

# **Does it Matter if Your Health Insurer is For-Profit? Effects of Ownership on Premiums, Insurance Coverage, and Medical Spending**

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## **Abstract**

For-profit insurers account for half of private health insurance in the U.S., notwithstanding concerns about the quality and price of their policies. Using a national panel dataset from 1997-2009 encompassing ~10 million employer-insured lives per year, we study the effects of conversions of Blue Cross and Blue Shield affiliates in 11 states (and 28 distinct geographic markets) on employer-sponsored premiums. Conversions have no impact on premiums on average, but in markets where the converting affiliate commanded substantial market share, both the BCBS affiliate and its rivals increased premiums after conversion. We also find Medicaid enrollment rates increased in these areas, which suggests “crowd in” of families who were formerly privately-insured. The results are consistent with greater exercise of market power by for-profit insurers.

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## I. Introduction

The Affordable Care Act (ACA) of March 2010 is projected to achieve near-universal coverage of the (legal) U.S. nonelderly population.<sup>1</sup> By the end of the decade, officials expect the number of insured individuals to increase by 25 million, with half of this increase accruing to private insurers (and the other half to the Medicaid program). Approximately 20 million individuals are projected to receive subsidies to purchase private insurance through the state-specific insurance marketplaces (formerly called exchanges). Federal spending on these subsidies is estimated at \$681 billion over the first 10 years.

This expansion of the private insurance sector generated significant controversy during the debate preceding the passage of the ACA. In a widely-publicized speech to the American Medical Association, President Obama averred “what I refuse to do is simply create a system where insurance companies have more customers on Uncle Sam’s dime, but still fail to meet their responsibilities.”<sup>2</sup> The most strident criticism was often directed toward for-profit insurers, who were accused of putting profits before patients. Indeed, the final legislation included \$6 billion of funding for new, not-for-profit co-ops.<sup>3</sup> Per Senator Kent Conrad (R-ND), the sponsor of the Consumer-Owned and Oriented Plan (CO-OP), these new insurers “will focus on getting the best value for customers, rather than maximizing plan revenues or profits.”<sup>4</sup> According to Conrad, “[m]any experts believe co-ops, *as non-profits*, could offer significant discounts when compared to traditional, for-profit insurance companies.”<sup>5</sup>

In this paper, we consider the effect of for-profit ownership on pricing, insurance coverage, and medical loss ratios (the share of premiums spent to reimburse medical claims). While there is an extensive theoretical and empirical literature examining the impact of ownership form on outcomes in the hospital sector (e.g., Weisbrod (1988), Cutler (2000), Sloan (2000), and Duggan (2000), to cite but a few), there is comparatively little research of this kind focusing on the health insurance industry. (A notable exception we discuss below is Town, Feldman, and Wholey (2004), which examines conversions of not-

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<sup>1</sup> All figures are from “CBO’s May 2013 Estimate of the Effects of the Affordable Care Act on Health Insurance Coverage,” available at

[http://www.cbo.gov/sites/default/files/cbofiles/attachments/44190\\_EffectsAffordableCareActHealthInsuranceCoverage\\_2.pdf](http://www.cbo.gov/sites/default/files/cbofiles/attachments/44190_EffectsAffordableCareActHealthInsuranceCoverage_2.pdf).

<sup>2</sup> [http://www.usatoday.com/news/washington/2009-06-15-obama-speech-text\\_N.htm](http://www.usatoday.com/news/washington/2009-06-15-obama-speech-text_N.htm)

<sup>3</sup> A total of \$2 billion has been spent to fund 23 state co-ops, 13 of which are offering healthplans for calendar year 2014. All remaining funding was eliminated in the October 2013 budget deal. (Sources: Kaiser Family Foundation “CO-OP Loans Awarded” and “Health Care Law Fails to Lower Prices for Rural Areas,” *New York Times* 10/23/2013)

<sup>4</sup> “FAQ about the Consumer-Owned and –Oriented Plan (CO-OP),” accessed 7/15/2010 at [http://conrad.senate.gov/issues/statements/healthcare/090813\\_coop\\_QA.cfm](http://conrad.senate.gov/issues/statements/healthcare/090813_coop_QA.cfm).

<sup>5</sup> *ibid.* Emphasis added. Senator Conrad’s office did not respond to a request for the names of the experts.

for-profit HMOs to for-profit status between 1987 and 2001. The authors find no short-term effects on premiums or profits of converting firms.)

Theoretical models offer ambiguous predictions, underscoring the value of empirical analysis. Many models of not-for-profit (NFP) behavior in healthcare settings predict underpricing relative to for-profits (FPs), holding quality constant. These models assume that NFPs explicitly value the quantity of care provided (“access” in the policy vernacular), whereas FPs value these attributes only as inputs into profits. Alternative, consumer-focused theories posit that FPs must underprice to compensate consumers for the more severe agency problem which arises from strict profit maximization. Of course, if ownership form is associated with productivity, pricing will reflect these differences as well. While our analysis does not explicitly distinguish among these various mechanisms, it uncovers important differences in the observed behavior of FP and NFP insurers. These are especially pertinent in light of the substantial reforms and regulatory actions currently impacting private health insurance markets.

Our primary data source is the Large Employer Health Insurance Dataset (LEHID). This proprietary panel dataset of employer-sponsored healthplans includes information on ~10 million enrollees annually. During our study period, 1997-2009, over 950 employers – primarily multisite, publicly-traded firms – are represented in the sample. The data span 139 geographic insurance markets, which (per the data source) reflect the boundaries used by insurers when setting premiums. We also utilize state-level data from the Current Population Survey and the National Association of Insurance Commissioners to evaluate the impact of FP market share on insurance coverage rates and insurer medical loss ratios, respectively.

Given the dearth of information on the ownership status of health insurers, we begin by documenting important facts about FP insurance in the LEHID, including market penetration by region, by product type, by insurance type (i.e., self-insurance vs. full insurance), and over time. To explore the relationship between FP status and premiums, we develop a regression-adjusted premium index for each of the 139 geographic markets over the 13-year study period. In each market, this index captures the average year-on-year growth for the same healthplan (defined as the same employer, market, carrier, and plan type (such as HMO)), controlling for observable changes in plan design and demographics. We construct these indices separately for fully-insured and self-insured plans, as these plans are priced differently and subject to different regulations and competitive environments.

We find no significant association between changes in market-level FP share and our market-level premium index, controlling for market-year covariates such as the local unemployment rate and Medicare spending (as proxies for trends in medical utilization). However, time-varying omitted characteristics may bias these estimates if they are correlated with FP share. For example, FP carriers may strategically expand where they can enjoy the highest margin growth.

In order to address this identification concern, we exploit plausibly exogenous shocks to local FP share generated by ownership conversions of Blue Cross and Blue Shield (BCBS) affiliates in 11 states. A wave of conversions and unsuccessful attempts to convert followed the 1994 decision by the national umbrella organization to permit conversions of local BCBS plans to FP status. BCBS affiliates offer insurance throughout the United States, and typically rank first or second in terms of local market shares (Robinson 2006).

We compare premium growth for plans in the 11 states (with 28 distinct geographic markets) experiencing conversions with premium growth for plans in the 7 states (plus DC, yielding 19 “control” markets) whose local BCBS affiliates attempted to convert but, owing to a variety of factors such as community opposition, golden parachutes for executives, and regulatory actions, ultimately failed in this effort. If the ability to consummate a conversion is orthogonal to other determinants of premiums, then local BCBS FP status can serve as an instrument for market-level FP penetration in this sample. This assumption is supported by the similar pre-conversion trends in premiums in areas with and without consummated conversions.

We find no statistically-significant impact of BCBS conversions on market-level prices, *on average*. However, when we separate markets by whether the pre-conversion BCBS share is above or below average (20.2 percent in our sample),<sup>6</sup> we find that above-average (“high BCBS”) markets experienced an increase in fully-insured premiums of roughly 13 percent. The modest estimated effect on self-insured premiums (a marginally-significant 4 percent) is consistent with more robust competition for this customer segment (Dafny 2010). Notably, there are also no significant pre-trends for high or low BCBS markets prior to conversion. 2SLS estimates (using the timing and size of conversions as instruments) suggest a one standard deviation increase in market FP share (27 percentage points) leads to premiums that are approximately 7 percent higher.

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<sup>6</sup> As we discuss in Section IV.B, our threshold shares likely correspond to higher shares in the entire commercial insurance market (i.e., including individuals, small employers, and large but primarily single-site employers).

We extend our premium analysis by constructing separate indices for BCBS and non-BCBS plans and estimating the key specifications using each. The results show that post-conversion price increases in high-BCBS share markets were common to BCBS and non-BCBS plans. Thus, a simple comparison of price changes for converting and non-converting plans in the same market – a common methodology for case studies of conversions – would understate the effect of conversion. This spillover effect on rivals confirms earlier work suggesting prices in health insurance markets are strategic complements (Dafny 2010; Dafny, Duggan and Ramanarayanan 2012).

We also evaluate the effect of the BCBS conversions on insurance coverage and medical loss ratios. As these outcomes are only available at the state-year level, our sample size is considerably smaller. However, we find statistically significant increases in Medicaid enrollment rates in states with relatively large BCBS conversions, as compared to states with smaller conversions or failed conversion attempts. Where they occur, increases in Medicaid enrollment appear to be offset by statistically-insignificant decreases in employer-sponsored and individual insurance, yielding no net effect on overall insurance coverage. Medical loss ratios at the state-year level do not appear to change in response to conversions. However, we find that rivals of converting BCBS affiliates experienced significant increases in their MLRs, which were offset by (insignificant) decreases on the part of converting BCBS affiliates. This pattern of findings is consistent with a transfer of higher-risk customers from converting plans to rivals, although we lack the data to confirm this mechanism.

Considered as a whole, the results suggest that sizeable BCBS conversions resulted in higher prices, crowd-in to Medicaid programs, and no net change in medical spending per premium dollar. While it is difficult to assess whether the “BCBS conversion effect” is a good estimate of the average difference in NFP and FP insurers in general, this effect is plausibly predictive of the impacts of changes in FP share in the future (i.e., the marginal FP insurer). First, a large number of BCBS affiliates are still NP, and some are still contemplating conversion (e.g., Horizon Blue Cross in New Jersey) or taking intermediate steps (e.g., BCBS of Michigan, which converted in 2012 from NFP to mutual ownership). Second, nearly all 13 of the co-ops who are currently offering plans on the 34 federally-facilitated insurance marketplaces are reportedly at risk of becoming insolvent.<sup>7</sup> Absent additional funding (such as could be provided by investors), these new insurers face a high risk of folding or converting.

The paper proceeds in five additional sections. In Section II, we discuss the historical origins of FP insurers, summarize prior relevant research, and provide some background on the BCBS conversions

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<sup>7</sup> “Health co-ops, created to foster competition and lower insurance costs, are in danger,” *Washington Post*, October 22, 2013.

that underlie our identification strategy. We describe our data sources in Section III. We present our estimates of the effect of FP ownership on premiums in Section IV. We discuss results on non-price outcomes in Section V. Section VI concludes.

## II. Background

### A. *Origin and Evolution of FP Insurance Plans in the U.S.*

The U.S. health insurance industry originated in the 1930s with the formation of prepaid insurance plans by hospitals, which were designed to cover inpatient charges. These came to be known as Blue Cross plans and incorporated several features proposed by the American Hospital Association (AHA), including being chartered as charitable organizations designed to serve the community. Blue Shield plans subsequently arose to cover physician charges. The two Blues merged to form the Blue Cross Blue Shield Association in 1982. FP insurers entered the market toward the middle of the 20<sup>th</sup> century, when health insurance enrollment soared as employers sought alternative forms of employee compensation in the wake of WWII-era wage controls.

Precise figures on current or historical market shares of FP insurers are difficult to obtain. According to America's Alliance for Advancing Nonprofit Health Care, approximately 52 percent of healthplan members were covered through FP insurers in 2008.<sup>8</sup> Using data from the National Association of Insurance Commissioners (NAIC), an organization of state regulators, we obtain a similar figure (54 percent) for 2008.<sup>9</sup> However, the NAIC data excludes self-insured enrollees, as only fully-insured plans are regulated by the states.<sup>10</sup> In the LEHID, we find FP shares of 47 percent among fully-insured members and 72 percent in the self-insured segment, also in 2008.<sup>11</sup> Clearly, FPs play an important role in the U.S. health insurance industry in general, and a particularly significant role in the large employer segment, the focus of this study.

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<sup>8</sup> This estimate includes enrollees in government-financed plans, as well as most enrollees in self-insured plans, but excludes healthplans with <100,000 enrollees. ("Basic Facts & Figures: Nonprofit Health Plans," The Alliance for Advancing Nonprofit Health Care.)

<sup>9</sup> We discuss the NAIC data in Section III. Our tabulations reflect only enrollment in comprehensive medical insurance. Total enrollment using this definition is 86 million in 2008. Both NAIC and LEHID FP shares pertain to enrollment in plans offered by stock corporations.

<sup>10</sup> The NAIC data also exclude plans from the state of California, which has high FP penetration.

<sup>11</sup> Self-insurance is more common in LEHID relative to the (nonelderly) insured population at large. In 2008, 80 percent of LEHID enrollees were in self-insured plans, whereas 55 percent of workers with health insurance were in self-insured plans. Source: "Fast Facts," February 11, 2009 #114, *Employee Benefit Research Institute*.

## ***B. Prior Research***

The literature examining ownership status in the health insurance industry is relatively sparse. Before turning to these studies, we note that our work is informed by the rich theoretical and empirical literature on ownership status in the U.S. hospital industry. Recent surveys of this literature can be found in Capps et al. (2010) and Chang and Jacobson (2011). Chang and Jacobson characterize four key models, all of which extend naturally to the insurance setting. At one end of the spectrum is the “for-profits in disguise” (FPID) model, which posits that NFPs behave no differently than FPs.<sup>12</sup> At the other end is “pure altruism,” and in between is “output (and/or quality) maximization” and “perquisite maximization.” Both altruists and output-maximizers value access to care, leading to underpricing (relative to FPIDs or FPs). However, FPs/FPIDs and NFPs can co-exist (i.e., both serve customers) for a variety of reasons, such as capacity constraints, cost differences, and product differentiation. While capacity constraints are less relevant in the insurance industry, costs may certainly vary by ownership form, and there are many sources of differentiation, including reputation/marketing, provider networks, benefit design, and customer service. In sum, flexible theoretical models allow for a variety of predictions vis-a-vis price, quantity, and quality.

The small literature on ownership status of health insurers can be subdivided into two general categories defined by the outcomes considered: plan quality/enrollee satisfaction, and plan pricing/profits. Most studies of the first type find higher levels of quality and satisfaction for NFP plans. Using data on Medicare HMOs from 1998, Schneider et al. (2003) report that FP HMOs score lower on four audited HEDIS measures (breast cancer screening, diabetic eye examinations, administering beta blockers after heart attack, and follow-up after mental illness hospitalization).<sup>13</sup> Controlling for county fixed effects and socioeconomic factors (including age, gender, area income and rural residence) of plan enrollees has little impact on the estimates. Studies comparing FP and NFP healthplans also find that consumer satisfaction is higher among enrollees of NFP plans (Gillies et al 2006), especially for patients in poor health (Tu and Reschovsky 2002). Finally, NFP plans appear to perform better with respect to provision of care for less affluent populations such as Medicaid enrollees (Long 2008).

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<sup>12</sup> This conjecture has empirical support from a number of studies including Duggan (2002), Cutler and Horwitz (2000), Silverman and Skinner (2004), Dafny (2005), and Capps et al. (2010). Collectively, these studies find that NFP hospitals behave similarly to FPs, particularly in markets where they face greater competition from FP hospitals, on dimensions like pricing, profitability, “gaming” of reimbursement codes, quality of care, and service offerings.

<sup>13</sup> HEDIS stands for “Healthcare Effectiveness Data and Information Set.” As of 1998, healthplans participating in Medicare Part C (then primarily HMOs) are required to report HEDIS measures to CMS.

The two studies that consider financial measures (profits and premiums) find little impact of ownership on these dimensions. Both rely on data from Interstudy, a private firm that has historically provided data only on HMOs, and thus the analyses are limited to this product line. Pauly et al. (2002) use data from 1994-1997 and find no association between MSA-level HMO profits and FP HMO penetration. Town, Feldman and Wholey (2004) study the effects of HMO conversions to FP status between 1987 and 2001. They find no significant impact of these conversions on a broad range of outcomes, including prices (estimated as average revenue per enrollee), profit margins, and utilization.

Our study also relies on conversions to identify the effect of ownership status; however there are important differences in our sample, unit of observation, study design, and outcomes of interest. First, we focus only on the set of markets experiencing conversions or conversion attempts; thus, our treatment and control groups are likely to be more similar than the implicit treatment and control groups in prior studies. Our data include all plan types (HMO, POS, PPO, and indemnity), as well as funding arrangements (fully insured and self-insured). The original unit of observation is the employer-market-insurance type-carrier-plan type, which enables us to include a rich set of controls for the underlying insured population and the characteristics of their healthplans when constructing a market-year premium index. We also study the effects of conversions on premiums offered by both converting and nonconverting firms. This is of particular relevance given the nature of competition among insurers. To the extent that insurance prices are strategic complements, price increases by one firm will be reinforced by its rivals, who will optimally raise price in response. Thus, research that implicitly relies on non-converting plans as a control group for converting plans may generate downward-biased estimates of price effects.

In addition, we explore the impact of conversions on medical loss ratios and insurance coverage rates, both of which are measured at the state-year level. The medical loss ratio (MLR) is of interest both as a rough measure of profits (Karaca-Mandic et al. 2013) and of quality. A high MLR implies a greater share of premiums is spent directly on patients (as opposed to management or profits). Of course, linking high MLRs with quality assumes more spending leads to better health, and that management generates no value, assertions which are appropriately disputed in the literature (e.g., Robinson 1997). The insurance coverage analysis permits an indirect assessment of the premium effects of conversions, as higher private-sector prices should crowd out some private coverage and potentially crowd in some Medicaid coverage (particularly the children of parents dropping private coverage).



### C. *Blue Cross Blue Shield Plans*

Our analysis utilizes the conversion of 11 BCBS plans to FP stock corporations as a source of plausibly exogenous variation in the local market share of FP plans. BCBS plans are often the dominant insurers in their local markets, so conversion typically leads to a sharp increase in local FP share. Robinson (2006) estimates that BCBS plans hold the largest market share in every state except Nevada and California and would together control 44 percent of the national market if they were considered as one firm.

As previously mentioned, BCBS plans were chartered as social welfare organizations, and were thus exempt from most taxes. Congress revoked BCBS' federal tax exemption as part of the 1986 Tax Reform Act.<sup>14</sup> In June 1994, partly prompted by the decision of Blue Cross of California to form a for-profit subsidiary (WellPoint),<sup>15</sup> the national BCBS association modified its bylaws to allow affiliates to convert to FP ownership. This sparked a series of ownership changes, with plans in 14 states converting to FP stock companies by 2003. (Note we are only able to study 11 of these conversions as the first 3 occurred prior to the start of our data.)

Many BCBS plans proposing or undergoing conversion cited access to equity capital as the key driver for conversion. Uses for additional capital include infrastructure investments (for example, in information technology or disease management) and acquisitions of other plans. Larger insurers can spread fixed costs over more enrollees, thereby improving operating margins.<sup>16</sup> In addition, within a given market, a larger insurer will be better-positioned to negotiate for steep provider discounts. Representatives of converting plans have also cited the importance of attracting and retaining top management talent, which can more easily be accomplished when equity and stock options are included in compensation packages (Schramm 2004). Finally, by creating tradable shares, conversion facilitates acquisition by other plans.

**Table 1** lists the BCBS plans that attempted to convert to FP stock corporations between 1998 and 2009, subdivided by successful and unsuccessful attempts.<sup>17</sup> Conversions require approval from state

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<sup>14</sup> As 501(m) organizations, BCBS plans are entitled to other tax benefits such as "special deductions" and state tax exemptions (in some states). Source: Coordinated Issue Paper – Blue Cross Blue Shield Health Insurance, available at <<http://www.irs.gov/businesses/article/0,,id=183646,00.html>>.

<sup>15</sup> Wellpoint was originally a network of for-profit HMOs and PPOs focused on the non-group markets.

<sup>16</sup> "For-Profit Conversion and Merger Trends Among Blue Cross Blue Shield Health Plans," *Center for Studying Health System Change Issue Brief 76* (January 2004).

<sup>17</sup> We thank Chris Conover for sharing his detailed notes on plan conversions. In addition to the 11 plans listed in Table 1, three additional plans converted prior to our study period (California and Georgia in 1996, and Virginia in 1997). These states are not included in our analysis sample.

insurance regulators. To arrive at a determination, regulators investigate the likely effects of the proposed conversion on outcomes such as price, access and provider reimbursement (Beaulieu 2004). They also specify the amount and form of compensation to be provided to the state or community in exchange for the transfer of assets to private stakeholders.

The identification assumption underlying our analysis is that the success of a conversion attempt is exogenous to omitted factors affecting the outcomes of interest. In Table 1, we summarize the reasons for each unsuccessful attempt. For example, CareFirst BCBS (serving Delaware, DC, and Maryland) could not secure the necessary approvals following public outrage over intended executive bonuses. Premera (in Washington and Alaska) was unable to convert because regulators were concerned the insurer would ultimately be acquired by an out-of-state parent company, and the parties could not come to terms about the amount to be transferred to new charitable foundations.<sup>18</sup> As these examples suggest, the range of reasons for unsuccessful attempts is broad and not clearly linked to premium, spending, or coverage trends. Indeed, in Section IV.B. below, we confirm that our outcomes of interest trend similarly in areas with successful and unsuccessful conversion attempts prior to the realized conversions. In addition, markets with successful and unsuccessful conversion attempts have similar unemployment rates and average Medicare spending (as of 2001, the modal pre-conversion year).<sup>19</sup> Of course, we cannot be certain that approval is exogenous to expectations regarding price changes (and other outcomes). If proposed conversions likeliest to lead to price increases were precisely the ones blocked, then our estimated conversion effects (and the associated 2SLS estimates of FP effects) are understated. Alternatively, if conversions expected to yield the greatest returns were pursued most vigorously, and thus the insurance executives involved were more willing to arrive at the necessary compromises to close the deals, then our estimates are overstated.<sup>20</sup>

We define a conversion as having taken place if the BCBS plan becomes a stock company either on its own or through acquisition. However, we observe three distinct changes in ownership form during our study period: NFP  $\rightarrow$  Mutual (4 states); NFP  $\rightarrow$  FP stock company (3 states); Mutual  $\rightarrow$  FP stock

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<sup>18</sup> “State rejects Premera Blue Cross' for-profit plan,” *Seattle Times*, July 16, 2004

<sup>19</sup> Sample means for the unemployment rate are 0.042 and 0.040 for non-converting and converting markets, respectively. Sample means for Medicare spending are 4960 and 4863, respectively. Neither of the differences in means is statistically different. Sample means are also similar when we divide the sample of markets into non-converting, converting with high pre-conversion BCBS share, and converting with low pre-conversion BCBS share. There are no sizeable or statistically-significant differences between any pair of market types.

<sup>20</sup> Although qualitative research suggests that the most harmful conversions were blocked, implying our estimates are conservative, such research relies on public statements from public officials. These officials clearly have strong incentives to issue statements consistent with their decisions.

company (8 states); our definition lumps the last two changes together.<sup>21</sup> Mutual insurers are owned by plan subscribers and hence explicitly value policyholder interests; as such, most analysts consider this hybrid ownership form closer to NFP than FP status.<sup>22</sup> In Section IV.E. (“Robustness Checks and Extensions”), we discuss reduced-form estimates of the impact of all three conversion types (details and timing of which are listed in **Appendix Table 1**). However, given the small number of experiments available to identify them separately, as well as the short pre and post-periods for the NP→ Mutual conversions, our preferred specification uses the broader definition (Mutual or NFP → FP stock company).

Eight of the eleven conversions so defined take place in the same year (2001), when Anthem (the parent organization of these plans) demutualized and launched an IPO. While it would be ideal to have more variation in the timing of conversions, we do not rely solely on a pre-post study design: we also explore how the effect of conversion varies with the market share of the converting plan. There are 28 distinct geographic markets within the 11 states with converting BCBS affiliates, and 19 markets in the states with unsuccessful conversion attempts. As we discuss below, the pre-conversion BCBS market shares in the 28 affected markets range between 6 and 35 percent, with a mean of 20 percent.

The prior literature on BCBS conversions largely takes a case-study approach. For example, Hall and Conover (2003) conduct a qualitative analysis of four conversions. Based on interviews with providers, consumer advocates and regulators, the authors conclude that there is little concern among these stakeholder groups that conversion will produce premium increases. Several papers focus on the failed conversion attempt by CareFirst BCBS in Maryland, derailed in part by demands for post-conversion bonuses by BCBS executives (e.g., Robinson 2004, Beaulieu 2004). A notable exception to the case-study approach is Conover, Hall and Ostermann (2005), which examines changes in per-capita health spending, hospital profitability and insurance access resulting from BCBS conversions in all states between 1993 and 2003. Using state-level data on physician and hospital health spending from the Center for Medicare and Medicaid Services (CMS) and uninsurance rates from the Current Population Survey, the authors estimate specifications that include state and year fixed effects and indicators for years before, during and after BCBS conversion. They conclude that BCBS conversions have only a modest impact on health spending and insurance access in affected states. Our results largely corroborate these findings;

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<sup>21</sup> Note that all of the affiliates converting from NFP to Mutual status subsequently converted to FP status, as they were a part of Anthem, a consolidator of BCBS plans which demutualized and converted to a for-profit stock company in 2001.

<sup>22</sup> For example, the Alliance for Advancing Nonprofit Healthcare (cited above) lumps mutuals together with nonprofits when reporting nonprofit market share, implicitly viewing investor ownership as a bright dividing line. As a matter of law, mutuals may be nonprofit or for-profit.

however we also find important heterogeneity in the effects of conversion in markets with different BCBS market shares.

### III. Data

#### A. *Large Employer Health Insurance Dataset*

Our main source of data is the Large Employer Health Insurance Dataset (LEHID), which contains detailed information on the healthplans offered by a sample of large employers between 1997 and 2009. This proprietary dataset is also used in Dafny (2010) and Dafny, Duggan and Ramanarayanan (2012) but is supplemented in this study with four additional years of data (1997 and 2007-2009).

The unit of observation in LEHID is a healthplan-year, where a healthplan is defined as a unique combination of an employer, market, insurance carrier, plan type, and insurance type (e.g., Company X's Chicago-area fully-insured Aetna HMO). Most *employers* are large, multi-site, publicly-traded firms, such as those included on the *Fortune 1000* list. Geographic *markets* are defined by the data source using 3-digit zip codes and reflect the areas used by insurance *carriers* (such as Blue Cross and Blue Shield of Illinois, or Humana) to quote premiums. There are 139 geographic markets, and most reflect metropolitan areas or non-metropolitan areas within the same state (e.g. in Illinois there are three markets: Chicago, northern Illinois except Chicago, and southern Illinois). The *plan types* are Health Maintenance Organization (HMO), Point of Service (POS), Preferred Provider Organization (PPO), and Indemnity.

*Insurance type* refers to self-insured or fully-insured; the sample includes both. Insurance carriers do not underwrite risk for self-insured plans. Typically they process claims, negotiate provider rates, and perform various additional services such as utilization review and disease management. Self-insured "premiums" are set by employers, who have the fiduciary responsibility to ensure they are accurate estimates of all costs associated with their plans. These costs include expected medical outlays, premiums for stop-loss insurance (if purchased), and charges levied by the administering carrier. Self-insured plans are regulated by the federal government, hence state-imposed benefit mandates and premium taxes do not apply. Large employers rely disproportionately on these plans, and accordingly they account for three-quarters of the observations in our data. Due to the differences in pricing and regulation of self and fully-insured plans, we perform all analyses separately by insurance type.

In any year an employer is represented in the sample, *all* plans offered by that employer in all markets are included in the data. Due to changes in the set of employers included in the sample from year to year, as well as changes in the set of options each employer offers, the median tenure of any healthplan is only two years. As we discuss in Section IV, this is one of the reasons we develop a market-year premium index. Here we note that the index is constructed using *within-healthplan* premium growth. Premium growth in LEHID closely mirrors that reported by the Kaiser Family Foundation/ Health Research and Educational Trust, whose estimates are based on a nationally-representative sample of employers.<sup>23</sup> Additional information on the representativeness of LEHID is reported in Dafny, Duggan, and Ramanarayanan (2012).

In addition to the identifying information described thus far, we make use of four key variables from LEHID. *Premium* represents the combined annual employer and employee charge, and is expressed as an average amount per enrollee (i.e., a covered employee); it therefore increases with the average family size for enrollees in a given plan. *Demographic factor* is a measure that reflects family size, age, and gender composition of enrollees in a given plan. These are important determinants of average expected costs per enrollee in a plan. *Plan design factor* captures the generosity of benefits, with an emphasis on the degree of coinsurance and the levels of copays. Both factors are calculated by the data source, and the formulae were not disclosed to us. Higher values for either will result in higher premiums. For 2005 onward, LEHID contains an indicator for whether a plan is designated as “consumer-directed.” Consumer-directed plans (CDPs) typically have high deductibles and are accompanied by consumer-managed health spending accounts. Prior research shows they are associated with lower premiums and slower premium growth, at least in the short term (Buntin et al. 2006).

LEHID also includes the *number of enrollees* in each plan; this number excludes dependents, who are accounted for by the demographic factor variable described above. The total number of enrollees in all LEHID plans averages 4.7 million per year. Given an average (insured) family size of more than two, this implies over 10 million Americans are part of the sample in a typical year. We compiled information on the ownership status for each observation from annual surveys administered by our source to the insurance companies affiliated with each LEHID plan. These surveys include nearly all plans in the data but are only available from the year 2000 onward. We filled in missing ownership information manually through independent research (e.g., web searches, analyst reports). We use Table 1 to code BCBS ownership status by market.

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<sup>23</sup> The KFF/HRET survey randomly selects employers to obtain nationally-representative statistics for employer-sponsored health insurance; approximately 2000 employers respond each year. The micro data are not publicly available, nor is the sample designed to provide representative estimates for distinct geographic areas.

**Appendix Table 2** presents descriptive statistics for the LEHID data, which spans the period 1997 to 2009, inclusive. The top panel pertains to the fully-insured (FI) sample while the bottom panel pertains to the self-insured (SI) sample. The table reveals several interesting trends in large-employer-sponsored insurance over time. First, there is a pronounced shift toward SI plans. In 1997, SI plans are only a slight majority (60 percent) of observations, but by 2009 they account for 83 percent of the sample. (In Section IV.E., we discuss whether and how this shift could be affecting our results.) Second, FI plans are predominantly HMOs throughout the study period, while SI plans shifted away from indemnity and POS plans and toward PPOs (and to a lesser extent, HMOs) over time. Finally, consumer-directed plans (CDP) have been growing in popularity since this descriptive measure was first included in the LEHID dataset in 2005. By 2009, 23 percent of SI plans are designated as CDPs. Very few FI plans are CDPs.

In both samples, *demographic factor* exhibits a sharp dip from 2005 to 2006 and remains at a much lower level thereafter. According to our data source, this is due to a change in the methodology used to construct *demographic factor* beginning in 2006. As *demographic factor* is an important determinant of premiums and serves as a key control variable in our regression models, we construct empirical specifications to address any issues arising from recoding. As a robustness check, we also estimate our models using only data through 2005.

Restricting the sample to states with conversion attempts reduces the number of observations (covered employees) by 63 (64) percent. **Appendix Table 3** contains descriptive statistics for this sample, separated by final conversion status. Average premiums are nearly the same in 1997 for plans located in areas with/without subsequent conversions. By 2009, the average nominal premium in markets with successful conversion attempts had risen by 163 percent (FI) and 117 percent (SI), as compared to 148 percent (FI) and 113 percent (SI) in markets with unsuccessful attempts. Of course, these figures are not regression-adjusted, nor are they weighted by plan size.

**Figure 1** presents estimates of FP penetration obtained from the LEHID sample. Data are presented separately by year (in 4-year increments), BCBS affiliation, and insurance type (FI and SI). The top panel shows that FP penetration in the FI market is sizeable (51 percent on average) but exhibits a downward trend over time. FP penetration in the SI sector is markedly higher (averaging 72 percent), and has remained high during the past decade. The share of enrollees insured by BCBS plans increased during the study period, with the majority of the growth occurring in the FP BCBS segment. This is consistent with the large number of BCBS FP conversions that take place during this time.

**Figure 2** illustrates substantial variation in penetration of FP insurers across geographic markets. When we break down FP penetration by product type, we find that FP insurers are particularly dominant in the POS product line, and relatively smaller in the HMO segment, with 2009 national market shares of 91 and 56 percent, respectively.

We supplement the LEHID with time-varying measures of local economic conditions (the unemployment rate, as reported by the Bureau of Labor Statistics), and a measure of healthcare utilization (Medicare costs per capita, reported by the Center for Medicare and Medicaid services).<sup>24</sup> As these measures are reported at the county-year level, and LEHID markets are defined by 3-digit zipcodes, we make use of a mapping between zipcodes and counties and where necessary, use population data to calculate weighted average values for each LEHID market and year. Summary statistics for these measures are presented in **Table 2**.

### ***B. Medical Loss Ratio Data***

The medical loss ratio is the share of insurance premiums that is paid out for medical claims (“losses”).<sup>25</sup> We construct state-year medical loss ratios using insurer-state-year data on total spending and premiums from the National Association of Insurance Commissioners (NAIC) for the years 2001-2009.<sup>26</sup> The data are described in **Appendix A**, and descriptive statistics are given in **Appendix Table 4**.

## **IV. Do For-Profit Insurers Charge Higher Premiums?**

Our primary equation of interest relates the market-year premium index to the corresponding market share of FP insurers:

$$(1) \text{ premium index}_{mt} = \alpha + \phi FP \text{ share}_{mt-1} + \psi_m + \delta_t + \Gamma X_{mt-1} + \varepsilon$$

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<sup>24</sup> Medicare costs per enrollee and county are available from 1998-present. We extrapolate values for 1996-7 using coefficient estimates from a regression of Medicare costs per enrollee on county fixed effects and county trends.

<sup>25</sup> Note this definition differs from the definition used to enforce the minimum MLR regulations in the ACA. The ACA definition includes spending for quality improvements in the numerator, and excludes taxes and fees from the denominator; it cannot be calculated for earlier periods using available data sources. (“Private Health Insurance: Early Experiences Implementing New Medical Loss Ratio Requirements”, [www.gao.gov/new.items/d11711.pdf](http://www.gao.gov/new.items/d11711.pdf), GAO 2011).

<sup>26</sup> Data for earlier years is not available.

This model includes market fixed effects ( $\psi_m$ ), therefore  $\phi$  is identified by changes in market-level FP share. We include year dummies ( $\delta_t$ ) to control for national trends in all measures, and two market-year controls: the local unemployment rate and  $\ln(\text{Medicare spending per capita})$ . During recessions, insurance takeup is lower (albeit not dramatically so in the large group market), leading to greater adverse selection and higher insurance premiums. Medicare spending serves as a proxy (albeit imperfect) for local medical utilization. Because premiums for year  $t$  are determined in year  $t-1$ , we lag both of these variables. Observations are weighted by average market-level enrollment, and standard errors are clustered by market.

A priori, the sign of  $\phi$  is ambiguous. The price points selected by FPs (relative to NFPs) depend not only on differences in their objective functions, but also on costs, market structure, and consumer preferences, among other factors. These factors also contribute to the identification challenge in equation (1). While market and year fixed effects eliminate time-invariant or nationally-trending factors (respectively) which may affect both premiums and FP share, dynamic market-specific factors may bias the coefficient estimate.

To examine whether there is a causal link between ownership status and premiums, we study the effects of 11 FP conversions of BCBS plans (affecting 28 distinct geographic markets) and exploit variation in the timing and scale of these events. Specifically, we instrument for  $FP\ share_{mt-1}$  using an indicator for the FP status of the BCBS carrier in market  $m$  and year  $t-1$ , as well as interactions between this indicator and measures of the magnitude of the conversion. The control group consists of the 19 markets (in 7 states plus DC) in which the local BCBS carrier unsuccessfully attempted to convert. The following subsections describe the main steps in our analysis in greater detail: constructing the market-year premium index, validating the instruments, estimating first-stage and reduced-form models, and performing IV/2SLS.

#### ***A. Constructing a Market-Year Index of Premium Growth***

The primary dependent variable in our analyses is a premium index measured at the market-year level, which is constructed separately for FI and SI plans. This regression-adjusted index – described in detail below – captures market-specific changes in price for a standardized insurance product and population. We use this index rather than the underlying healthplan-year data for several reasons. First, the variation of interest (FP share) occurs at the market-year level. A dependent variable at the same level of



aggregation raises fewer concerns about understated standard errors. Second, utilizing the plan-year data raises some serious sample issues. A regression with the plan-year as the unit of observation would need to include plan fixed effects to capture unobservable determinants of premiums, and year fixed effects to capture national premium trends. The regression would essentially compare changes in premiums for customers of converting BCBS plans with changes in premiums for customers of non-BCBS plans. Unfortunately, there are too few plans in our sample with a sufficiently long panel to permit reliable estimates of such a model. Even among employers appearing in the data for many consecutive years, there is very frequent churning in the set of plans offered.<sup>27</sup> In addition, the estimates would suffer from selection bias because only those BCBS customers remaining with their pre-conversion plans would identify the coefficients of interest.<sup>28</sup> By using the market-year as the unit of observation, we utilize more of the data and can also incorporate the spillover effect of conversion on rivals. Given the oligopolistic nature of most insurance markets, changes in the pricing of the local BCBS carrier should, all else equal, affect the pricing of competitors.

To obtain our market-year price index, we estimate the following model:

$$(2) \ln(\text{premium})_{emcjt} = \beta_0 + \beta_1 \text{demographics}_{emcjt} + \beta_2 \text{demographics}_{emcjt} * (\text{year} \geq 2006)_t \\ + \beta_3 \text{plan design}_{emcjt} + \beta_4 \text{CDP}_{emcjt} + \pi_{emcj} + \kappa_{jt} + \varphi_{mt} + \varepsilon$$

where *emcj* denotes “employer-market-carrier-plan type” (henceforth “plan”) and *t* denotes year.<sup>29</sup> The variables of interest are the market-year effects, denoted by  $\varphi_{mt}$ . The coefficients on these terms capture the average growth in premiums for each market and year. Because our objective is to isolate premium growth for a “standardized product,” we include a rich set of controls.

First, we include all the plan-year-specific covariates we observe: *demographic factor*, *plan design*, and an indicator for whether a plan is consumer-directed (CDP).<sup>30</sup> To ensure that the change in the construction of *demographic factor* between 2005 and 2006 (referenced earlier in Section III.A) does

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<sup>27</sup> For example, over the period 1998-2006, 47 percent of employer-market cells experienced a change in the set of plans offered between year *t* and year *t*+1 (Dafny 2010).

<sup>28</sup> It would be possible to use plan-year data for all measures except the BCBS FP indicator, and to substitute the market-year value for it. Its coefficient would capture the impact of conversion on all plans that were present in a market before and after a conversion. While this would alleviate the selection and small sample issue to a degree (as all plans present before and after a conversion can identify this coefficient, rather than just plans offered by converting BCBS carriers), there would be too few such plans with a sufficiently lengthy panel to permit an analysis of pre-conversion trends or to capture the effect of conversion more than a year or two out.

<sup>29</sup> We omit the subscript for insurance type because we estimate equation (2) separately for SI and FI plans.

<sup>30</sup> Per the source, CDPs are high-deductible healthplans.

not impact the results, we add an interaction term between *demographic factor* and an indicator for 2006 and beyond. Second, we include plan fixed effects (dummies for each plan, denoted by  $\pi_{emcj}$ ). As a result, the coefficients on the market-year dummies will reflect average market-specific growth *for the same exact plan* from one year to the next. As previously noted, premium growth in LEHID closely matches premium growth nationwide, mitigating concerns about changes in sample composition.

Finally, we include plan type-year interactions to control for the effect of phenomena such as the “HMO backlash” against utilization review and selective provider networks. The backlash caused HMOs to curtail these hallmark features, raising the relative cost of HMOs over time (Draper et al. 2002). If the shift away from HMOs occurred more quickly in some markets, and if this is correlated with the presence and/or popularity of FPs, excluding the plantype-year fixed effects could lead to biased estimates of the coefficient of interest. We estimate equation (2) separately for FI and SI plans, weighting each observation by the mean number of enrollees for the relevant plan.

Estimating equation (2) yields 12 coefficients for each market; 1997 is the omitted year. We set the premium index equal to 100 for each market in 1997, and apply the estimated coefficients on the market-year dummies to calculate the index in all subsequent years. (For example, a market-year coefficient of 0.2 would imply an index of  $100 * (\exp(0.2)) = 122.14$ ). Descriptive statistics for the premium index, which is constructed separately for FI and SI plans, are presented in Table 2. Premium growth is very similar for both insurance types, with the (unweighted) mean market premium index reaching ~290 in both the FI and SI samples by 2009. This increase (i.e., 190 percent) compares to a nominal increase of 140 percent in the average family premium for large firms (200+ employees), as calculated from KFF/HRET survey data during roughly the same period (1999-2010 rather than 1997-2009).<sup>31</sup> Given our price index holds product features such as carrier identity and plan generosity constant, we anticipate steeper growth than would be observed from a simple comparison of unadjusted premiums over time. In the face of rising insurance premiums, employers have substituted toward cheaper plans, so that realized price growth is lower than predicted price growth holding plan characteristics constant.

We also estimate a version of equation (2) which permits separate estimates of the market-year coefficients for BCBS and non-BCBS plans (by interacting indicators for each with the set of market-year dummies). We exponentiate the two sets of coefficient estimates to form separate price indices for BCBS

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<sup>31</sup> Employer Health Benefits 2010 Annual Survey, Exhibit 1.12, downloadable at <http://ehbs.kff.org/pdf/2010/8085.pdf>

and non-BCBS plans, and use these to study the differential effects of the BCBS conversions on converting plans and their rivals. Again, we repeat this process separately for the sample of fully-insured and self-insured plans.

### *B. First Stage: Effect of Conversions on Local Market FP Share*

As previously described, we posit that conversions of BCBS affiliates constitute a positive shock to local market FP share. **Table 3** reports the results from first-stage regressions of the following form, separately for the FI and SI samples:

$$(3) \text{ FP share}_{mt-1} = \alpha + \kappa_1 \text{BCBS FP}_{m,t-1} + \psi_m + \delta_t + \Gamma X_{mt-1} + \varepsilon$$

On average, conversions are followed by increases in FP market share of 14.5% (FI) and 33.8% (SI). Next, we confirm that these increases vary systematically with the pre-conversion market share of converting affiliates, calculated as the enrollment-weighted average market share of the converting plan during the three years preceding conversion. **Figure 3** documents the significant variation in pre-conversion share across markets, calculated using the combined FI+SI sample.<sup>32</sup> Pre-conversion share ranges between 6% and 35%, with an enrollment-weighted average of 20%. These shares are lower than BCBS shares reported by other sources. There are two reasons for this difference: (1) multisite firms (which are heavily represented in LEHID) are more likely to utilize carriers offering plans nationwide (e.g. Aetna, CIGNA), and to do this via BCBS requires coordination across many affiliates; (2) BCBS typically has larger market share in the individual and small group segments than in the large group segment, owing in part to its historical mission of ensuring broad access to medical care.

Column (2) of Table 3 reports the results obtained when adding an interaction between  $\text{BCBS FP}_{m,t-1}$  and *pre-conversion share* to equation (3). As expected, the coefficient on this interaction is large and positive in both the FI and SI samples, although it is imprecisely estimated in the former. Subdividing conversions into those with “high” versus “low” market share, using the weighted average of 20.2% as the cutoff, yields greater precision, particularly in the FI sample.<sup>33</sup> Markets with high pre-

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<sup>32</sup> We used a combined sample to construct these shares for two reasons: (1) to reduce noise; (2) because provider reimbursements, which feed into premiums, are determined in large part by an insurer’s combined enrollment. As we report in Section IV.E, results are robust to sample-specific market shares.

<sup>33</sup> Note the classification of markets is the same using weighted or unweighted averages or medians.

conversion share saw increases in FP share of 25% and 50% in the FI and SI samples, respectively, whereas markets with low pre-conversion share saw increases of 11% and 27%, respectively.

### C. *Reduced Form Models: How Did BCBS Conversions Affect Premiums?*

To assess the impact of conversions, we begin by estimating a specification including leads and lags of  $BCBS FP_{m,t}$ :

$$(4) \text{ premium index}_{mt} = \phi_0 + \phi_1 BCBS FP_{mt-3} + \phi_2 BCBS FP_{mt-2} + \phi_3 BCBS FP_{mt-1} + \phi_4 BCBS FP_{mt} + \phi_5 BCBS FP_{mt+1} + \phi_6 BCBS FP_{mt+2} + \phi_7 BCBS FP_{m,t \geq t+3} + \psi_m + \delta_t + \Gamma X_{mt-1} + \varepsilon$$

The purpose of this model is twofold: first, to confirm that the leads are statistically insignificant and lack a pronounced trend; second, to examine how the effect of conversions varies over time. The coefficient estimates represent the market-level effect of a conversion on premiums in the relevant number of years before or after the conversion, relative to premiums in non-converting markets and premiums in converting markets four or more years prior to conversion (after controlling for fixed differences across markets, national year effects, and market-year covariates).<sup>34</sup>

The coefficient estimates for both the FI and SI samples are graphed in **Figure 4a** and presented (along with standard errors) in **Appendix Table 5**. We find no evidence of differences in premium trends for markets with/without successful conversions in the years preceding the conversions. Indeed, none of the leads is statistically significant. These results support the key identifying assumption that the success of a BCBS conversion attempt is orthogonal to omitted determinants of premiums. There is an uptick in premiums two or three years post-conversion, but none of the coefficient estimates is individually significant, and neither is the coefficient on a single *post* period dummy (as discussed below, and reported in Table 3, column 4).

Next, we estimate models including a full set of leads and lags for  $BCBS FP_{mt} * high$  and  $BCBS FP_{mt} * low$ , where, as in the first-stage models, *high (low)* is an indicator variable which takes a value of one in markets where the pre-conversion BCBS share is higher (lower) than the weighted average. All else equal, larger BCBS carriers should be in a stronger position to raise prices following a conversion because their enrollees have fewer outside options (i.e., these carriers face lower elasticities of

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<sup>34</sup> For this specification, we utilize premium data from 1997-2009. All other specifications use premium data for 1998-2009 as we require a lagged measure of local FP share to estimate the 2SLS model.

demand).<sup>35</sup> On the other hand, if dominant converting plans are more successful in lowering costs, optimal prices could fall. Note that either effect will be magnified in markets where BCBS accounts for a greater share of enrollees, both for mechanical reasons and due to competitive responses to BCBS' actions.

The results, graphed in **Figure 4b** and listed in Appendix Table 5, again show fairly stable pre-conversion trends. However, in the year following conversion, FI premiums in *high* markets surge, while FI premiums in *low* markets continue a slow, steady decline which begins to reverse two years after conversion. SI premiums in both *high* and *low* markets exhibit slower, smaller premium increases in the post-conversion period.

Table 3 also presents the results from parsimonious reduced-form models, e.g.,

$$(5) \text{ premium index}_{mt} = \alpha + \phi BCBS FP_{mt-1} + \psi_m + \delta_t + \Gamma X_{mt-1} + \varepsilon.$$

Column 4 shows that FP conversions did not have a statistically significant effect (on average) on premiums during the pooled post-period. Next, we add the continuous interaction between  $BCBS FP_{m,t-1}$  and *pre-conversion share*. The results indicate that post-conversion premiums increase in pre-conversion market share. This effect is particularly pronounced for FI premiums. Last, we report the results from a specification including interactions between the *high* and *low* pre-conversion share indicators and  $BCBS FP_{m,t-1}$ . We find strong evidence of premium increases in *high* markets, but noisy and small point estimates in *low* markets. The post-conversion increase for FI plans is estimated at 18 points ( $p < 0.01$ ), which is roughly 13 percent of the FI premium index of 135 in 2001 (the modal pre-conversion year). SI premiums in *high* markets increased by 5 points ( $p < 0.10$ ), amounting to 4 percent of the SI premium index of 127 in 2001.

In sum, conversions of BCBS affiliates with high market share lead to substantial premium increases for FI plans, and smaller, marginally significant increases for SI plans. As discussed in Dafny (2010), the opportunity to exercise market power is smaller in the SI segment, which is served by a larger number of competitors and characterized by greater transparency in pricing. Price increases not associated with provider outlays are easily observed in the SI market.

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<sup>35</sup> Of course, the optimal change in price depends on the initial price level as well as competitive conditions. We have no a priori prediction regarding the relative prices charged by BCBS plans with large versus small market pre-conversion shares.

Last, we contrast the post-conversion pricing responses of BCBS and non-BCBS plans by estimating the specifications in Table 3 using *BCBS Index* and *non-BCBS Index* as the dependent variables. The results are displayed in **Table 4**, again separately for FI plans (Panel A) and SI plans (Panel B). The point estimates suggest that both converting BCBS affiliates and their rivals increased price in *high* markets, and that the price increase was larger for BCBS plans. However, the coefficient estimates are only statistically significant in the specifications using the non-BCBS Index, likely because the sample of underlying data used to construct the BCBS index is much smaller.

#### *D. How Does For-Profit Market Share Affect Premiums?*

If the success, timing, and magnitude of BCBS conversions is exogenous to other determinants of market premiums, we can exploit the variation in local FP share induced by conversions to estimate 2SLS versions of equation (1), which relates the market-year premium index to (lagged) FP market share.

**Table 5** displays estimates using three alternative sets of instruments:  $\{BCBS FP_{m,t-1}\}$ ,

$\{BCBS FP_{m,t-1}, BCBS FP_{m,t-1} * pre\text{-}conversion\ share\}$ , and  $\{BCBS FP_{m,t-1} * high, BCBS FP_{m,t-1} * low\}$ .

Whereas the OLS results suggest no significant association between changes in market-level premiums and changes in the corresponding FP market penetration,<sup>36</sup> the 2SLS results suggest a statistically significant causal link between FP share and FI premiums. Using the estimates from our preferred specifications (columns 3 and 4, which correspond to the instrument sets incorporating *pre-conversion share*), we predict that a twenty-seven percentage-point increase in FP share (roughly a one-standard-deviation increase) would raise FI premiums by 15 points. The effect on SI premiums can only be distinguished from zero in one of these specifications, and the point estimates are much smaller (a one-standard-deviation increase in FP share would raise premiums by 2 to 2.5 points).<sup>37</sup> Hausman tests reject equality of the OLS and IV estimates in the fully-insured sample.

To calibrate the magnitude of the premium effect in the FI sample, consider that the mean FI index during the post-conversion years of 2002-2009 is 221. Thus, premiums in markets with FP share one standard deviation above the mean were approximately 7 percent ( $=15/221$ ) higher than they otherwise would have been.

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<sup>36</sup> OLS models using all market-years (not just those in states with BCBS conversion attempts) yield similar results.

<sup>37</sup> In the SI sample, the standard deviation of FP share is 20 percent.

### ***E. Robustness Checks and Extensions***

To explore the sensitivity of our findings, and to uncover other potentially interesting phenomena, we considered several alternative sample restrictions and specifications. First, we confirmed the robustness of our key findings to the following modifications: (1) limiting the study period to 1997-2005, as *demographic factor* (a highly significant predictor of premium levels) was redefined for 2006 onward; (2) dropping market-years with fewer than 20 sampled employers, so as to minimize the influence of noisy estimates of the premium index and market shares; (3) clustering standard errors by state rather than by market; (4) dropping all controls (apart from market and year fixed effects); (5) using the untransformed market-year coefficient estimates as the price index (i.e., not exponentiating them); (6) using insurance-type-specific BCBS market shares to classify markets. In all of these specifications, we confirm a large, statistically significant increase in FI premiums in *high* markets, and no significant impact in *low* markets.<sup>38</sup>

Next, we examined the sensitivity of the point estimates to excluding one conversion at a time (i.e., dropping all markets affected by a given conversion). The results are presented in **Appendix Table 6**. In every case, the effect of conversion on FI premiums in *high* markets is large and statistically significant, and the effect on FI premiums in *low* markets is small and imprecisely estimated.

We also estimated models utilizing the three distinct ownership conversions discussed in Section II.C: NFP→ Mutual (4 states); NFP → FP stock company (3 states); Mutual → FP stock company (8 states). The results, in **Appendix Table 7**, reveal that conversions from NFP to Mutual had no statistically significant impact on premiums, at least during the short post-period we observe for these conversions. (In our study period, all 4 affiliates switching from NFP to Mutual status converted to FP status 2-3 years later.) Conversions from NFP to FP were followed by a statistically insignificant *decrease* in FI premiums (-6 points, with a standard error of 6), whereas conversions from Mutual to FP stock company resulted in a significant increase in FI premiums (12 points, with a standard error of 5). Dropping the three states with NFP to FP conversions therefore strengthens the primary results; however, given our research objective (studying the effect of investor ownership on insurance-related outcomes), we retain these states in our models. In column (2), we add interactions between Mutual→FP and *pre-conversion share*. The results confirm the same pattern obtained using our broader conversion definition: FI premiums increased more in areas with higher *pre-conversion share*. Results in the SI sample are smaller and more noisily estimated, as before.

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<sup>38</sup> Results available upon request.

Last, we explored the effects of BCBS conversions on two other dependent variables, *plan design factor*, and the share of enrollees in SI plans. Both are measured at the market-year level (the former separately for FI and SI samples). We find no statistically or economically significant effects of conversions on *plan design*, implying that employers did not adjust this lever in the wake of post-conversion price increases in the FI market. Surprisingly, neither did they increase their reliance on SI plans. In fact, there is a slight *decrease* in the share of enrollees in SI plans in *high* markets following conversion.<sup>39</sup>

## V. Effects of Ownership Status on Non-Price Outcomes

In this section, we evaluate the impact of ownership status on insurance coverage and medical spending (as a share of premium revenues). Both of these measures capture a broader swath of the population than is reflected in the premium analysis, which is limited to large employers.

### A. Are Not-for-Profits Insurers of Last Resort?

Not-for-profits frequently claim to be insurers “of last resort”; indeed this phrase is commonly applied to BCBS plans, and appears in the statutes of some states (e.g. Michigan). NFPs may serve the community by pricing below profit-maximizing levels (particularly in the high-risk non-group market, where access is low), and (at least through 2014) by offering policies to individuals and small groups whom other insurers would reject.<sup>40</sup>

In order to assess the impact of FP insurers on coverage rates, we obtained annual state-level data on various sources of coverage: employer-sponsored, individual, Medicaid, and other.<sup>41</sup> All measures are expressed as a share of the under-65 population in the relevant state and year, and are estimated using the Current Population Survey (CPS) March Uniform Extracts compiled by the Center for Economic and Policy Research (CEPR) for data years 1999-2009.<sup>42</sup> Summary statistics are included in **Appendix Table 4**. The insurance categories are not mutually exclusive as some individuals report coverage through multiple sources.

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<sup>39</sup> Specifically, the point estimate in *high* markets is -0.029 (with a standard error of 0.014). The mean SI share in 2001 is 0.672.

<sup>40</sup> Under the ACA, beginning in 2014 insurers of any ownership form will no longer be permitted to reject applicants, to impose pre-existing condition exclusions, or to charge premiums varying more than 3:1 by age and 1.5:1 by smoking status.

<sup>41</sup> Regrettably, these data are not consistently available at a finer geographic level (e.g. county).

<sup>42</sup> We do not include data from 1997 and 1998 because the CPS survey methodology changed in March 2000, generating discontinuous changes in insurance coverage between 1998 and 1999.



We estimate specifications analogous to those presented in section IV, replacing the dependent variables with various measures of insurance coverage.<sup>43</sup> We aggregate the market-year controls to the state-year level, and add *simulated Medicaid eligibility*, a summary measure of state-year policies determining Medicaid eligibility for children under 18. This measure, constructed as per Currie and Gruber (1996) and Gruber and Simon (2008), controls for changes in insurance rates associated with state-specific changes in Medicaid eligibility criteria.<sup>44</sup> We weight each observation by the under-65 population in the corresponding state-year.

**Table 6** presents results from reduced-form models analogous to the premium models in Table 3. Each panel corresponds to a different dependent variable: share of nonelderly with any insurance (Panel A), employer-sponsored insurance (Panel B), individual insurance (Panel C), and Medicaid (Panel D).<sup>45</sup> We divide states into *high* and *low* using the mean state-level BCBS pre-conversion market share (19.4 percent). The key result arising from these regressions is a statistically-significant increase in Medicaid enrollment following conversion. The point estimate implies that Medicaid enrollment increased by 1.3 percentage points in states experiencing conversions, relative to an average Medicaid enrollment rate of 12%. This effect appears to be stronger in *high* markets (a coefficient of 0.016 versus 0.010 for *low* markets), although we cannot reject equality of the coefficient estimates. *High* markets experience small and insignificant reductions in employer-sponsored and individual insurance, which appear to offset the Medicaid increase, yielding a net zero effect on the share of the nonelderly with any insurance. 2SLS estimates of the effect of lagged FP share on insurance coverage mirror the reduced-form results.<sup>46</sup>

To better understand the mechanism generating the post-conversion changes in insurance coverage, we estimated separate models for children under 18 and adults between 18 and 44, an age range which should capture most parents with children at home. Results are presented in **Appendix Table 8**. As expected, the increase in Medicaid coverage is largest among children, the primary eligible group, but it also increases for the parent-aged population (some of whom were eligible as well).<sup>47</sup> In addition,

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<sup>43</sup> Due to the short pre-conversion period, we do not estimate the full leads and lags specifications.

<sup>44</sup> We are grateful to Kosali Simon for providing us with estimates of simulated eligibility for the population aged 0-18, by state and year. None of the results are affected by inclusion of this control.

<sup>45</sup> In the interest of space we do not include results for “other public insurance.” Across all states and years, the weighted average rate of “other public insurance” is 0.065. The coefficients of interest for this category are consistently small and statistically insignificant.

<sup>46</sup> Tables available upon request.

<sup>47</sup> In the sample of children under 18, a t-test rejects the null of equal coefficients in the *low* and *high* markets in favor of *high*>*low* at  $p=0.05$ .

private insurance coverage declined more in states with larger conversions, consistent with families being priced out of the market.<sup>48</sup>

In sum, we do not find that BCBS conversions adversely affected uninsurance rates, a result echoed by several of the conversion case studies (e.g. Conover et al. 2005). However, conversions followed by premium increases did result in higher Medicaid enrollment. If conversions are representative of typical (exogenous) changes in local FP penetration, the results suggest that higher FP penetration crowds out private insurance coverage.

### ***B. Does Ownership Status Affect Medical Loss Ratios?***

Next, we examine the impact of conversions on insurer Medical Loss Ratios (MLRs), defined as the share of premium revenue disbursed for medical claims, as opposed to profits or administrative expenses. As noted in section III, we calculate MLRs by state and year, first for all insurers and then separately for BCBS and non-BCBS insurers. The data are available from 2001 to 2009, and pertain only to FI plans. We limit the sample to state-years with non-missing MLR data for the primary BCBS affiliate; as a result, we only retain data from eight of the eleven states with conversions. We estimate reduced-form specifications analogous to MLR models, again using the state-year as the unit of observation. We include our standard controls (unemployment rates and log of Medicare spending), aggregated to the state-year level.

The results are displayed in **Table 7**. Column 1 shows that aggregate MLRs were unaffected by the BCBS conversions, on average. However, column 3 shows that MLRs for rivals of converting BCBS affiliates rose by 0.05 ( $p < 0.01$ ), on average, relative to a base of 0.89 in 2001. This increase is partially offset by a noisily-estimated decline in BCBS MLRs (column 2). As a robustness check, we re-estimated all models dropping one converting state at a time; coefficient estimates and standard errors were very similar across these models. Unfortunately, our data include only 2 states with high pre-conversion shares, hence we cannot compare effects by high/low status.

One explanation for the results is that newly for-profit BCBS plans may have engaged in greater efforts to screen out individuals with high costs. Such an effort would simultaneously raise MLRs for

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<sup>48</sup>These models pool individual and employer-sponsored coverage. In both age groups, the continuous interaction between the BCBS FP indicator and *pre-conversion share* is negative and statistically significant at  $p = 0.10$ . In the sample of children under 18, a t-test rejects the null of equal coefficients in the *low* and *high* markets in favor of *high > low* at  $p = 0.10$ .

competitors as high-cost enrollees shifted to their plans, reduce MLRs for BCBS plans, and leave aggregate (weighted) MLRs unchanged.

## **VI. Discussion and Conclusions**

The U.S. health insurance industry has long been criticized for business practices ranging from pre-existing condition exclusions to lifetime benefit caps. Annual polls conducted by Harris Interactive, Inc. between 2003 and 2010 estimated that only seven percent of Americans believe health insurance companies are “generally honest and trustworthy.” Only oil and tobacco companies rank lower on this measure.<sup>49</sup> These sentiments inspired multiple alternative proposals to generate new options under healthcare reform. The compromise solution was to fund the creation of new nonprofit co-ops, in spite of limited evidence on differences between existing FP and NFP insurers (let alone co-ops).

In this study, we use a large, national panel dataset on employer-sponsored insurance between 1997 and 2009 to provide an estimate of the effect of ownership status on self and fully-insured premiums. We supplement this analysis by examining the impact of ownership on insurance access and medical spending. We obtain four key results. First, there is no statistically-significant association between changes in local-market FP penetration and changes in local-market premiums, where the latter are adjusted for a rich set of factors to control for changes in the insured population and in product design.

Second, we document the effects of 11 conversions of BCBS affiliates (in 28 markets) on fully-insured and self-insured premiums. We find heterogeneous effects which depend on the magnitude of BCBS’ pre-conversion market share. Specifically, fully-insured premiums increased roughly 13 percent when converting BCBS plans had shares in excess of the mean pre-conversion BCBS share (20% in our sample), and roughly zero when pre-conversion share fell below the mean. Importantly, we do not observe different pre-conversion price trends in markets ultimately experiencing conversions relative to control markets whose BCBS affiliates attempted but failed to convert, nor in markets experiencing relatively sizeable conversions (relative to markets without conversions or small conversions). Assuming no disproportionate quality changes by large BCBS affiliates (a possibility we discuss below), these results are consistent with a post-conversion exercise of market power. Significantly, rivals of these large converting insurers also raised their prices following the conversions.

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<sup>49</sup> Health insurance companies consistently score at 7 percent, with the exception of 2004-2005, when they achieved 9 percent. Note the percentage for “managed care companies such as HMOs” is lower (4-5 percent). For details, see <<http://www.harrisinteractive.com/vault/HI-Harris-Poll-Industry-Regulation-2010-12-02.pdf>>.

Third, 2SLS estimates using the timing and magnitude of conversions as instruments for local FP market share indicate a statistically-significant effect on fully-insured premiums. A 27-percentage point increase in local FP share (one standard deviation) is predicted to raise fully-insured premiums by roughly 7 percent; the effect on self-insured premiums is smaller and cannot consistently be distinguished from zero.

Fourth, we find that BCBS conversions had no significant impact on state-level uninsurance rates (among the non-elderly). However, Medicaid enrollment increased an average of 10 percent in these states, suggesting crowdout of private insurance coverage. This enrollment increase was concentrated in the population under 18, and the pattern of changes in private insurance coverage is consistent with a scenario in which parents faced premium increases and subsequently dropped private family coverage. Conversions had no impact on state-level MLRs, but again there was a compositional effect in the responses. MLRs increased for rivals of converting plans, and decreased for the converting plans themselves (although the decrease is not statistically significant). This pattern is consistent with a shift of high-risk enrollees from converting plans to rivals.

Some important caveats to our findings are in order. First, price increases attributable to large increases in FP market share may have been accompanied by quality improvements, such as electronic access to health claims, faster claim processing, and broader provider networks. Thus it is possible that quality improvements “warranted” the price increases. However, we believe this is an unlikely explanation given the similarity in price changes across all insurers. While converting plans underwent major overhauls during which quality improvements could have been implemented, rivals (in general) did not. One would have to believe that rivals made quality improvements of essentially the same market value as BCBS in all markets, i.e. greater improvements where BCBS was relatively more dominant and smaller improvements where BCBS was smaller, to conclude that they were not following the price leadership of BCBS where it was exhibited. Given the challenges associated with generating and marketing changes in quality, as well as the fact that most rivals to BCBS in our sample are national firms who would have found such adjustments more difficult to calibrate, we conjecture that quality improvements likely did not account for all of the observed price increases following conversions. Moreover, while the welfare implications are different if the price increases were accompanied by quality improvements valued by the market, many regulators are particularly concerned about reining in spending growth and ensuring access to affordable coverage.

Second, our premium results derive from a sample of plans in the large group insurance market, hence our point estimates may not extend to the small group and individual insurance markets. However, the insurance coverage results are suggestive of price increases in these markets as well. Given that large employers' decisions to offer insurance are fairly insensitive to premium changes (Gruber and Lettau 2004), and that insurance takeup conditional on an offer of coverage is also relatively insensitive to premium changes (Cutler 2003; Gruber and Washington 2005), the population served by small-group and individual policies is likely driving the Medicaid crowd-in.

Third, the IV estimates must be construed in light of the identifying variation. The change in behavior for converting BCBS plans may not reflect the average difference between new or existing NFP and FP carriers. However, FP entry today is likeliest to result from an NFP conversion. There has been virtually no de novo FP entry into the insurance industry for a number of years, and a number of NFP insurers are at risk of needing capital infusions to stay solvent, or have expressed an interest in converting to FP status. In this context, a conversion-based instrument should produce reasonable estimates of the impact of future changes in FP share.

Notwithstanding these caveats, the findings have several implications for regulatory and competition policy vis-à-vis insurers. First, it appears that sizeable FP insurers are more likely to exercise market power via price increases than are comparable NFP insurers. Second, pricing actions by large insurers have a ripple effect on rivals' prices, further solidifying the evidence of oligopolistic conduct in many local insurance markets. Third, there is no evidence that NFP and FP insurers charge different prices in the large group market when both are relatively small. These findings suggest that subsidies for de novo NFP insurers (such as those included in the Affordable Care Act) are likeliest to generate value if they facilitate the creation of relatively large players.

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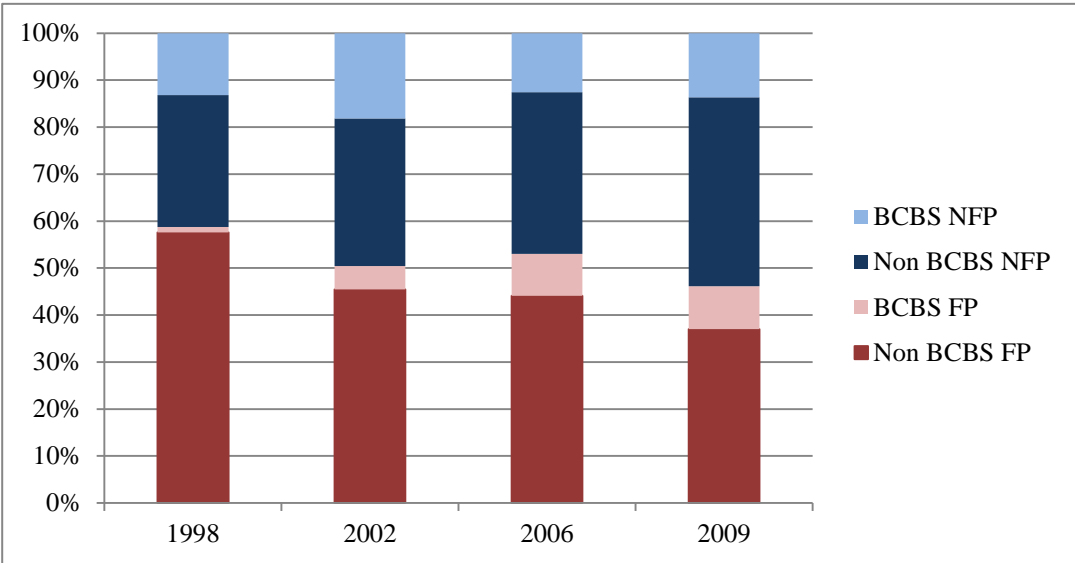
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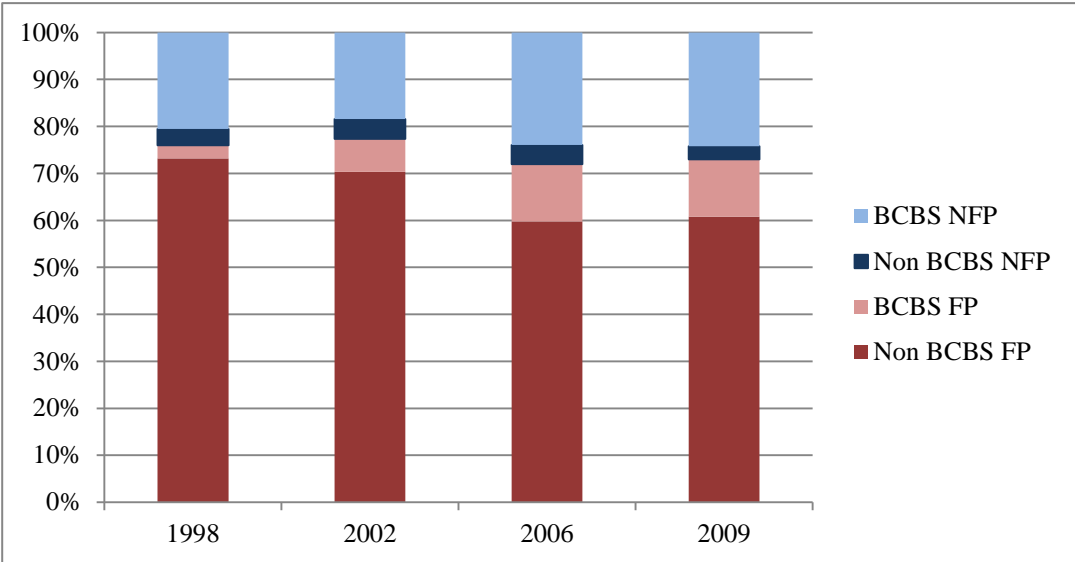


**Figure 1. Percent of Enrollees in For-Profit and Not-for-Profit Plans, by BCBS Affiliation**

*Panel A. Fully-Insured Plans*

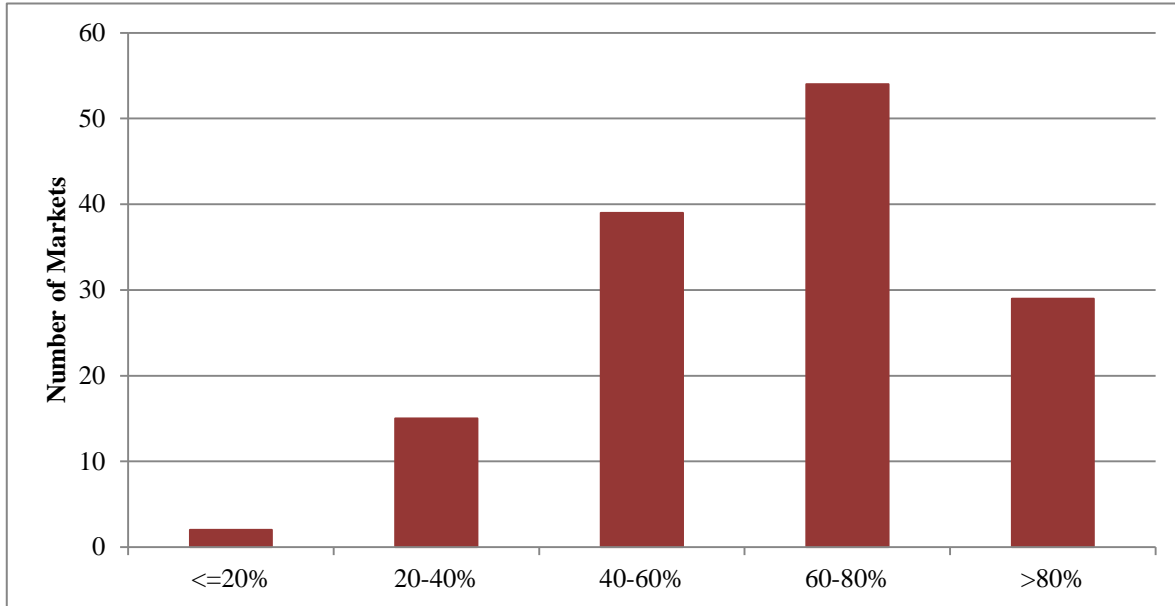


*Panel B. Self-Insured Plans*



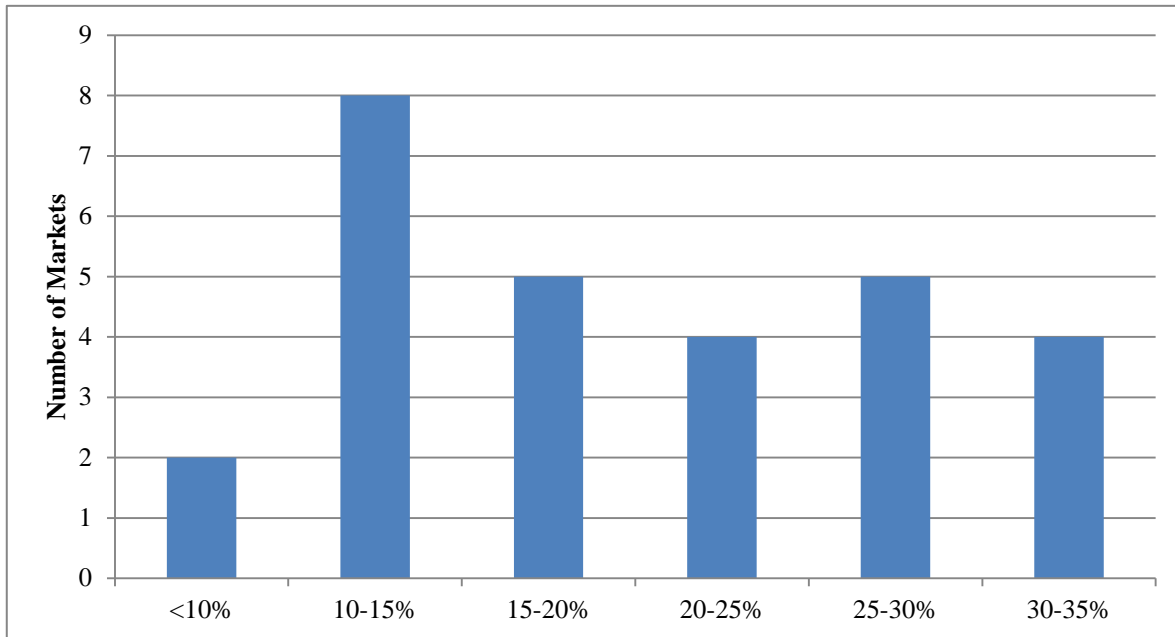
*Notes:* Market shares are calculated using LEHID.

**Figure 2. Distribution of For-Profit Market Share**



**Notes:** Figure reflects average FP share for each market over the period 1997-2009. Sample includes fully insured and self-insured plans.

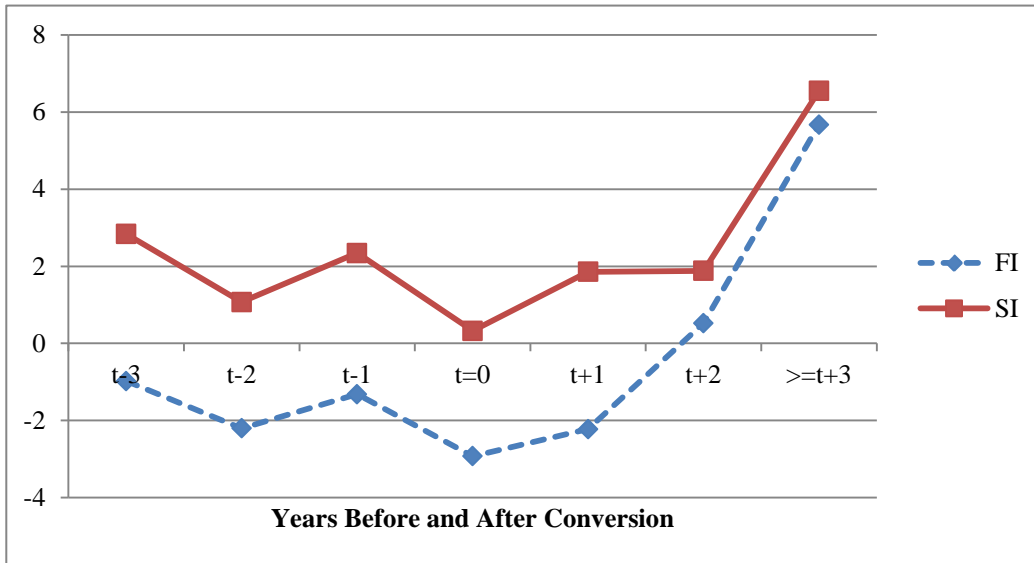
**Figure 3. Distribution of Pre-Conversion BCBS Market Share**



**Notes:**  $N = 28$ . Pre-conversion BCBS share is computed using LEHID and refers to the enrollment-weighted average market share of the converting BCBS plan during the three years preceding conversion.

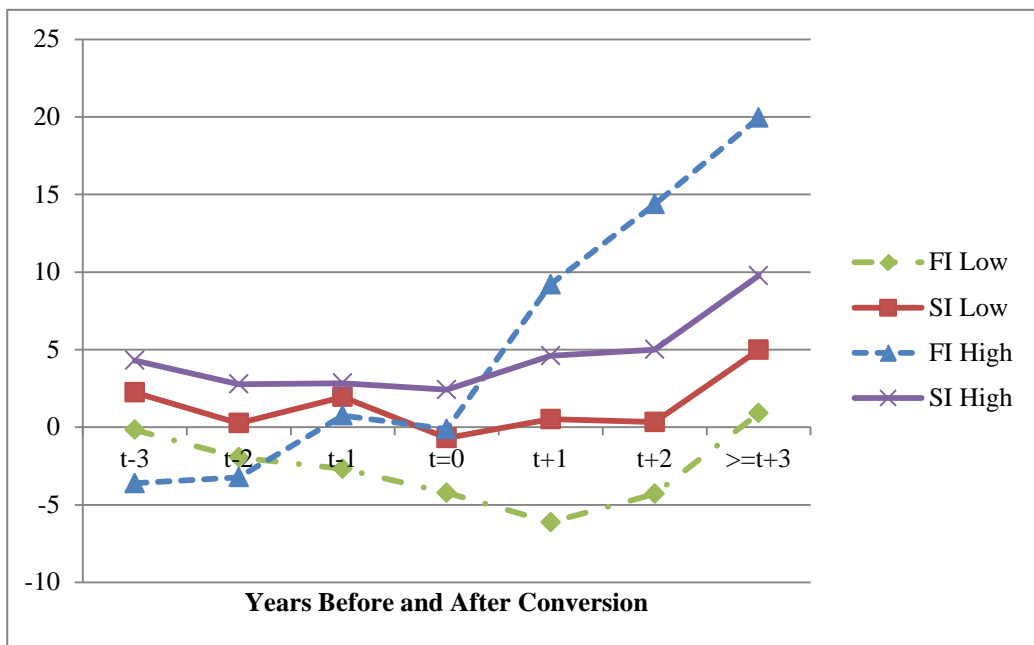
**Figure 4. Effect of BCBS Conversions on Premiums**  
*Leads and Lags Specifications*

**A. Coefficient estimates on leads and lags of BCBS FP indicator**



**Notes:** Coefficient estimates are presented in Panel A, Appendix Table 4

**B. Coefficient estimates on leads and lags of BCBS FP\*low and BCBS FP\*high indicators**



**Notes:** Coefficient estimates are presented in Panel B, Appendix Table 4

**Table 1. Blue Cross and Blue Shield Conversions to For-Profit Stock Companies, 1998-2009**

*Panel A. Successful Conversions*

	Conversion to FP Stock Company	Year Recorded in Data
<b>Anthem</b>		
	Colorado	November 2001 2002
	Connecticut	November 2001 2002
	Indiana (Accordia)	November 2001 2002
	Kentucky	November 2001 2002
	Maine	November 2001 2002
	Missouri (RightChoice)	November 2000 2001
	Nevada	November 2001 2002
	New Hampshire	November 2001 2002
	Ohio (CMIC)	November 2001 2002
	Wisconsin (Cobalt)	March 2001 2001
<b>WellPoint</b>		
	New York (Empire)	November 2002 2003

*Panel B. Unsuccessful Conversion Attempts*

	Review Period	Reason for Failure
New Jersey (Horizon)	2001-2005	Regulators unconvinced by claims that Horizon needed additional capital; strong provider opposition due to Horizon's high market share and low reimbursement rates
North Carolina	2002-July 2003	Regulators demanded 100% of stock be placed in a foundation; BCBS regulations permitted a maximum of 5% ownership stake by foundations
Kansas	2001-August 2003	Concern that conversion would result in large price increases due to high market share (in non-HMO market)
<b>CareFirst</b>		
Delaware	2002-September 2003	Public outrage about intended executive bonuses
District of Columbia	2002-September 2003	Public outrage about intended executive bonuses
Maryland	2002-September 2003	Public outrage about intended executive bonuses
<b>Premera</b>		
Alaska	2002-March 2007	Abandoned because of failure in Washington
Washington	2002-March 2007	Concerns about acquisition by out-of-state insurer and disagreements about how to put stock into a foundation

**Notes:** Parent companies are listed in bold. Year recorded in data refers to the first post-conversion year as coded in our dataset. For unsuccessful conversion attempts, the review period begins with the year in which a conversion attempt was announced and ends when it was officially blocked by regulators or withdrawn from consideration.

**Table 2. Descriptive Statistics, Market-Year Data**

*Market-year Controls*

	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Lagged Medicare Costs per capita	4574.1 <i>912.57</i>	4708.71 <i>875.76</i>	4843.30 <i>853.28</i>	4977.90 <i>846.29</i>	5112.50 <i>855.17</i>	5603.25 <i>924.35</i>	6061.54 <i>992.71</i>	6372.18 <i>993.30</i>	6836.88 <i>989.65</i>	7288.65 <i>1095.12</i>	7591.73 <i>1096.89</i>	7898.36 <i>1123.36</i>	8297.57 <i>1198.25</i>
Lagged Unemployment Rate	5.4% <i>0.02</i>	4.9% <i>0.02</i>	4.5% <i>0.02</i>	4.2% <i>0.01</i>	4.0% <i>0.01</i>	4.7% <i>0.01</i>	5.6% <i>0.01</i>	5.8% <i>0.01</i>	5.4% <i>0.01</i>	5.1% <i>0.01</i>	4.6% <i>0.01</i>	4.6% <i>0.01</i>	5.8% <i>0.02</i>
Number of Markets	139	139	139	139	139	139	139	139	139	139	139	139	139

*Premium Index*

*Panel A. Fully-Insured Plans*

	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Premium Index	100.00 <i>0.00</i>	102.64 <i>10.23</i>	112.45 <i>12.07</i>	123.75 <i>14.68</i>	135.06 <i>17.16</i>	154.25 <i>20.39</i>	178.20 <i>23.91</i>	196.51 <i>29.45</i>	214.37 <i>30.39</i>	239.89 <i>33.52</i>	254.97 <i>37.64</i>	271.65 <i>41.39</i>	288.63 <i>38.07</i>
Number of Markets	139	139	139	139	139	139	137	138	138	138	138	138	139

*Panel B. Self-Insured Plans*

	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Premium Index	100.00 <i>0.00</i>	99.84 <i>5.63</i>	103.89 <i>7.51</i>	111.48 <i>8.87</i>	127.08 <i>9.99</i>	142.89 <i>10.29</i>	168.54 <i>12.24</i>	192.00 <i>14.56</i>	210.74 <i>16.02</i>	242.25 <i>19.72</i>	260.78 <i>21.53</i>	275.86 <i>20.31</i>	290.18 <i>23.60</i>
Number of Markets	139	139	139	139	139	139	139	139	139	139	139	139	139

**Notes:** All statistics are unweighted. The unit of observation is a market-year combination, for each insurance type. Premium index is constructed using the coefficients on market-year fixed effects from a regression of plan-year premiums on various controls (including market-year fixed effects). Details provided in the text. Standard deviations are in italics.

**Table 3. Effect of BCBS Conversions on For-Profit Share and Premiums**

<i>Panel A. Fully-Insured Plans</i>						
Dependent Variable:	First Stage			Reduced Form		
	Lagged FP Share, mean = 0.61			Premium Index, mean = 179.91		
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged BCBS FP	0.145 (0.044)***	0.049 (0.081)		4.25 (4.83)	-13.1 (8.71)	
Lagged BCBS FP * Pre-conversion share		0.578 (.348)			104.49 (32.82)***	
Lagged BCBS FP *						
Low Pre-conversion share			0.113 (0.045)**			-0.044 (5.45)
High Pre-conversion share			0.246 (0.056)***			17.71 (4.74)***
Number of Observations	552	552	552	552	552	552

<i>Panel B. Self-Insured Plans</i>						
Dependent Variable:	First Stage			Reduced Form		
	Lagged FP Share, mean = 0.77			Premium Index, mean = 181.03		
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged BCBS FP	0.338 (0.038)***	0.033 (0.032)		3.15 (3.05)	-3.66 (5.48)	
Lagged BCBS FP * Pre-conversion share		1.722 (0.154)***			38.48 (20.71)*	
Lagged BCBS FP *						
Low Pre-conversion share			0.265 (0.028)***			2.12 (3.47)
High Pre-conversion share			0.501 (0.043)***			5.32 (3.09)*
Number of Observations	564	564	564	564	564	564

**Notes:** The unit of observation is the market-year. All models include fixed effects for each market and year as well as lagged market-year controls ( $\ln(\text{Medicare costs per capita})$  and the unemployment rate), and are estimated by weighted least squares using the average number of enrollees in each market as weights. Standard errors are clustered by market.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$

**Table 4. Effect of BCBS Conversions on Premiums: BCBS vs. Non-BCBS Plans**

<i>Panel A. Fully-Insured Plans</i>						
Dependent Variable:	Premium Index (BCBS) Mean = 183.9			Premium Index (Non-BCBS) Mean = 189.7		
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged BCBS FP	4.01 (7.51)	-23.89 (16.76)		0.25 (4.69)	-18.96 (8.53)**	
Lagged BCBS FP * Pre-conversion share		166.02 (88.89)**			115.7 (37.71)***	
Lagged BCBS FP *						
Low Pre-conversion share			-0.89 (8.63)			-4.45 (5.15)
High Pre-conversion share			18.72 (11.93)			14.98 (5.53)***
Number of Observations	527	527	527	538	538	538

<i>Panel B. Self-Insured Plans</i>						
Dependent Variable:	Premium Index (BCBS) Mean = 179.3			Premium Index (Non-BCBS) Mean = 187.2		
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged BCBS FP	1.33 (4.96)	-9.05 (9.15)		4.55 (3.19)	-7.36 (6.16)	
Lagged BCBS FP * Pre-conversion share		58.64 (34.68)*			67.25 (31.59)**	
Lagged BCBS FP *						
Low Pre-conversion share			-1.12 (5.60)			2.09 (3.25)
High Pre-conversion share			6.84 (5.02)			9.89 (4.64)**
Number of Observations	557	557	557	564	564	564

**Notes:** The unit of observation is the market-year. All models include fixed effects for each market and year as well as lagged market-year controls ( $\ln(\text{Medicare costs per capita})$  and the unemployment rate) and are estimated by weighted least squares using the average number of enrollees in each market as weights. Standard errors are clustered by market.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$



**Table 5. Does For-Profit Penetration Raise Premiums? 2SLS Estimates**

<i>Panel A. Fully-Insured Plans</i>				
	(1)	(2)	(3)	(4)
	OLS	IV = Lagged BCBS FP	IV = {Lagged BCBS FP, Lagged BCBS FP * pre-conv BCBS Share}	IV = {Lagged BCBS FP * <i>high</i> , Lagged BCBS FP * <i>low</i> }
Lagged FP Penetration	0.361 (7.92)	29.27 (33.47)	54.52 (27.26)**	56.29 (24.16)**
Number of Observations	552	552	552	552
<i>Panel B. Self-Insured Plans</i>				
	(1)	(2)	(3)	(4)
	OLS	IV = Lagged BCBS FP	IV = {Lagged BCBS FP, Lagged BCBS FP * pre-conv BCBS Share}	IV = {Lagged BCBS FP * <i>high</i> , Lagged BCBS FP * <i>low</i> }
Lagged FP Penetration	6.39 (4.46)	9.33 (8.54)	12.53 (5.89)**	9.99 (6.54)
Number of Observations	564	564	564	564

**Notes:** The unit of observation is the market-year. Lagged FP penetration is scaled between 0 and 1. All models include fixed effects for each market and year as well as lagged market-year controls ( $\ln(\text{Medicare costs per capita})$  and the unemployment rate) and are estimated by weighted OLS or 2SLS using the average number of enrollees in each market as weights. Standard errors are clustered by market.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$

**Table 6. Impact of For-Profit Penetration on Insurance Coverage**

	Panel A: Dep Var = Share Insured Mean = 0.86			Panel B: Dep Var = Share with Employer-Sponsored Insurance Mean = 0.68		
Lagged BCBS FP	0.004 (0.007)	0.025 (0.020)		-0.002 (0.008)	0.025 (0.018)	
Lagged BCBS FP * Pre-conversion Share		-0.112 (0.088)			-0.14 (0.087)	
Lagged BCBS FP *						
Low Pre-conversion share			0.006 (0.010)			0.003 (0.009)
High Pre-conversion share			0.001 (0.008)			-0.008 (0.012)
Number of Observations	209	209	209	209	209	209
	Panel C: Dep Var = Share Individually Insured Mean = 0.09			Panel D: Dep Var = Share on Medicaid Mean = 0.12		
Lagged BCBS FP	-0.001 (0.003)	0.012 (0.008)		0.013 (.006)**	0.001 (.014)	
Lagged BCBS FP * Pre-conversion Share		-0.064 (0.041)			0.061 (.062)	
Lagged BCBS FP *						
Low Pre-conversion share			0.001 (0.004)			0.010 (.007)
High Pre-conversion share			-0.002 (0.004)			0.016 (.008)*
Number of Observations	209	209	209	209	209	209

*Notes*: The unit of observation is the state-year. The study period is 1999-2009. Insurance rates and pre-conversion share are scaled from 0 to 1. All specifications include state and year fixed effects, simulated Medicaid eligibility rate for children under 18, lagged  $\ln(\text{Medicare costs per capita})$ , and the lagged unemployment rate. Each observation is weighted by the average under-65 population in the state. Standard errors are clustered by state.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$

**Table 7. Impact of For-Profit Penetration on Medical Loss Ratios**

	Dependent Variable = MLR		
	All Insurers Mean = 0.85	BCBS Mean = 0.84	Non-BCBS Mean = 0.85
Lagged BCBS FP	0.020 (0.013)	-0.011 (0.016)	0.052 (0.017)***
Number of Observations	162	162	162

***Notes:** The unit of observation is the state-year. The study period is 2001-2009. MLRs are constructed using censored insurer-state-year data. All specifications include state and year fixed effects, the lagged unemployment rate, and lagged ln(Medicare costs per capita). Each observation is weighted by the average number of LEHID enrollees in the state. Standard errors are clustered by state. Alaska does not report data for non-BCBS plans until 2008, hence the discrepancy between the number of BCBS and non-BCBS observations.*

## APPENDIX A: The National Association of Insurance Commissioners' (NAIC) Dataset

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The NAIC is an umbrella organization of state-level insurance regulators.<sup>1</sup> Because states regulate fully-insured products, NAIC data represents only the FI component of the health insurance market. Insurers report data by product line and state; Washington, DC is included in the data but California is not. We construct a single MLR for each insurer-state-year, including only spending and premiums associated with comprehensive commercial medical insurance, and omitting observations with negative values for either variable.<sup>2</sup> We drop observations in the 5 percent tails of the annual distribution of insurer-state year MLRs and aggregate the remaining data to construct state-year MLRs. Finally, we exclude 9 state-year observations in which the principal BCBS affiliate does not report data to NAIC.<sup>3</sup> The final estimation sample includes 162 observations, out of a hypothetical maximum of 171 (19 states\*9 years). For additional details on the NAIC data, as well as other sources of insurance data, see Dafny, Dranove, Limbrock, and Scott Morton (2011)

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<sup>1</sup> For all key lines of insurance (including health), NAIC provides uniform reporting forms called “insurance blanks.” Insurers complete the blanks separately by state and file them with the respective state authorities, who pass the data on to NAIC.

<sup>2</sup> These categories are excluded: Medicare and Medicaid plans, Medicare supplemental plans, dental plans, vision-only plans, long-term care, disability income, stop-loss, and other.

<sup>3</sup> These are: Nevada in 2001, Ohio in 2001-2003 and Indiana in 2001-2005.

**Appendix Table 1. Ownership Conversions of BCBS Affiliates, 1997-2009**

	<b>Conversion from NFP to Mutual</b>	<b>Conversion from Mutual to FP</b>	<b>Conversion from NFP to FP</b>
Colorado	1999	2002	
Connecticut		2002	
Indiana (Accordia)		2002	
Kentucky		2002	
Maine	2000	2002	
Nevada	1999	2002	
New Hampshire	2000	2002	
Ohio (CMIC)		2002	
New York (Empire)			2003
Wisconsin			2001
Missouri			2001

*Notes: Entries refer to the first post-conversion year as coded in our dataset.*

**Appendix Table 2. Descriptive Statistics, Plan-Year Data**

*Panel A. Fully-Insured Plans*

	<b>1997-2009</b>	<b>1997</b>	<b>2009</b>
Premium (\$)	5499.95	3555.47	9196.51
	<i>2401.11</i>	<i>823.66</i>	<i>2913.91</i>
Number of Enrollees	184.88	173.72	184.45
	<i>537.61</i>	<i>457.59</i>	<i>617.54</i>
Demographic Factor	2.19	2.23	1.90
	<i>0.43</i>	<i>0.41</i>	<i>0.44</i>
Plan Design	1.09	1.12	1.03
	<i>0.06</i>	<i>0.04</i>	<i>0.06</i>
Plan Type			
HMO	88.9%	91.8%	77.0%
Indemnity	0.9%	0.1%	2.6%
POS	4.8%	6.5%	2.7%
PPO	5.4%	1.6%	17.7%
Consumer-Directed Plan	0.5%	<i>N/A</i>	3.6%
For-profit insurer	56.4%	57.1%	49.4%
Number of Employers	793	189	168
Number of Observations	99,040	8,241	4,299

*Panel B. Self-Insured Plans*

	<b>1997-2009</b>	<b>1997</b>	<b>2009</b>
Premium (\$)	6591.01	4164.31	8897.68
	<i>2371.42</i>	<i>1369.04</i>	<i>2284.09</i>
Number of Enrollees	173.40	195.18	167.16
	<i>634.69</i>	<i>730.78</i>	<i>663.03</i>
Demographic Factor	2.15	2.39	1.88
	<i>0.49</i>	<i>0.52</i>	<i>0.39</i>
Plan Design	0.99	0.99	0.97
	<i>0.08</i>	<i>0.07</i>	<i>0.07</i>
Plan Type			
HMO	14.5%	1.8%	18.6%
Indemnity	13.4%	40.3%	3.5%
POS	20.1%	25.9%	14.5%
PPO	51.2%	31.9%	63.4%
Consumer-Directed Plan	8.1%	<i>N/A</i>	22.6%
For-profit insurer	79.7%	81.1%	76.6%
Number of Employers	922	199	218
Number of Observations	241,810	12,574	21,434

**Notes:** All statistics are unweighted. The unit of observation is an employer-carrier-market-plantype-year combination, unless noted otherwise. Demographic factor reflects age, gender, and family size of enrollees. Plan design measures the generosity of benefits. Both are constructed by the data source and exact formulae are not available. Premiums are in nominal dollars. Standard deviations are in italics.

**Appendix Table 3. Descriptive Statistics, Plan-Year Data**  
*Sample Limited to Markets with Conversion Attempts*

*Panel A: Fully-Insured Plans*

	Markets with Successful Attempts			Markets with Unsuccessful Attempts		
	1997-2009	1997	2009	1997-2009	1997	2009
Premium (\$)	5730.7	3697.29	9719.30	5432.7	3687.43	9171.78
	<i>2488.9</i>	<i>826.9</i>	<i>2875.20</i>	<i>2326.8</i>	<i>886.9</i>	<i>3051.80</i>
Number of Enrollees	165.65	169.19	116.84	136.4	123.12	92.34
	<i>418.8</i>	<i>367.6</i>	<i>255.80</i>	<i>333.8</i>	<i>254.9</i>	<i>177.90</i>
Demographic Factor	2.21	2.24	1.93	2.14	2.20	1.83
	<i>0.43</i>	<i>0.41</i>	<i>0.43</i>	<i>0.43</i>	<i>0.41</i>	<i>0.46</i>
Plan Design	1.1	1.12	1.03	1.11	1.12	1.03
	<i>0.06</i>	<i>0.04</i>	<i>0.06</i>	<i>0.06</i>	<i>0.04</i>	<i>0.06</i>
Plan Type						
HMO	89.6%	92.7%	76.8%	87.3%	89.1%	70.7%
Indemnity	0.8%	0.1%	2.2%	1.1%	0.2%	4.0%
POS	4.9%	5.9%	2.6%	6.4%	8.9%	3.2%
PPO	4.7%	1.3%	18.4%	5.3%	1.8%	22.1%
Consumer-Directed Plan	0.4%	<i>N/A</i>	3.4%	0.60%	<i>N/A</i>	5.1%
For-profit insurer	59.8%	53.3%	62%	61.2%	56.3%	47.6%
Number of Employers	628	159	119	514	138	83
Number of Observations	22,529	2,033	832	13,227	1,255	498

*Notes:* All statistics are unweighted. The unit of observation is an employer-carrier-market-plan-type-year combination, unless noted otherwise. Demographic factor reflects age, gender, and family size of enrollees. Plan design measures the generosity of benefits. Both are constructed by the data source and exact formulae are not available. Premiums are in nominal dollars. Standard deviations are in italics.

**Appendix Table 3. Descriptive Statistics, Plan-Year Data**  
*Sample Limited to Markets with Conversion Attempts*

*Panel B: Self-Insured Plans*

	Markets with Successful Attempts			Markets with Unsuccessful Attempts		
	1997-2009	1997	2009	1997-2009	1997	2009
Premium (\$)	6618.8	4135.5	8958.20	6493.4	4129.9	8795.50
	<i>2402.5</i>	<i>1432.4</i>	<i>2352.90</i>	<i>2334.2</i>	<i>1317.6</i>	<i>2247.40</i>
Number of Enrollees	173.9	216.6	161.80	162.7	162.2	142.20
	<i>600.6</i>	<i>783.4</i>	<i>610.70</i>	<i>561.6</i>	<i>471.3</i>	<i>442.80</i>
Demographic Factor	2.15	2.37	1.89	2.11	2.32	1.86
	<i>0.49</i>	<i>0.52</i>	<i>0.40</i>	<i>0.47</i>	<i>0.49</i>	<i>0.39</i>
Plan Design	0.99	0.99	0.97	0.99	0.99	0.97
	<i>0.08</i>	<i>0.07</i>	<i>0.07</i>	<i>0.08</i>	<i>0.07</i>	<i>0.07</i>
Plan Type						
HMO	14.9%	1.6%	19.2%	16.7%	1.8%	20.4%
Indemnity	13.2%	40.6%	3.3%	11.9%	37.6%	3.3%
POS	21.3%	26.7%	15.2%	22.0%	30.9%	15.8%
PPO	50.6%	31.2%	62.2%	49.4%	29.7%	60.5%
Consumer-Directed Plan	7.9%	<i>N/A</i>	22%	7.8%	<i>N/A</i>	22%
For-profit insurer	91.6%	77%	96%	75.6%	84%	68%
Number of Employers	841	179	225	792	175	196
Number of Observations	54,325	2,922	4,861	34,895	1,796	3,106

*Notes:* All statistics are unweighted. The unit of observation is an employer-carrier-market-plan-type-year combination, unless noted otherwise. Demographic factor reflects age, gender, and family size of enrollees. Plan design measures the generosity of benefits. Both are constructed by the data source and exact formulae are not available. Premiums are in nominal dollars. Standard deviations are in italics.



**Appendix Table 4. Descriptive Statistics: Medical Loss Ratios and Insurance Coverage**

	States with Successful Attempts			States with Unsuccessful Attempts		
	2001-2009	2001	2009	2001-2009	2001	2009
MLR	0.848	0.868	0.873	0.851	0.880	0.864
	0.029	0.033	0.022	0.038	0.038	0.027
MLR (BCBS Plans)	0.845	0.867	0.868	0.843	0.842	0.854
	0.039	0.045	0.028	0.051	0.043	0.073
MLR (Non-BCBS Plans)	0.850	0.873	0.882	0.844	0.917	0.832
	0.038	0.037	0.027	0.059	0.055	0.074
% Insured	0.861	0.874	0.842	0.851	0.858	0.836
	0.033	0.040	0.035	0.026	0.027	0.023
% Enrolled in Employer-Sponsored Insurance	0.691	0.727	0.633	0.668	0.697	0.625
	0.055	0.050	0.052	0.059	0.060	0.047
% with Individual Private Insurance	0.092	0.100	0.089	0.092	0.105	0.088
	0.015	0.017	0.013	0.020	0.017	0.021
% Enrolled in Medicaid	0.119	0.091	0.158	0.123	0.105	0.149
	0.044	0.027	0.051	0.042	0.047	0.045

*Notes* : The unit of observation is the state-year. The number of observations for the MLRs varies between 15 and 19 per year, while the insurance rates have 19 observations in all years.

**Appendix Table 5.**  
**Effect of BCBS Conversions on Premiums, Leads and Lags**

*Panel A: Model 1 (Dependent Var = Premium Index)*

	(1)	(2)
	<i>Fully-Insured Plans</i>	<i>Self-Insured Plans</i>
(BCBS FP) <sub>t-3</sub>	-0.977 <i>(1.253)</i>	2.837 <i>(1.820)</i>
(BCBS FP) <sub>t-2</sub>	-2.203 <i>(1.882)</i>	1.072 <i>(2.023)</i>
(BCBS FP) <sub>t-1</sub>	-1.316 <i>(3.047)</i>	2.342 <i>(2.743)</i>
(BCBS FP) <sub>t=0</sub>	-2.926 <i>(5.623)</i>	0.326 <i>(3.833)</i>
(BCBS FP) <sub>t+1</sub>	-2.222 <i>(6.200)</i>	1.858 <i>(3.790)</i>
(BCBS FP) <sub>t+2</sub>	0.523 <i>(6.150)</i>	1.882 <i>(3.744)</i>
(BCBS FP) <sub>&gt;=(t+3)</sub>	5.671 <i>(6.954)</i>	6.545 <i>(4.893)</i>
Number of Observations	599	611

**Notes :** *The unit of observation is the market-year. Model includes fixed effects for each market and year as well as lagged market-year controls (ln(Medicare costs per capita) and the unemployment rate), and are estimated by weighted least squares using the average number of enrollees in each market as weights. Standard errors are clustered by market. Includes data from 1997-2009.*

*\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < .01$*

**Appendix Table 5.**  
**Effect of BCBS Conversions on Premiums, Leads and Lags**

*Panel B: Model 2 (Dependent Var = Premium Index)*

	(1)	(2)
	<i>Fully-Insured Plans</i>	<i>Self-Insured Plans</i>
(BCBS FP) $t-3$ *low	-0.174 (1.221)	2.236 (2.286)
(BCBS FP) $t-2$ *low	-1.953 (1.925)	0.261 (2.392)
(BCBS FP) $t-1$ *low	-2.686 (2.809)	1.95 (3.122)
(BCBS FP) $t=0$ *low	-4.225 (5.545)	-0.703 (4.327)
(BCBS FP) $t+1$ *low	-6.13 (6.190)	0.519 (4.361)
(BCBS FP) $t+2$ *low	-4.306 (6.553)	0.326 (4.234)
(BCBS FP) $\geq(t+3)$ *low	0.895 (7.766)	4.981 (5.463)
(BCBS FP) $t-3$ *high	-3.612 (1.839)*	4.302 (1.879)**
(BCBS FP) $t-2$ *high	-3.229 (2.694)	2.778 (2.749)
(BCBS FP) $t-1$ *high	0.757 (3.996)	2.837 (3.945)
(BCBS FP) $t=0$ *high	-0.128 (4.792)	2.414 (4.808)
(BCBS FP) $t+1$ *high	9.199 (4.493)**	4.601 (4.901)
(BCBS FP) $t+2$ *high	14.377 (4.844)***	5.008 (4.146)
(BCBS FP) $\geq(t+3)$ *high	19.939 (7.769)**	9.762 (5.621)*
Number of Observations	599	611

**Notes :** *The unit of observation is the market-year. Model includes fixed effects for each market and year as well as lagged market-year controls (ln(Medicare costs per capita) and the unemployment rate), and are estimated by weighted least squares using the average number of enrollees in each market as weights. Standard errors are clustered by market. Includes data from 1997-2009.*

*\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < .01$*

**Appendix Table 6. Effect of BCBS Conversions on Premiums, Dropping One State at a Time**

	Dependent Variable = Fully-Insured Premium Index										
	CO	CT	IN	KY	ME	MO	NH	NV	NY	OH	WI
Lagged BCBS FP*											
Low Pre-conversion share	-2.75 (5.02)	0.29 (6.02)	-0.09 (5.35)	-0.05 (5.46)	-0.05 (5.46)	-0.24 (5.76)	-1.15 (5.39)	1.04 (5.56)	6.67 (6.32)	-2.27 (5.72)	0.91 (5.85)
High Pre-conversion share	17.24 (4.82)***	17.56 (4.75)***	20.07 (4.69)***	18.13 (5.31)***	18.22 (4.85)***	17.33 (4.77)***	17.88 (4.74)***	17.48 (4.74)***	19.48 (4.93)***	18.32 (6.47)***	15.41 (4.69)***
Number of Observations	528	528	516	528	540	528	540	524	528	468	516

*Notes:* The unit of observation is the market-year. Each column represents results from a sample excluding observations from the state marked at the top of the column. All models include market-year controls and fixed effects for each market and year, and are estimated by weighted least squares using the average number of enrollees in each market as weights. Standard errors are clustered by market.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$

**Appendix Table 7. Effect of Different Types of BCBS  
Ownership Conversions on Premiums**

*Panel A. Fully-Insured Plans*

	Dependent Var = Premium Index Mean = 179.9	
	(1)	(2)
Lagged BCBS NFP to Mutual	1.37 (7.2)	3.85 (6.54)
Lagged BCBS NFP to FP	-6.19 (5.58)	-6.2 (5.63)
Lagged BCBS Mutual to FP	12.01 (4.92)**	0.09 (9.67)
Lagged BCBS Mutual to FP * Pre-conversion share		59.82 (34.27)*
Number of Observations	599	599

*Panel B. Self-Insured Plans*

	Dependent Var = Premium Index Mean = 181.1	
	(1)	(2)
Lagged BCBS NFP to Mutual	0.52 (3.49)	1.38 (3.45)
Lagged BCBS NFP to FP	2.18 (4.92)	2.19 (4.93)
Lagged BCBS Mutual to FP	4.65 (2.93)	0.23 (5.63)
Lagged BCBS Mutual to FP * Pre-conversion share		21.49 (21.97)
Number of Observations	611	611

**Notes:** The unit of observation is the market-year. All models include fixed effects for each market and year as well as lagged market-year controls ( $\ln(\text{Medicare costs per capita})$  and the unemployment rate) and are estimated by weighted least squares using the average number of enrollees in each market as weights. Standard errors are clustered by market.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$

**Appendix Table 8. Impact of For-Profit Penetration on Insurance Coverage  
(by age group)**

	Panel A: Dep Var = Share on Medicaid (under 18) Mean = 0.25			Panel B: Dep Var = Share on Medicaid (18-44) Mean = 0.09		
Lagged BCBS FP	0.017 <i>[0.011]</i>	-0.034 <i>[0.017]*</i>		0.016 <i>[0.005]***</i>	0.013 <i>[0.018]</i>	
Lagged BCBS FP * Pre-conversion Share		0.264 <i>[0.071]***</i>			0.014 <i>[0.087]</i>	
Lagged BCBS FP *						
Low Pre-conversion share			0.006 <i>[0.011]</i>		0.014 <i>[0.007]**</i>	
High Pre-conversion share			0.032 <i>[0.016]*</i>		0.017 <i>[0.008]**</i>	
Number of Observations	209	209	209	209	209	209
	Panel C: Dep Var = Share with any Private Insurance (under 18) Mean = 0.7			Panel D: Dep Var = Share with any Private Insurance (18-44) Mean = 0.71		
Lagged BCBS FP	0.003 <i>[0.009]</i>	0.050 <i>[0.026]*</i>		-0.001 <i>[0.009]</i>	0.036 <i>[0.018]*</i>	
Lagged BCBS FP * Pre-conversion Share		-0.246 <i>[0.137]*</i>			-0.193 <i>[0.091]**</i>	
Lagged BCBS FP *						
Low Pre-conversion share			0.012 <i>[0.011]</i>		0.006 <i>[0.010]</i>	
High Pre-conversion share			-0.011 <i>[0.014]</i>		-0.010 <i>[0.013]</i>	
Number of Observations	209	209	209	209	209	209

*Notes:* The unit of observation is the state-year. The study period is 1999-2009. Insurance rates and pre-conversion share are scaled from 0 to 1. All specifications include state and year fixed effects, simulated Medicaid eligibility rate for children under 18, lagged ln(Medicare costs per capita), and the lagged unemployment rate. Each observation is weighted by the average under-65 population in the state. Standard errors are clustered by state.

\* denotes  $p < 0.10$ , \*\* denotes  $p < 0.05$ , \*\*\* denotes  $p < 0.01$