness: weak instrument robust clustering**
This table shows the second-stage estimates of the main instrumental variable regressions estimated using 2SLS, with t-statistics obtained from a weak instrument robust Anderson Rubin test. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Anderson-Rubin t statistics in parentheses are weak-instrument robust. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | ER expenses | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| For-profit | -0.049*** | -0.058*** | -0.052*** | -0.055*** |
| | (5.988) | (6.220) | (6.475) | (6.371) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 104,675 | 104,675 | 104,675 | 104,675 |
| $F$-statistic | 24.91 | 18.89 | 18.94 | 17.24 |
| Mean of dependent variable | 0.04 | 0.04 | 0.04 | 0.04 |

**Table IA.6**
**Robustness: for-profit status and the conversion index (contemporaneous and two-year lag)**
This table shows first-stage estimates of the instrumental variable regressions. The dependent variable is an indicator for whether a hospital is for-profit. The independent variable of interest is conversion index, the number of regulatory hurdles to for-profit conversion in the hospital's state. In column 1, conversion index is defined contemporaneously, at the current time $t$; in column 2, conversion index is lagged by two years. The for-profit indicator is standardized to have a mean of zero and standard deviation of one. All regressions are estimated using ordinary least squares. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | For-profit | |
|---|---|---|
| | Contemporaneous | Two-year lag |
| | (1) | (2) |
| Conversion index | -0.054*** | -0.062*** |
| | (0.015) | (0.014) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 104,675 | 104,673 |
| Adj.$R^2$ | 0.60 | 0.60 |
| Mean of dependent variable | 0.05 | 0.05 |

**Table IA.7**
**Robustness: event-time centered regression and collapsed indicator**
This table shows the regression of the for-profit indicator on conversion index. The dependent variable is an indicator for whether a hospital is for-profit. The independent variable of interest is conversion index, the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year and the for-profit indicator is standardized to have a mean of zero and standard deviation of one. In column 1, we estimate regression including event-time fixed effect. In column 2, we collapse conversion index into an indicator that takes a value of 1 whenever the index is larger than 0. All regressions are estimated using ordinary least squares. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | For-profit | |
|---|---|---|
| | Stacked | Collapsed |
| | (1) | (2) |
| Conversion index | -0.175*** | -0.106*** |
| | (0.031) | (0.025) |
| Hospital FE | Yes | Yes |
| Event-time FE | Yes | No |
| Year FE | No | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 41,431 | 104,675 |
| Adj.$R^2$ | 0.64 | 0.60 |
| Mean of dependent variable | 0.04 | 0.05 |

**Table IA.8**
**Placebo tests: nonprofit conversion, M&A activity, and the conversion index**

Column 1 estimates regression identical to the first-stage regression in Table 2, however in reverse. The dependent variable is an indicator for whether a hospital is nonprofit and the sample consists of hospitals with a for-profit status at the beginning of the sample period (i.e., hospitals that can potentially convert to nonprofit). In column 2, the dependent variable is an indicator for whether a hospital is the target of an M&A transaction in a given year (regardless of whether the takeover attempt is by a for-profit or nonprofit hospital). The indicator is based on data from Cooper et al. (2019). In both columns, the independent variable of interest is conversion index, the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year and the dependent variable is standardized to have a mean of zero and standard deviation of one. All regressions are estimated using OLS. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | Nonprofit<br>(1) | Takeover target<br>(2) |
|---|---|---|
| Conversion Index | -0.0158 | -0.0018 |
| | (0.0516) | (0.0028) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 23,784 | 50,261 |
| $Adj.R^2$ | 0.72 | 0.02 |
| Mean of dependent variable | 0.35 | 0.02 |

**Table IA.9**
**County HHI and the conversion index**

This table shows the regression of conversion index on the regional Herfindahl–Hirschman index. The dependent variable is county-level HHI, which is calculated by hospital beds. The independent variable is conversion index, the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year. All regressions are estimated using ordinary least squares. State and year fixed effects, as well as state- controls, are included as reported. Reported standard errors in parentheses are heteroscedasticity-robust and clustered by state. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | County-level HHI | | |
|---|---|---|---|
| | (1) | (2) | (3) |
| Conversion index | 0.003 | -0.003 | -0.003 |
| | (0.017) | (0.004) | (0.004) |
| State FE | No | Yes | Yes |
| Year FE | No | Yes | Yes |
| State-level controls | No | No | Yes |
| $N$ | 61,439 | 61,439 | 61,439 |
| Adj.$R^2$ | 0.00 | 0.17 | 0.17 |
| Mean of dependent variable | 0.85 | 0.85 | 0.85 |

**Table IA.10**
**Determinants of the index: past conversions, economic fundamentals, and the conversion index**

This table shows the regression of conversion index on state-level characteristics. The dependent variable is the change of conversion index from *t-1* to *t*. ln(Hospital care spending) is the nature log of state-level total hospital care spending per-capita. ln(Other healthcare spending) is the nature log of all healthcare spending per capita except hospital care spending, which includes physician services spending, other professional services spending, dental services spending, home health care spending, prescription drugs spending, durable medical products spending, nursing home care spending, and other spending. Hospital discharges is the state-level hospital discharge rate. Age-adjusted mortality rate is the state-level age-adjusted mortality rate, which is obtained from the Centers for Disease Control and Prevention (CDC) WONDER database. Number of hospitals is the total number of hospitals from AHA in a given state and year. Number of FP conversions is the total number of hospitals that were converted from nonprofit to for-profit in a given state and year. Governor is Democrat is an indicator that takes a value of 1 if a governor in a given state and year belongs to the Democratic Party. Failed FP conversions is the total number of hospitals that were converted to for-profit but that then closed within five years. Closed NFP hospitals is the total number of nonprofit hospitals closed within last five years. The independent variables are lag by 1 year. The sample is from 1992-2019. The regression is estimated using ordinary least squares. All variables are winsorized by 1 percent. Reported standard errors in parentheses are heteroscedasticity-robust and clustered by state. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | Change of conversion index (1) |
|---|---|
| ln(Hospital care spending) | -0.036 |
| | (0.034) |
| ln(Other healthcare spending) | -0.010 |
| | (0.050) |
| Hospital discharges | 0.097 |
| | (0.122) |
| Age-adjusted mortality rate | -0.080 |
| | (0.067) |
| ln(Population) | -0.009 |
| | (0.007) |
| ln(Income per capita) | -0.006 |
| | (0.044) |
| Unemployment rate | -0.003 |
| | (0.002) |
| Number of hospitals | -0.000 |
| | (0.000) |
| Number of FP conversions | 0.007* |
| | (0.004) |
| Governor is Democrat | -0.003 |
| | (0.009) |
| Failed FP conversions | 0.000 |
| | (0.025) |
| Closed NFP hospitals | 0.001 |
| | (0.002) |
| $N$ | 1,428 |
| $R^2$ | 0.01 |
| Mean of dependent variable | 0.02 |

**Table IA.11**
**Correlation between the conversion index and lobbying or election years indicator**
This table shows the correlation between the conversion index and the lobbying indicator. Direct lobby represents an indicator equal to one if states where lobbying is directly linked to the passage of laws governing the conversion of healthcare institutions. Indirect lobby represents an indicator equal to one if states where general healthcare related lobbying was identified (without reference to the specific conversion law). For-profit lobby represents an indicator equal to one if states in which lobbying efforts can be traced to for-profit hospital groups. Nonprofit lobby represents an indicator equal to one if states in which lobbying efforts can be traced to nonprofit hospital groups. Election years represents an indicator equal to one if states where the passage of laws governing the conversion of healthcare institutions coincided with gubernatorial elections.

| Correlation | Conversion index | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Direct lobby | 0.1981 | | | | |
| Indirect lobby | | 0.0978 | | | |
| For-profit lobby | | | 0.0286 | | |
| Nonprofit lobby | | | | 0.1710 | |
| Election years | | | | | -0.1681 |

**Table IA.12**
**Second stage: The effect of for-profit conversion on unprofitable hospital operations**
This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage (in Table 2), the conversion Index is used as an instrument for for-profit conversion. In the second stage, in column 1, the dependent variable, other ICU beds, represents the total number of other ICU beds, including cardiac, neonatal, pediatric, burn, other special, and other intensive care beds. It is scaled by total number of hospital beds. In column 2, the dependent variable, social worker services, is an indicator that equals one if a hospital provides social worker services. For ease of interpretation, the indicator is multiplied by 100. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | Other ICU beds (1) | Social worker services (2) |
|---|---|---|
| For-profit | -0.112** | -15.183** |
| | (0.045) | (7.638) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 78,172 | 92,040 |
| $F$-statistic | 8.77 | 20.61 |
| Mean of dependent variable | 0.05 | 86.99 |

**Table IA.13**
**Subsample analysis: public hospitals vs. private hospitals**
This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. Public represents a sample which only includes hospitals that are public at the beginning of the sample, while private represents a sample which only includes hospitals that are private-nonprofit at the beginning of the sample. In columns 1 and 2, the dependent variable, ER expenses, represents emergency room expenditures. In columns 3 and 4, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. Difference represents the difference between the coefficient from private column and the coefficient from public column. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | ER expenses | | Medicaid days | |
|---|---|---|---|---|
| | Public | Private | Public | Private |
| | (1) | (2) | (3) | (4) |
| For-profit | -0.035* | -0.057*** | -14.520* | -9.365 |
| | (0.019) | (0.017) | (8.427) | (5.841) |
| Difference | 0.022 | | -5.156 | |
| | (0.025) | | (10.251) | |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes |
| $N$ | 33,360 | 71,315 | 32,152 | 69,787 |
| $F$-statistic | 5.62 | 14.65 | 11.86 | 14.99 |
| Mean of dependent variable | 0.04 | 0.04 | 18.94 | 21.97 |

**Table IA.14**
**Subsample analysis: high income vs. low income**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. Panel A presents a sample split for hospitals located in counties with below median income per capita in 1990. Panel B, presents a sample split for hospitals located in rural counties. In columns 1 and 2, the dependent variable, ER expenses, represents emergency room expenditures. In columns 3 and 4, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. Difference represents the difference between the coefficient from above column and the coefficient from below column. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

**Panel A: high vs. low income**

| Dependent variable | ER expenses | | Medicaid days | |
|---|---|---|---|---|
| | Below | Above | Below | Above |
| | (1) | (2) | (3) | (4) |
| For-profit | -0.047*** | -0.071** | -14.854** | -9.038 |
| | (0.017) | (0.034) | (6.035) | (10.034) |
| Difference | 0.024 | | -5.816 | |
| | (0.038) | | (11.698) | |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes |
| $N$ | 35,846 | 67,825 | 34,716 | 66,246 |
| $F$-statistic | 12.78 | 4.78 | 19.95 | 5.06 |
| Mean of dependent variable | 0.04 | 0.04 | 16.98 | 23.08 |

**Panel B: rural vs. urban**

| Dependent variable | ER expenses | | Medicaid days | |
|---|---|---|---|---|
| | Rural | Urban | Rural | Urban |
| | (1) | (2) | (3) | (4) |
| For-profit | -0.068** | -0.051** | -30.237*** | 8.185 |
| | (0.026) | (0.020) | (10.463) | (7.104) |
| Difference | 0.017 | | 38.421*** | |
| | (0.033) | | (12.646) | |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes |
| $N$ | 51,671 | 52,760 | 49,878 | 51,822 |
| $F$-statistic | 8.83 | 7.14 | 13.30 | 7.89 |
| Mean of dependent variable | 0.04 | 0.04 | 14.39 | 27.30 |

**Table IA.15**

**Second stage: The effect of for-profit conversion on community health outcomes**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. To capture for-profit conversion on community health outcomes, we restrict the sample to only include hospitals that are the only hospital in a specific HSA across the sample period. In the second stage, in column 1, the dependent variable, Medicare costs, represents the HSA-level price-adjusted total Medicare reimbursements per enrollee. In column 2, the dependent variable, age-adjusted mortality, represents the HSA-level age-standardized percent of deaths among Medicare enrollees. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | Medicare costs<br>(1) | Age-adjusted mortality<br>(2) |
|---|---|---|
| For-profit | 4023.614** | -0.467 |
| | (1855.699) | (0.966) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 60,487 | 39,514 |
| $F$-statistic | 5.01 | 0.62 |
| Mean of dependent variable | 7538.03 | 4.91 |

**Table IA.16**
**Baseline and reduced form regressions**
Panel A shows the regression of the for-profit indicator on our main hospital's outcomes. Panel B shows the regression of conversion index on our main hospital's outcomes. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is surgical ICU beds. In column 4 the dependent variable,is total facility expenses. In column 5, the dependent variable is the hospital's payroll expenses. All regressions are estimated using ordinary least squares. Independent variables are scaled by total number of hospital beds. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level, controls are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

**Panel A**

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.008*** | 0.417 | 0.003* | -0.120*** | -0.061*** |
| | (0.001) | (0.641) | (0.002) | (0.011) | (0.004) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 101,939 | 92,047 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.25 | 0.03 | 0.03 | 0.29 | 0.26 |
| Mean of dependent variable | 0.04 | 21.01 | 0.05 | 0.63 | 0.26 |

**Panel B**

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| Conversion Index | 0.003*** | 0.743** | -0.003*** | 0.051*** | 0.022*** |
| | (0.001) | (0.290) | (0.001) | (0.006) | (0.002) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 101,939 | 92,047 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.25 | 0.03 | 0.03 | 0.29 | 0.26 |
| Mean of dependent variable | 0.04 | 21.01 | 0.05 | 0.63 | 0.26 |

**Table IA.17**
**Robustness: First and second stage regressions include always treated hospitals**
Panel A of this table shows the first-stage estimates of the instrumental variable regressions. The dependent variable is an indicator for whether a hospital is for-profit. The independent variable of interest is conversion index, the number of regulatory hurdles to for-profit conversion in the hospital's state. The index is lagged by one year and the for-profit indicator is standardized to have a mean of zero and standard deviation of one. All regressions are estimated using OLS. Panel B of this table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable, surgical ICU beds, represents the total number of surgical ICU beds. In column 4, the dependent variable, facility expenses, represents the facility expenses. In column 5, the dependent variable, payroll expenses, represents a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

**Panel A: First stage regression**

| Dependent variable | For-profit | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Conversion index | -0.032*** | -0.030*** | -0.030*** | -0.027*** |
| | (0.009) | (0.010) | (0.010) | (0.009) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 117,358 | 117,358 | 117,358 | 117,358 |
| Adj.$R^2$ | 0.80 | 0.80 | 0.80 | 0.81 |
| Mean of dependent variable | 0.05 | 0.05 | 0.05 | 0.05 |

**Panel B: Second stage regression**

| Dependent variable | ER expenses | Medicaid days | Surgical ICU bed | Facility expenses | Payroll expenses |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| For-profit | -0.113*** | -17.375* | 0.116** | -1.832*** | -0.776*** |
| | (0.042) | (10.553) | (0.045) | (0.645) | (0.272) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 117,358 | 113,857 | 101,892 | 117,358 | 117,358 |
| $F$-statistic | 8.44 | 11.40 | 10.19 | 8.44 | 8.44 |
| Mean of dependent variable | 0.04 | 20.99 | 0.05 | 0.62 | 0.25 |

**Table IA.18**
**Second stage: Regressions controlling for the secondary index**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS and include the secondary index (see Table 4) as a control variable. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.037*** | -4.469 | 0.052*** | -0.578*** | -0.258*** |
| | (0.010) | (4.133) | (0.017) | (0.141) | (0.062) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| Secondary index control | Yes | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 101,939 | 92,047 | 104,675 | 104,675 |
| $F$-statistic | 21.44 | 23.25 | 19.68 | 21.44 | 21.44 |
| Mean of dependent variable | 0.04 | 21.01 | 0.05 | 0.63 | 0.26 |

**Table IA.19**
**First and second stage: Regressions with index excluding CON laws**

This table shows the first stage and second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

**Panel A: First-stage**

| Dependent variable | For-profit | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Conversion index | -0.085*** | -0.072*** | -0.072*** | -0.066*** |
| | (0.016) | (0.016) | (0.016) | (0.016) |
| Hospital FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| State-level controls | No | Yes | Yes | Yes |
| Hospital-level controls | No | No | Yes | Yes |
| Financial-level controls | No | No | No | Yes |
| $N$ | 104,675 | 104,675 | 104,675 | 104,675 |
| Adj.$R^2$ | 0.59 | 0.59 | 0.59 | 0.60 |
| Mean of dependent variable | 0.05 | 0.05 | 0.05 | 0.05 |

**Panel B: Second-stage**

| Dependent variable | ER expenses | Medicaid days | Surgical ICU bed | Facility expenses | Payroll expenses |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| For-profit | -0.058*** | -22.536*** | 0.074*** | -1.037*** | -0.421*** |
| | (0.016) | (6.572) | (0.020) | (0.256) | (0.104) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 101,939 | 92,047 | 104,675 | 104,675 |
| $F$-statistic | 18.28 | 25.67 | 22.83 | 18.28 | 18.28 |
| Mean of dependent variable | 0.04 | 21.01 | 0.05 | 0.63 | 0.26 |

**Table IA.20**
**Second stage: Regressions scaling by inpatient days**
This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total facility inpatient days. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.10$.

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.030*** | -4.225* | 0.038*** | -0.527*** | -0.221*** |
| | (0.011) | (2.281) | (0.012) | (0.142) | (0.059) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 104,675 | 101,939 | 92,047 | 104,675 | 104,675 |
| $F$-statistic | 17.24 | 21.92 | 20.61 | 17.24 | 17.24 |
| Mean of dependent variable | 0.03 | 10.38 | 0.03 | 0.37 | 0.15 |

**Table IA.21**
**Second stage: Regressions with lead outcomes**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS and include the secondary index (see Table 4) as a control variable. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

**Panel A: Lead 1 year outcomes**

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.058*** | -14.882*** | 0.036** | -0.907*** | -0.378*** |
| | (0.015) | (5.295) | (0.015) | (0.218) | (0.090) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 99471 | 96770 | 87045 | 99471 | 99471 |
| $F$-statistic | 20 | 25 | 21 | 20 | 20 |
| Mean of dependent variable | 0.04 | 20.81 | 0.05 | 0.64 | 0.26 |

**Panel A: Lead 2 year outcomes**

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.060*** | -17.859*** | 0.028* | -0.934*** | -0.386*** |
| | (0.015) | (5.516) | (0.015) | (0.212) | (0.087) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 94270 | 91591 | 82211 | 94270 | 94270 |
| $F$-statistic | 22 | 27 | 22 | 22 | 22 |
| Mean of dependent variable | 0.04 | 20.60 | 0.05 | 0.66 | 0.27 |

**Table IA.22**
**Second stage: Revenue analysis**
This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable is net income from service to patients, which is calculated as net patient revenues less total operating expenses. In column 2, the dependent variable is income from contributions, donations, and bequests. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | Income from service to patients (1) | Income from Contributions & Donations (2) |
|---|---|---|
| For-profit | -0.019 | -0.077** |
| | (0.036) | (0.035) |
| Hospital FE | Yes | Yes |
| Year FE | Yes | Yes |
| State-level controls | Yes | Yes |
| Hospital-level controls | Yes | Yes |
| Financial-level controls | Yes | Yes |
| $N$ | 104,675 | 104,675 |
| $F$-statistic | 18.12 | 18.12 |
| Mean of dependent variable | -0.02 | 0.04 |

**Table IA.23**
**Second stage: Regressions excluding excluding states with lobbying**

This table shows the second-stage estimates of the instrumental variable regressions estimated using 2SLS and include the secondary index (see Table 4) as a control variable. In the first stage, the conversion index is used as an instrument for for-profit conversion. In column 1, the dependent variable, ER expenses, represents the emergency room expenditures. In column 2, the dependent variable, Medicaid days, represents the number of Medicaid inpatients days. In column 3, the dependent variable is the total number of surgical ICU beds. In column 4, the dependent variable is total facility expenses. In column 5 the dependent variableis a hospital's payroll expenses. The instrumented value from the first stage is the main explanatory variable. The main explanatory variable is standardized to have a mean of zero and standard deviation of one in all columns. Dependent variables are scaled by total number of hospital beds. Hospital and year fixed effects, as well as state-, hospital-, and financial-level controls, are included as reported. Standard errors in parentheses are heteroscedasticity-robust and clustered by hospital. ***$p$ <0.01, **$p$ <0.05, *$p$ <0.10.

| Dependent variable | ER expenses (1) | Medicaid days (2) | Surgical ICU bed (3) | Facility expenses (4) | Payroll expenses (5) |
|---|---|---|---|---|---|
| For-profit | -0.030*** | -11.894** | -0.012 | -0.555*** | -0.275*** |
| | (0.009) | (5.382) | (0.011) | (0.133) | (0.062) |
| Hospital FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |
| State-level controls | Yes | Yes | Yes | Yes | Yes |
| Hospital-level controls | Yes | Yes | Yes | Yes | Yes |
| Financial-level controls | Yes | Yes | Yes | Yes | Yes |
| $N$ | 82,750 | 80,967 | 72,980 | 82,750 | 82,750 |
| $F$-statistic | 26.98 | 25.32 | 21.35 | 26.98 | 26.98 |
| Mean of dependent variable | 0.04 | 20.09 | 0.05 | 0.59 | 0.24 |