Do Larger Health Insurance Subsidies Benefit Patients or Producers? Evidence from Medicare Advantage

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Motivation

- Medicare is the primary source of health insurance for the elderly
  - In 2012, Medicare spending was $572.5 billion and growing at 4.8%
  - Given the large scale and rapid growth, reforming Medicare is a perpetual policy issue
- One commonly discussed proposal is adjusting subsidies to private Medicare Advantage plans
  - Proponents of larger subsidies argue that increased payments will result in lower premiums / generous benefits
  - Opponents argue that such a move would lead to large profits for insurance companies and health care providers
- At its core, these debates are about economic incidence: Does increasing government subsidies to private Medicare Advantage plans benefit patients or producers?

Background on Medicare

Medicare beneficiaries have two options for hospital + physician coverage:

- Traditional Fee-for-Service Medicare (TM)
  - Public coverage
  - Virtually no provider restrictions
  - Significant patient cost-sharing

- Medicare Advantage (MA)
  - Private coverage
  - Restricted network of providers
  - Little or no patient cost-sharing
  - Often offer supplemental benefits (e.g., vision, dental, drug coverage)

Background on Medicare Advantage

- Medicare eligibles can choose any plan offered in their county
- Plans are given capitation payment from Medicare for each enrolled beneficiary
- Plans can charge a supplemental premium to beneficiaries

$$\text{Plan payments} = \text{capitation payments} + \text{premiums}$$

This Paper

- In this paper, we investigate the following questions:

  1. To what degree are increased capitation payments passed through to consumers?

  2. What market factors determine this pass-through rate?

Approach and Findings

- Leverage sharp, differential changes in county-level payments to MA insurers induced by the Benefits Improvement and Protection Act (BIPA) of 2000
- Use this difference-in-differences variation to estimate pass-through
  - For $1 increase in subsidy, premiums decrease by 45 cents and plan generosity increases by 8 cents
- Write down a simple model to illustrate factors that determine pass-through: selection and market power
- Present empirical evidence on the importance of each of these factors in explaining incomplete pass-through

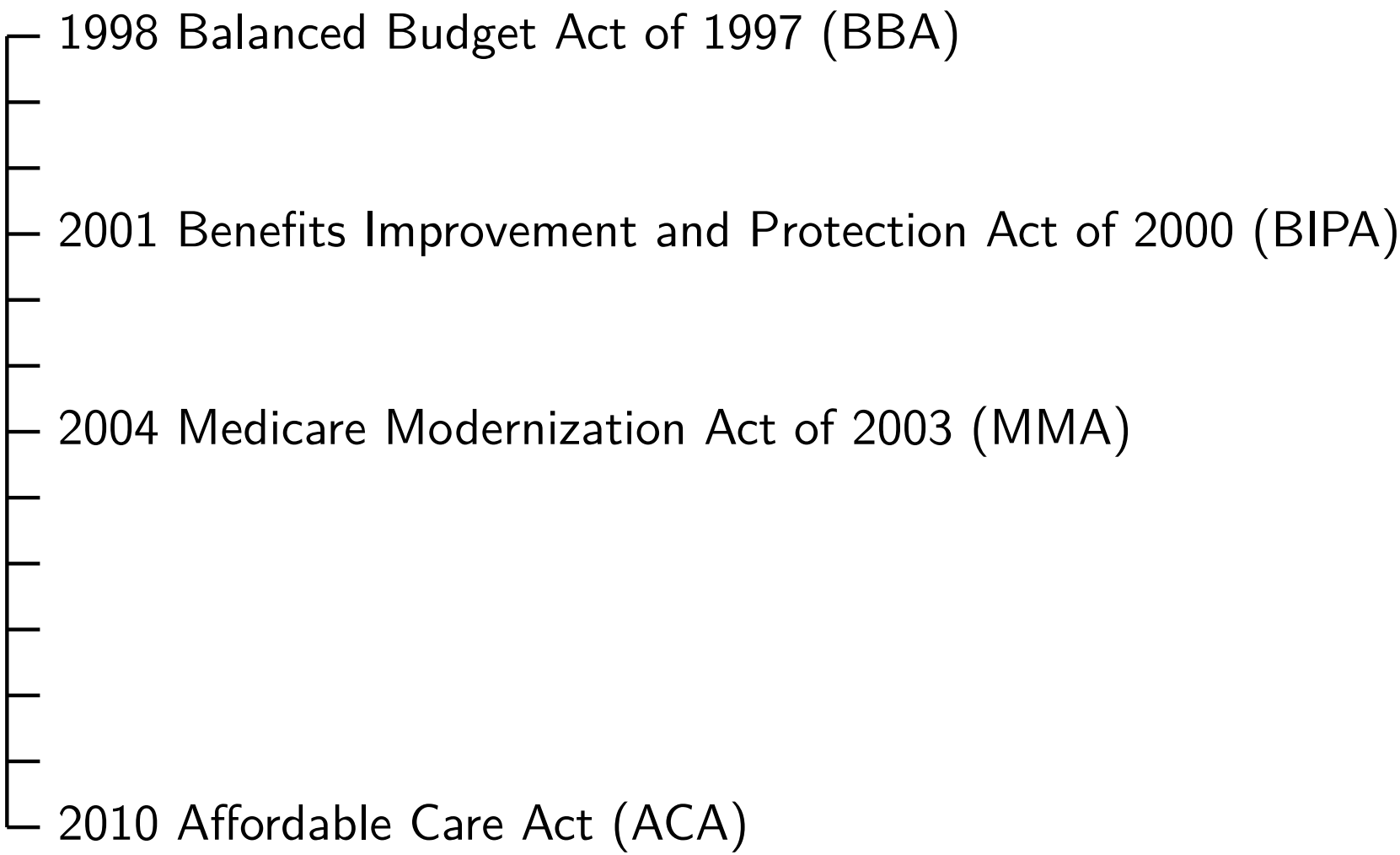
Related Literature

- Pass-through in MA
  - Duggan, Starc, and Vabson (2015)
  - Song, Landrum, and Chernew (2013)
- Selection into MA
  - "Switcher" studies (e.g., Brown et al. 2014; Newhouse et al. 2012)
  - We use exogenous variation in prices (e.g. Einav, Finkelstein, Cullen 2010)
- Market power in health insurance
  - Curto et al. (2015) on market power in MA
  - Dafny (2010) and Dafny et al. (2012) on market power in ESI

Outline

- **Background**
- Research design
- Pass-through
- Model
- Selection and market power

An Abridged History of Payment Reforms



MA Payments

Capitation payments intended to reflect counterfactual TM costs

$$\text{Capitation payment}_{ijt} = b_{jt} \times r_{it}$$

- b_{jt} is county-level "base payment"
  - Pre BIPA, largely determined by historical average TM costs
  - Base payments increased by approx 2% per year
- r_{it} is demographic risk adjustment
  - Normalized to have mean 1 in entire population
  - Comprehensive risk adjustment introduced in 2004

Data

- Multiple sources:
  - MA Rate-books: Payments for county $\times$ year
  - Plan Service Files: Benefits and premiums by plan $\times$ year
  - CMS Beneficiary Summary File: admin cost data for TM
  - CMS Denominator File: admin demographic data for all Medicare
- Time frame: 1997-2003
  - Premium data for 1997-2003
  - Benefits data for 2000-2003
  - Plan quality data for 1999-2003
  - Costs data for 1999-2003

Sample Construction

- Aggregate data to county $\times$ year panel
  - Weight plan-level attributes by enrollment shares
  - Weight county $\times$ years by number of beneficiaries in each county
- Only observe plan attributes when 1+ plan in county
  - Baseline: County $\times$ years with 1+ plan
  - Show that variation does not affect entry / exit into sample

Summary Statistics

Table: All Counties, 1997-2003

	Mean	Std. Dev.	Min.	Max.
Base Payment ($ per month)	490.58	83.96	222.99	777.91
At Least One Plan	65.1%	47.7%	0%	100%
Number of Plans	1.78	1.73	0	7
MA Enrollment	19.1%	18.4%	0%	69.8%
TM Costs ($ per month)	486.53	103.94	136.87	940.08

Summary Statistics

Table: County × Years with At Least One Plan, 1997-2003

	Mean	Std. Dev.	Min.	Max.
County-Level Premium ($ per month)				
Mean	22.71	27.82	0	156.29
Min	15.05	26.25	0	156.29
Median	21.60	29.60	0	156.29
Max	33.56	33.54	0	194.47
County-Level Benefits*				
Physician Copay ($ per visit)	7.89	4.95	0	56.15
Specialist Copay ($ per visit)	14.39	6.79	0	95.72
Drug Coverage	70.5%	41.1%	0%	100%
Dental Coverage	27.4%	35.7%	0%	100%
Vision Coverage	69.9%	39.8%	0%	100%
Hearing Aid Coverage	40.0%	42.1%	0%	100%
Number of Plans	2.75	1.41	1	7
HHI	5,696	2,584	1,778	10,000
MA Enrollment	28.8%	16.1%	1.1%	67.6%
TM Costs ($ per month)	521.80	106.65	254.96	940.08

*Benefits data are only available for 2000-2003

Outline

- Background
- **Research design**
- Pass-through
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- Selection and market power

MA Payments and BIPA

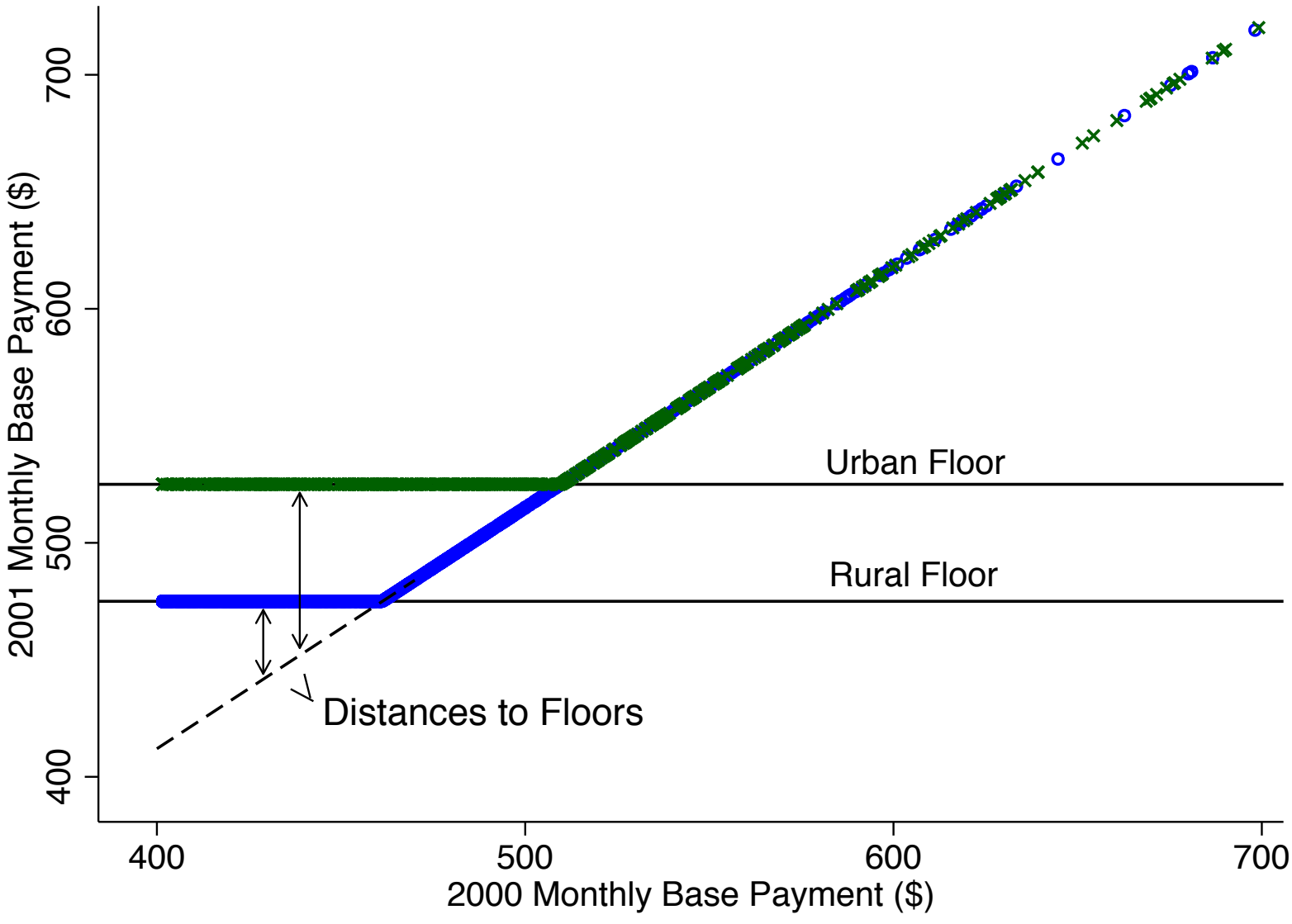
- Benefits Improvement and Protection Act of 2000
  - Implemented rural and urban payment floors*
- Base payments

$$b_{jt} = \begin{cases} \widetilde{c}_{jt} & \text{if } t < 2001 \\ \max\left\{\widetilde{c}_{jt},\ \underline{b}_{u(j)t}\right\} & \text{if } t \geq 2001, \end{cases}$$

- $\widetilde{c}_{jt}$ is the base payment absent the BIPA floors
- $\underline{b}_{u(j)t}$ is the relevant urban or rural payment floor

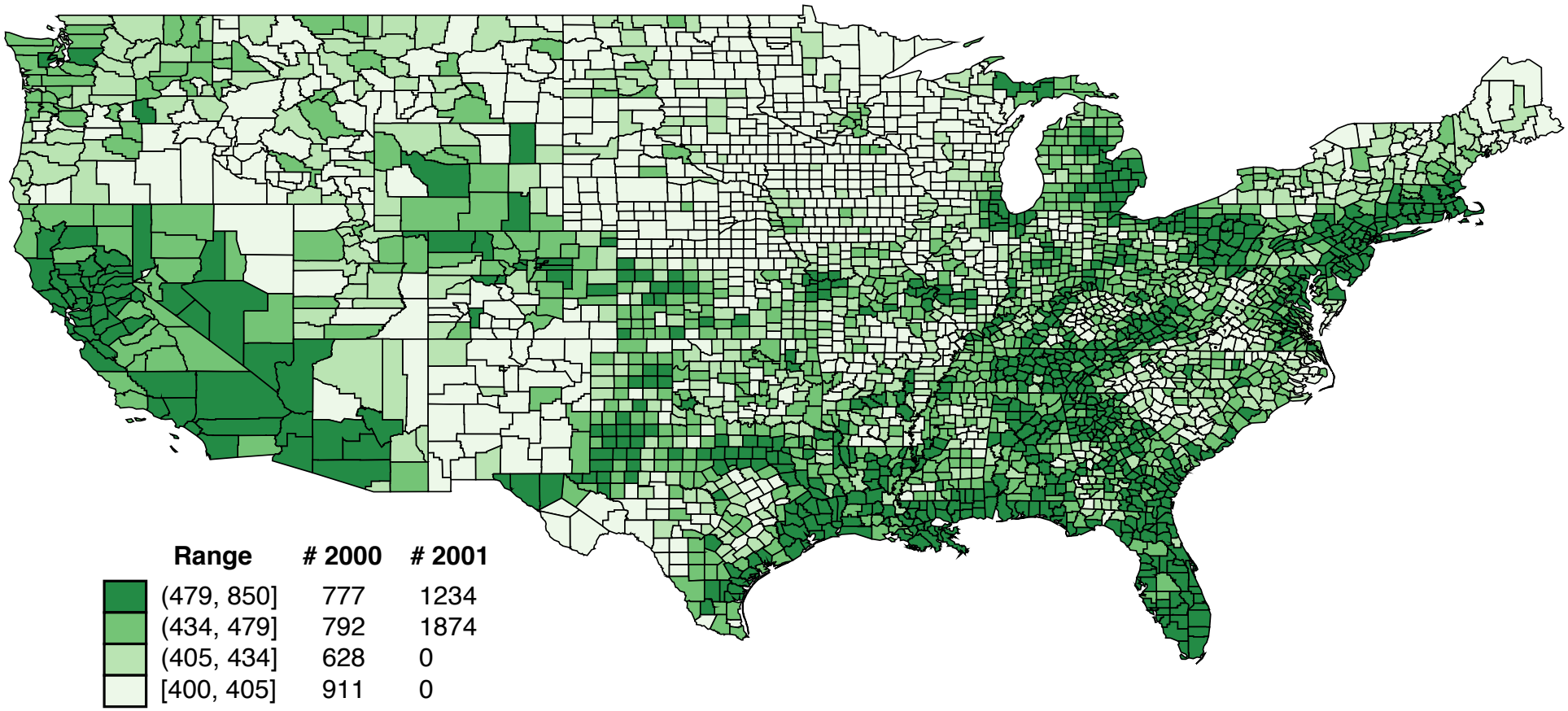
*Required plans to submit new premiums and benefits to take effect in February 2001. We define 2001 premiums using these post-update value

BIPA Payment Floors



Effect of BIPA on Payments

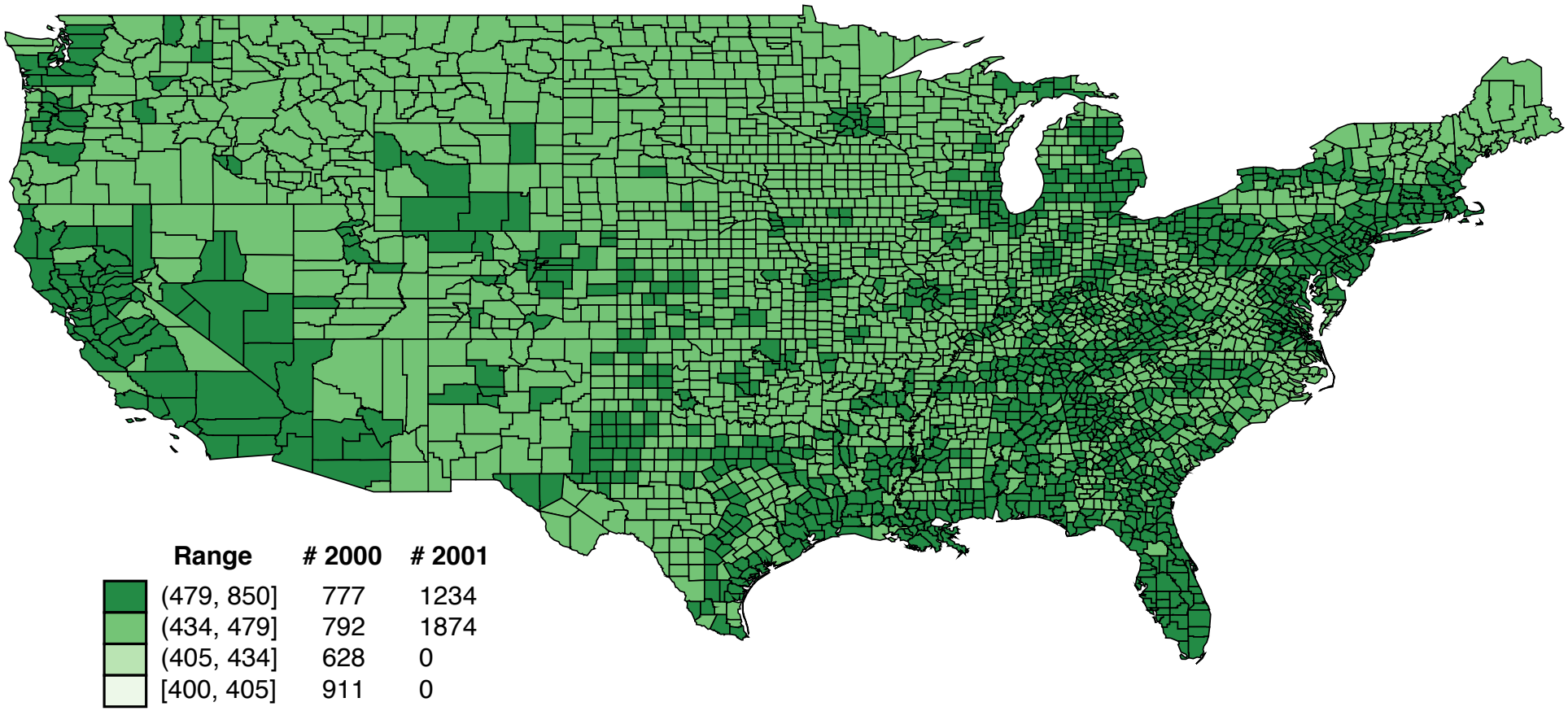
Figure: Pre-BIPA Payments, 2000



Range	# 2000	# 2001
(479, 850]	777	1234
(434, 479]	792	1874
(405, 434]	628	0
[400, 405]	911	0

Effect of BIPA on Payments

Figure: Post-BIPA Payments, 2001



Payment Floors

	Mean	Std. Dev.	Percentiles		
			25th	50th	75th
Non-Floor County (N = 886)					
Δ Base Payment	14.39	1.58	13.17	14.03	15.10
% Change in Base Payment	3.0%	0.0%	3.0%	3.0%	3.0%
Rural Floor County (N = 1,831)					
Δ Base Payment	52.94	17.16	39.67	62.59	67.18
% Change in Base Payment	14.1%	4.9%	10.0%	16.8%	18.3%
Urban Floor County (N = 426)					
Δ Base Payment	64.67	29.56	38.90	62.33	89.05
% Change in Base Payment	16.1%	8.4%	8.8%	14.9%	22.7%

Econometric Model

- Measure exposure to BIPA with a *distance-to-floor* measure

$$\Delta b_{jt} = \max\left\{\widetilde{\underline{b}}_{u(j)t} - \widetilde{c}_{jt}\ , \quad 0\right\}$$

- $\widetilde{\underline{b}}_{u(j)t}$ is relevant urban/rural floor in year t
- $\widetilde{c}_{jt}$ is payment rate in absence of the floor in county j in year t

▸ More Details

Econometric Model

- Difference-in-differences with year-specific coefficients

$$y_{jt} = \alpha_j + \alpha_t + \left(\sum_{t \neq 2000} \beta_t \times I_t \times \Delta b_{jt} \right) + f(X_{jt}) + \epsilon_{jt}$$

  - α_j and α_t are county and year fixed effects
  - $f(X_{jt})$ is a flexible set of controls

- Normalize $\beta_{2000} = 0$ in year when BIPA was passed

- Cluster standard errors at the county level

Identification

Assumption: In the absence of BIPA, outcomes for counties that were differentially affected by the payment floors would have evolved in parallel

- Two broad approaches to assessing the validity of this assumption:
  - Plot β_t's over time to visually inspect for spurious pre-existing trends
  - Show results robust to alternative specifications that isolate two complementary sources of identifying variation
    1. Include pre-BIPA Base Payment X Year FE
    2. Include Urban X Year FE

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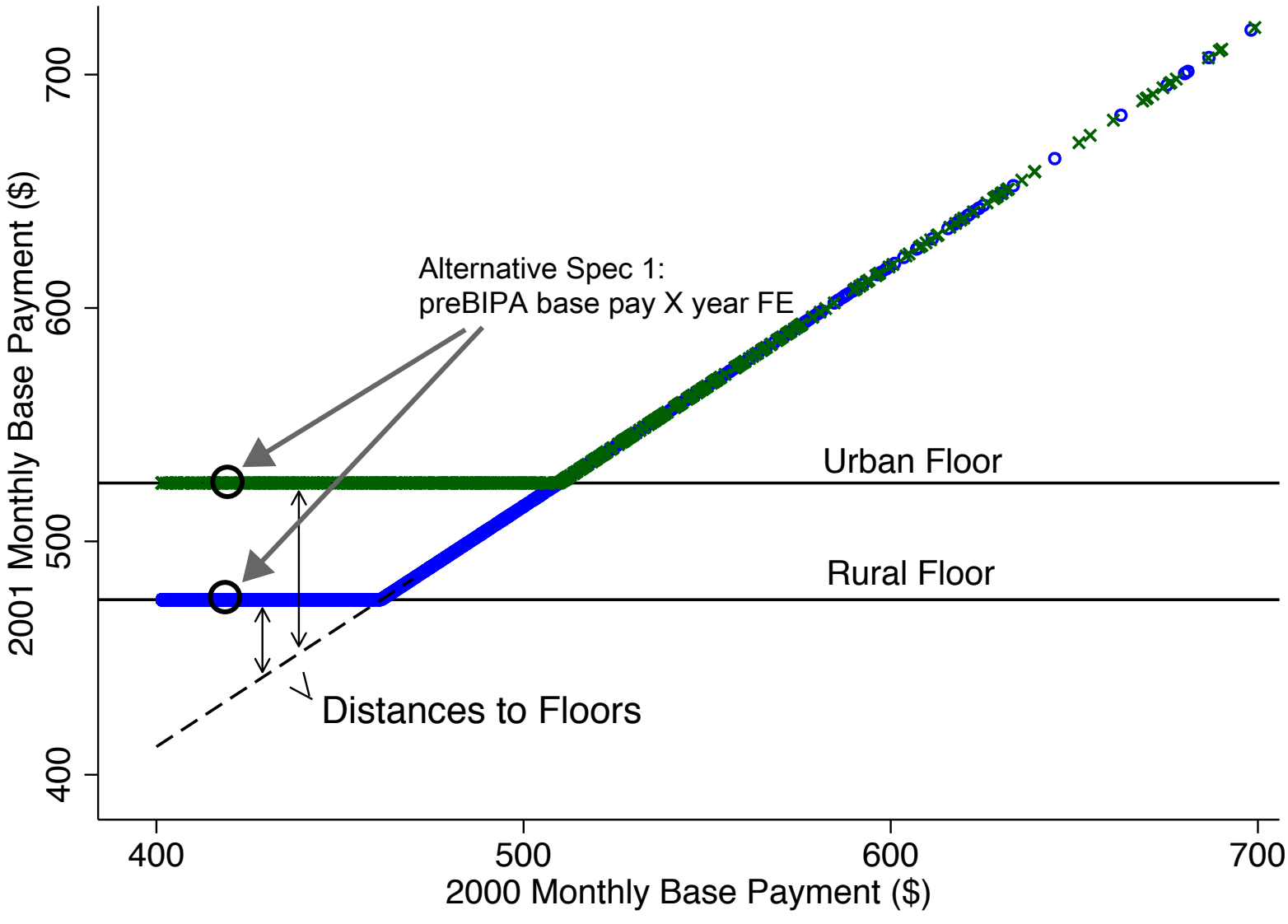
BIPA Payment Floors



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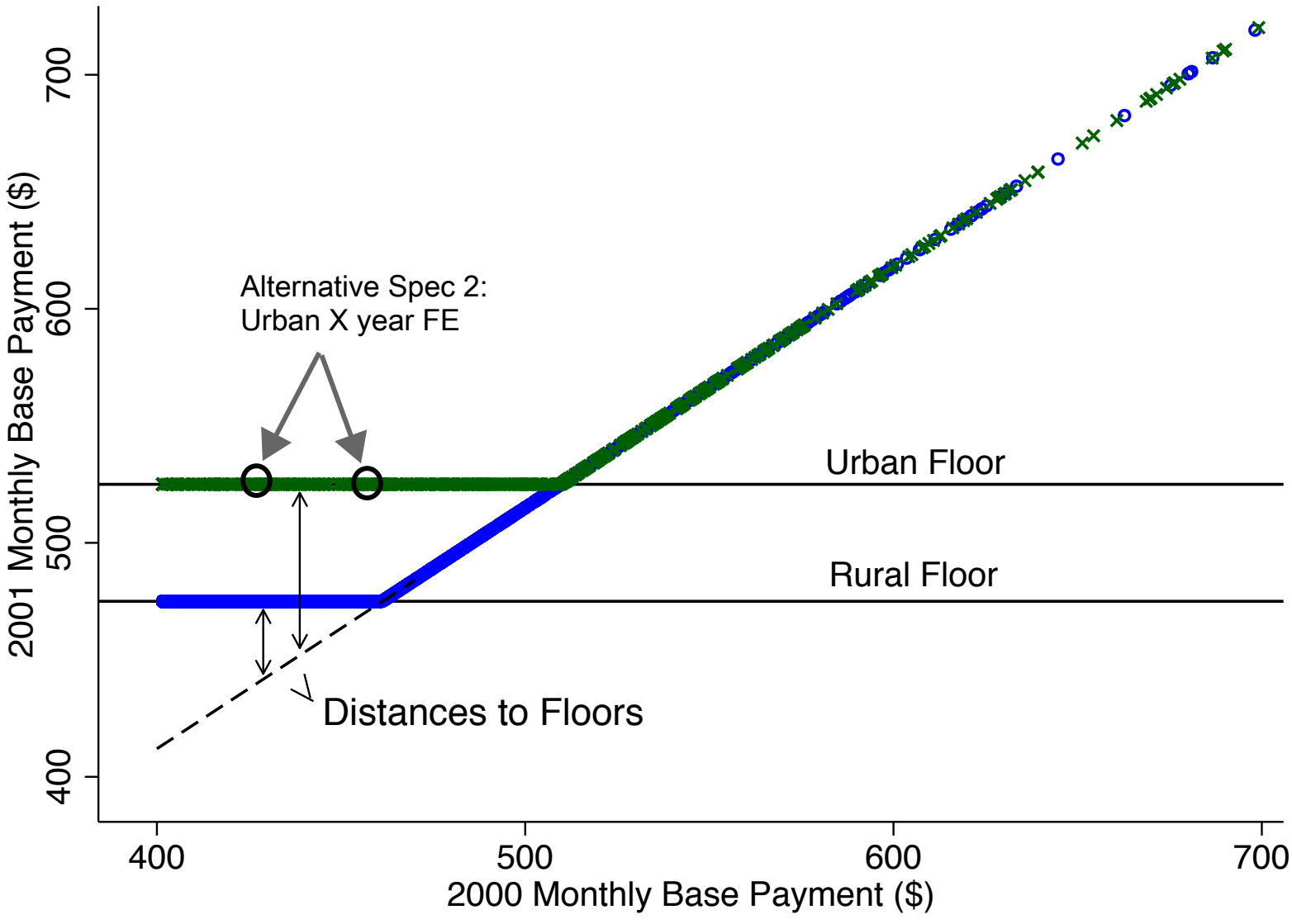
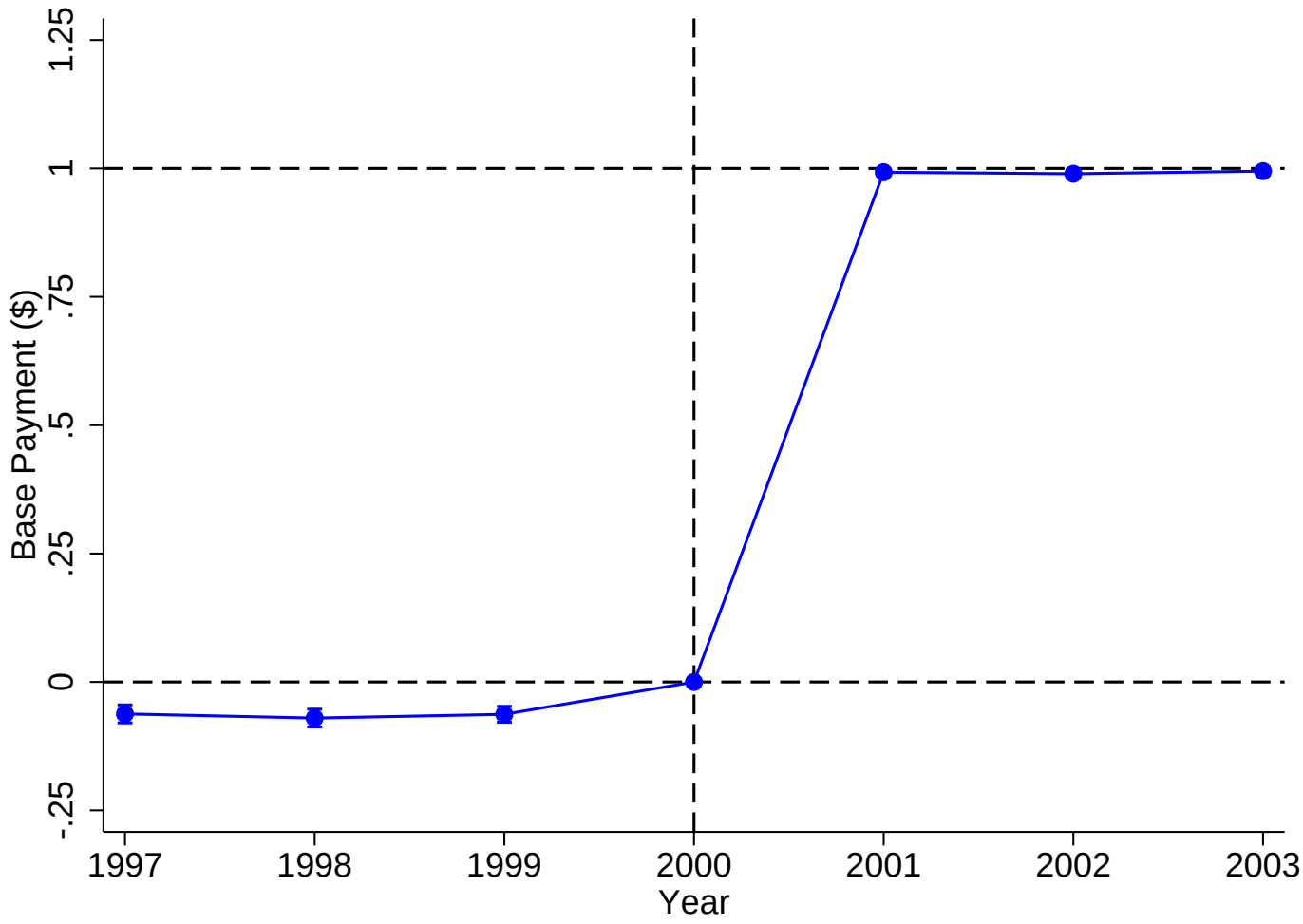
BIPA Payment Floors



First Stage Impact on Base Payment

Figure: Impact of $1 Increase in Distance to Floor



First Stage, Alternative Specifications

Figure: Impact of $1 Increase in Distance to Floor

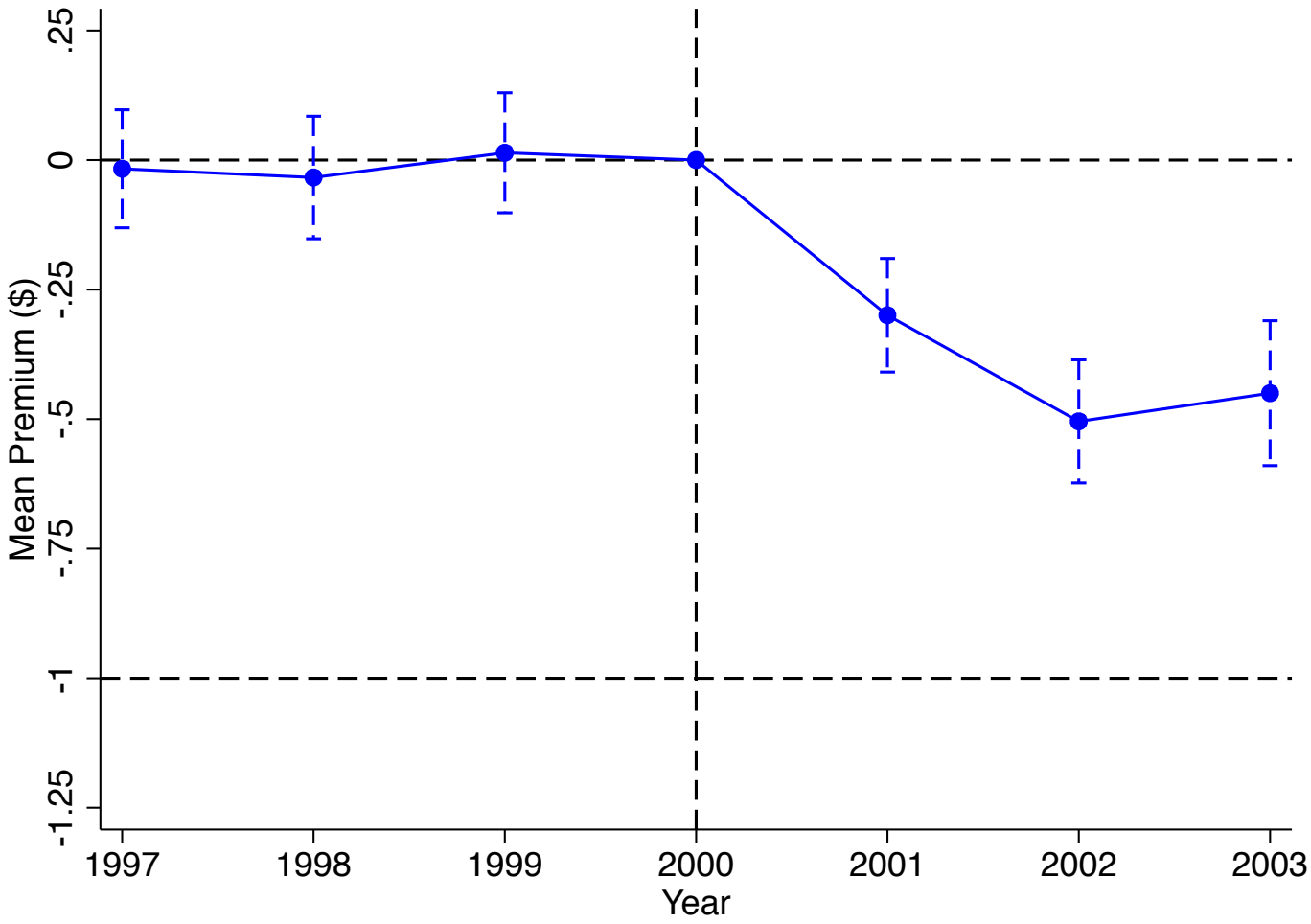
	Dependent Variable: Base Payment ($)		
	(1)	(2)	(3)
Δb X 2001	0.993	0.996	0.993
	(0.003)	(0.004)	(0.003)
Δb X 2002	0.990	0.997	0.987
	(0.004)	(0.005)	(0.004)
Δb X 2003	0.995	1.002	0.992
	(0.004)	(0.005)	(0.004)
Main Effects			
County FE	X	X	X
Year FE	X	X	X
Additional Controls			
Pre-BIPA Payment X Year FE		X	
Urban X Year FE			X
Pre-BIPA Mean of Dep. Var.	515.15	515.15	515.15
R-Squared	1.000	1.000	1.000

Outline

- Background and data
- Research design
- **Pass-through**
- Model
- Selection and market power

Mean Premiums

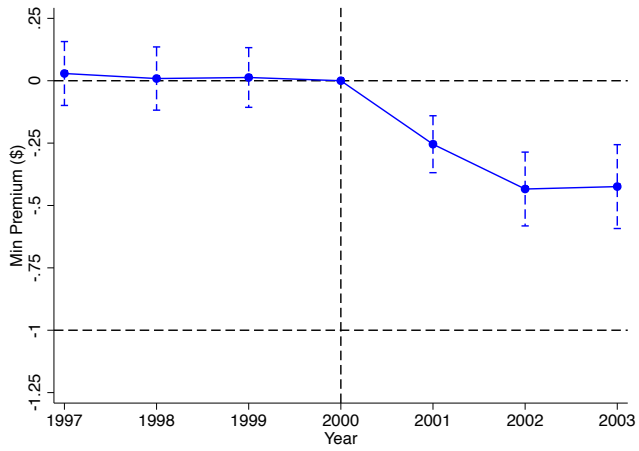
Figure: Impact of $1 Increase in Monthly Payments



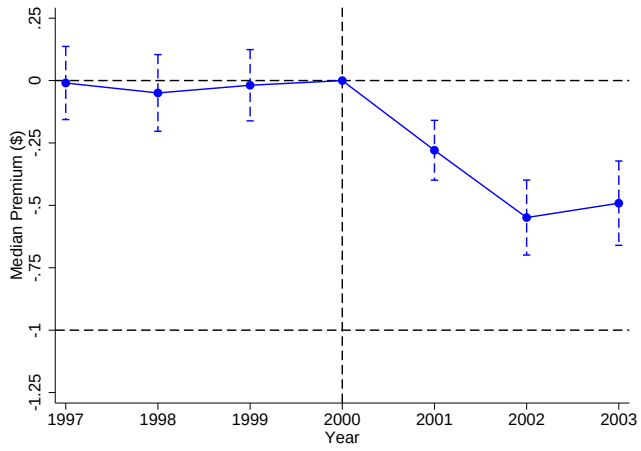
Distribution of Premiums

Figure: Impact of $1 Increase in Monthly Payments

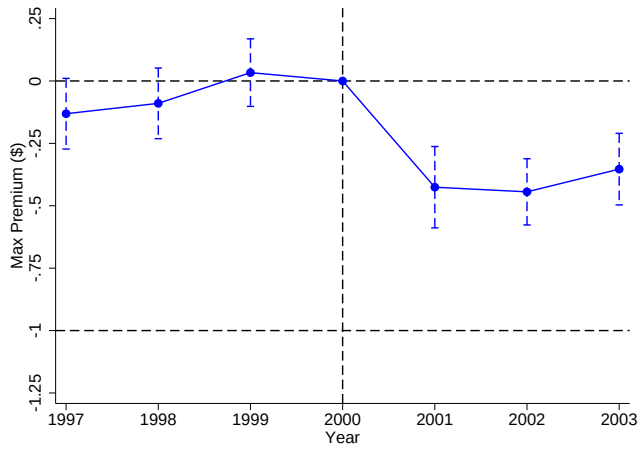
(a) Min



(b) Median



(c) Max



Premiums Robustness

For every $1 increase in subsidy, mean premiums decline by 45 cents

Obtain similar estimates when...

1. Investigate effect on distribution of premiums
2. Estimate alternative specifications that isolate subsets of identifying variation ▸ Subsets of variation
3. Estimate Tobit specifications that take into account that plans could not give rebates during our time period ▸ Tobit regressions
4. Aggregate up to a higher level ▸ Aggregated regressions
5. Examine detailed timing using monthly data ▸ Monthly regressions

Benefits

Insurers could have alternatively passed-through subsidies via benefits

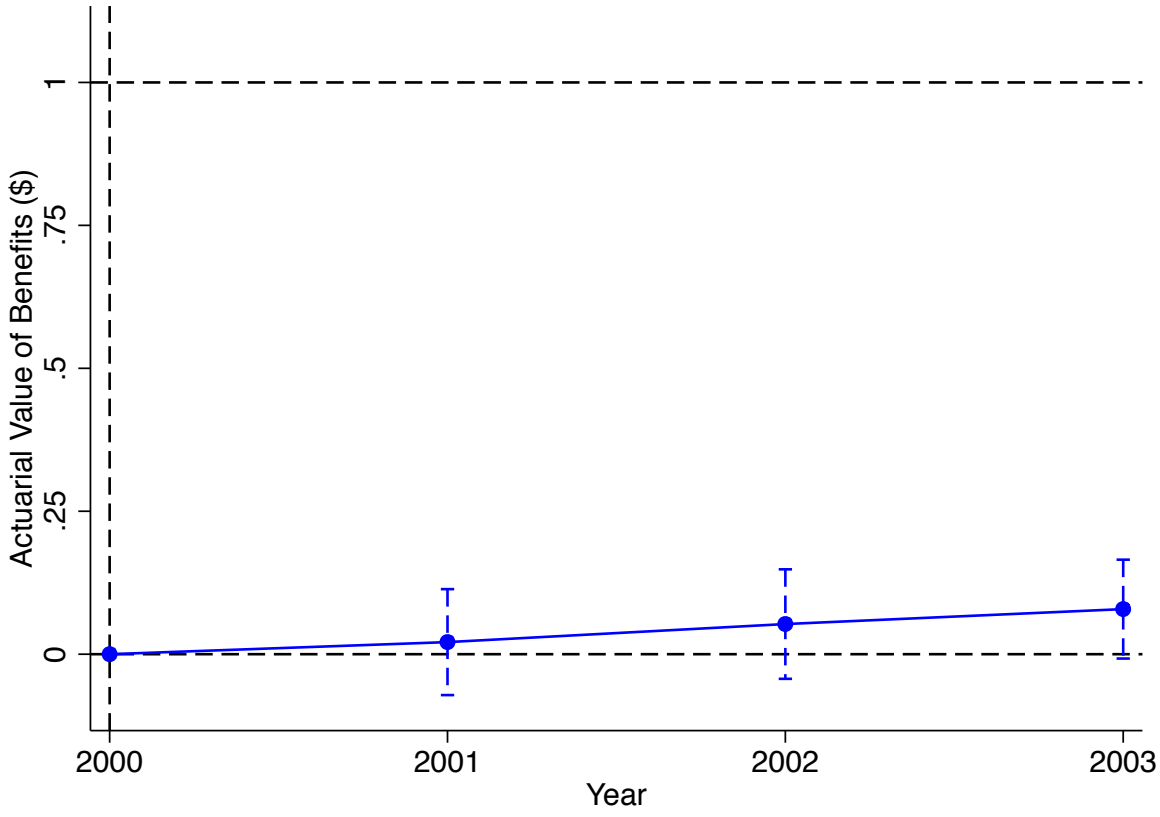
- We evaluate the impact on benefits using multiple approaches:

  1. Impact of \$50 increase ($\sim$ 10%) in payments on copays, dental, etc.
     ▸ Additional Figures

  2. Impact on actuarial value using data on utilization / insurance payments from MEPS

Monetized Benefits

Figure: Impact of $1 Increase in Monthly Payments



- By 2003, max pass-through in benefits of 8 cents on the dollar

▸ Benefit Results Table

Unobserved Quality

Limited concern in this setting for two reasons

1. Rich product characteristics data
   - We see everything consumers see at the point of sale
   - Many other characteristics significantly constrained by regulation (e.g., essential benefits, network adequacy)
2. Additional analysis of quality data ▸ Quality Analysis
   - Precisely estimated zero on beneficiary's subjective evaluations of plan quality (CAHPS)
   - Precisely estimated zero on clinical quality measures (HEDIS)

Plan Availability

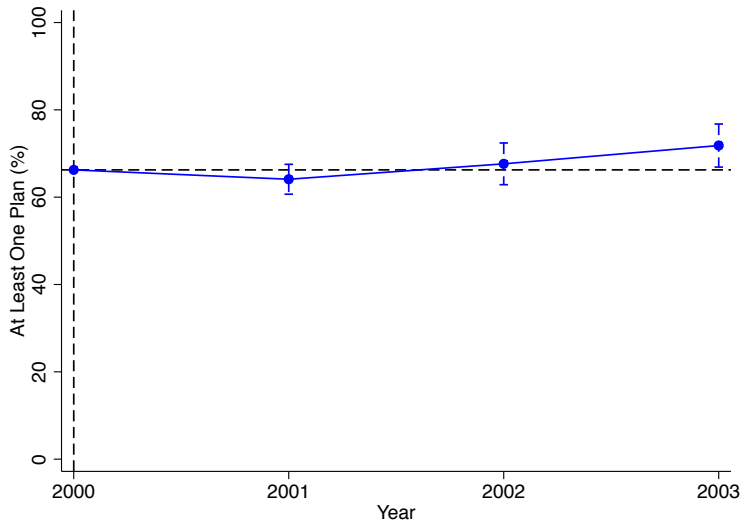
Examine two margins

- Extensive: Percent of counties with at least one plan
- Intensive: HHI conditional on having at least one plan

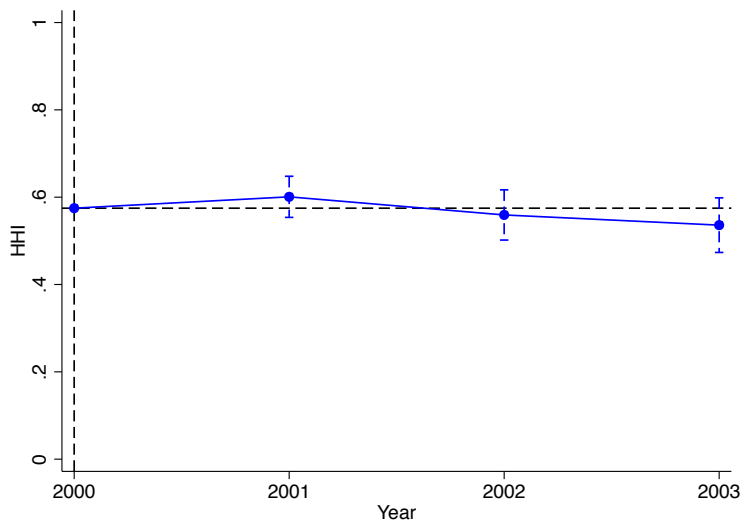
Plan Availability: Extensive and Intensive Margins

Figure: Impact of $50 Increase in Monthly Payments

(a) Extensive Margin (1+ plan)



(b) Intensive Margin, (HHI)



▸ Plan Availability Table

Pass-through Estimates: Key Takeaways

For every $1 marginal increase in subsidy:

- 45 cents passed-through in lower premiums
- 8 cents passed-through in more generous benefits
- No detectable effect on entry

$\Rightarrow$ About one-half (53 cents) of increase flows to consumers, with 95% confidence interval (35 cents, 71 cents)

Outline

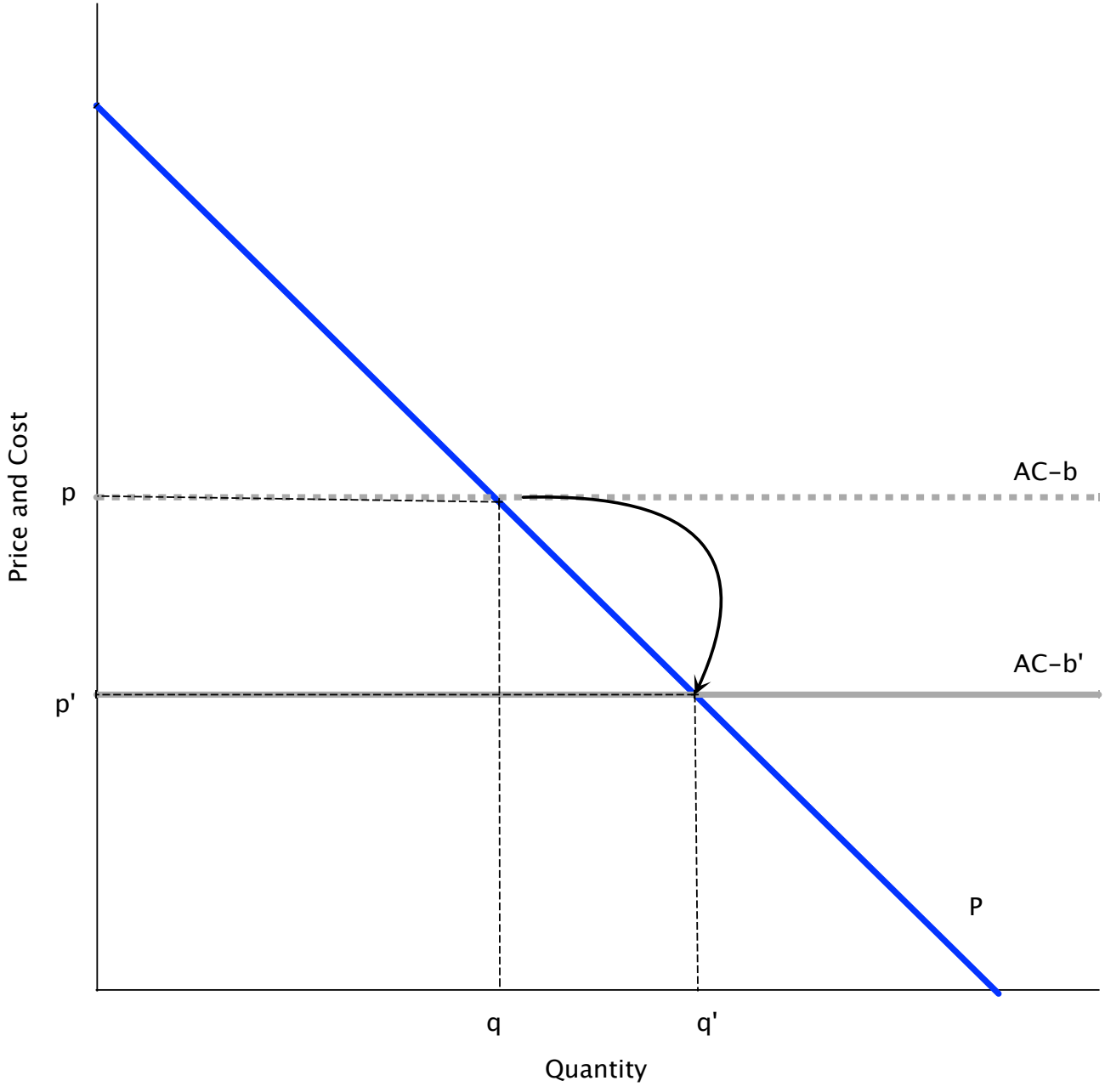
- Background and data
- Research design
- Pass-through
- **Model**
- Selection and market power

Approach

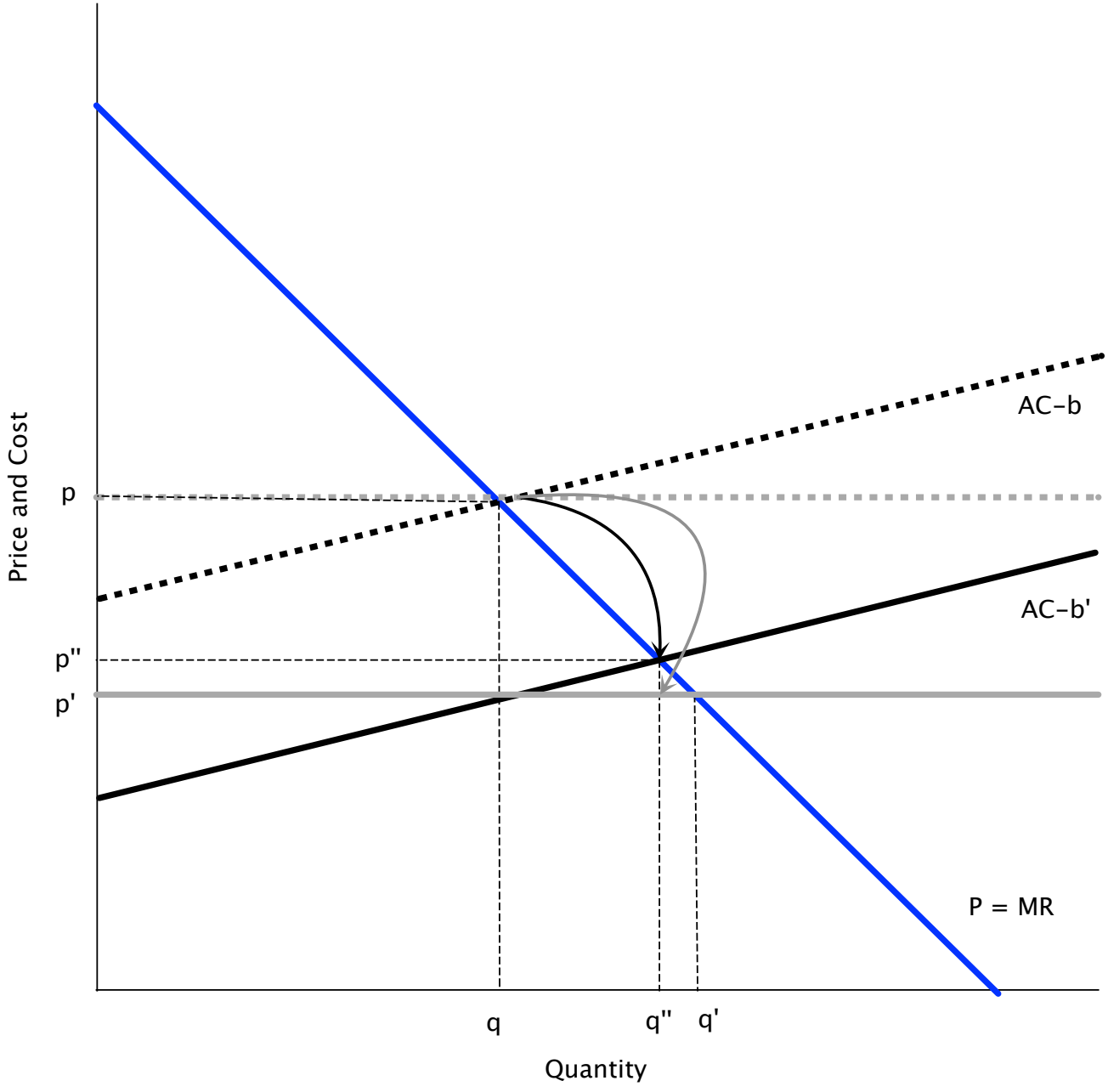
$\Rightarrow$ Potential Mechanisms: Advantageous Selection and Market Power

- Graphical intuition
- Model that relates pass-through to these factors

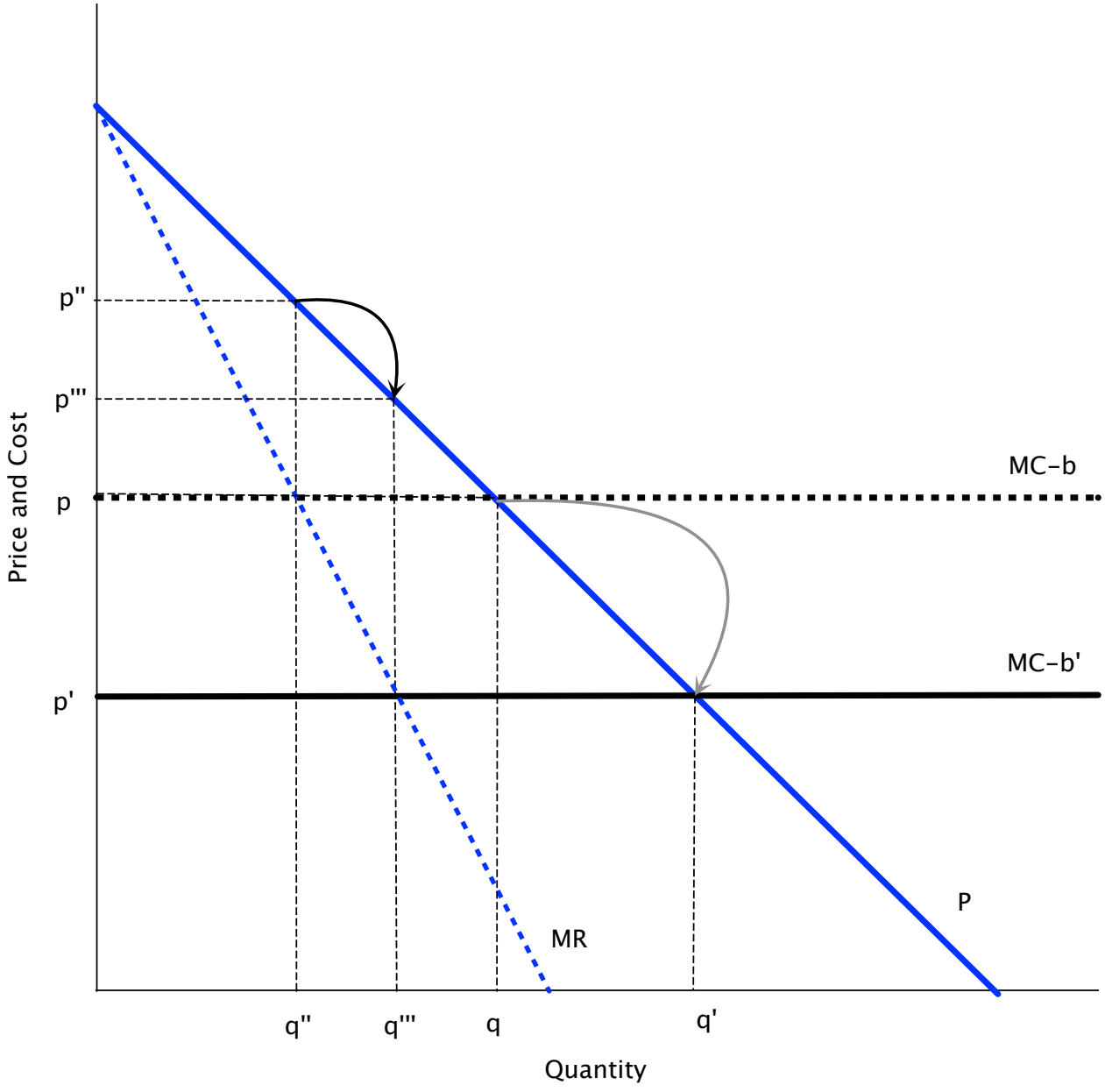
No Selection, Perfect Competition



Advantageous Selection, Perfect Competition



No Selection, Monopoly



Model Setup

Build more general model that expresses pass-through as a function market power and selection

- Aggregate demand: $Q(p) \in [0, 1]$
- Aggregate costs for industry: $C(Q) \equiv \int_{v_i \geq p^{-1}(Q)} c_i$
  - Average costs: $AC(Q) \equiv \frac{C(Q)}{Q}$
  - Marginal costs: $MC(Q) \equiv C'(Q)$
- Selection
  - Adverse selection: $MC'(Q) < 0$
  - Advantageous selection: $MC'(Q) > 0$

Equilibrium

- Perfect competition characterized by zero profits

$$p = AC(Q) - b$$

- Monopolist's first order condition

$$p = \mu(p) + MC(Q) - b$$

  - $\mu(p) \equiv -\frac{Q(p)}{Q'(p)}$ is absolute markup term

Market Power

Following Weyl-Fabinger (2013), introduce conduct parameter $\theta \in [0, 1]$

$$p = \theta\Big(\mu(p) + MC(Q) - b\Big) + (1 - \theta)\Big(AC(Q) - b\Big)$$

- Nests extremes
  - Perfect competition: $\theta = 0$. Monopoly: $\theta = 1$
- Reduced form of standard models
  - Cournot: $\theta = 1/n$
  - Diff product Bertrand: $\theta = 1 -$ aggregate diversion ratio
    - Requires "symmetry assumptions" on selection (see Mahoney and Weyl, 2014)

Pass-Through

- Define pass-through as $\rho \equiv -\frac{dp}{db}$
- Fully differentiating FOC yields

$$\rho = \frac{1}{1 - (1-\theta)\left(\frac{dAC}{dp}\right) - \theta\left(\frac{d\mu}{dp} + \frac{dMC}{dp}\right)}$$

- Assuming linear demand and costs

$$\rho = \underbrace{\left(\frac{1}{1 - \frac{dAC}{dp}}\right)}_{\text{Selection}} \underbrace{\left(\frac{1}{1+\theta}\right)}_{\text{Market power}}$$

Outline

- Background and data
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- **Selection and market power**

Impact of Selection

- Want to estimate

$$\tilde{\rho} = \frac{1}{1 - \frac{dAC}{dp}}$$

- Two interpretations
  1. Reduction in pass-through due to selection in perfect comp baseline
  2. Proportional reduction in pass-through in linear model with any level of competition

Impact of Selection

Introducing risk rating

$$\tilde{\rho} = \frac{AR}{1 - \left(\frac{dAC}{dp} - b \frac{dAR}{dp} \right)}$$

- $\frac{dAC}{dp} - b\frac{dAR}{dp}$ measures selection *net of risk adjustment payments*
- Scaled by AR to convert base payment into capitation payment

Estimation Approach

- Main challenge: Have admin data on TM costs, not MA plan costs
  - Prior literature looks at switchers: Do beneficiaries who switch from FFS to MA have lower $t-1$ costs than beneficiaries who stay?
  - Evidence is mixed (e.g., Brown et al. 2014; Newhouse et al. 2012)
  - Magnitudes are not economically interpretable
  - Does not identify selection with respect to premiums

Estimation Approach

- Our approach builds on / formalizes switcher idea with two assumptions:

  A1. Costs under MA and TM are proportional $c_i^{MA}/c_i^{TM} = \phi$ with $\phi \leq 1$

  - $\phi \leq 1$ consistent with Bundorf Levin Mahoney (2012), other evidence on managed care vs. fee for service cost structures

  A2. Cost curves are linear so that selection is parameterized by single slope parameter

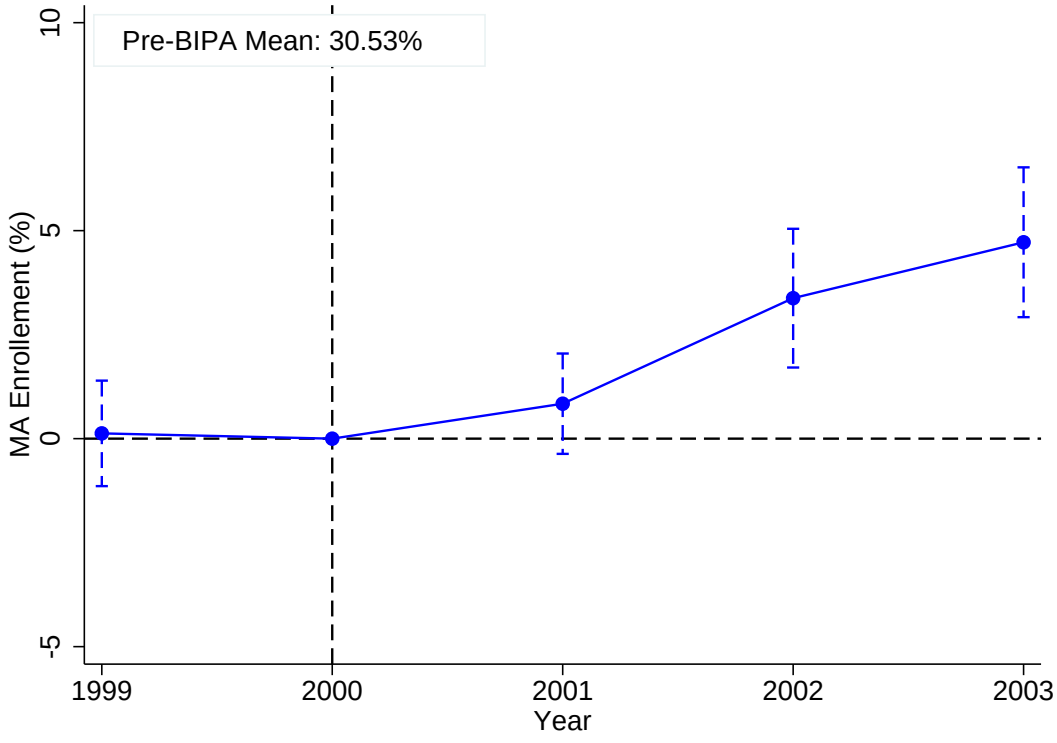
- Under these assumptions

  - TM slope provides upper bound on MA slope and therefore explanatory power of selection

▸ More Details

MA Enrollment

Figure: Impact of $50 Increase in Monthly Payment

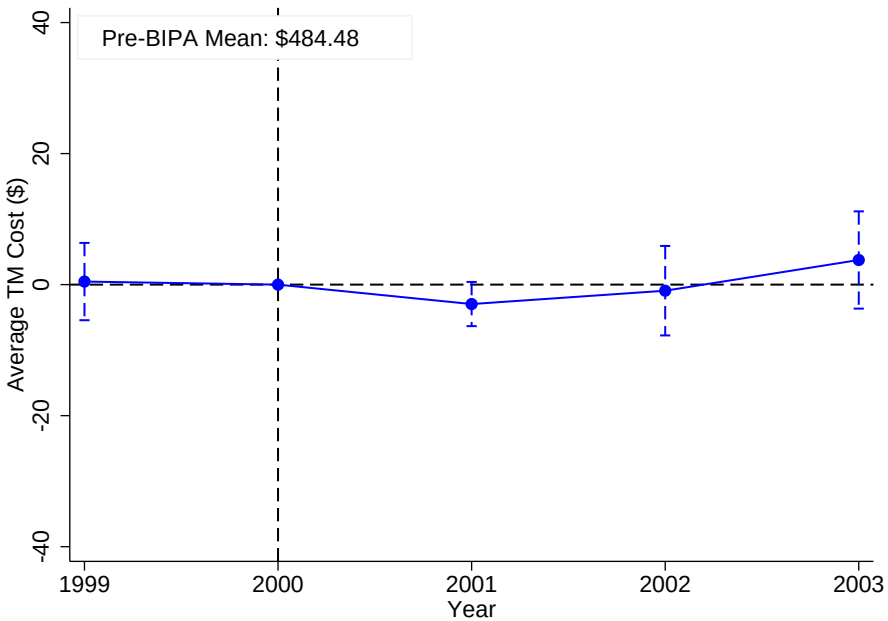


- $23 decrease in premiums raises MA by 4.7 pp on base of 30.5%

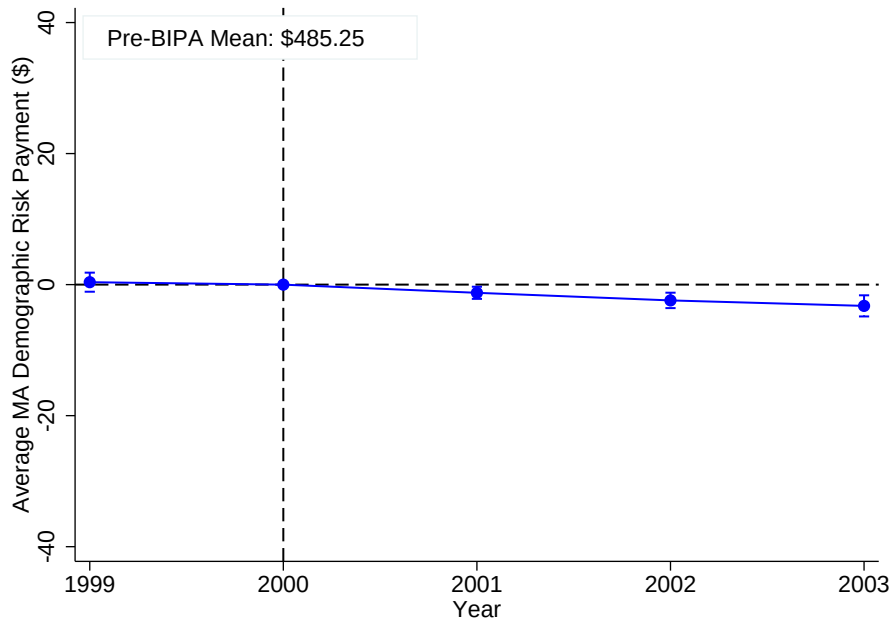
Average Costs

Figure: Impact of $50 Increase in Monthly Payment

(a) Average TM Costs



(b) Risk Adjustment Payments



- Slope of $\frac{dAC^{MA}}{dQ} - b\frac{dAR^{MA}}{dQ}$ is \$149 with 95% CI of (-\$9, \$307)
- No effect on utilization ▸ Evidence on Utilization

Impact of Market Power

- Estimates above imply that $\tilde{\rho} = 85$ cents

  ▸ Table of Estimates

- Theory: Residual $\approx$ 35 ppt due to market power

- **Can we find supporting empirical evidence?**

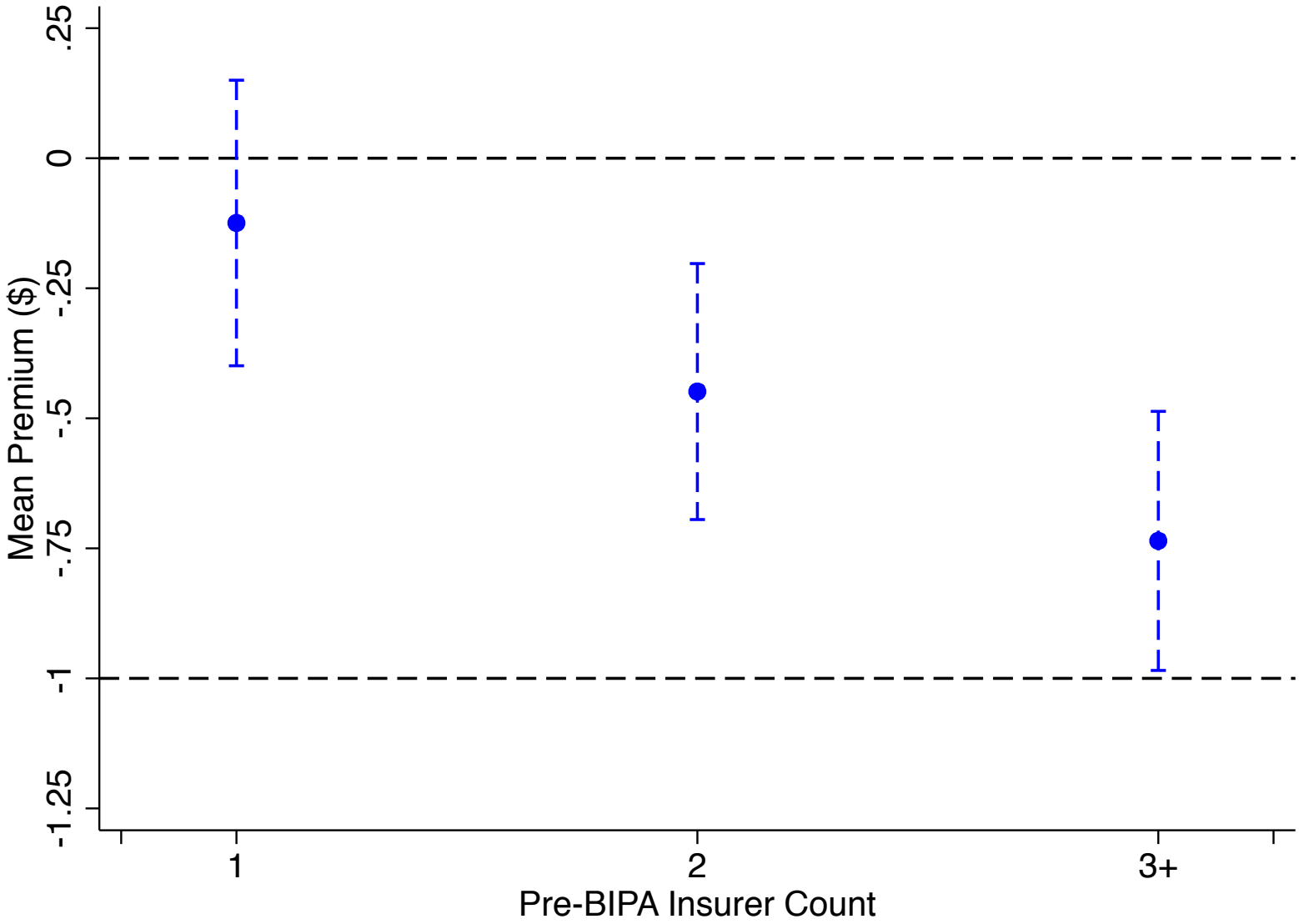
- Idea: Heterogeneity in pass-through estimates by pre-BIPA measures of market power

  - Number of pre-BIPA insurance plans

  - Pre-BIPA Insurer HHI

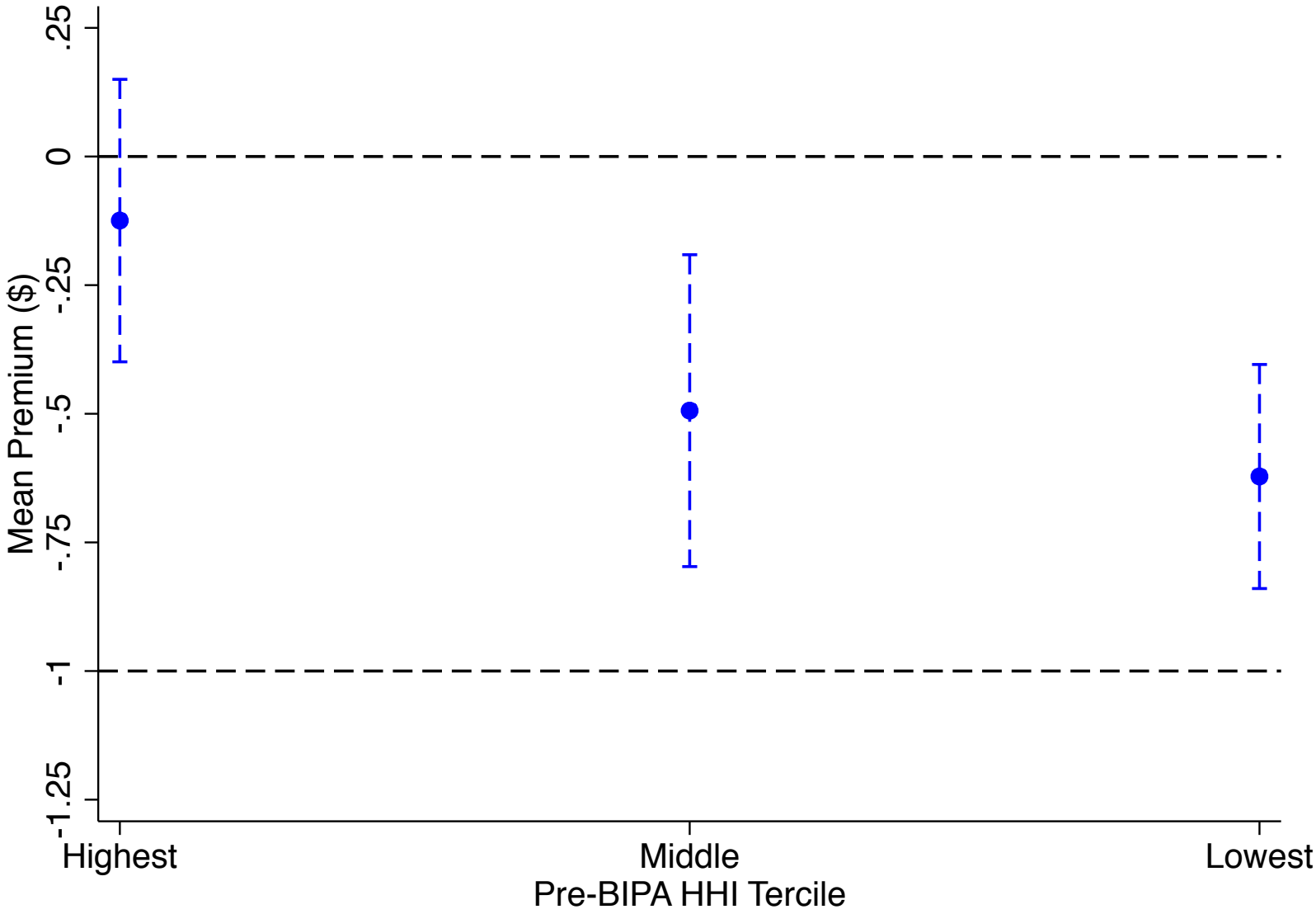
Heterogeneity by pre-BIPA Number of Insurers

Figure: Pass-through



Heterogeneity by pre-BIPA Insurer HHI

Figure: Pass-through



Conclusion

- Used sharp, differential increase in MA payments to study allocation of (marginal) surplus in privatized Medicare
  - One-half of increase passed-through to consumers
  - $\Rightarrow$ Implications for $156B in MA payment reductions scheduled under ACA
- Investigate explanations of incomplete pass-through
  - Advantageous selection has limited explanatory power
  - Evidence suggests market power more likely explanatory factor
  - $\Rightarrow$ Implication is that efforts to make markets more competitive may be key to increasing consumer surplus on the margin

- Measure exposure to BIPA with *distance-to-floor variable*:

$$\Delta b_{jt} = \max\left\{\widetilde{\underline{b}}_{u(j)t} - \widetilde{c}_{jt}\ , \quad 0\right\},$$

- Use data on base rates in the pre-period to construct $\widetilde{c}_{jt}$, the monthly payment in the absence of the floor

$$\widetilde{c}_{jt} = \begin{cases} c_{jt} & \text{if } t \leq 2001 \\ c_{j,2001} \cdot 1.02^{(t-2001)} & \text{if } t > 2001 \end{cases}$$

- Use data on floors in the post-period to construct $\widetilde{\underline{b}}_{jt}$, the counterfactual urban or rural payment floors:

$$\widetilde{\underline{b}}_{u(j)t} = \begin{cases} \underline{b}_{u(j),2001} \cdot 1.02^{(t-2001)} & \text{if } t < 2001 \\ \underline{b}_{u(j)t} & \text{if } t \geq 2001 \end{cases}$$

▸ Back to Econometric Model

Premiums, Alternative Specifications

Table: Impact of $1 Increase in Monthly Payments

	Dependent Variable:		
	Mean Monthly Premium ($)		
	(1)	(2)	(3)
Δb X 2001	-0.301	-0.178	-0.314
	(0.056)	(0.095)	(0.057)
Δb X 2002	-0.503	-0.352	-0.516
	(0.061)	(0.112)	(0.061)
Δb X 2003	-0.444	-0.378	-0.445
	(0.072)	(0.120)	(0.073)
Main Effects			
County FE	X	X	X
Year FE	X	X	X
Additional Controls			
Pre-BIPA Payment X Year FE		X	
Urban X Year FE			X
Pre-BIPA Mean of Dep. Var.	12.10	12.10	12.10
R-Squared	0.71	0.71	0.71

▸ Back to Premiums Robustness

Premium Regressions, Plan Level Regressions

Table: Impact of $1 Increase in Monthly Payments

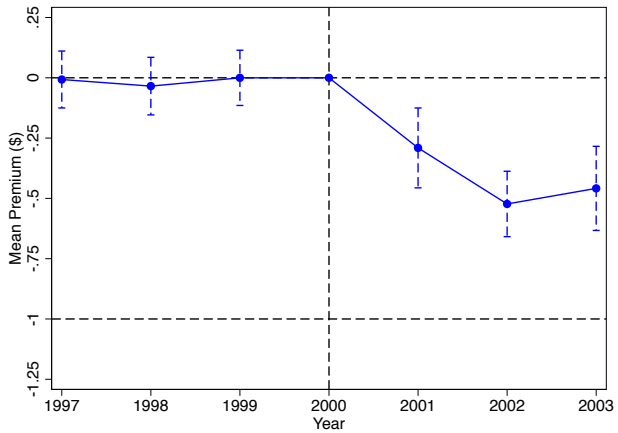
	Dependent Variable: Monthly Premium ($)					
	Linear Regression			Tobit Regression		
	(1)	(2)	(3)	(4)	(5)	(6)
Δb X 2001	-0.298	-0.195	-0.311	-0.461	-0.181	-0.485
	(0.056)	(0.094)	(0.056)	(0.011)	(0.016)	(0.011)
Δb X 2002	-0.502	-0.440	-0.514	-0.577	-0.370	-0.586
	(0.060)	(0.112)	(0.060)	(0.008)	(0.011)	(0.008)
Δb X 2003	-0.447	-0.424	-0.449	-0.537	-0.380	-0.539
	(0.071)	(0.123)	(0.072)	(0.010)	(0.012)	(0.010)
Main Effects						
County FE	X	X	X	X	X	X
Year FE	X	X	X	X	X	X
Additional Controls						
Pre-BIPA Payment X Year FE		X			X	
Urban X Year FE			X			X
Pre-BIPA Mean of Dep. Var.	12.56	12.56	12.56	12.56	12.56	12.56
R-Squared	0.60	0.60	0.60	N/A	N/A	N/A

▸ Back to Premiums Robustness

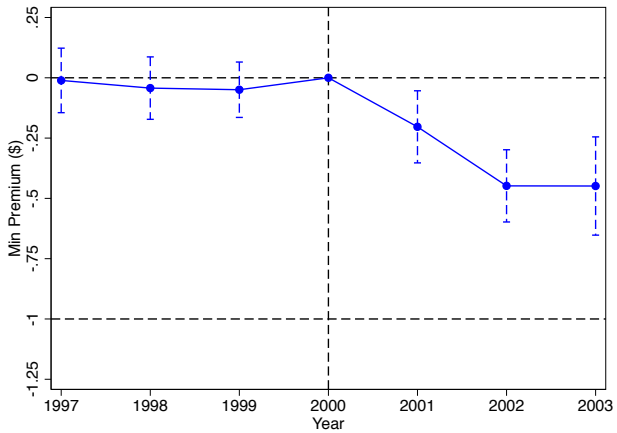
Unit of observation aggregated to MSA × state × year

Figure: Impact of $1 Increase in Monthly Payments

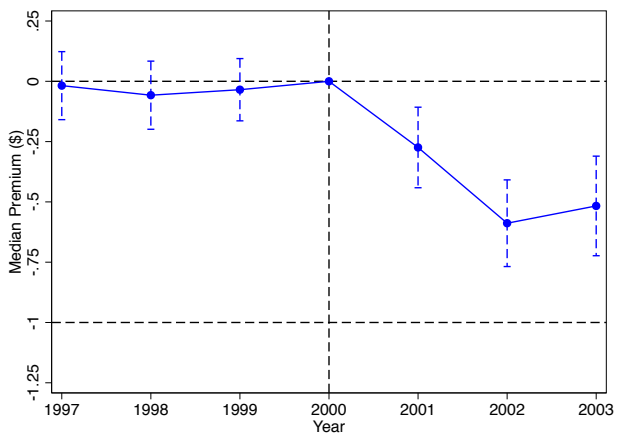
(a) Mean



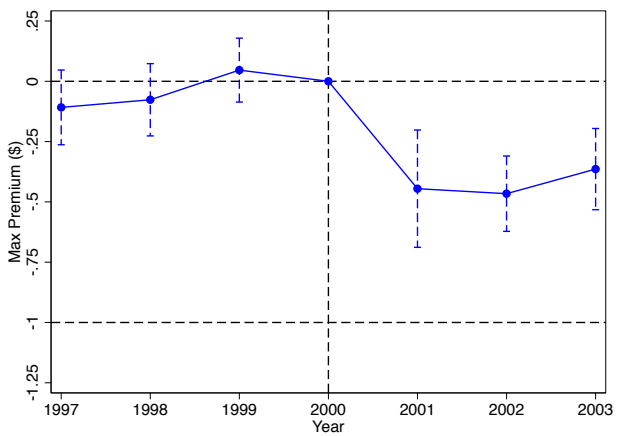
(b) Min



(c) Median



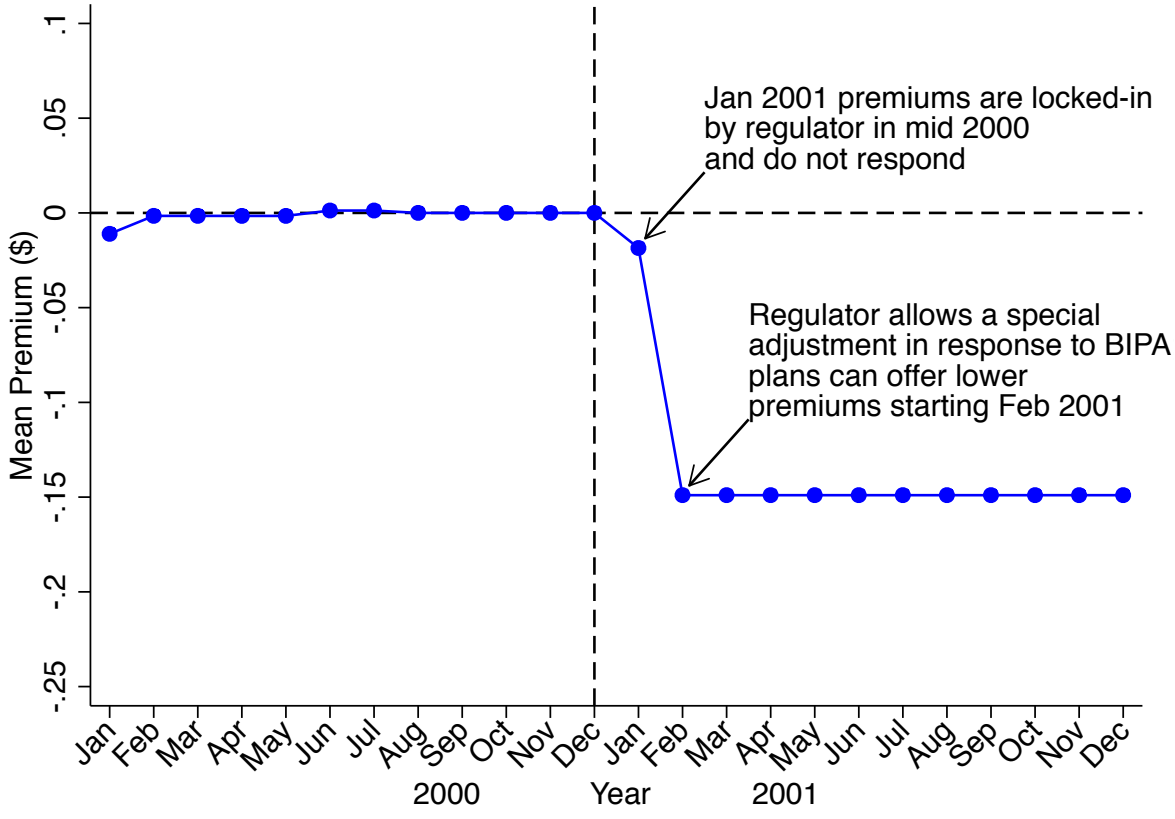
(d) Max



▸ Back to Premiums Robustness

Detailed Timing of Effects

Figure: Impact of $1 Increase in Monthly Payments

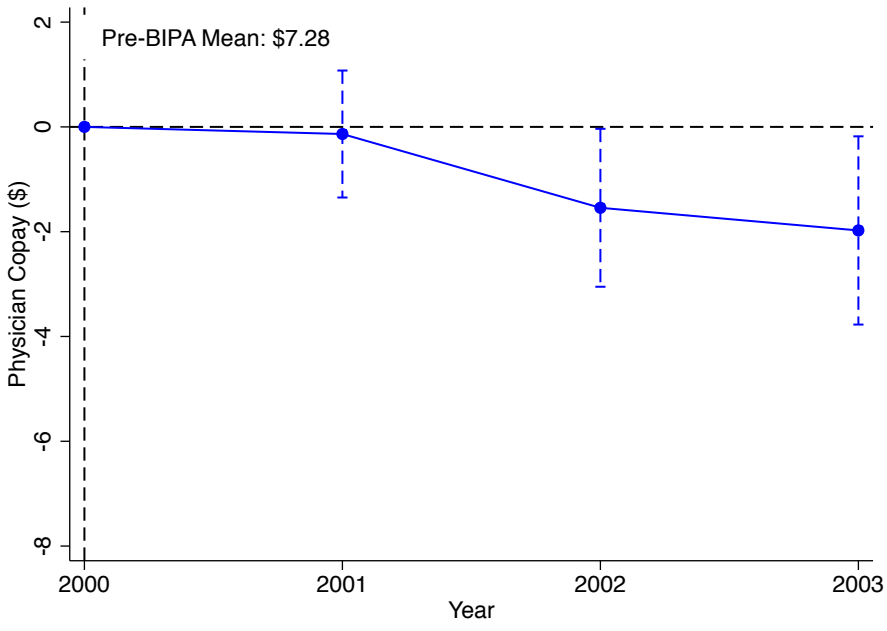


▸ Back to Premiums Robustness

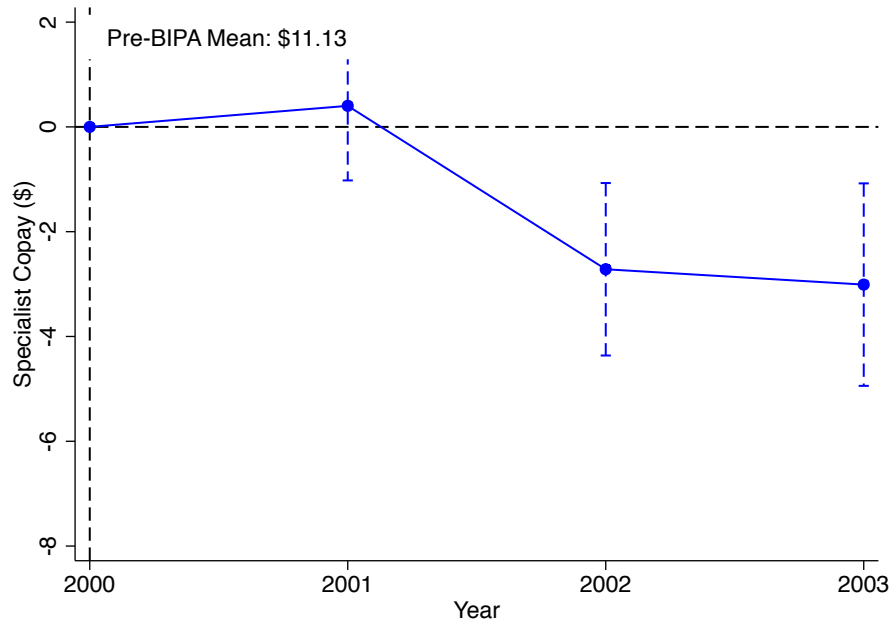
Benefits: Average Copays

Figure: Impact of $50 Increase in Monthly Payments

(a) Physician



(b) Specialist

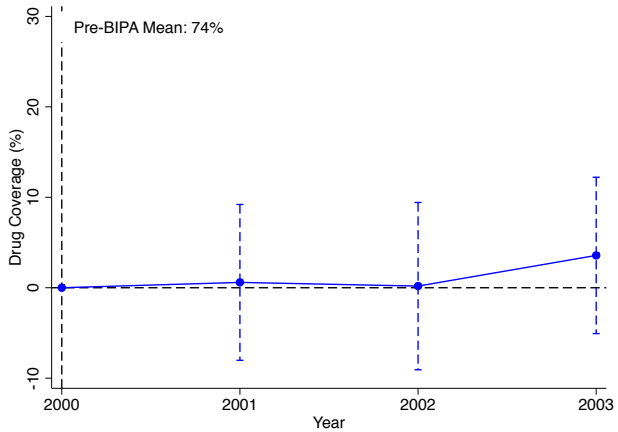


▸ Back to Benefits

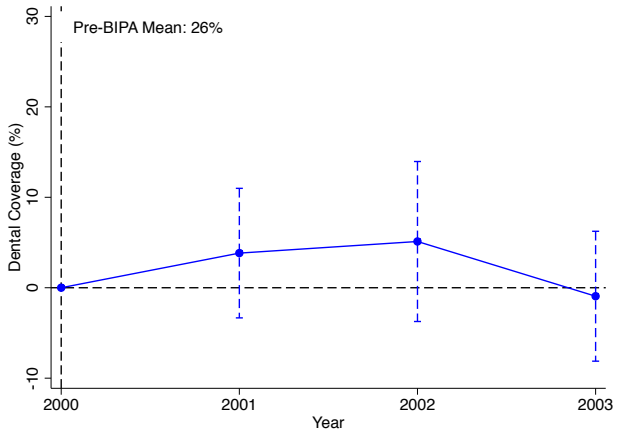
Benefits: Drugs, Dental, Vision, Hearing Aid Coverage

Figure: Impact of $50 Increase in Monthly Payments

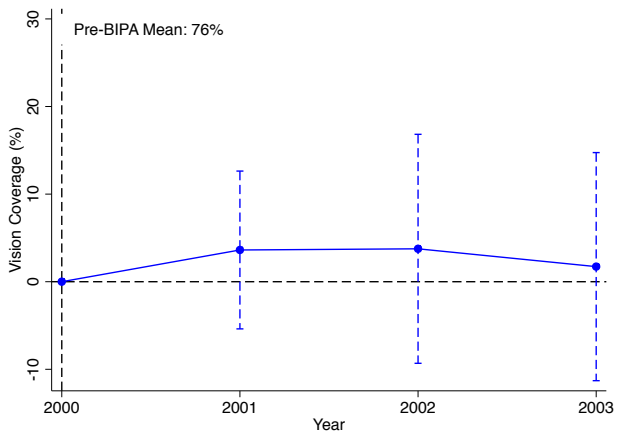
(a) Drugs



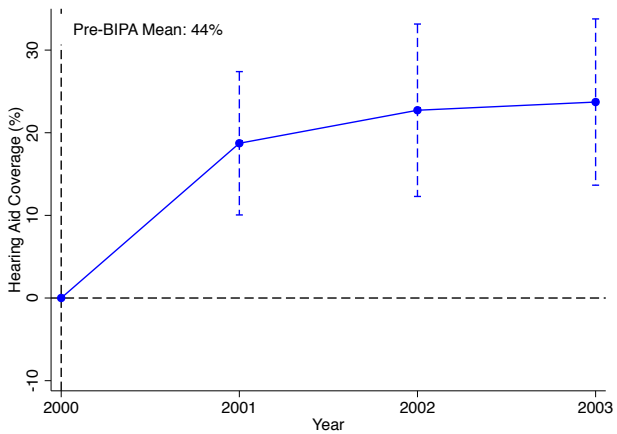
(b) Dental



(c) Vision



(d) Hearing Aid



▸ Back to Benefits

Benefits Regressions

Table: Impact of Increase in Monthly Payments

	Dependent Variable:						
	Physician Copay ($)	Specialist Copay ($)	Drug Coverage (%)	Dental Coverage (%)	Vision Coverage (%)	Hearing Aid Coverage (%)	Actuarial Value ($)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Δb X 2001*	-0.136	0.402	0.589	3.827	3.622	18.725	0.021
	(0.618)	(0.726)	(4.396)	(3.654)	(4.595)	(4.424)	(0.047)
Δb X 2002*	-1.544	-2.717	0.180	5.111	3.756	22.721	0.053
	(0.769)	(0.840)	(4.719)	(4.513)	(6.668)	(5.321)	(0.049)
Δb X 2003*	-1.976	-3.010	3.571	-0.939	1.721	23.712	0.079
	(0.917)	(0.986)	(4.410)	(3.664)	(6.643)	(5.132)	(0.044)
Main Effects							
County FE	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X
Pre-BIPA Mean of Dep. Var.	7.28	11.13	74.20	26.11	75.84	44.44	n/a
R-Squared	0.66	0.70	0.83	0.68	0.75	0.85	0.83

*Final column displays the effect of a $1 increase in monthly payments. All other columns display the impact of a $50 increase in monthly payments.

▸ Back to Monetized Benefits

Benefits Regressions, Additional Specifications

Table: Impact of $50 Increase in Monthly Payments

	Dependent Variable:													
	Physician Copay ($)		Specialist Copay ($)		Drug Coverage (%)		Dental Coverage (%)		Vision Coverage (%)		Hearing Aid Coverage (%)		Actuarial Value ($)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Δb X 2001*	-0.24	-0.12	0.44	0.46	4.45	0.94	7.84	4.19	3.82	3.77	18.99	18.66	0.07	0.02
	(0.67)	(0.63)	(0.83)	(0.73)	(4.73)	(4.41)	(5.07)	(3.77)	(5.80)	(4.68)	(5.35)	(4.51)	(0.05)	(0.05)
Δb X 2002*	-1.69	-1.70	-2.88	-2.78	4.47	0.72	12.41	6.62	8.06	3.85	26.13	22.74	0.11	0.06
	(0.84)	(0.78)	(1.01)	(0.85)	(5.15)	(4.83)	(5.62)	(4.58)	(7.30)	(6.71)	(6.34)	(5.46)	(0.06)	(0.05)
Δb X 2003*	-2.78	-2.14	-3.10	-3.21	3.86	4.92	-0.62	0.73	6.10	1.77	21.86	23.79	0.09	0.10
	(1.01)	(0.93)	(1.27)	(1.01)	(4.77)	(4.48)	(5.11)	(3.66)	(7.34)	(6.69)	(6.55)	(5.26)	(0.05)	(0.04)
Main Effects														
County FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Additional Controls														
Pre-BIPA Base Payment X Year FE	X		X		X		X		X		X		X	
Urban X Year FE		X		X		X		X		X		X		X
Pre-BIPA Mean of Dep. Var.	7.28	7.28	11.13	11.13	74.20	74.20	26.11	26.11	75.84	75.84	44.44	44.44	35.95	35.95
R-Squared	0.67	0.66	0.70	0.70	0.83	0.83	0.69	0.68	0.76	0.75	0.85	0.85	0.83	0.83

*Final column displays the effect of a $1 increase in monthly payments. All other columns display the impact of a $50 increase in monthly payments.

▸ Back to Monetized Benefits

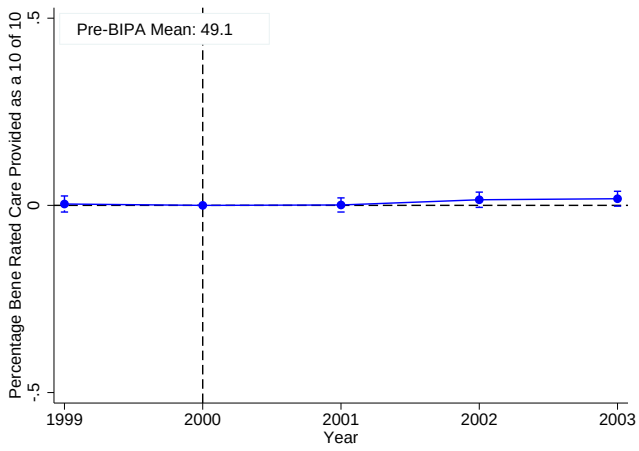
Plan Quality

- Measures of plan quality (Dafny and Dranove, 2008)
  1. Measures listed in *Medicare & You* booklet
     - Quality of care, quality of doctor communication from CAHPS, mammogram rate from HEDIS
  2. Unreported quality index
     - Beta blockers, diabetic eye exams, preventive routine exams from HEDIS

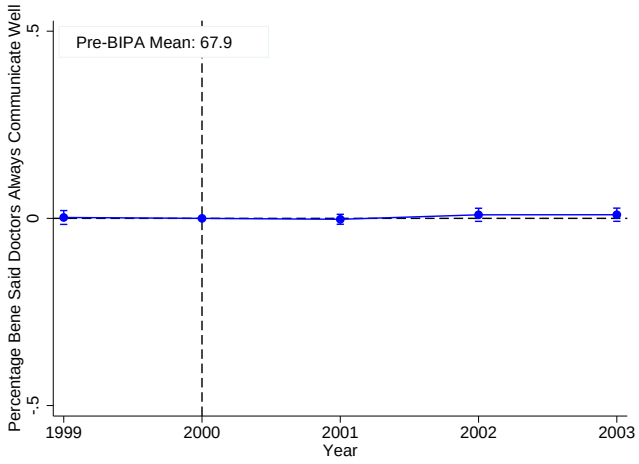
Plan Quality

Figure: Impact of $50 Increase in Payment Floor

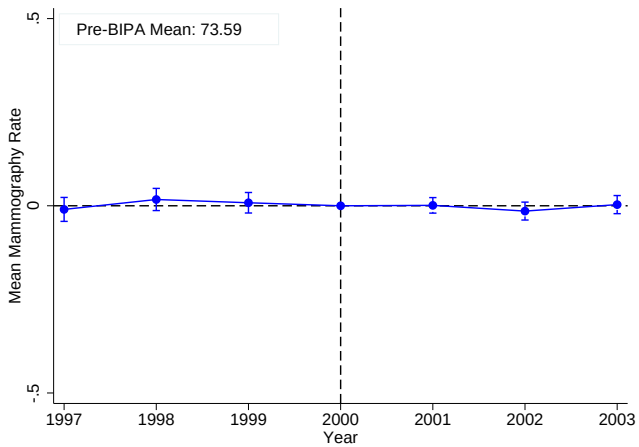
(a) Quality of Care



(b) Doctor Communication

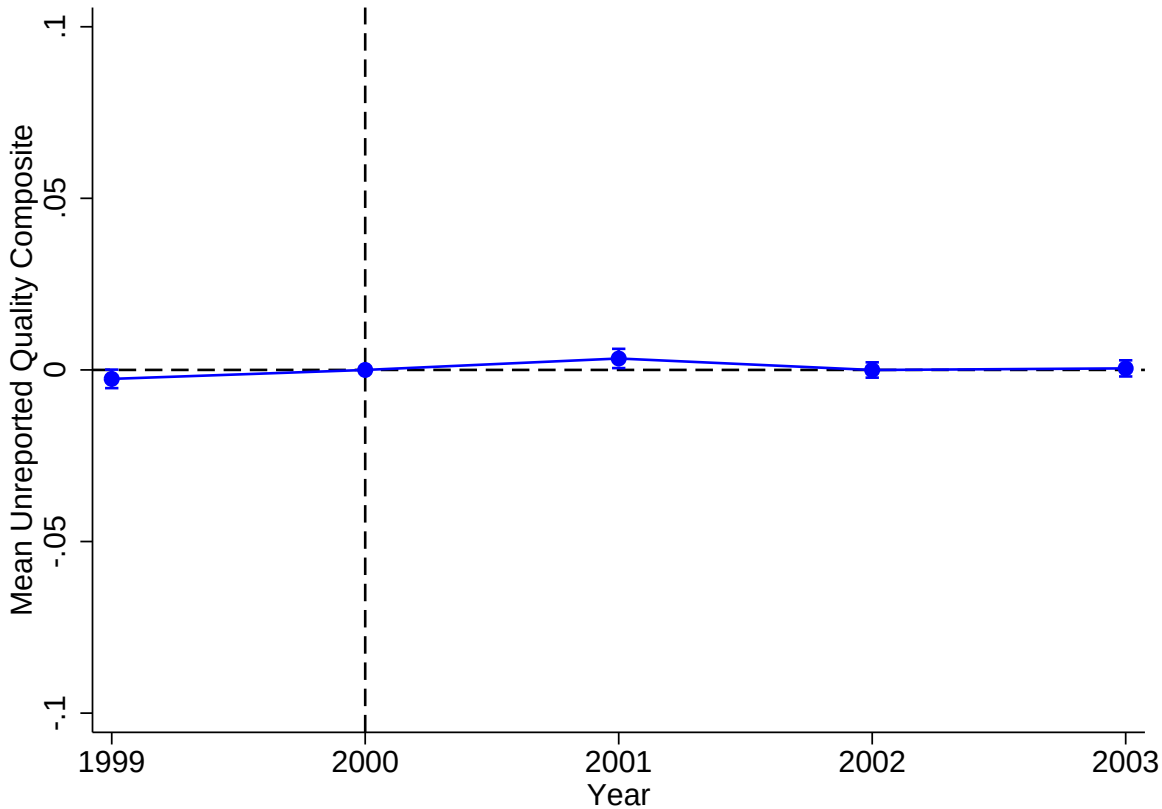


(c) Mammography



Unreported Quality Index

Figure: Impact of $50 Increase in Monthly Payments



Standardized composite of beta blockers, preventive care visits, diabetic eye exams

▸ Back to Quality Discussion

Plan Availability, Alternative Specifications

Table: Impact of $50 Increase in Monthly Payments

	Dependent Variable:					
	At Least One Plan (%)			HHI*		
	(1)	(2)	(3)	(4)	(5)	(6)
Δb X 2001	-2.15	0.04	-2.34	0.037	-0.031	0.039
	(1.75)	(2.06)	(1.76)	(0.030)	(0.033)	(0.030)
Δb X 2002	1.39	2.92	1.92	-0.001	-0.056	-0.012
	(2.44)	(2.65)	(2.46)	(0.034)	(0.037)	(0.035)
Δb X 2003	5.58	7.89	6.11	-0.030	-0.097	-0.043
	(2.52)	(2.91)	(2.55)	(0.037)	(0.040)	(0.038)
Main Effects						
County FE	X	X	X	X	X	X
Year FE	X	X	X	X	X	X
Additional Controls						
Pre-BIPA Base Payment X Year FE		X			X	
Urban X Year FE			X			X
Pre-BIPA Mean of Dep. Var.	66.2	66.2	66.2	0.51	0.51	0.51
R-Squared	0.91	0.91	0.91	0.77	0.78	0.77

▸ Back to Plan Availability Figure

Estimation Approach Details

- Proportional costs imply proportional costs for marginal individual

$$MC^{MA}(Q^{MA}) = \phi MC^{TM}(Q^{TM})$$

- Because $Q^{TM} = 1 - Q^{MA}$, slopes under MA and TM are of reversed sign and proportional

$$\frac{dMC^{MA}}{dQ^{MA}} = -\phi \frac{dMC^{TM}}{dQ^{TM}}$$

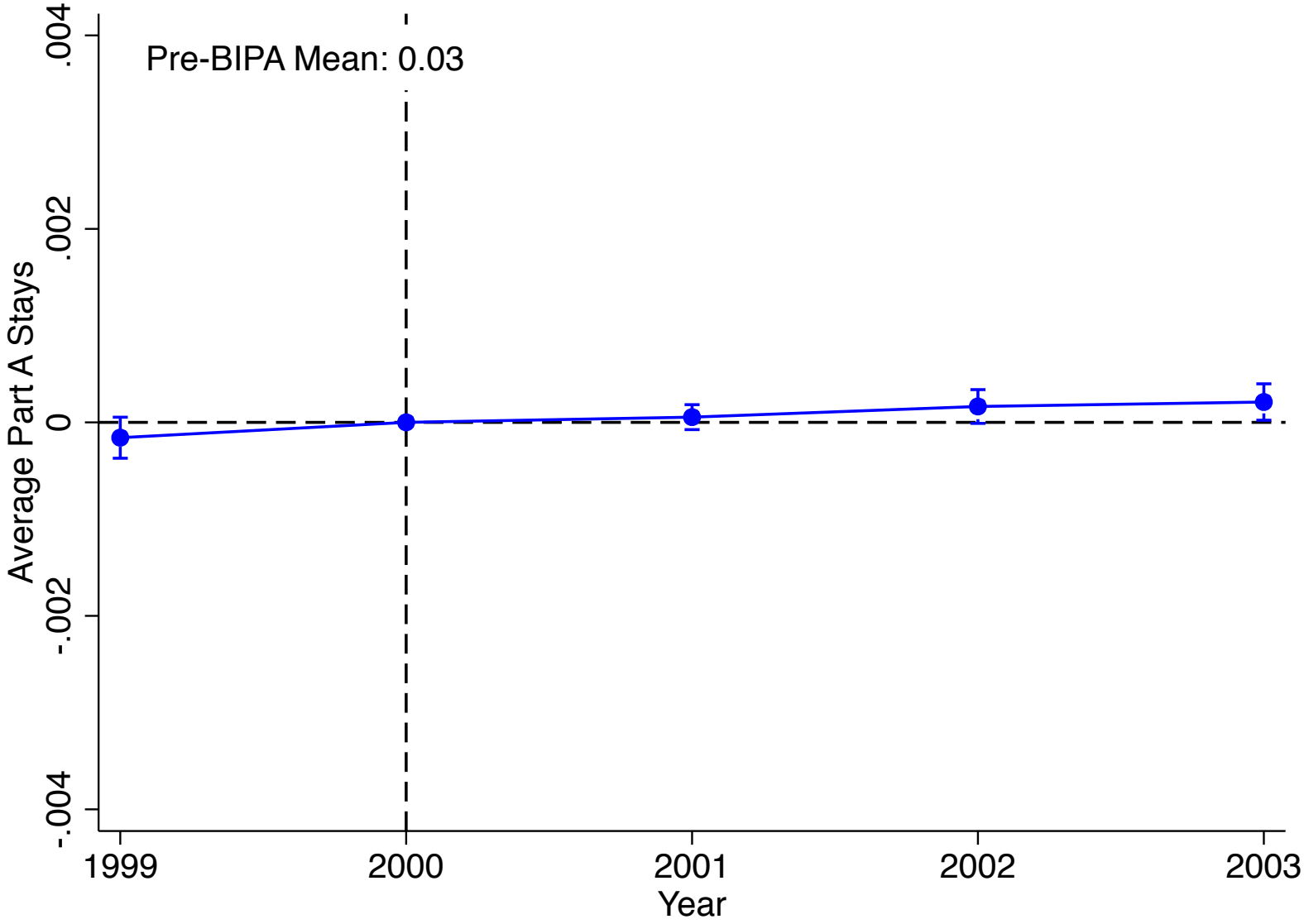
- Applying linearity to translate from MC to AC yields

$$\frac{dAC^{MA}}{dQ^{MA}} = -\phi \frac{dAC^{TM}}{dQ^{TM}}$$

▸ Back to Estimation Approach

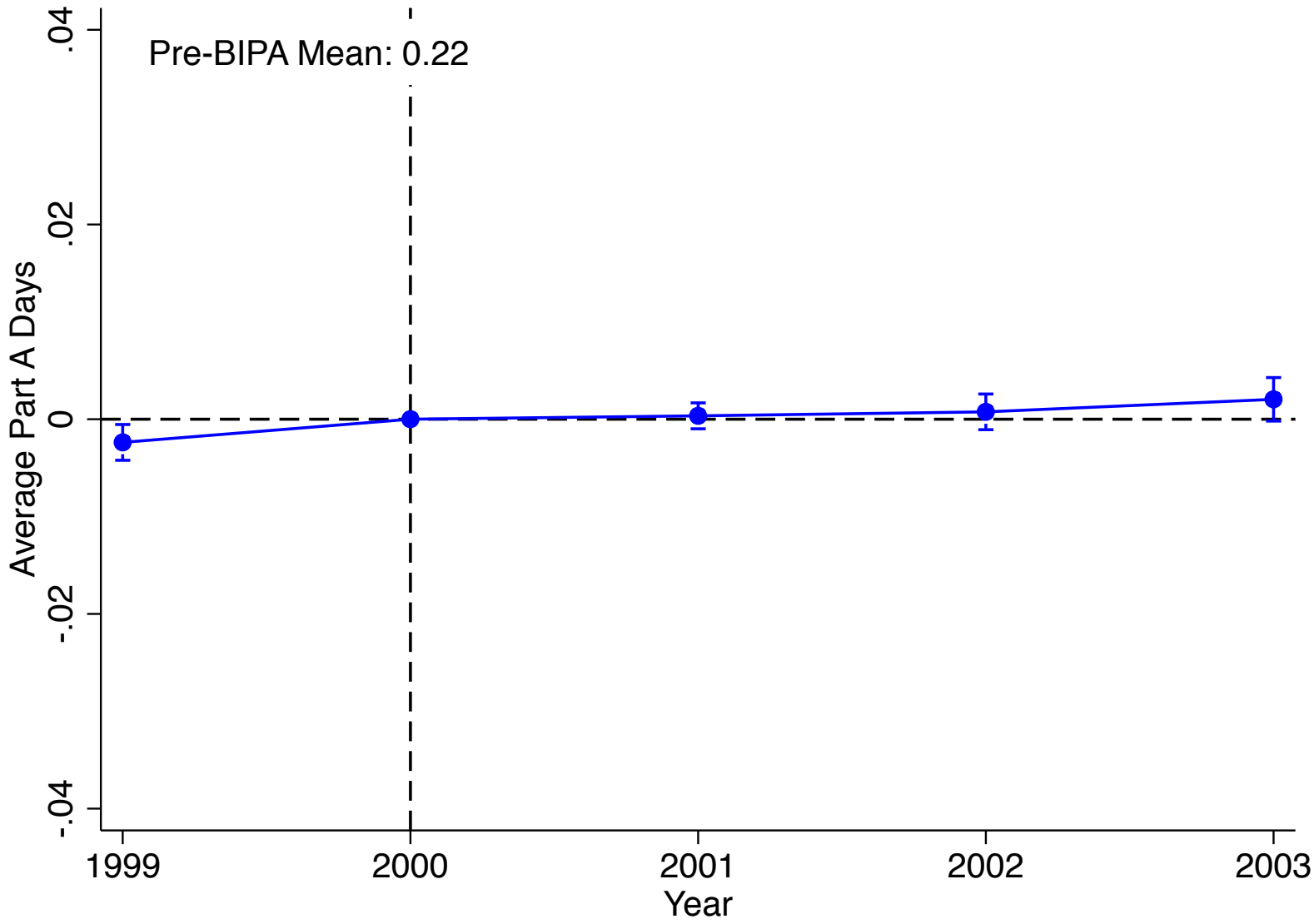
Part A Stays

Figure: Impact of $50 Increase in Monthly Payments



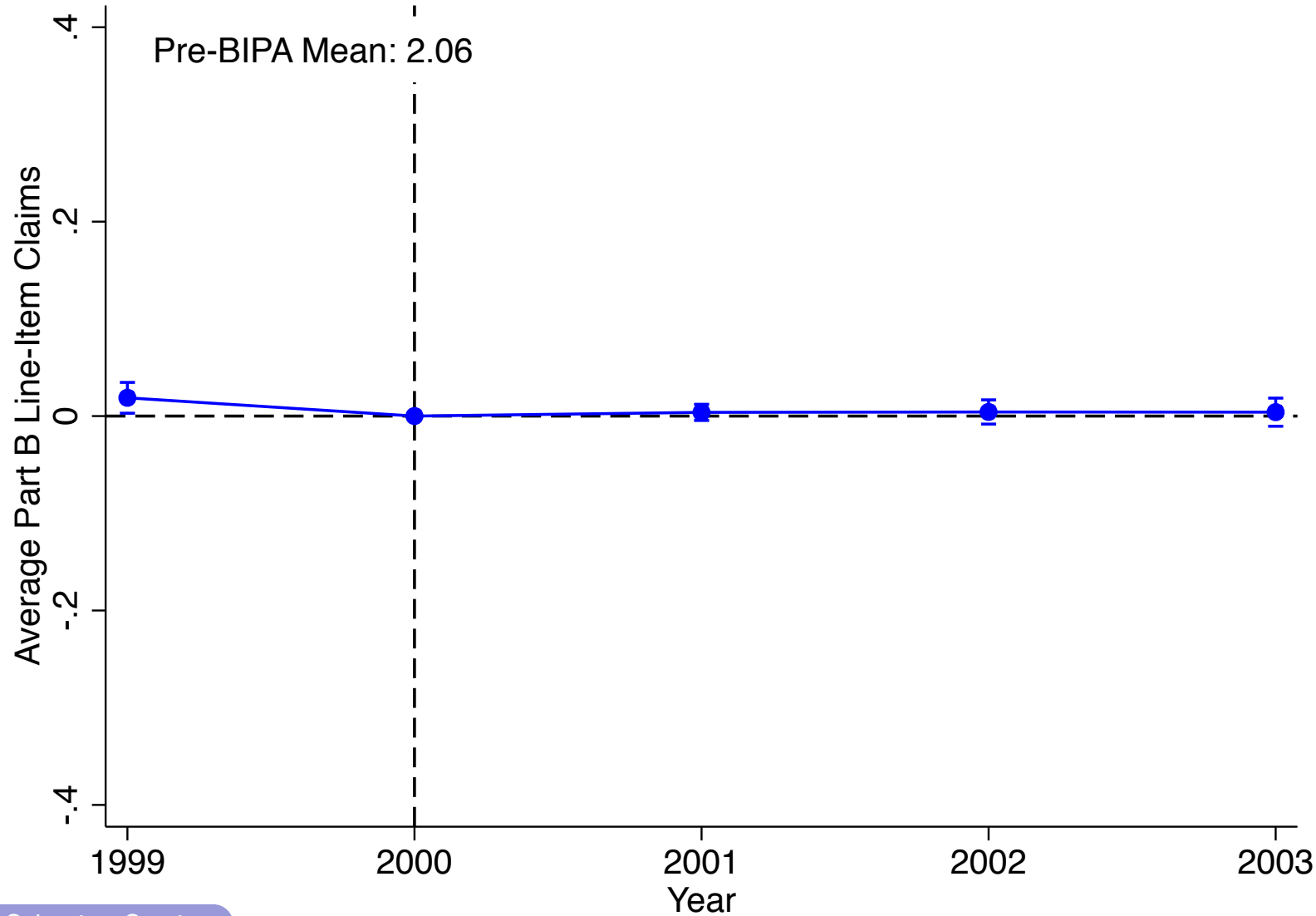
Part A Days

Figure: Impact of $50 Increase in Monthly Payments



Part B Line-Item Claims

Figure: Impact of $50 Increase in Monthly Payments



▸ Back to Selection Section

Selection Regression Estimates

Table: Impact of $50 Increase in Monthly Payment

	Dependent Variable:				Implied Pass-Through with Selection (ρ)
	MA Enrollment (%)	TM Costs ($)	MA Risk Adjustment ($)	Mean Premiums* ($)	
	(1)	(2)	(3)	(4)	(5)
Panel A: Yearly BIPA Effect					
Δb X 2001	0.84	-2.96	-1.25	-0.300	1.076
	(0.62)	(1.72)	(0.47)	(0.056)	(0.267)
Δb X 2002	3.38	-0.93	-2.41	-0.504	0.903
	(0.85)	(3.48)	(0.60)	(0.061)	(0.125)
Δb X 2003	4.72	3.76	-3.24	-0.450	0.732
	(0.92)	(3.79)	(0.82)	(0.071)	(0.103)
Panel B: Pooled Post-BIPA Effect					
Δb X Post-BIPA	3.27	0.21	-2.68	-0.44	0.845
	(0.73)	(2.86)	(0.60)	(0.05)	(0.095)
Controls: All Panels					
Main Effects					
County FE	X	X	X	X	
Year FE	X	X	X	X	
Pre-BIPA Mean of Dep. Var.	30.53	485.25	484.48	10.90	

*Column 4 displays the impact of a $1 increase in monthly payments; all other columns display the effect of a $50 increase in monthly payments.

▸ Additional Specifications ▸ Back to Selection Section

Selection Regression Estimates, Additional Specifications

Table: Impact of $50 Increase in Monthly Payments

	Dependent Variable:								
	MA Enrollment (%)			TM Costs ($)			MA Risk Adjustment ($)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Yearly BIPA Effect									
Δb X 2001	0.84	2.26	0.83	-2.96	3.04	-3.22	-1.25	-0.75	-1.35
	(0.62)	(0.68)	(0.63)	(1.72)	(1.94)	(1.78)	(0.47)	(0.91)	(0.50)
Δb X 2002	3.38	5.17	3.65	-0.93	5.34	-1.19	-2.41	-2.76	-2.50
	(0.85)	(0.96)	(0.86)	(3.48)	(3.96)	(3.59)	(0.60)	(1.09)	(0.61)
Δb X 2003	4.72	7.31	5.08	3.76	10.84	3.74	-3.24	-3.25	-3.36
	(0.92)	(1.04)	(0.93)	(3.79)	(5.25)	(3.91)	(0.82)	(1.28)	(0.84)
Panel B: Pooled Post-BIPA Effect									
Δb X Post-BIPA	3.27	5.95	3.47	0.21	8.18	0.15	-2.68	-2.47	-2.80
	(0.73)	(0.86)	(0.74)	(2.86)	(3.53)	(2.98)	(0.60)	(1.06)	(0.62)
Panel C: Pooled Post-BIPA Effect									
Main Effects									
County FE	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X	X
Additional Controls									
Pre-BIPA Base Payment X Year FE		X			X			X	
Urban X Year FE			X			X			X
Pre-BIPA Mean of Dep. Var.	30.53	30.53	30.53	484.48	484.48	484.48	485.25	485.25	485.25

▸ Back to Selection Section