Price Spillovers from Multi-product Firms:

The Case of Specialty Hospitals

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Concerns about specialty hospitals

- 04-2003, Initial GAO study
- 10-2003, Supplemental GAO study on relationship with CON laws
- 03-2004, Moratorium on self-referrals for physician-owned specialty hospitals (MMA)
- 05-2005, Report on growth of physician-owned specialty hospitals (GAO, HHS, MedPAC)
- 04-2006, GAO report and MedPAC testimony on effects of physician-owned specialty hospitals on general hospitals
- 08-2006, Final HHS report to Congress

Concerns (at the time) related to:

- "Cream-skimming" (probably)
- Self-referrals (small, if at all)
- Foreclosure (not really)

New concerns

> "Patients receiving care from specialty hospitals faced far higher costs, as measured by allowed amounts, when compared to the same services provided at non-specialty hospitals. In general, this wide variation in costs makes care and coverage more expensive for consumers, especially for services that did not always need to be performed at the higher-cost specialty hospital.
>
> -- AHIP Report on Specialty Hospitals, 2017

Spoiler: We see the same thing in our data

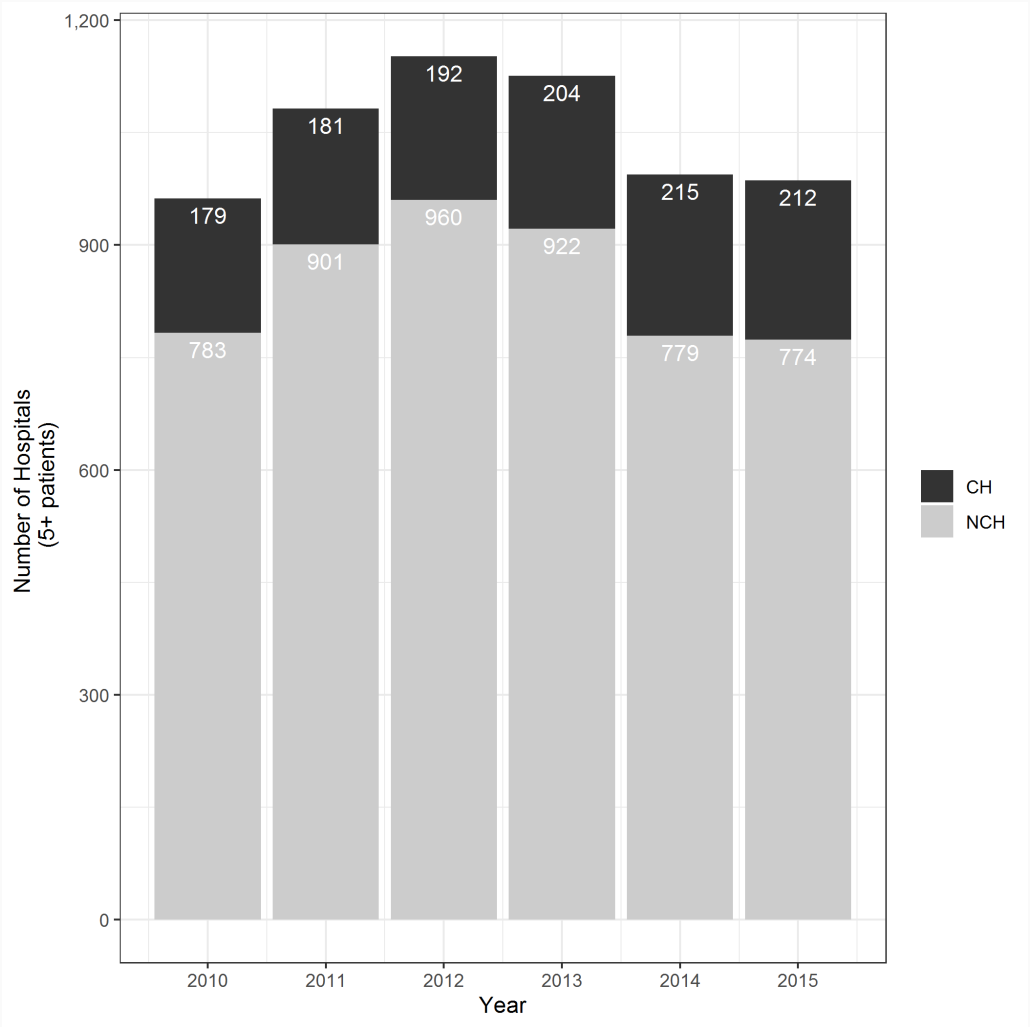
This paper

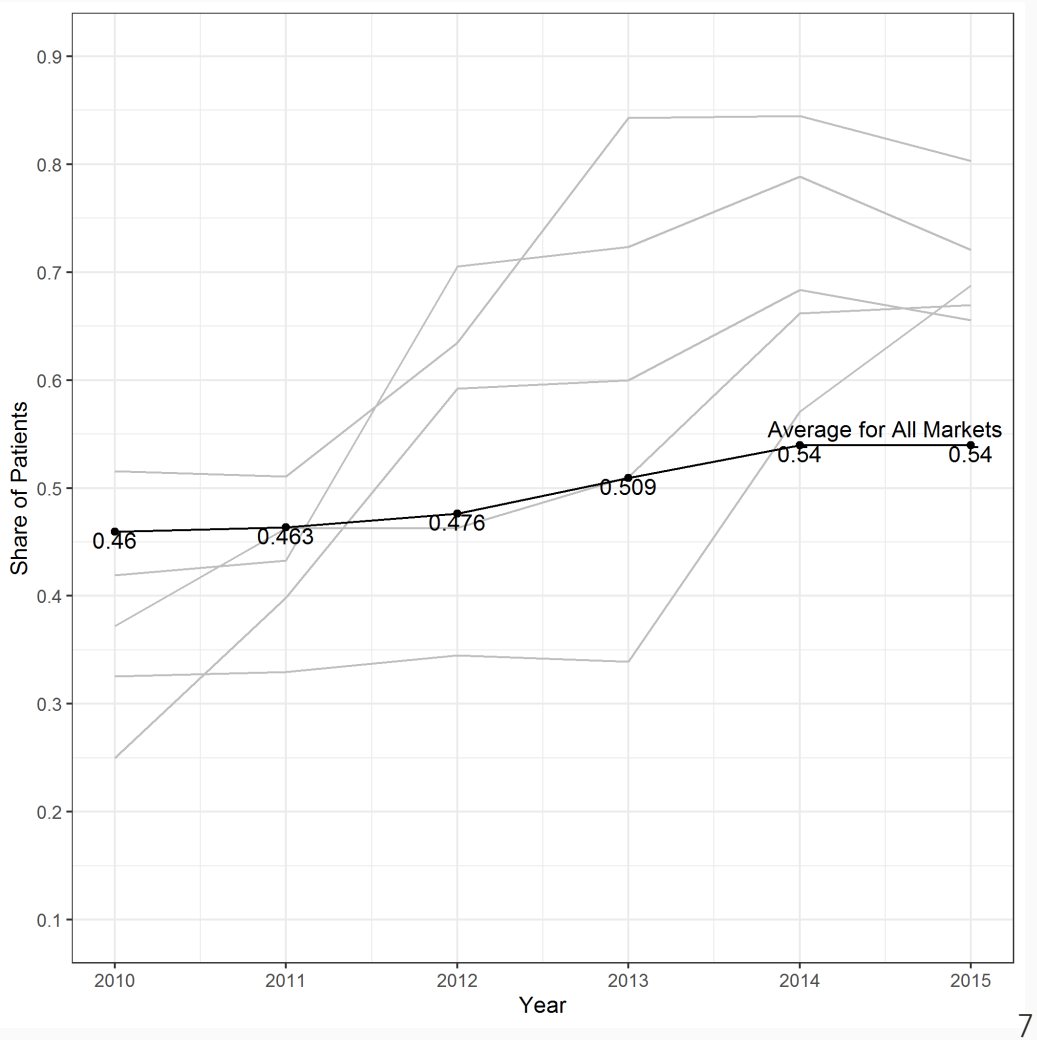
- **Question:** How are specialty hospitals able to negotiate higher commercial payments relative to non-specialty hospitales, even for routine procedures?
- **Context:** Set 13 routine pediatric procedures at both Children's Hospitals (CH) non-Children's Hospitals (NCH)

CH is standalone or designated unit within larger structure

Understanding Children's Hospitals

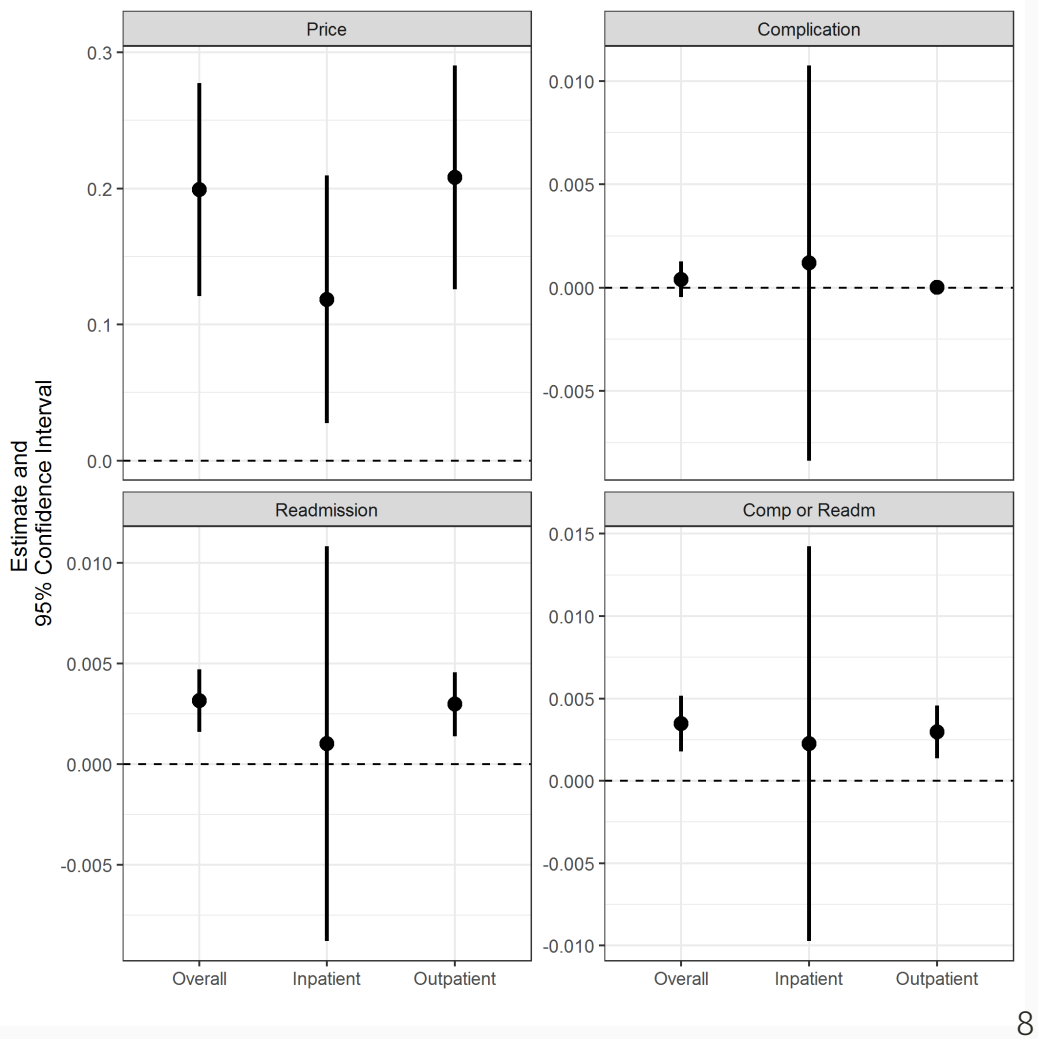
1. Growth


1,200
900
600
300
0
Number of Hospitals
(5+ patients)
179
181
192
204
215
212
783
901
960
922
779
774
2010
2011
2012
2013
2014
2015
Year
CH
NCH


0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Share of Patients
Average for All Markets
0.46
0.463
0.476
0.509
0.54
0.54
2010
2011
2012
2013
2014
2015
Year

2. Higher prices without higher quality

Procedure	CH	NCH	Difference
Ear Tubes	3,899	3,045	28%
Tonsillectomy	5,474	4,218	30%
Appendectomy	14,033	10,733	31%
Overall	6,280	4,874	29%



Takeaways

1. More people relying on CH for routine procedures
2. CH much more expensive than NCH (unexplained by quality or patient mix)

Why?

- Multi-product nature of the firm:
  - CH are **really** good at some very difficult procedures
  - Generates spillover effects onto other services
- Potential mechanisms:
  - Demand effect where CH are perceived as better than NCH (most likely)
  - All-or-nothing bargaining effect where CH leverage market exclusivity for one service in negotiations for other services (not really)

Demand Effect

Idea

- Common in marketing as "umbrella branding"
- Garthwaite (2014): Increased author sales from Oprah endorsement of a different book by the same author

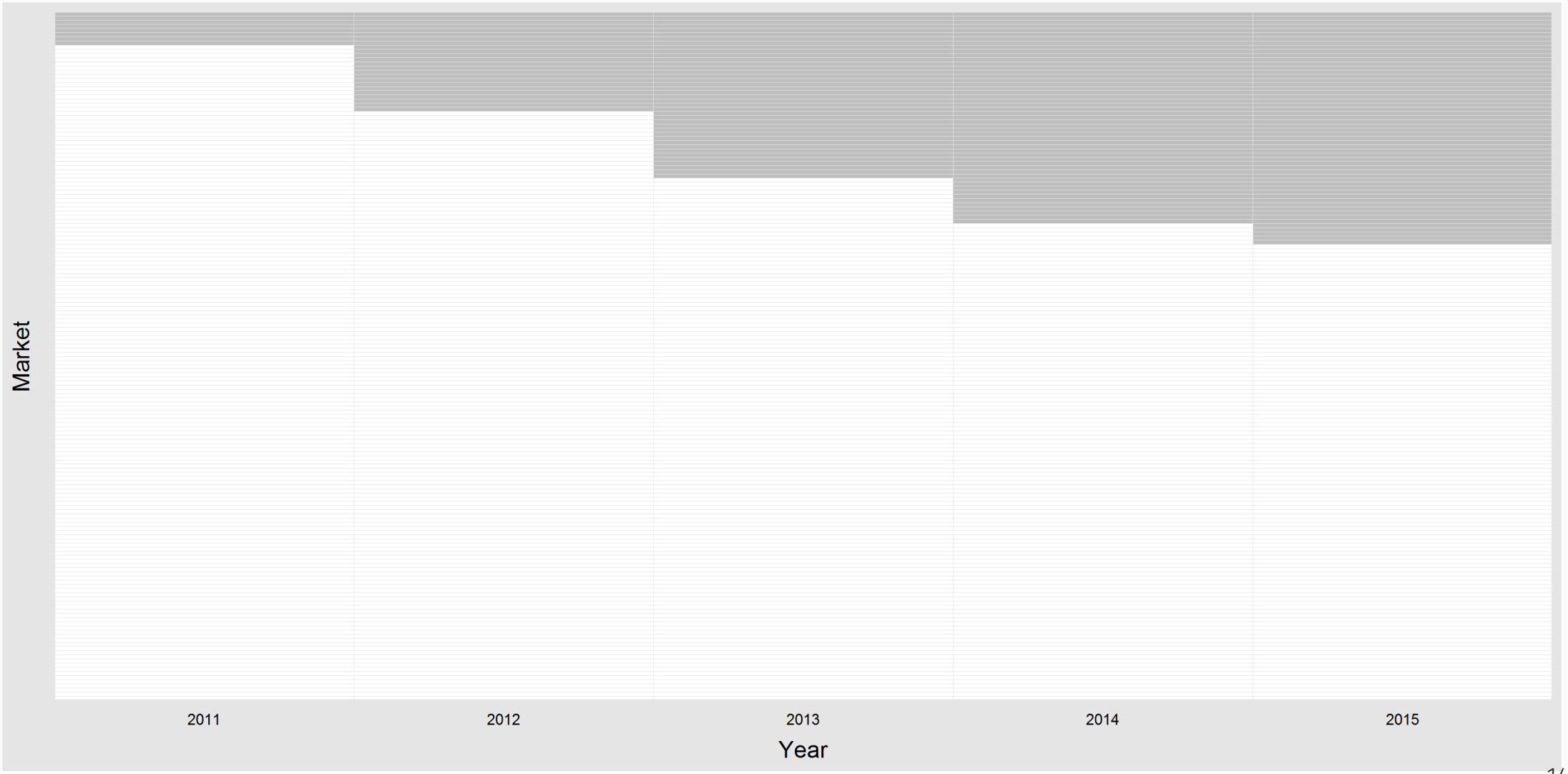
Identification

Exploit changes in competition from same-type (CH/CH or NCH/NCH) versus other-type (CH/NCH or NCH/CH) hospitals

- New CH or NCH structure
- NCH expands into designated pediatric unit (conversion to CH)
- CH or NCH added to network of available commercial insurers

Methods note: Markets constructed using community detection (Everson, 2019), which yields 363 distinct hospital markets for pediatric care

CH events over time



Estimand and estimator

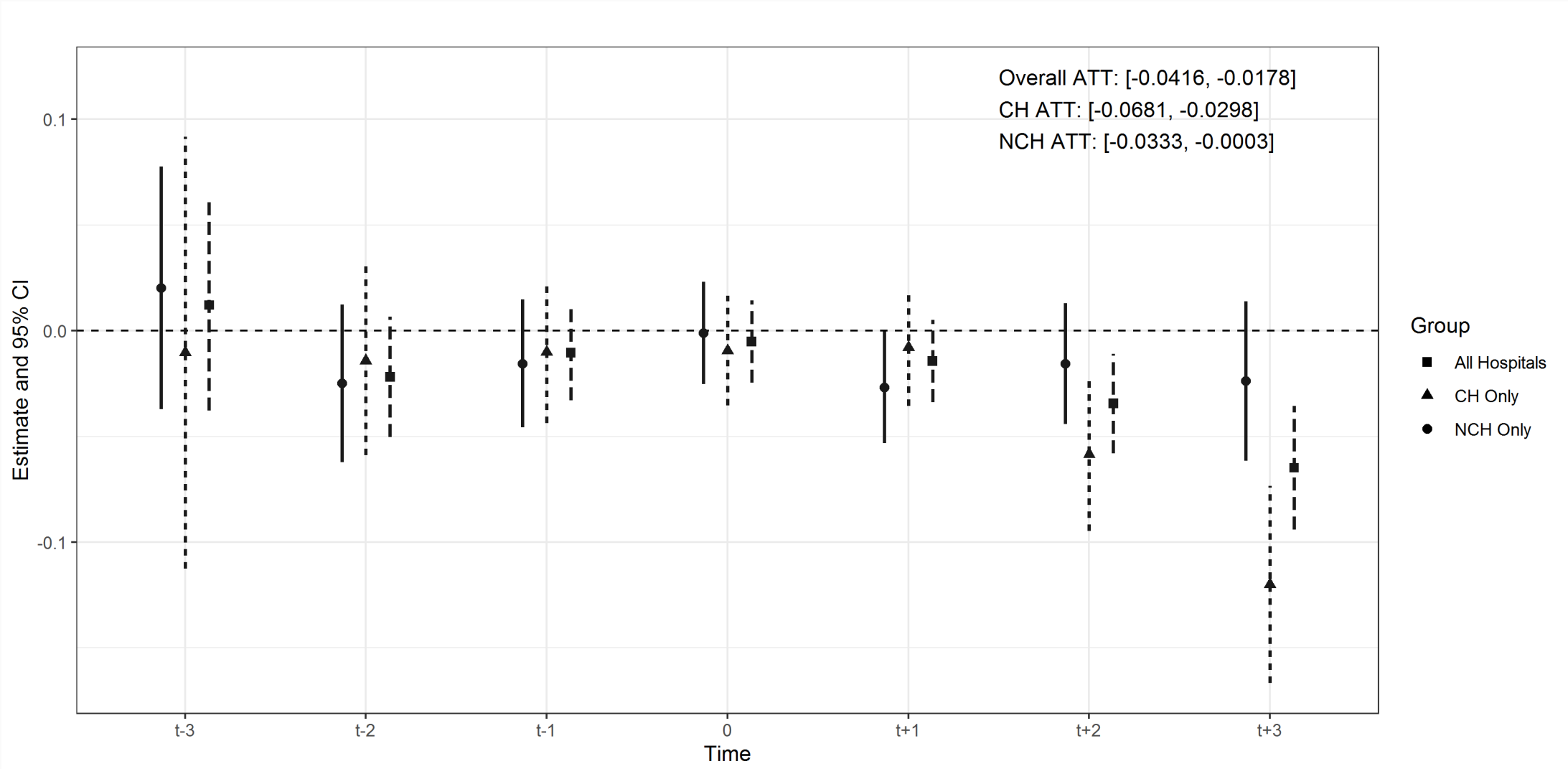
$$ATT_\tau = \mathrm{E}[p^1_{i\tau} - p^0_{i\tau} | \mathrm{Treated}, t = \tau]$$

1. Residualize allowed amounts:

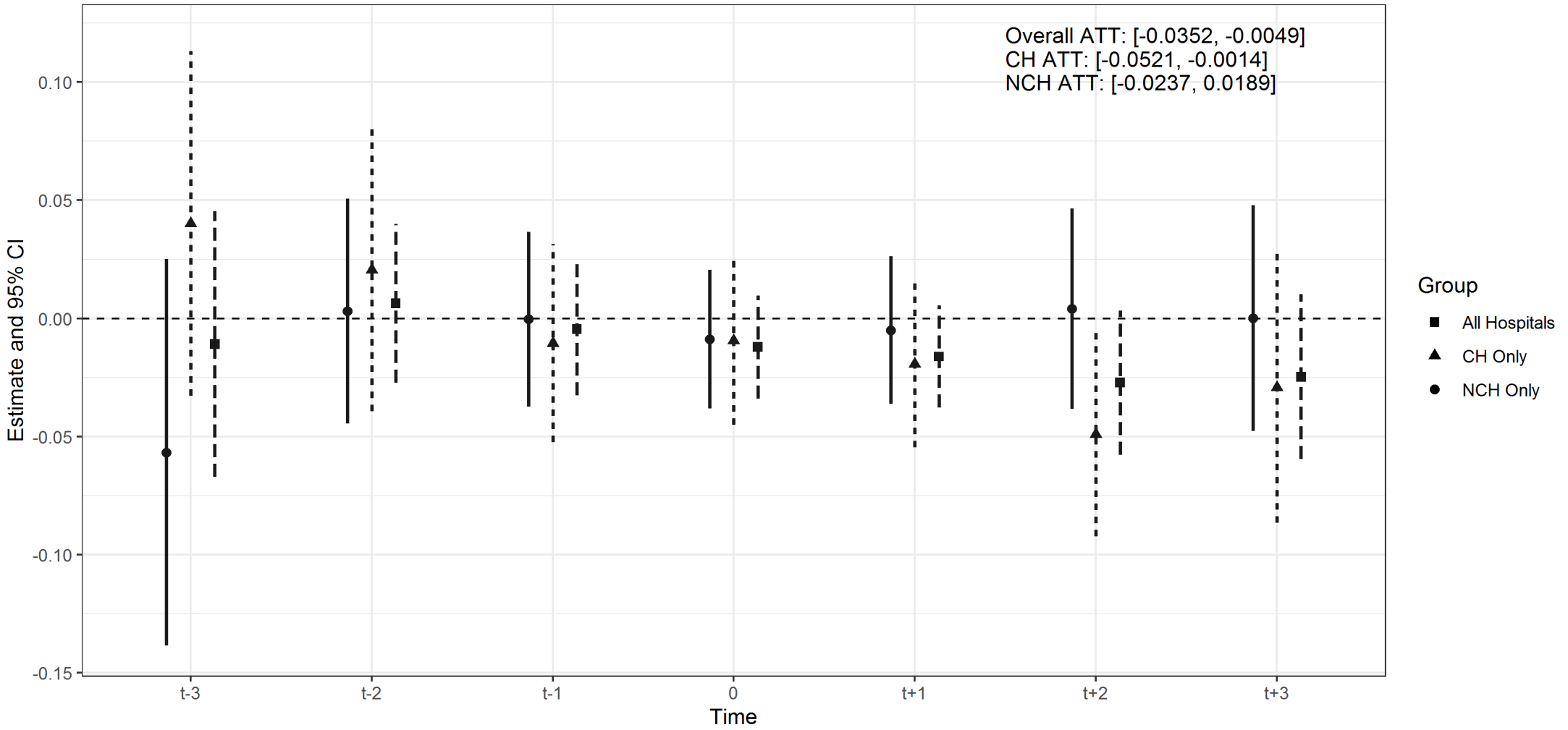
$$p_{i(jhm)t} = \beta_x x_{it} + \beta_z z_{ht} + \beta_w w_{jt} + \beta_g g_{mt} + \gamma_j + \gamma_h + \gamma_t + \varepsilon_{i(jhm)t}$$

2. Estimate ATT using Callaway and Sant'anna (2020)

Results of CH entry



Results of NCH entry



"All-or-nothing" Bargaining

Idea

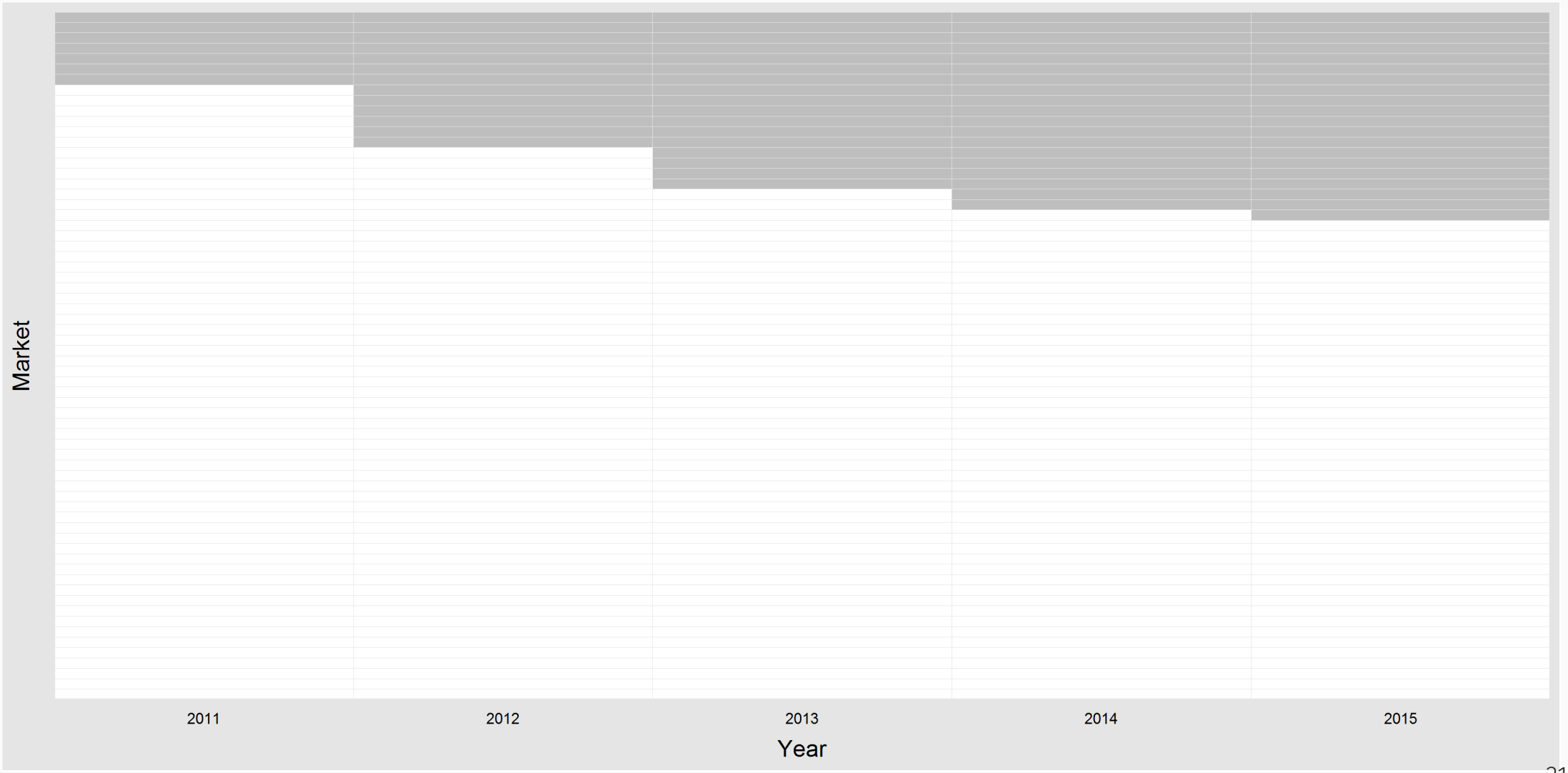
- Hospitals leverage market power for highly specialized services in negotiation for routine services

Identification

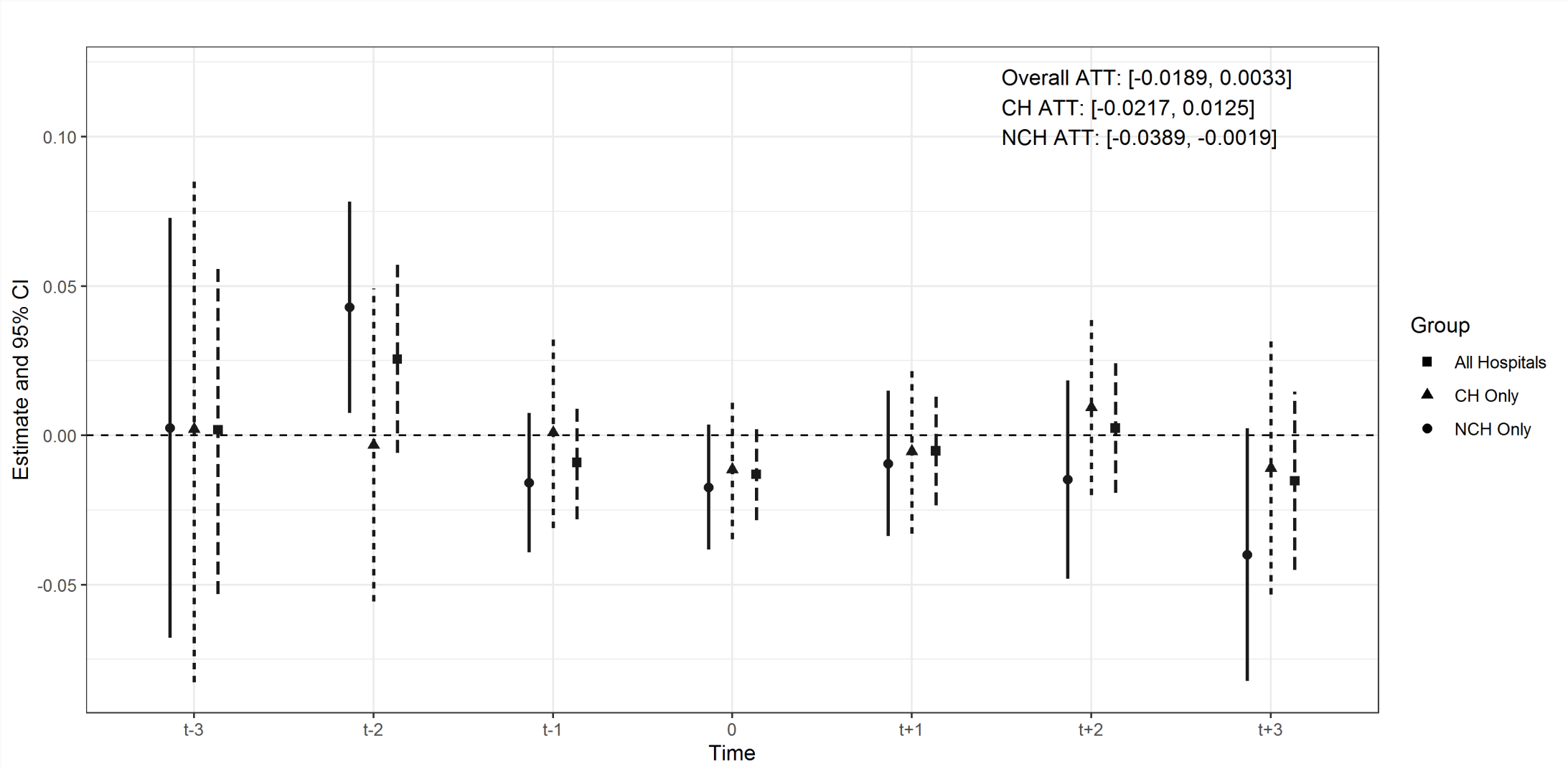
Exploit expansion of hospitals into highly specialized procedures for which existing CH have monopoly

1. Identify CH with monopoly power for ECMO, CHS, brain surgery, or transplant
2. Identify expansions into these service lines (first observed claims from new hospital int he data)

Expansion over time



Results of expansion on prices



Takeaways

Empirical findings

1. Much higher prices for routine procedures at specialty hospitals relative to non-specialty hospitals
2. Most likely due to demand effect (non-clinical quality or perceived clinical quality) rather than artifact of all-or-nothing bargaining

Policy implications

1. **Information and transparency:** Patients should understand quality at more granular level than hospital (must be procedure specific)
2. **Competition policy:** In the absence of transparent and accessible information, specialization is a way to avoid competition.