The Early Impact of the Affordable Care Act State-By-State

Prepared for

Brookings Papers on Economic Activity

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Affordable Care Act (ACA) Implementation Underway

- Open enrollment in the exchanges from October 1, 2013 through March 31, 2014
  - Coverage began as early as January 1, 2014
  - Since March 31, only individuals with qualifying life events can sign up for coverage until next open season, which begins November 15, 3014

Very limited data available, but I examine data through the first half of 2014

I examine the early impact of the ACA state-by-state

- Individual health insurance market only
  - Includes exchanges and coverage purchased directly from insurers
  - Market of last resort for uninsured
  - 13.2 million total enrolled in Q2 2014
- Examine states individually, but focus on comparing states to each other (more robust)
  - Significant variation in ACA implementation policy and pre-ACA insurance policy across states
  - State is legislated risk pool in individual market

Approach

- **Model of Welfare Impact Within & Across States**
  - **Based on Hackmann, Kolstad, and Kowalski (2014)**
- Data
- Illustration With a Single State
- Comparison Across States
- Outlook for The Future

Welfare Doesn't Just Depend on How Many Enroll…

Facing Obamacare deadline, more young people signed up in March

19 More

By Jason Millman April 4 Follow @jasonmillm

President Barack Obama sat down with Zach Galifianakis last month with one goal in mind: Convince young people to buy insurance. (AP Photo/Funny Or Die, File)

Some states running their own Obamacare health insurance marketplaces reported a modest bump in youth enrollment in March, suggesting that many young adults waited until the deadline to sign up for coverage as expected.

However, enrollment in most of those states is short of the Obama administration's goal last summer to have young adults between 18 and 34 years old account for 40 percent of marketplace enrollments. Obama administration officials in January said, though, they were already confident enough young people have already enrolled to support their health care law.

Five state-based health insurance marketplaces and the District of Columbia's exchange have so far provided an age breakdown of people who signed up for coverage through March 31, the official end of open enrollment. Compared against numbers reported by the Department of Health and Human Services in January and February, young adults in March signed up at higher rates.

More Than 8 Million Have Signed Up For Obamacare, In Latest Tally

Posted: 05/01/2014 2:17 pm EDT | Updated: 05/01/2014 4:59 pm EDT

6.9k 580 53 13 11 900

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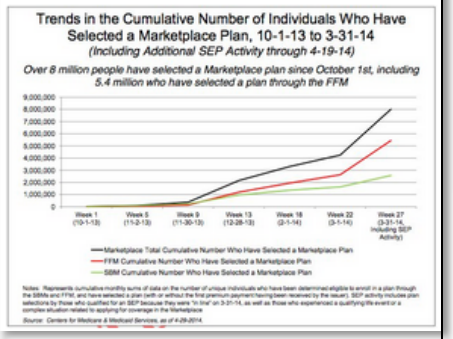
Over 8 million individuals signed up for health insurance via the Obamacare exchanges through April 19, according to an official report from the Department of Health and Human Services that confirms an announcement made by President Barack Obama last month.

During the six-plus months of the first open enrollment period for these marketplaces created by the Affordable Care Act, 8.02 million people chose a health plan. Sign-ups surged during March and April, when 3.8 million signed up for private coverage through the exchanges, according to the department's report. That total represents 47 percent of all enrollments. Eighty-five percent of those customers received financial assistance, the report said.

The 8 million total is subject to change in the final accounting, but nevertheless represents a notable rebound from the disastrous October launch of HealthCare.gov, the website for exchanges in more than 30 states, and early troubles for many state-run marketplaces. On Oct. 1, just six people were able to enroll via the federal exchange site, and only 106,000 had signed up nationwide by the end of the month. The tally is also 1 million more than the highest total projected by the Congressional Budget Office.



Obama reaches out to young people for health care; only 25 percent enrolled nationwide

MARCH 11, 2014, 5:07 PM LAST UPDATED: WEDNESDAY, MARCH 12, 2014, 7:50 AM

BY LINDY WASHBURN

THE RECORD

President Obama reached out
coverage on a comedy video w
administration was that only a
from 18- to 34-years-old.

The president's appearance or
people to click on the healthcar
referral source, said a spokesw
Julie Bataille.

Young people are a sought-afte
will help offset the cost of insu
coverage under the new law.

Young people composed an ev
through February, according t
25 percent nationally. And 55
mirroring the national trend.

New Jersey, "like the rest of th
adults," said Raymond Castro,
liberal Trenton think tank.

Obamacare: What if not enough young, healthy people enroll? (+video)

The 18-to-34-year-old cohort is the most coveted for the exchanges, and should be about one-third of enrollees, though there are backstops if enrollment falls short.

By Linda Feldmann, Staff writer | DECEMBER 5, 2013

Evan Vucci/AP | View Caption

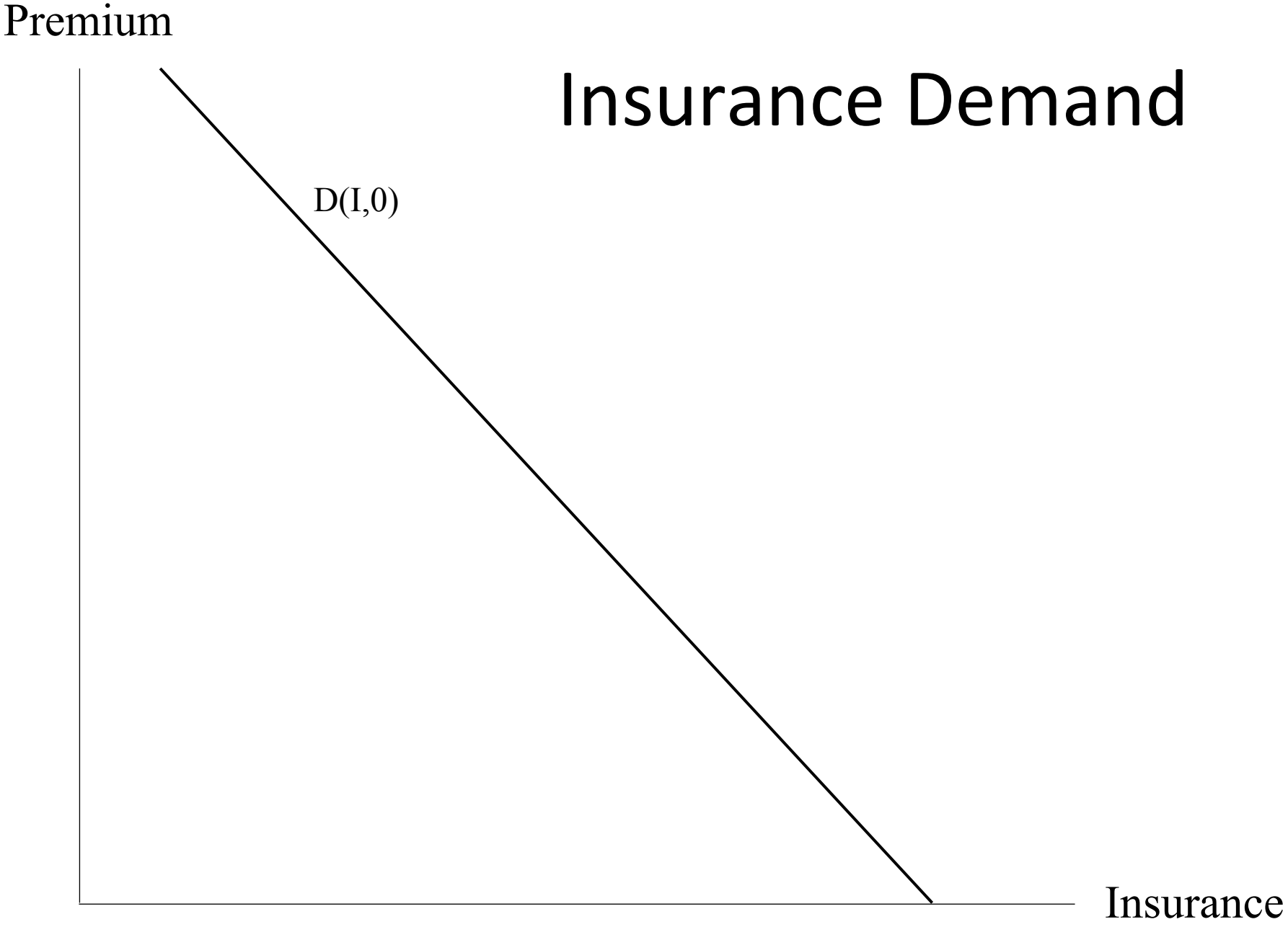
WASHINGTON — Young adults were there for Barack Obama both times he ran for president. Now he needs them more than ever – to buy health insurance.

But it's not clear they'll deliver. A poll released this week by Harvard's Institute of Politics on American "Millennials" – those aged 18 to 29 – bore the bad news: A majority (56 percent) of Millennials disapprove of the Affordable Care Act (ACA), and only 29 percent of uninsured people in that age group plan to buy coverage via HealthCare.gov or a state-run exchange.

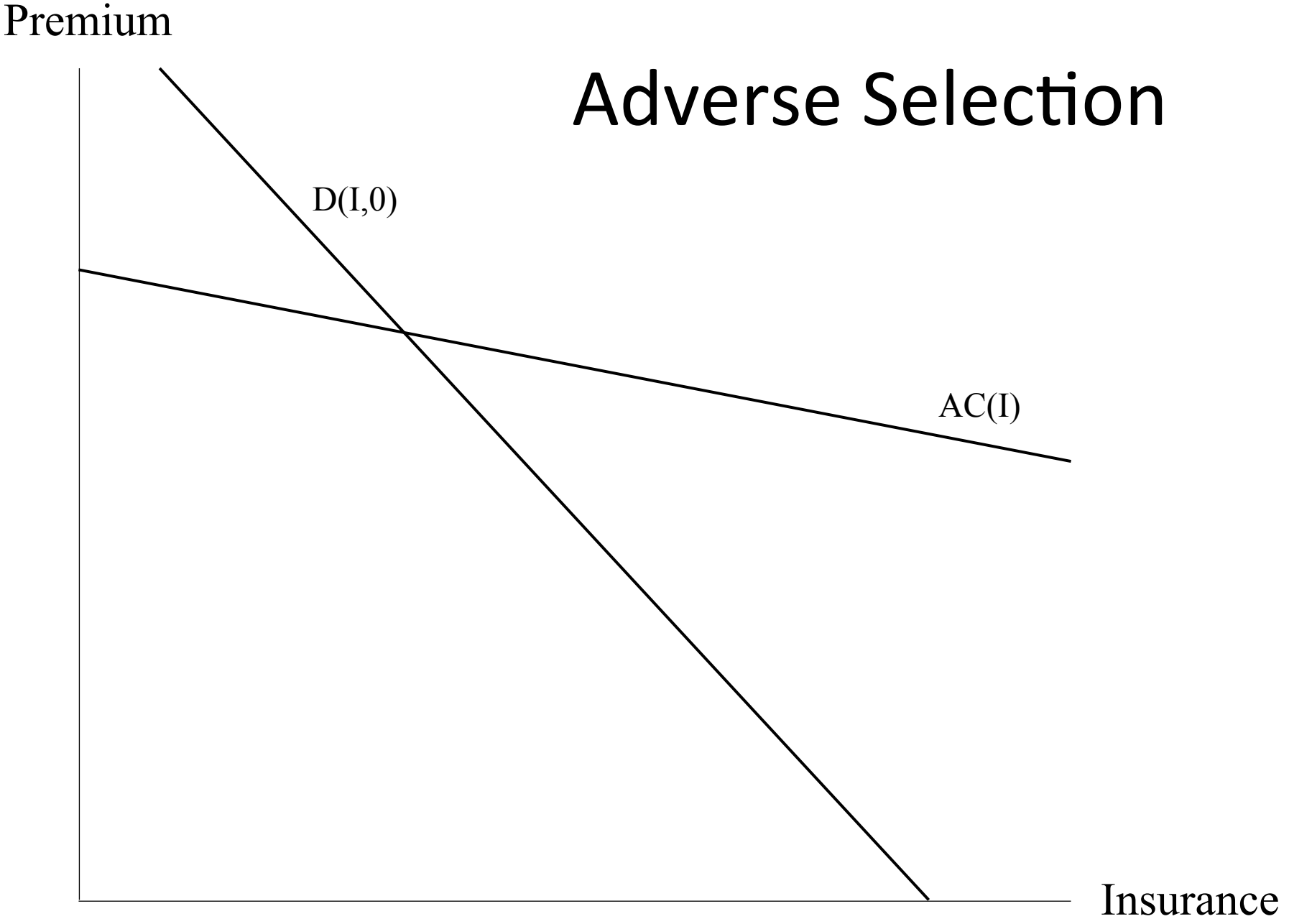
Welfare Doesn't Just Depend on How Many Enroll…

- Also depends on WHO enrolls
  - "Young and Healthy?"
  - The costs of the newly-enrolled is what ultimately matters
  - Selection distorts enrollment from optimal enrollment
  - Einav, Finkelstein, and Cullen ("EFC" 2010)
- Also depends on how insurers set premiums
  - Markups (premiums-costs) distort enrollment from optimal enrollment
  - Hackmann, Kolstad, and Kowalski ("HKK" 2014)
- Could also depend on changes in plan generosity
  - Both models assume no change

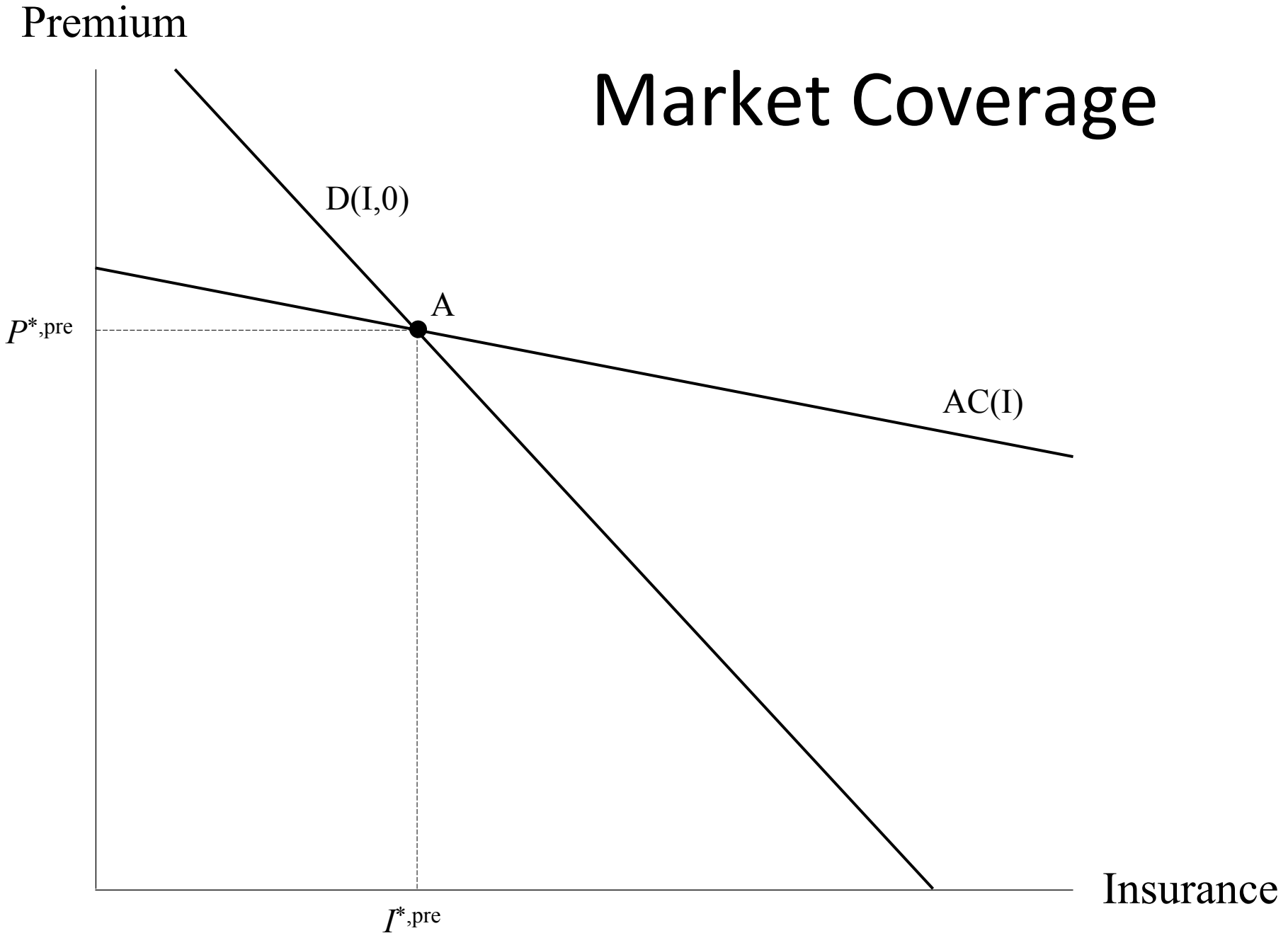
Insurance Demand



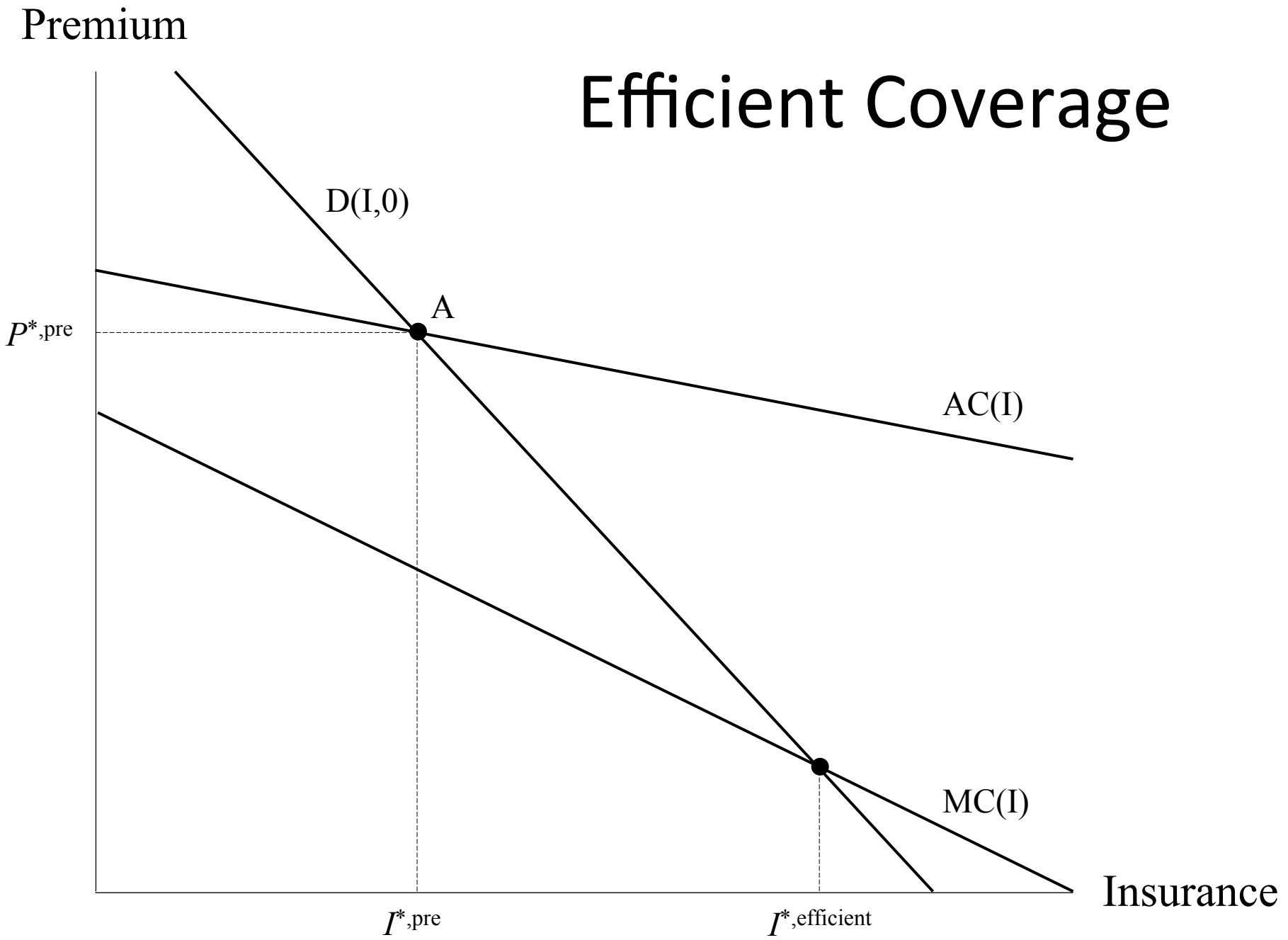
Adverse Selection



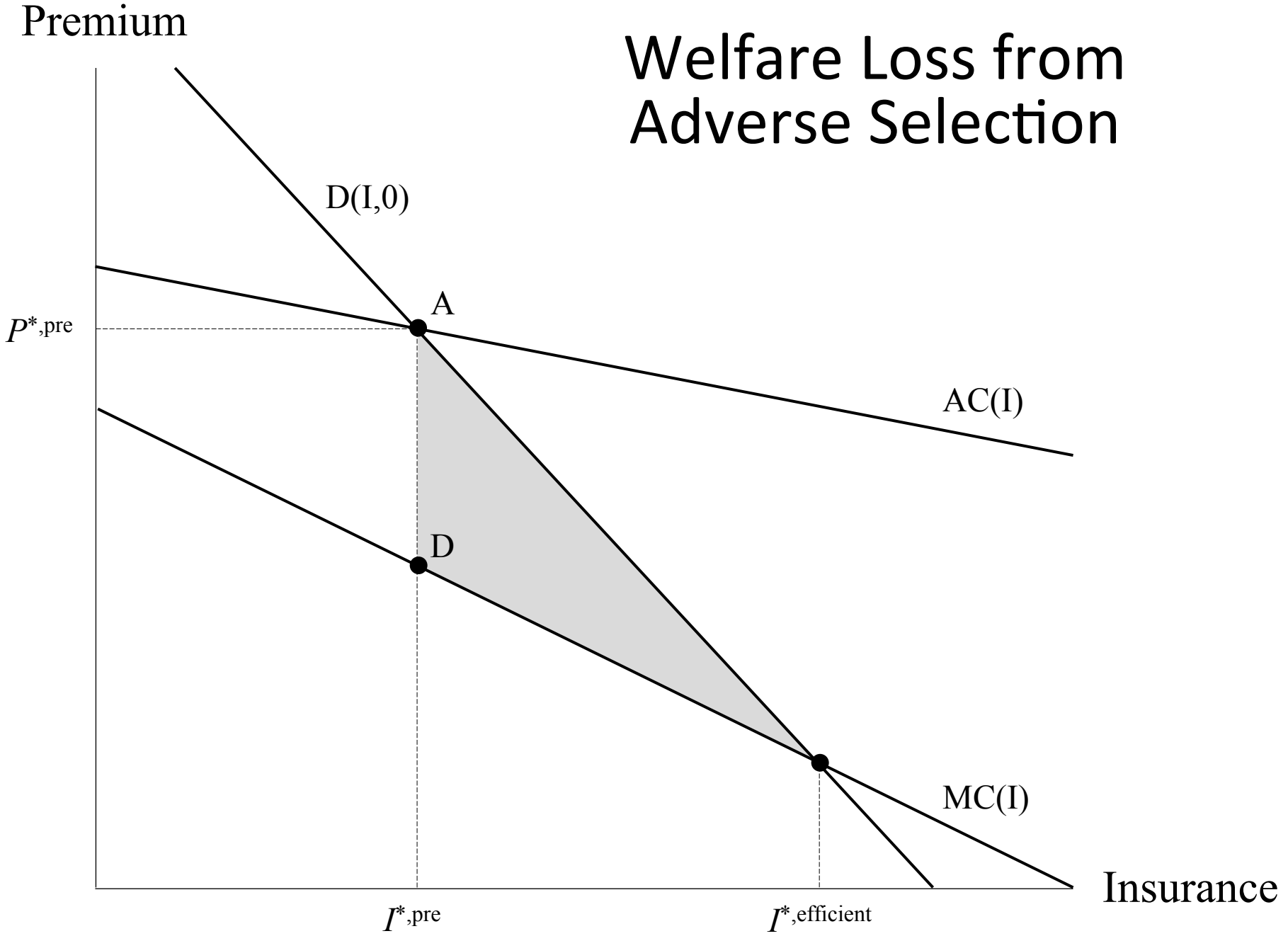
Market Coverage



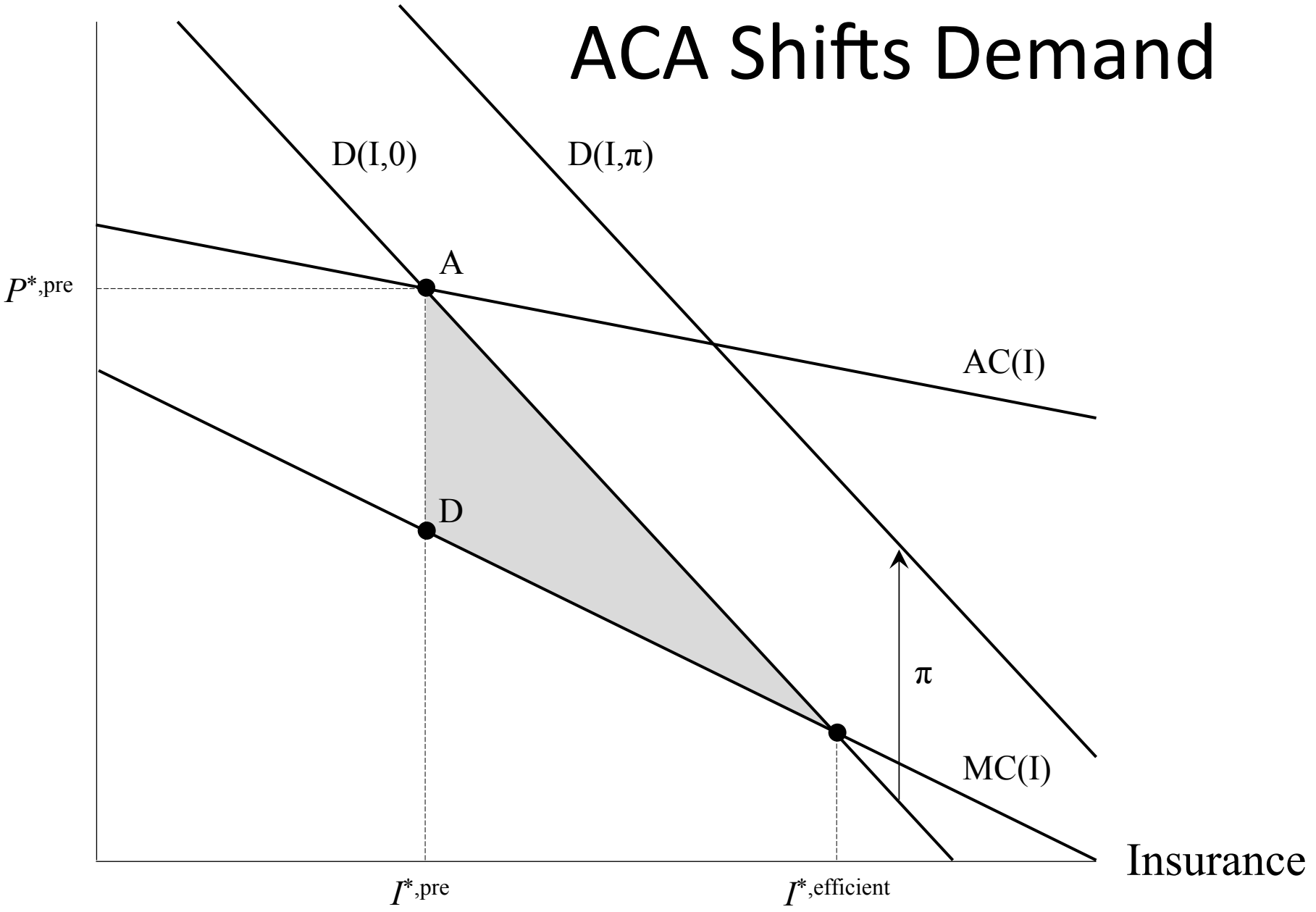
Efficient Coverage



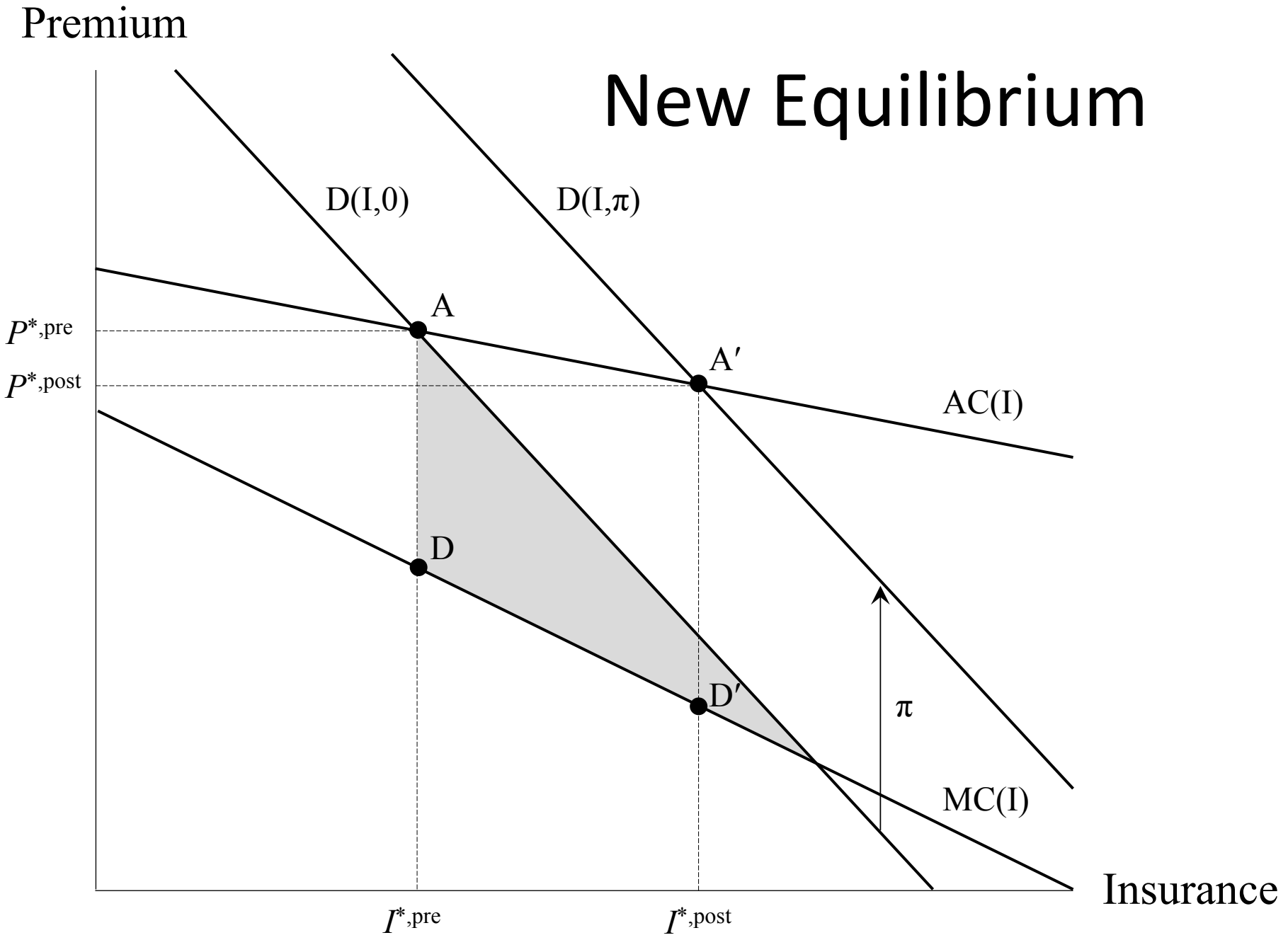
Welfare Loss from Adverse Selection

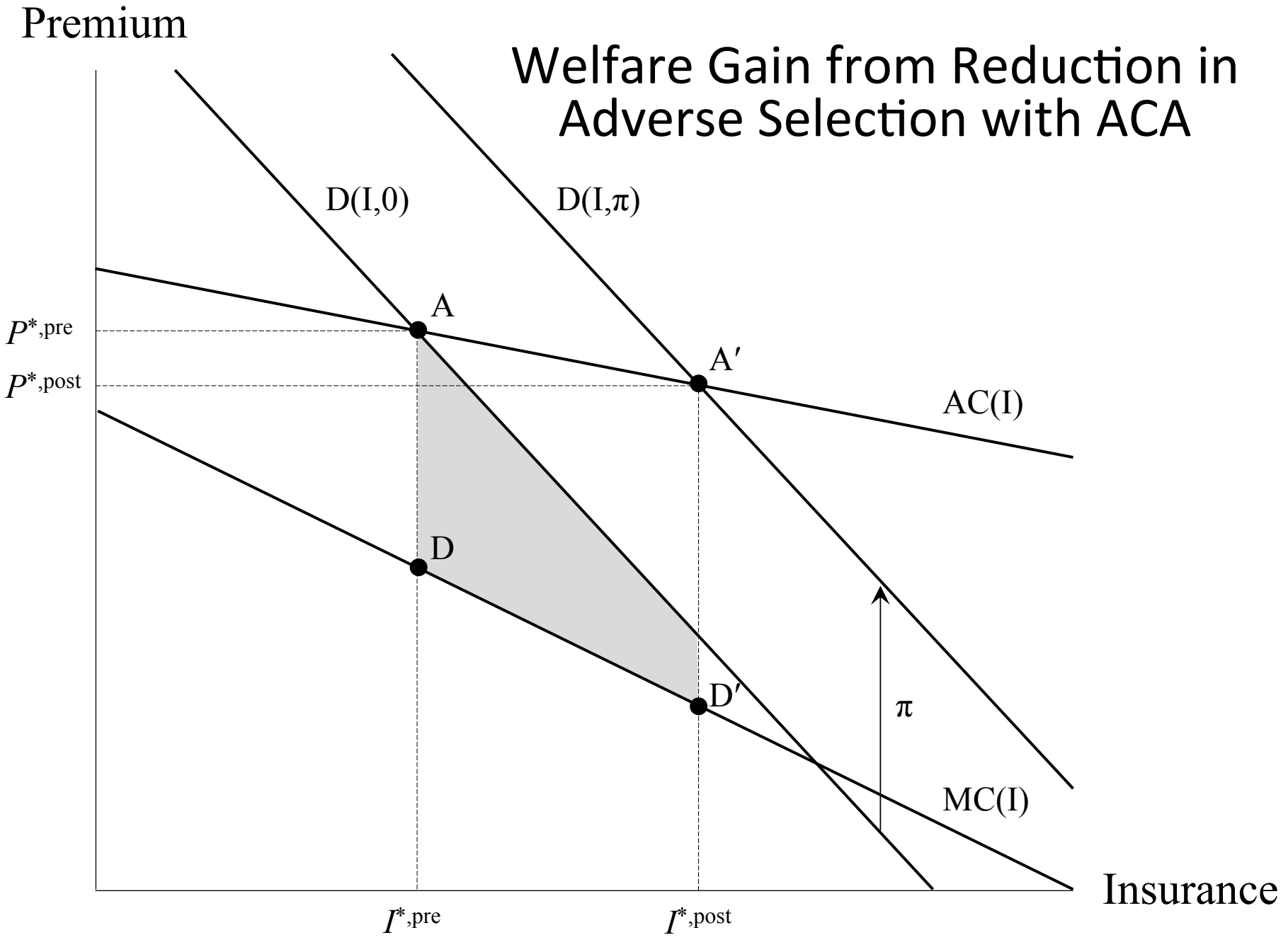


ACA Shifts Demand

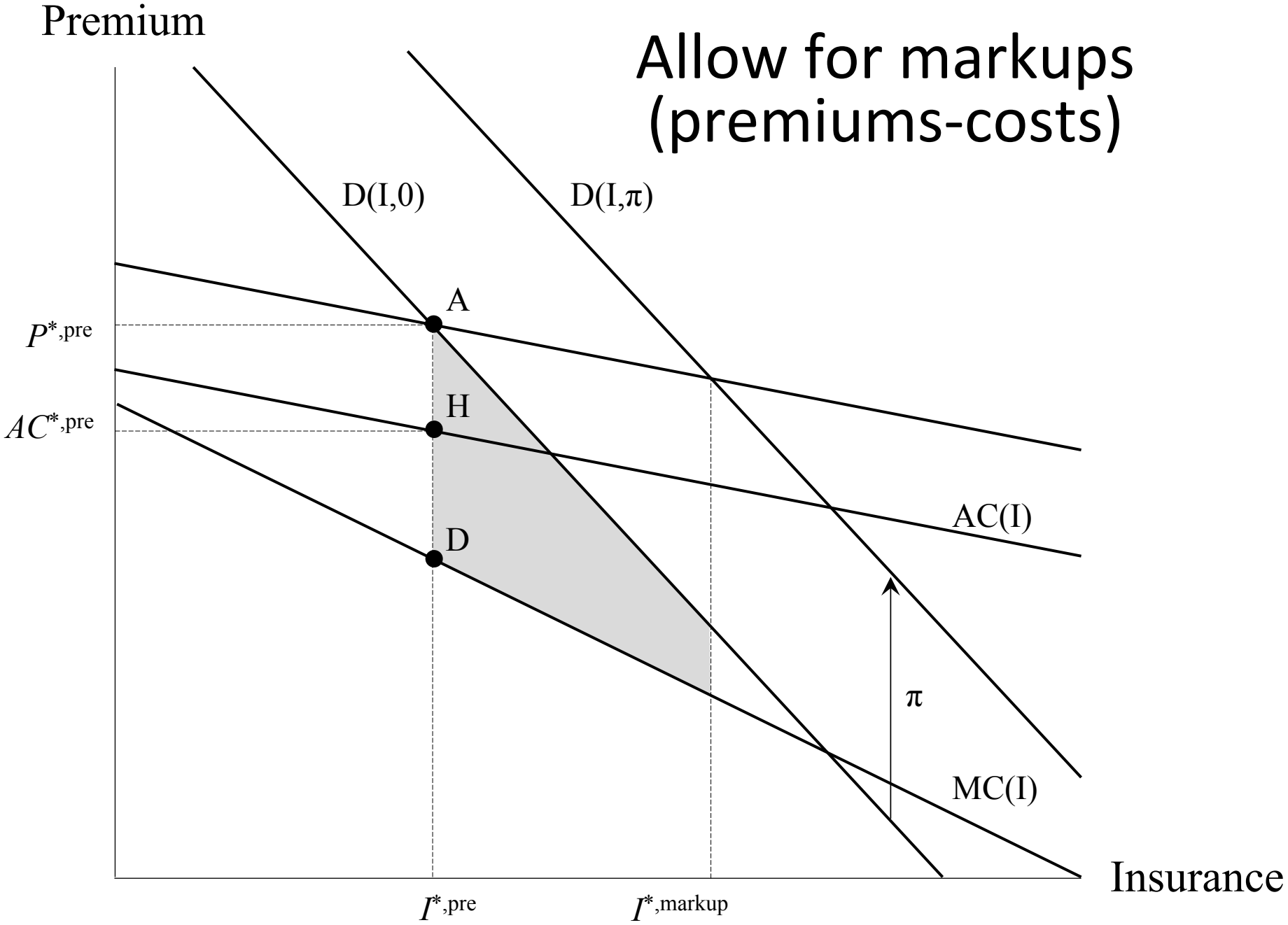


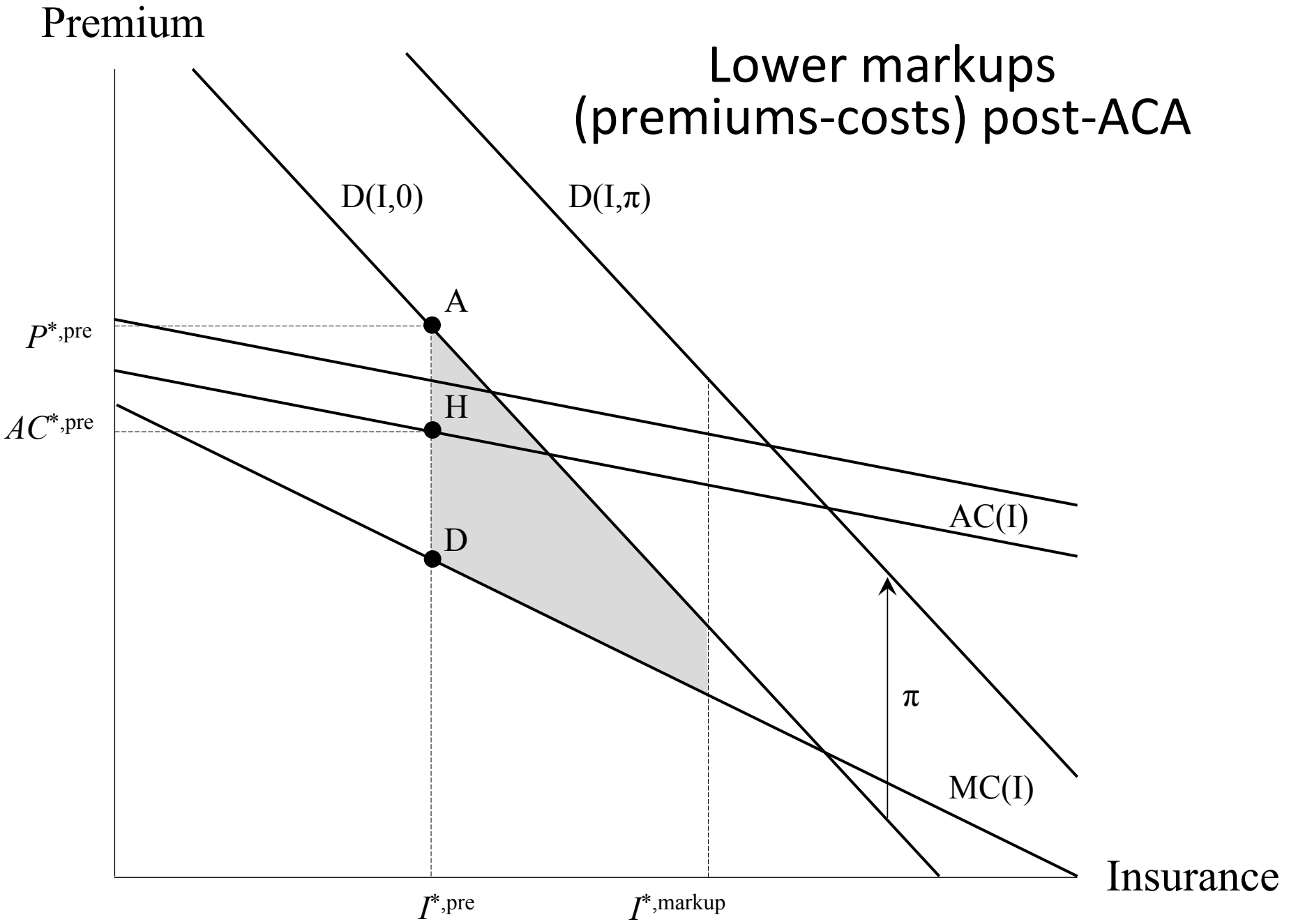
New Equilibrium



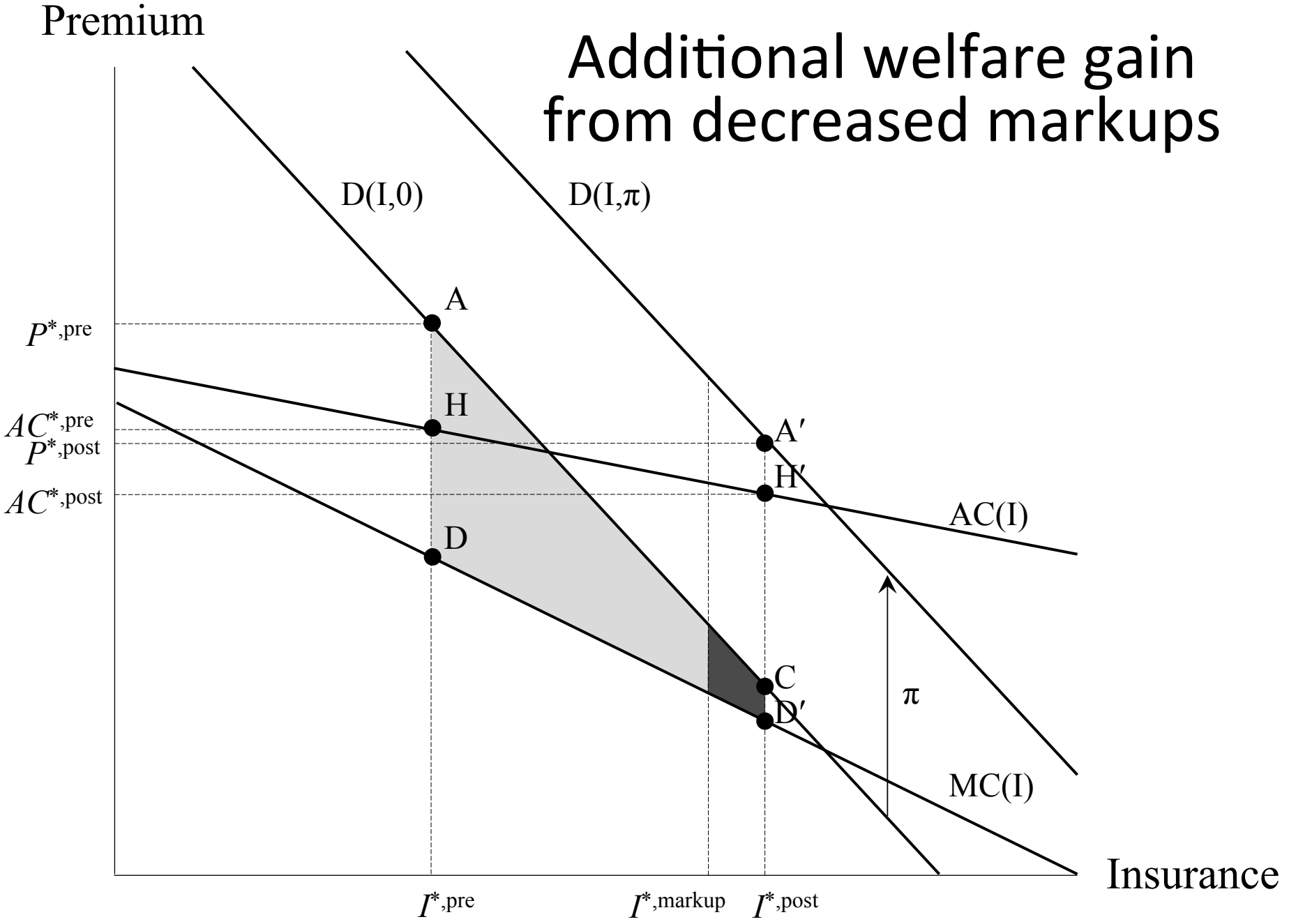

Premium
Welfare Gain from Reduction in Adverse Selection with ACA
D(I,0)
D(I,π)
A
A′
P*,pre
P*,post
AC(I)
D
D′
π
MC(I)
Insurance
I*,pre
I*,post

Allow for markups (premiums-costs)

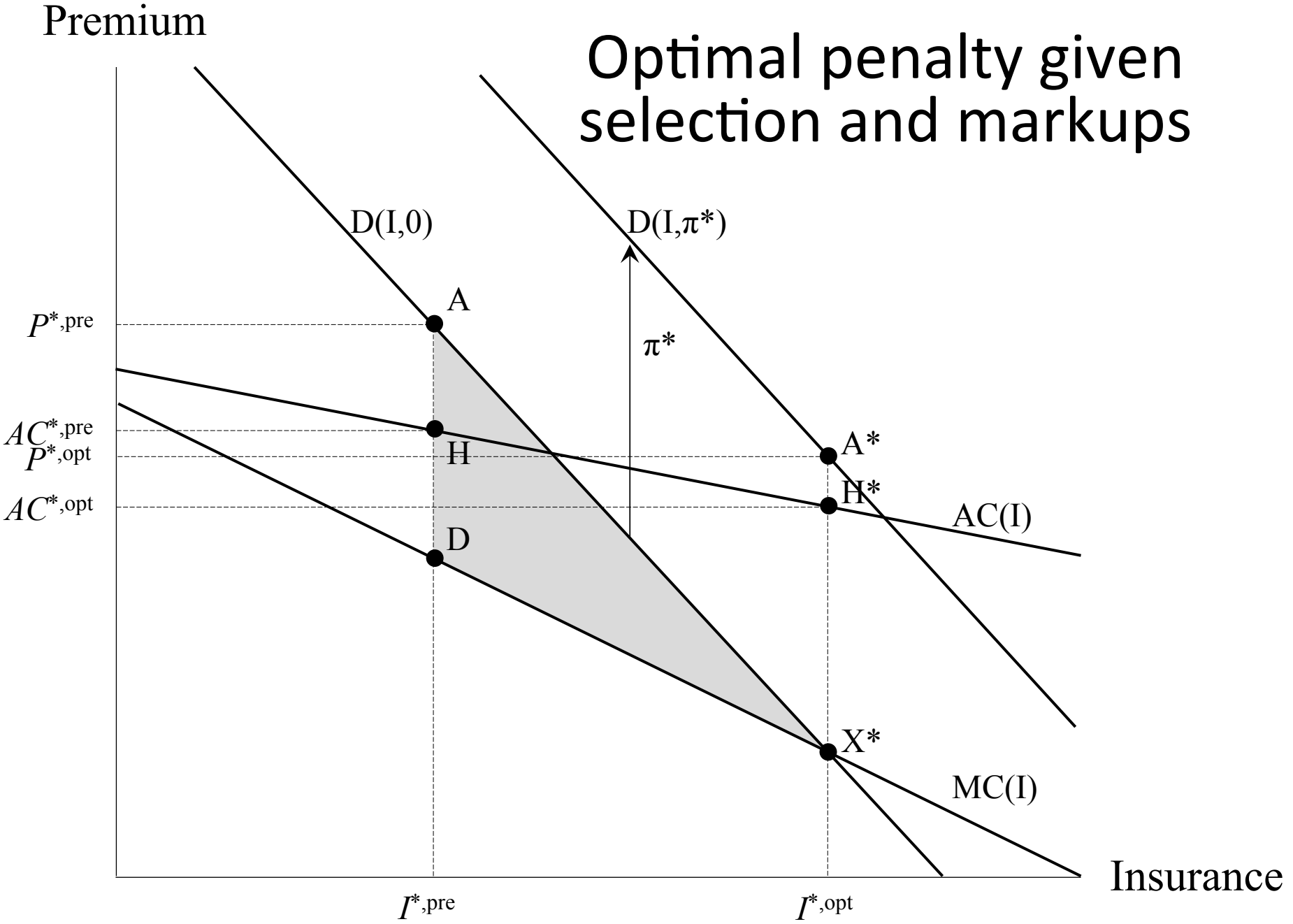


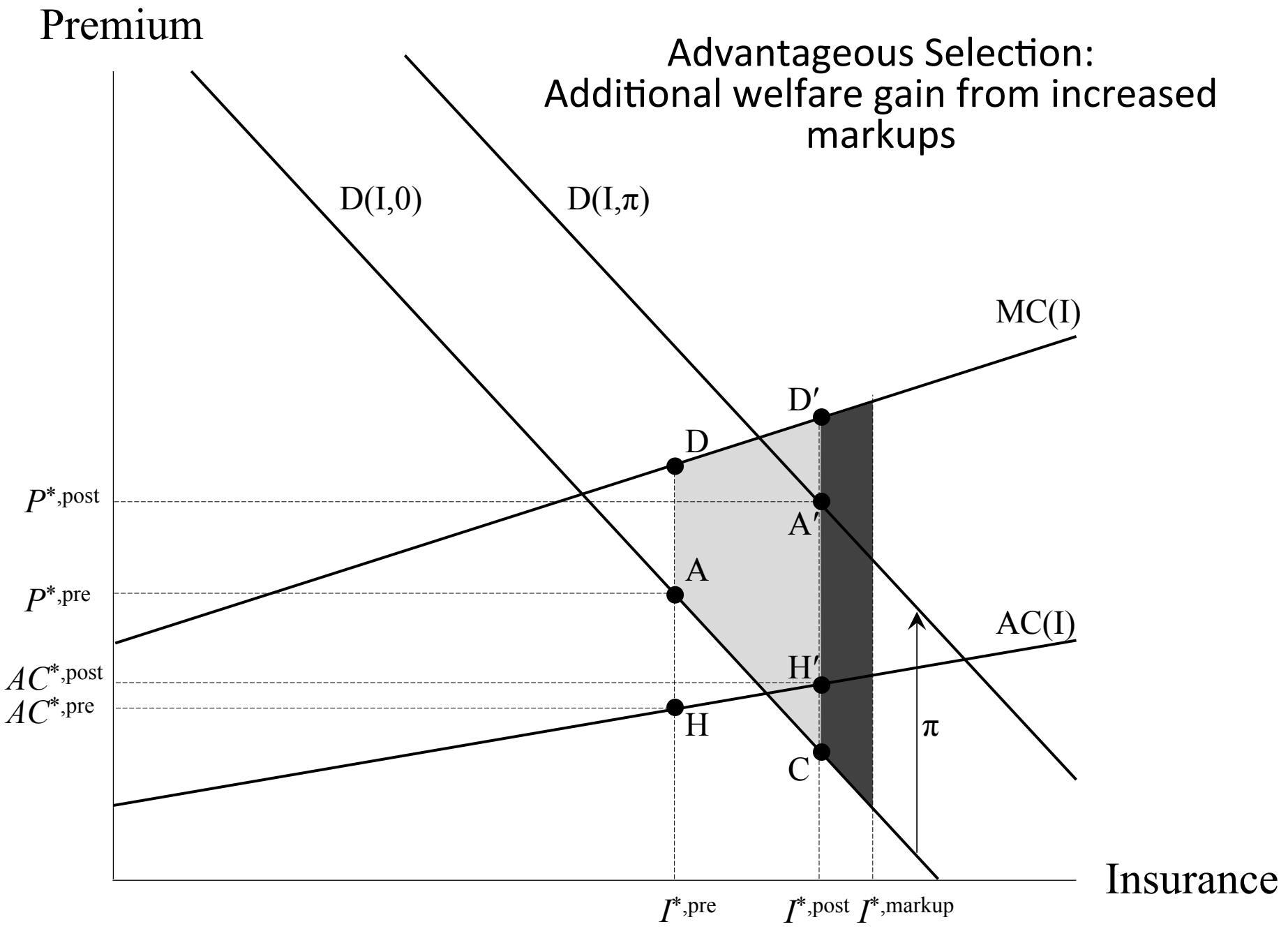

Premium
Lower markups
(premiums-costs) post-ACA
D(I,0)
D(I,π)
A
H
D
$P^{*,pre}$
$AC^{*,pre}$
AC(I)
π
MC(I)
Insurance
$I^{*,pre}$
$I^{*,markup}$

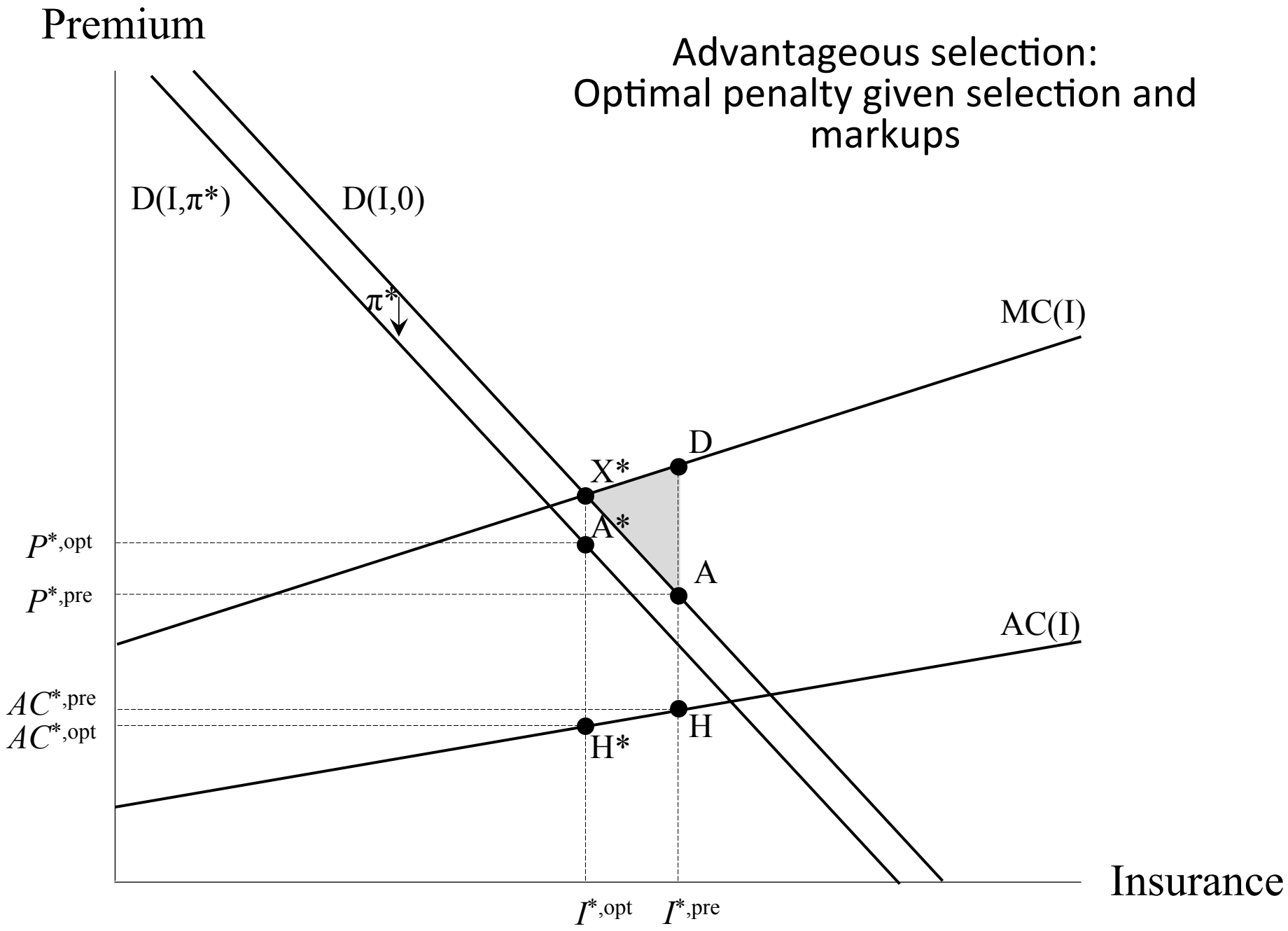
Additional welfare gain from decreased markups



Optimal penalty given selection and markups




Premium
Advantageous Selection:
Additional welfare gain from increased markups
D(I,0)
D(I,π)
MC(I)
AC(I)
D′
D
A′
A
H′
H
C
π
P*,post
P*,pre
AC*,post
AC*,pre
I*,pre
I*,post
I*,markup
Insurance


Premium
Advantageous selection:
Optimal penalty given selection and markups
D(I,π*)
D(I,0)
π*
MC(I)
D
X*
A*
A
AC(I)
P*,opt
P*,pre
AC*,pre
AC*,opt
H
H*
Insurance
I*,opt
I*,pre

Estimating the Model Within States

- Welfare Change from Selection and Markups

$$\begin{aligned}\Delta W_{full} &= (P^{*,pre} - AC^{*,pre}) * (I^{*,post} - I^{*,pre}) \\ &- (AC^{*,post} - AC^{*,pre}) * (I^{*,pre} + (I^{*,post} - I^{*,pre})) \\ &+ \frac{1}{2}((P^{*,post} - \pi) - P^{*,pre}) * (I^{*,post} - I^{*,pre}).\end{aligned}$$

- Depends on only 7 Data Moments
  - Coverage, Premium, Average Cost: Before and After
  - Calibrated Penalty
- Same moments determine other quantities
  - Welfare Change Holding Markups Constant
  - Optimal Penalty

Estimating the Model *Across* States

- Compare full welfare change with each state as an observation
  - One policy at at time
  - For each policy, controlling for the others

Approach

- Model of Welfare Impact Within & Across States
  - Based on Hackmann, Kolstad, and Kowalski (2014)
- **Data**
- Illustration With a Single State
- Comparison Across States
- Outlook for The Future

Data from SNL Financial

- Q2 data became available on August 19, 2014
- Collected by National Association of Insurance Commissioners (NAIC) and compiled by SNL Financial
- California and New Jersey excluded because data are incomplete
- Massachusetts excluded because it had its own reform in 2006 and had severe glitches in its state exchange
- Most other data sources will not available for a long time!

Adjust Coverage, Premiums, and Costs For Seasonally-Adjusted Trends

$$Y_t = \alpha^Y (After)_t + + \rho_1^Y t + \rho_2^Y (Q1)_t + \rho_3^Y (Q2)_t + \rho_4^Y (Q3)_t + \varepsilon_t^Y$$

$$Y^{*,pre} = Y^{*,post} - \widehat{\alpha^Y}$$

- Report post-ACA values to give picture of market
- Subtract coefficient from post-ACA value to give impact of ACA
- Use pre and post values as inputs into model
  - Along with baseline calibrated penalty of $1,500
- Examine graphs that show trends graphically before estimating the model

4.2 Million New Enrollees since ACA Rollout
13.2 Million Total Enrolled in Q2 2014

- In individual health insurance market
  - Includes plans purchased in exchanges and plans purchased directly from insurers
  - Based on my calculations from SNL data, derived from NAIC
    - "New" relative to seasonally-adjusted state trends, could represent coverage change from other markets
    - Enrollment underestimate because of data reporting in CA, NJ
  - ASPE estimate of 8 million only includes exchanges through end of open enrollment period
- Premiums up by 24.4% ($55/month) relative to trend
- Average costs up by 11.2% ($21/month) relative to trend
- National statistics obscure significant state variation
  - States also provide comparison groups to study national change

Approach

- Model of Welfare Impact Within & Across States
  - Based on Hackmann, Kolstad, and Kowalski (2014)
- Data
- **Illustration With a Single State**
- Comparison Across States
- Outlook for The Future

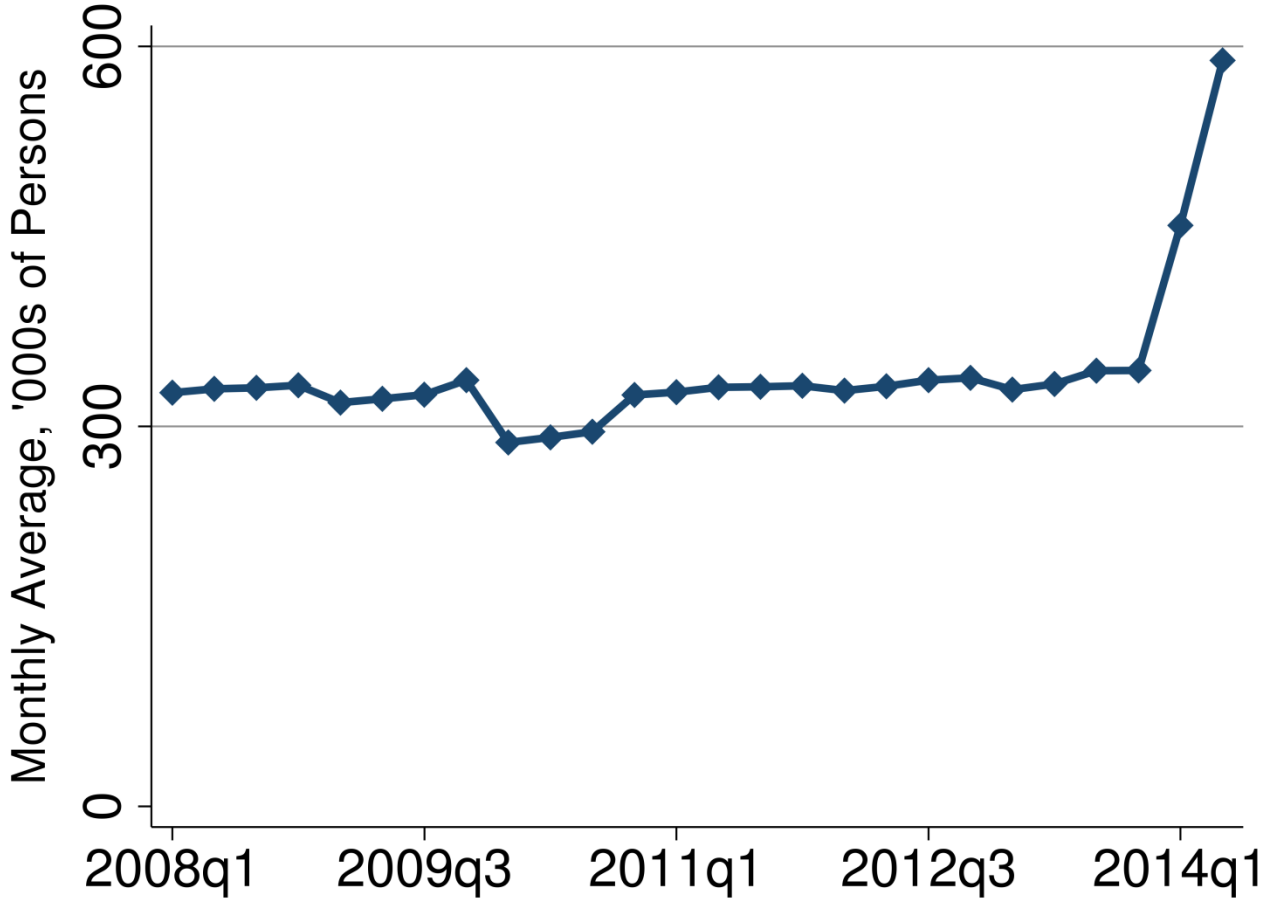
Welcome to Illinois!

Illinois

- Did not implement its own state exchange
- Implemented Medicaid expansion
- Allowed renewal of non-grandfathered plans
- No pre-existing community-rating regulations
- No pre-existing guaranteed issue regulations
- 9 insurers in market before reform

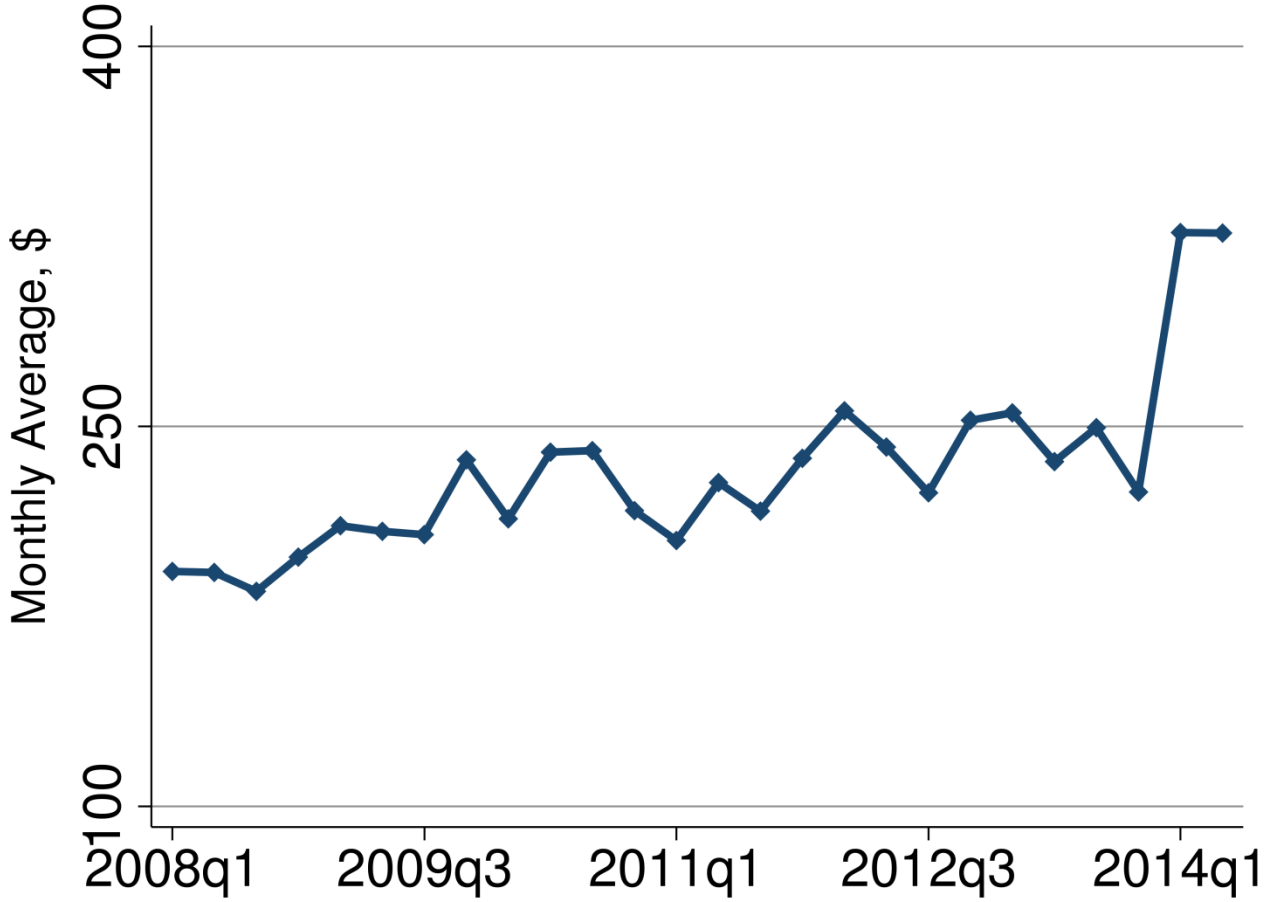
Illinois Coverage Increased in 2014

By 194,000 monthly relative to seasonally-adjusted trend



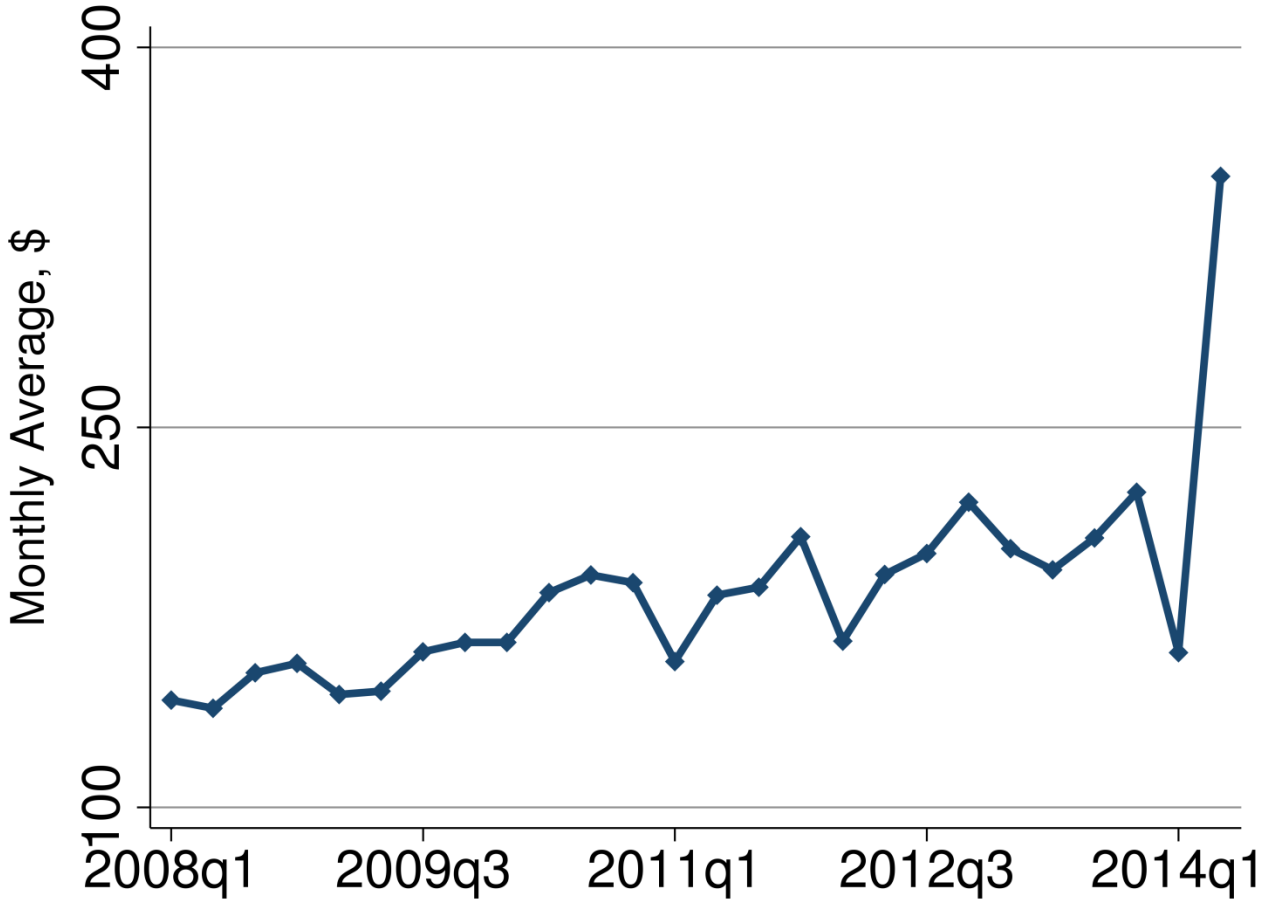
Illinois Premiums Increased in 2014

By $66 per month relative to seasonally-adjusted trend



Illinois Average Cost Increased in 2014

By $46 per month relative to seasonally-adjusted trend



Increase in average cost suggests welfare losses from exacerbated advantageous selection
Increase in markups (premiums minus costs) suggests welfare gains from increased markups
Model shows loss of $505 per year per market participant (losses from selection outweigh gains from markups), optimal penalty $-77 (lower than calibrated $1,500)

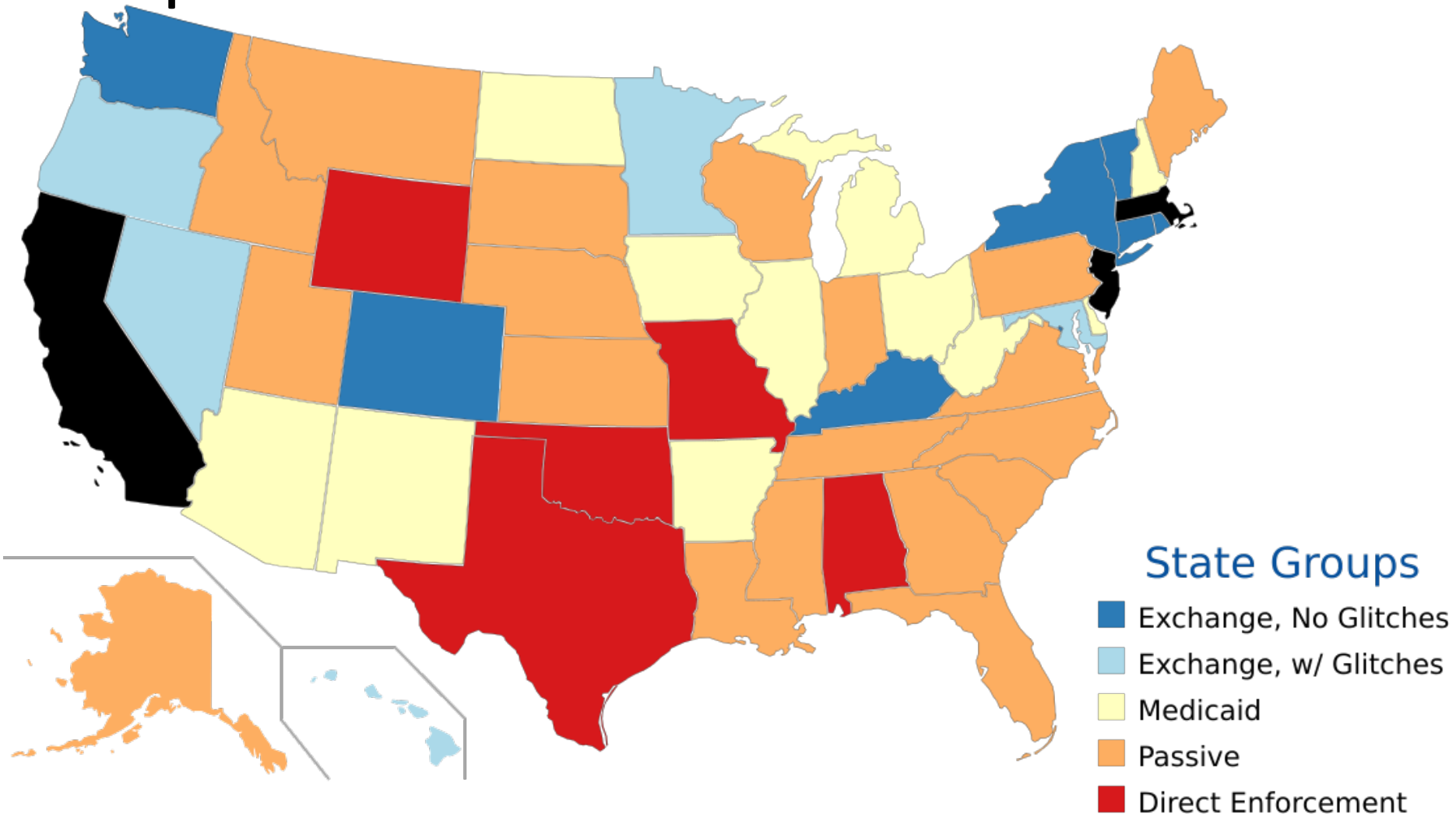
How Representative was the Illinois Experience?

- Coverage increased in nearly all states
- Advantageous selection in 32 states (average cost increase with increased coverage), adverse selection in other 19
- Markups (premiums minus costs) increased in all *but* 10 states

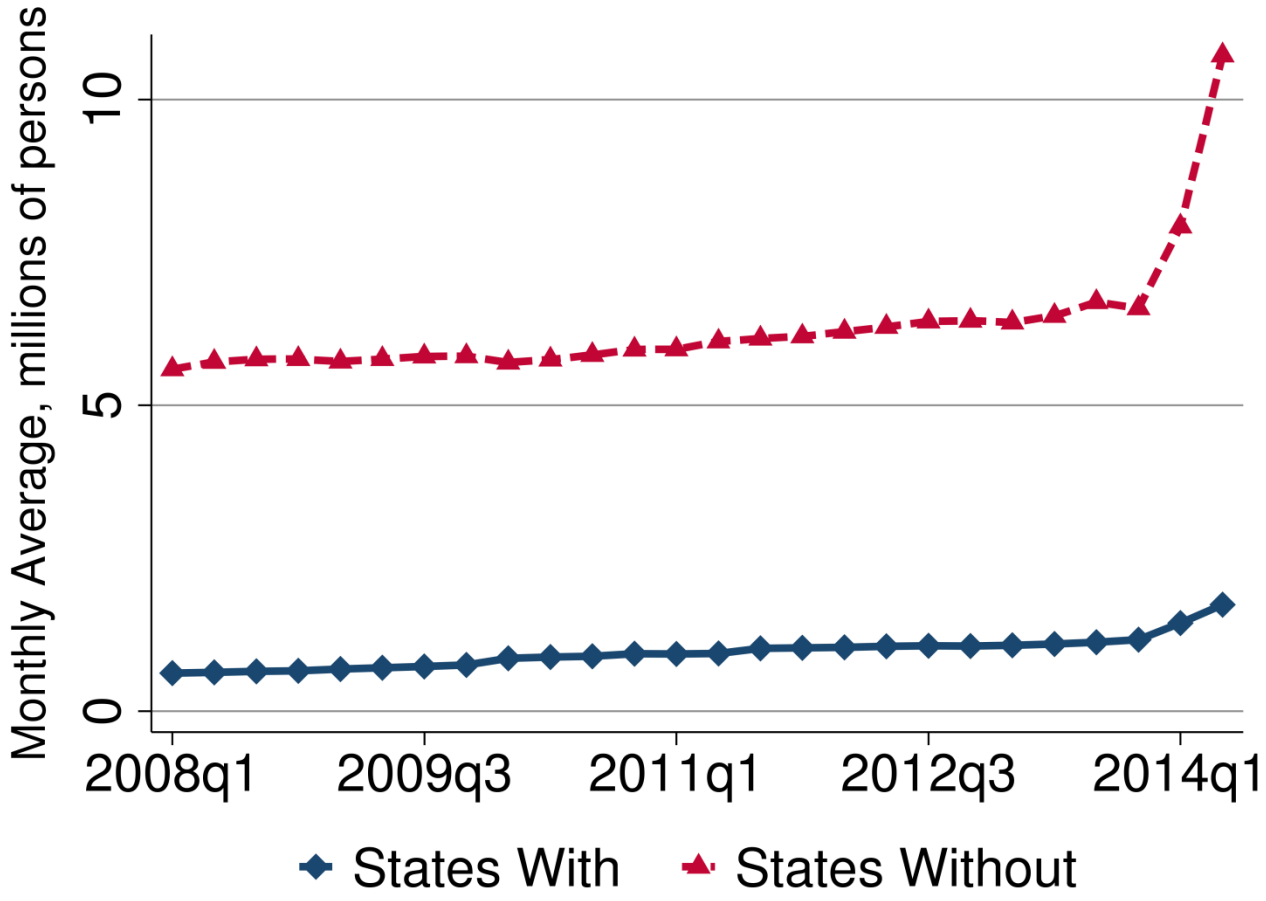
Approach

- Overview of State Policy Variation
- Model of Welfare Impact Within & Across States
  - Based on Hackmann, Kolstad, and Kowalski (2014)
- Data
- Illustration With a Single State (Connecticut)
- **Comparison Across States**
- Outlook for The Future

Some States Took More Active Role in Implementation of ACA

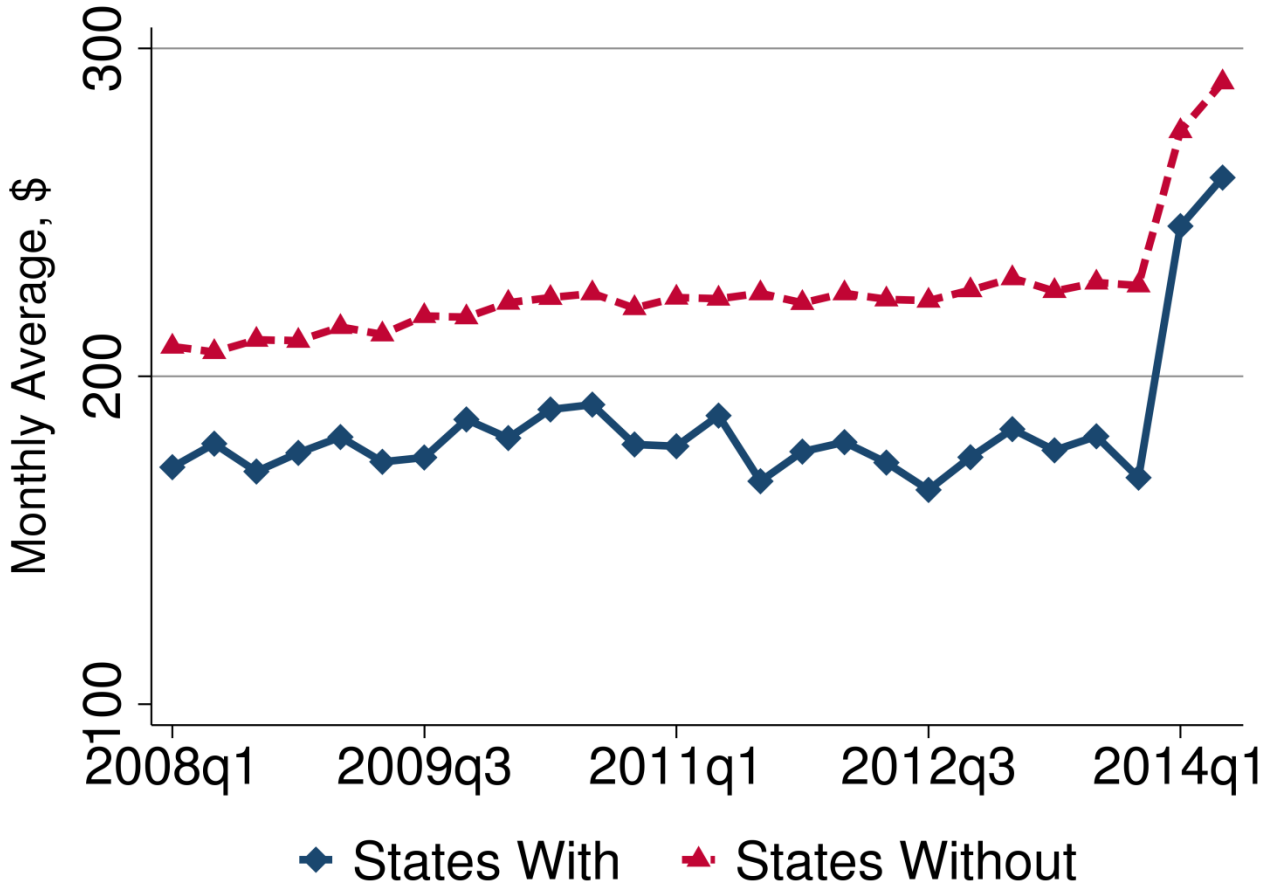


Smaller Coverage Increases in Direct Enforcement States



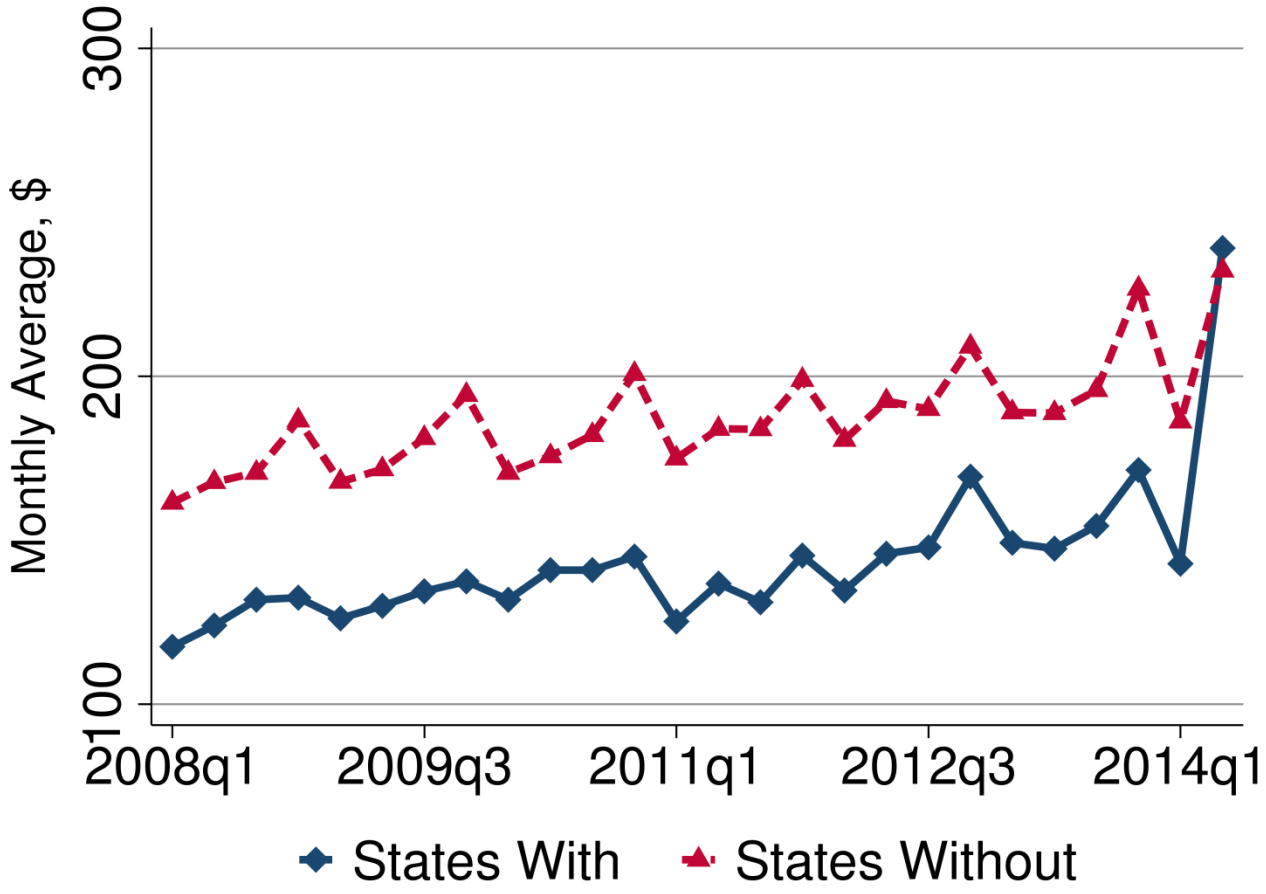
As expected because states that left all ACA implementation to the Federal government probably did a worse job with state-specific outreach

Larger Premium Increases in Direct Enforcement States



Actuaries might have expected sicker new enrollees in direct enforcement states

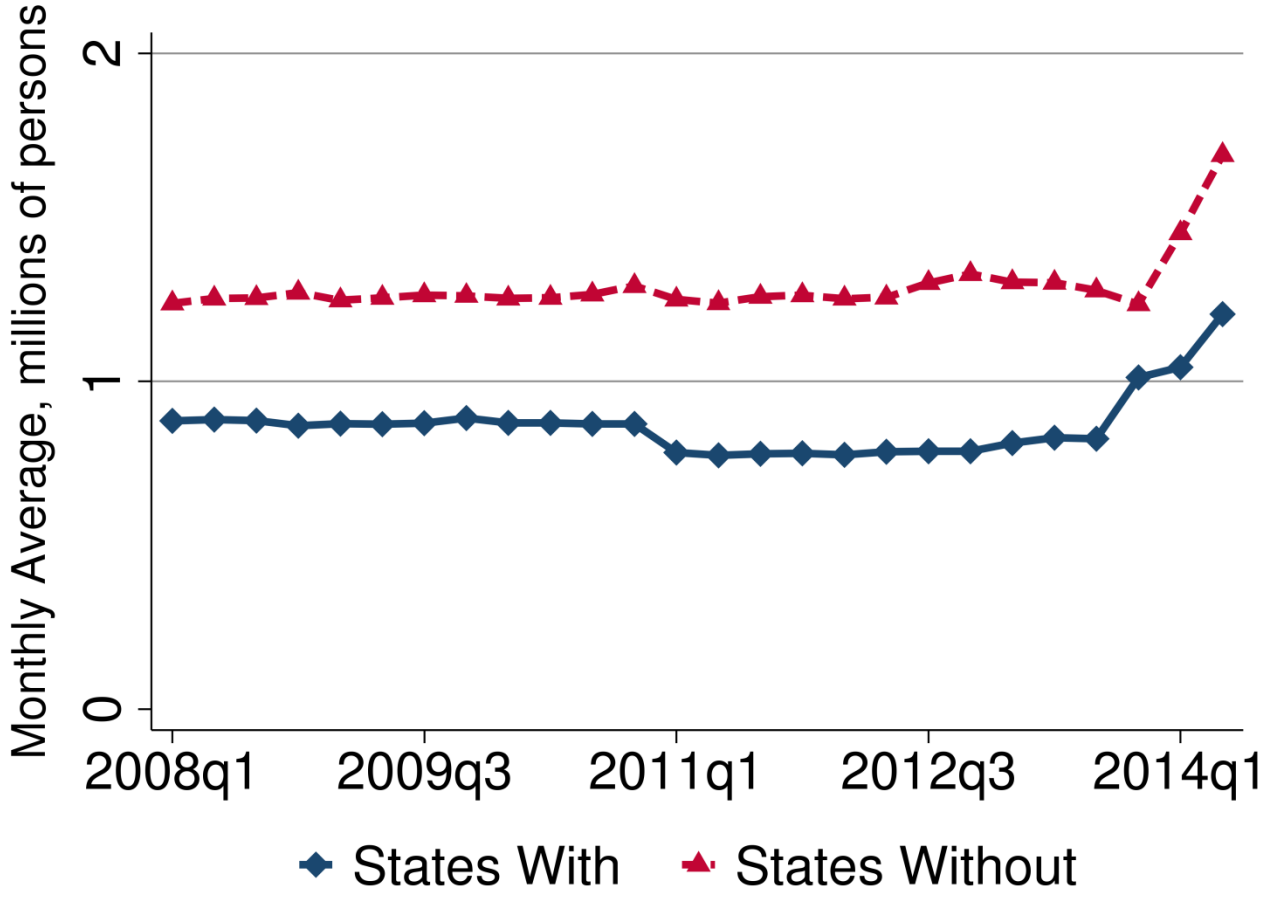
Larger Average Cost Increases in Direct Enforcement States



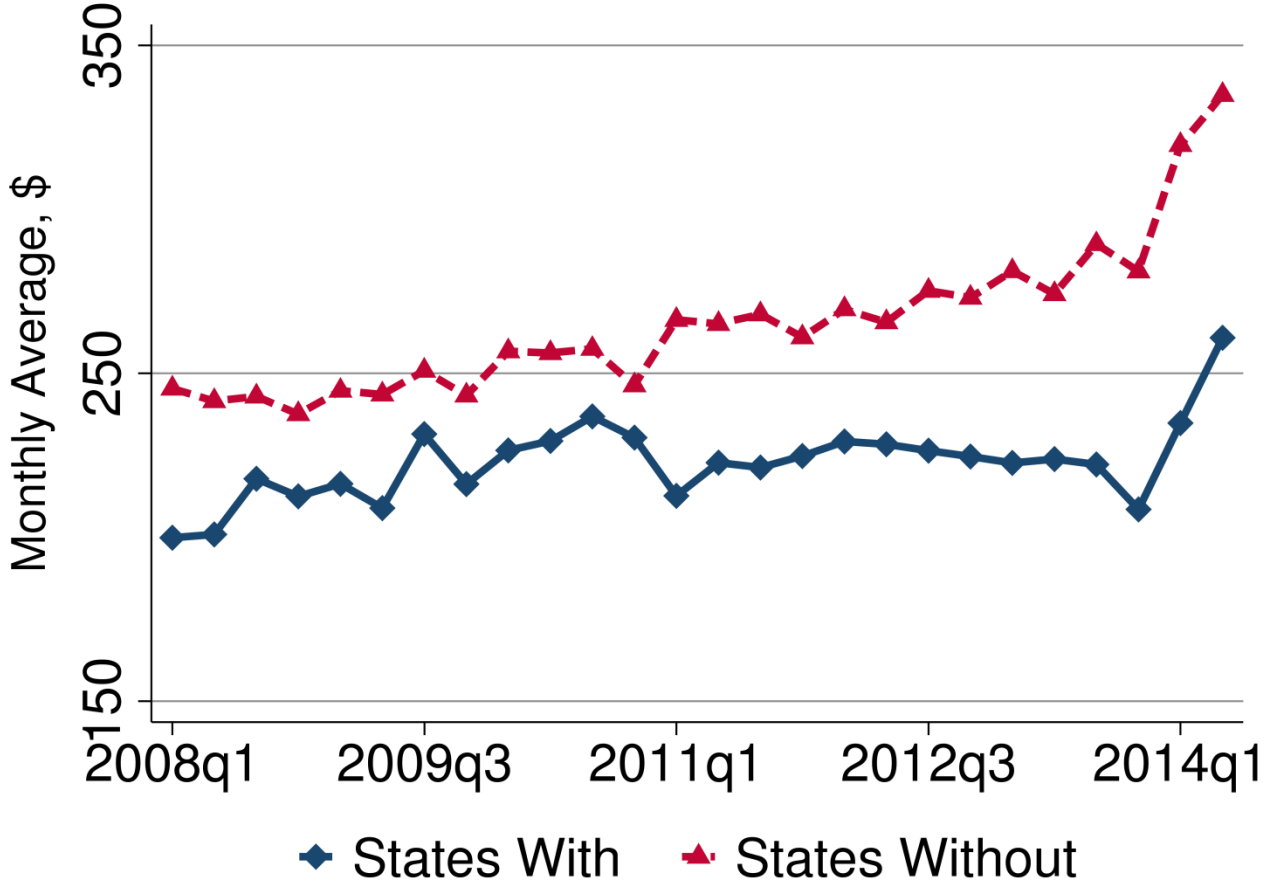
Evidence that enrollees were sicker in direct enforcement states

No Visible Hindrance to Enrollment in States with Glitches

vs. other states with own state exchanges

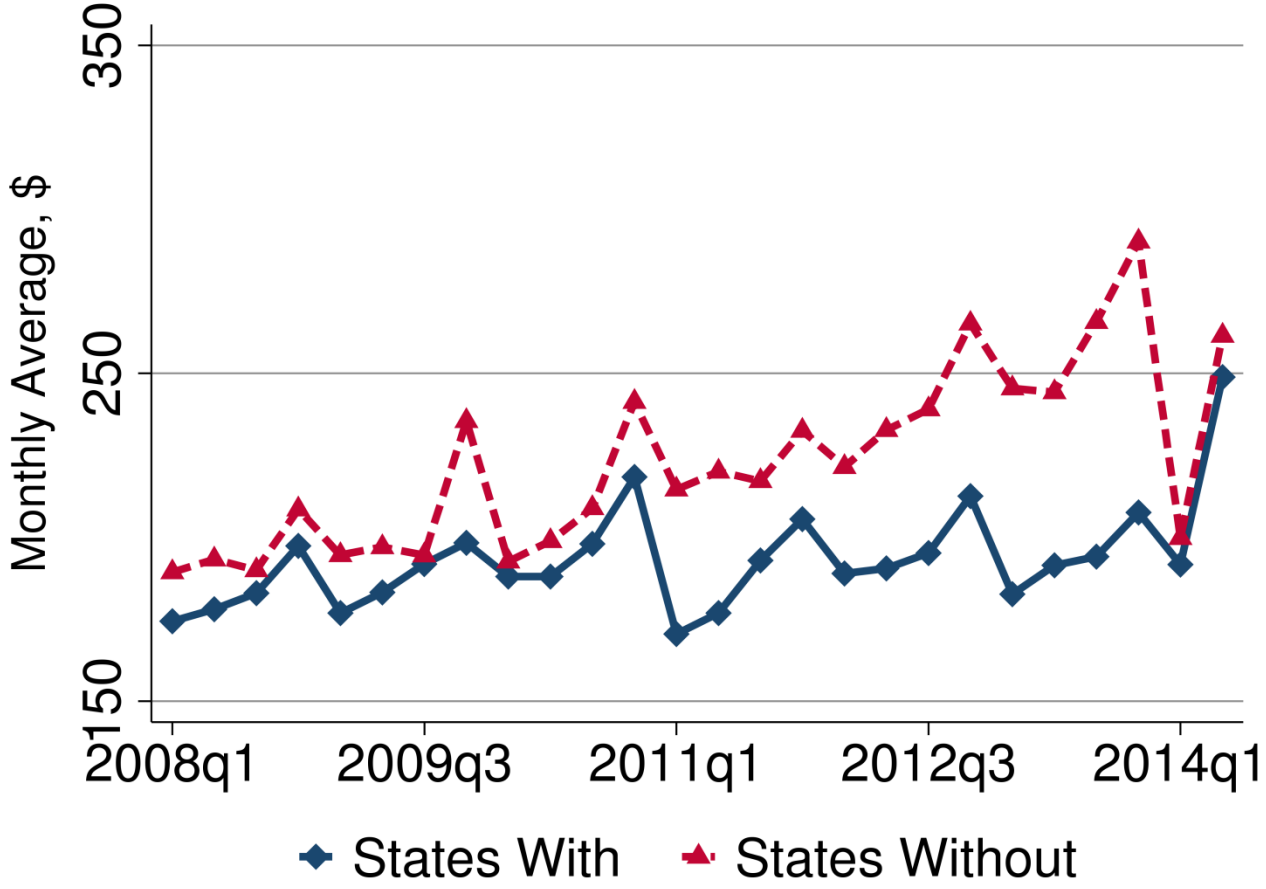


Premium Growth Similar in States with Glitches vs. other states with own state exchanges



Actuaries had to set premiums before glitches happened

Average Cost Growth Much Higher in States with Glitches vs. other states with own state exchanges



Suggests welfare loss from selection of sicker enrollees into the market

Separate Regressions for Each Policy

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Univariate Regression Results		
Direct Enforcement	-24.64	-23.12	-21.61
	[-47.67,-13.14]***	[-41.26,-11.84]***	[-37.92,-10.75]***
State Exchange	22.26	23.49	24.73
	[-15.55,68.16]	[-15.45,63.47]	[-11.33,66.44]
Exchange Glitches	-17.33	-18.07	-18.81
	[-51.77,31.79]	[-50.71,28.03]	[-52.7,26.44]
Medicaid Expansion	7.45	8.32	9.18
	[-16.51,33.21]	[-15.58,32.54]	[-11.38,35.79]
Non-Grandfathered Plans	-18.51	-18.45	-18.39
	[-49.03,8.4]	[-45.22,5.68]	[-47.2,6.37]
Community Rating	10.13	11.85	13.57
	[-22.37,50]	[-20.29,47.85]	[-16.88,49.45]
Guaranteed Issue	9.41	11.45	13.48
	[-29.96,62.94]	[-26.57,60.01]	[-24.55,59.07]
Number of Insurers	-0.52	-0.52	-0.52
	[-1.96,1.83]	[-1.93,1.49]	[-1.83,1.69]

Each cell of the univariate regression results reports the coefficient from a separate regression on each policy variable and a constant (coefficient not reported). See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

*Participants in direct enforcement states worse off by ~$275/year ($23.12*12) at $1500 penalty*
Relative to all other states, results robust to penalty calibration, statistically significant

Regressions Controlling for Multiple Policies

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Multivariate Regression Results		
Direct Enforcement	-22.72	-20.39	-18.07
	[-57.44,-8.74]***	[-50.38,-6.74]***	[-47.43,-5.73]***
State Exchange	46.73	48.67	50.60
	[-2.52,101.03]*	[-0.72,99.50]*	[3.22,98.17]**
Exchange Glitches	-60.45	-62.94	-65.43
	[-129.97,6.39]*	[-123.82,6.73]*	[-125.60,4.63]*
Medicaid Expansion	-13.60	-13.15	-12.70
	[-39.07,11.32]	[-35.55,9.23]	[-35.67,11.21]
Non-Grandfathered Plans	-11.54	-10.62	-9.70
	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
Community Rating	-3.78	-2.68	-1.59
	[-32.14,32.48]	[-28.39,29.07]	[-29.46,27.70]
Guaranteed Issue	1.44	2.87	4.31
	[-38.93,39.35]	[-32.01,39.44]	[-27.49,44.18]
Number of Insurers	-0.31	-0.34	-0.37
	[-2.48,2.22]	[-2.31,2.05]	[-2.28,1.69]
Constant	1.63	-5.81	-13.25
	[-19.79,32.55]	[-28.74,20.73]	[-33.39,12.03]

Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

*Participants in direct enforcement states worse off by ~$245/year ($20.39*12) at $1500 penalty*
Relative to "passive states," similar to impact of ~$275/year not controlling for other policies

Regressions Controlling for Multiple Policies

	Calibrated Annual Penalty ($)		
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	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
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Guaranteed Issue	1.44	2.87	4.31
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Number of Insurers	-0.31	-0.34	-0.37
	[-2.48,2.22]	[-2.31,2.05]	[-2.28,1.69]
Constant	1.63	-5.81	-13.25
	[-19.79,32.55]	[-28.74,20.73]	[-33.39,12.03]

Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

*Participants in states with exchanges (no glitches), better off than participants in "passive" states by ~$425/year ((48.67-13.15)*12)*

Regressions Controlling for Multiple Policies

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Multivariate Regression Results		
Direct Enforcement	-22.72	-20.39	-18.07
	[-57.44,-8.74]***	[-50.38,-6.74]***	[-47.43,-5.73]***
State Exchange	46.73	48.67	50.60
	[-2.52,101.03]*	[-0.72,99.50]*	[3.22,98.17]**
Exchange Glitches	-60.45	-62.94	-65.43
	[-129.97,6.39]*	[-123.82,6.73]*	[-125.60,4.63]*
Medicaid Expansion	-13.60	-13.15	-12.70
	[-39.07,11.32]	[-35.55,9.23]	[-35.67,11.21]
Non-Grandfathered Plans	-11.54	-10.62	-9.70
	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
Community Rating	-3.78	-2.68	-1.59
	[-32.14,32.48]	[-28.39,29.07]	[-29.46,27.70]
Guaranteed Issue	1.44	2.87	4.31
	[-38.93,39.35]	[-32.01,39.44]	[-27.49,44.18]
Number of Insurers	-0.31	-0.34	-0.37
	[-2.48,2.22]	[-2.31,2.05]	[-2.28,1.69]
Constant	1.63	-5.81	-13.25
	[-19.79,32.55]	[-28.74,20.73]	[-33.39,12.03]

Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

*Participants in states with exchanges with glitches worse off than participants in states with state exchanges WITHOUT glitches by states by ~$750/year (62.94*12)*

Other State Policy Decisions Important for ACA Implementation

- Renewal of Non-Grandfathered Plans
  - 27 allowed renewal, remaining 24 did not
  - Healthier people could have remained in these plans
- Community Rating and Guaranteed Issue Regulations
  - Established nationally with ACA
  - Community rating in 19, guaranteed issue in 13
  - Massachusetts had these before reform
  - Could have exacerbated adverse selection pre-ACA
- Number of Insurers in the Market
  - <4 in 11 states, >8 in 17 states
  - Could have helped to keep premiums low and enrollment high

Regressions Controlling for Multiple Policies

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Multivariate Regression Results		
Direct Enforcement	-22.72	-20.39	-18.07
	[-57.44,-8.74]***	[-50.38,-6.74]***	[-47.43,-5.73]***
State Exchange	46.73	48.67	50.60
	[-2.52,101.03]*	[-0.72,99.50]*	[3.22,98.17]**
Exchange Glitches	-60.45	-62.94	-65.43
	[-129.97,6.39]*	[-123.82,6.73]*	[-125.60,4.63]*
Medicaid Expansion	-13.60	-13.15	-12.70
	[-39.07,11.32]	[-35.55,9.23]	[-35.67,11.21]
Non-Grandfathered Plans	-11.54	-10.62	-9.70
	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
Community Rating	-3.78	-2.68	-1.59
	[-32.14,32.48]	[-28.39,29.07]	[-29.46,27.70]
Guaranteed Issue	1.44	2.87	4.31
	[-38.93,39.35]	[-32.01,39.44]	[-27.49,44.18]
Number of Insurers	-0.31	-0.34	-0.37
	[-2.48,2.22]	[-2.31,2.05]	[-2.28,1.69]
Constant	1.63	-5.81	-13.25
	[-19.79,32.55]	[-28.74,20.73]	[-33.39,12.03]

Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

Participants in states that allow non-grandfathered plans worse off by ~$125/year relative to states that do not, not significant, but suggests healthy people kept non-grandfathered plans

Separate Regressions for Each Policy

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Univariate Regression Results		
Direct Enforcement	-24.64	-23.12	-21.61
	[-47.67,-13.14]***	[-41.26,-11.84]***	[-37.92,-10.75]***
State Exchange	22.26	23.49	24.73
	[-15.55,68.16]	[-15.45,63.47]	[-11.33,66.44]
Exchange Glitches	-17.33	-18.07	-18.81
	[-51.77,31.79]	[-50.71,28.03]	[-52.7,26.44]
Medicaid Expansion	7.45	8.32	9.18
	[-16.51,33.21]	[-15.58,32.54]	[-11.38,35.79]
Non-Grandfathered Plans	-18.51	-18.45	-18.39
	[-49.03,8.4]	[-45.22,5.68]	[-47.2,6.37]
Community Rating	10.13	11.85	13.57
	[-22.37,50]	[-20.29,47.85]	[-16.88,49.45]
Guaranteed Issue	9.41	11.45	13.48
	[-29.96,62.94]	[-26.57,60.01]	[-24.55,59.07]
Number of Insurers	-0.52	-0.52	-0.52
	[-1.96,1.83]	[-1.93,1.49]	[-1.83,1.69]

Each cell of the univariate regression results reports the coefficient from a separate regression on each policy variable and a constant (coefficient not reported). See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

Community rating and guaranteed issue appear to exacerbate pre-reform adverse selection in results that do not control for other policies (though not statistically significant)

Regressions Controlling for Multiple Policies

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Multivariate Regression Results		
Direct Enforcement	-22.72	-20.39	-18.07
	[-57.44,-8.74]***	[-50.38,-6.74]***	[-47.43,-5.73]***
State Exchange	46.73	48.67	50.60
	[-2.52,101.03]*	[-0.72,99.50]*	[3.22,98.17]**
Exchange Glitches	-60.45	-62.94	-65.43
	[-129.97,6.39]*	[-123.82,6.73]*	[-125.60,4.63]*
Medicaid Expansion	-13.60	-13.15	-12.70
	[-39.07,11.32]	[-35.55,9.23]	[-35.67,11.21]
Non-Grandfathered Plans	-11.54	-10.62	-9.70
	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
Community Rating	-3.78	-2.68	-1.59
	[-32.14,32.48]	[-28.39,29.07]	[-29.46,27.70]
Guaranteed Issue	1.44	2.87	4.31
	[-38.93,39.35]	[-32.01,39.44]	[-27.49,44.18]
Number of Insurers	-0.31	-0.34	-0.37
	[-2.48,2.22]	[-2.31,2.05]	[-2.28,1.69]
Constant	1.63	-5.81	-13.25
	[-19.79,32.55]	[-28.74,20.73]	[-33.39,12.03]

Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

Community rating and guaranteed issue small and not significant, controlling for other policies
Sign on community rating reverses

Regressions Controlling for Multiple Policies

	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Multivariate Regression Results		
Direct Enforcement	-22.72	-20.39	-18.07
	[-57.44,-8.74]***	[-50.38,-6.74]***	[-47.43,-5.73]***
State Exchange	46.73	48.67	50.60
	[-2.52,101.03]*	[-0.72,99.50]*	[3.22,98.17]**
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	[-39.07,11.32]	[-35.55,9.23]	[-35.67,11.21]
Non-Grandfathered Plans	-11.54	-10.62	-9.70
	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
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Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

Sign suggests participants in markets that started out with more insurers worse off
*Participants worse off by ~$40 per year for each additional 10 insurers (.34*10*12)*

Approach

- Model of Welfare Impact Within & Across States
  - Based on Hackmann, Kolstad, and Kowalski (2014)
- Data
- Illustration With a Single State
- Comparison Across States
- **Outlook for The Future**

Outlook for the Future
Pause for a Look to the Past

My Previous Work on Massachusetts Reform

- Hackmann, Martin, Jonathan Kolstad, and Amanda Kowalski. "Adverse Selection and an Individual Mandate: When Theory Meets Practice." NBER Working Paper #19149, 2013. Forthcoming, *American Economic Review*
- Hackmann, Martin, Jonathan Kolstad, and Amanda Kowalski. "Health Reform, Health Insurance, and Selection: Estimating Selection into Health Insurance Using the Massachusetts Health Reform." *American Economic Review (Papers and Proceedings)*. May 2012.
- Kolstad, Jonathan and Amanda Kowalski. "The Impact of Health Care Reform on Hospital and Preventive Care: Evidence from Massachusetts." *Journal of Public Economics.* December 2012. Vol. 96: 909-929.
- Kolstad, Jonathan and Amanda Kowalski. "Mandate-Based Health Reform and the Labor Market: Evidence from Massachusetts." NBER Working Paper #17933, 2012. (newer version on our websites)

Massachusetts saw adverse selection and decreases in markups, but most states have seen advantageous selection and increases in markups

Potential explanation: subsidized coverage was separate in Massachusetts

Massachusetts itself made changes to exchange in 2014, resulting in anomalous coverage decreases

Outlook for the Future

- Enrollment unlikely to change in short term (open season ended in March)
- Newly-insured might pay premiums first and use coverage with a lag, so markups could go down over time
- Comparison across states should be more robust than comparison within states
  - Direct enforcement states worse off than passive states
  - Exchanges with glitches worse off than no glitches
- Other comparisons across states could sharpen over time
  - Non-grandfathered plans, community rating, guaranteed issue, number of insurers

Extra Slides

	Coverage (Monthly Average, Thousands of Persons)		Premium (Monthly Average, $)		Average Cost (Monthly Average $)		Adverse Select-ion?	Markup Inc-rease?	Exchange Enrollment as % of Post Enrollment	Post Enrollment as % Percent of Population
	$I^{*,pre}$	$I^{*,post}$	$P^{*,pre}$	$P^{*,post}$	$AC^{*,pre}$	$AC^{*,post}$				
AK	10	65	387	346	242	187	1	1	16	10.8
AL	183	174	185	278	159	218	1	1	50	4.0
AR	100	193	179	271	145	181	0	1	19	7.7
AZ	128	179	234	254	183	192	0	1	59	3.1
CA*	871	226	218	243	175	256	1	0	792	0.5
CO	218	257	220	260	184	195	0	1	44	5.4
CT	58	100	335	403	285	250	1	1	66	3.3
DC	13	29	285	291	304	251	1	1	30	5.5
DE	14	21	368	346	265	279	0	0	53	2.9
FL	849	1,204	196	272	157	189	0	1	65	7.8
GA	411	557	188	261	150	167	0	1	48	6.5
HI	33	28	236	242	220	230	1	0	44	1.4
IA	140	180	241	265	206	236	0	0	14	6.7
ID	93	110	202	242	156	200	0	0	60	7.8
IL	330	524	260	326	221	267	0	1	36	4.7
IN	97	225	277	364	222	241	0	1	50	4.0
KS	79	139	153	200	117	166	0	0	37	5.3
KY	140	193	251	290	254	205	1	1	43	4.4
LA	164	227	243	292	174	198	0	1	39	5.6
MA*	326	210	438	479	400	413	1	1	16	3.0
MD	122	236	221	224	175	164	1	1	24	4.8
ME	17	45	413	411	410	247	1	1	78	4.3
MI	246	375	214	281	202	204	0	1	62	4.5
MN	218	274	230	256	192	259	0	0	17	5.3
MO	212	223	223	266	160	201	0	1	64	3.9
MS	49	69	216	265	166	177	0	1	84	2.4
MT	11	21	226	415	224	295	0	1	69	5.2
NC	395	554	240	310	203	212	0	1	56	6.5
ND	43	46	284	310	272	269	1	1	23	6.5
NE	79	89	253	277	208	233	0	0	50	4.6
NH	31	39	333	341	200	192	1	1	71	4.3
NJ*	28	79	530	331	550	298	1	1	190	1.0
NM	63	69	195	318	188	243	0	1	37	4.1
NV	50	106	222	209	187	163	1	1	40	4.1
NY	212	303	354	371	350	238	1	1	101	1.9
OH	289	301	213	280	149	207	0	1	46	2.9
OK	87	135	191	263	156	205	0	1	42	4.3
OR	150	199	235	290	200	271	0	0	30	5.7
PA	484	632	231	284	229	266	0	1	43	5.7
RI	17	32	367	363	315	283	1	1	74	3.7
SC	86	143	224	285	169	180	0	1	68	3.6
SD	63	72	249	274	215	250	0	0	17	9.0
TN	213	270	203	244	165	190	0	1	50	4.7
TX	737	1,037	167	243	153	187	0	1	61	4.5
UT	121	193	179	228	140	175	0	1	41	7.1
VA	278	343	254	280	198	203	0	1	55	4.7
VT	23	27	403	404	379	360	1	1	132	4.6
WA	284	237	285	337	218	259	1	1	69	3.4
WI	109	393	219	225	181	175	1	1	24	10.3
WV	15	27	271	378	270	306	0	1	58	1.9
WY	14	21	329	389	239	286	0	1	49	4.2

*States with data anomalies omitted from state-level welfare regression analysis. MA is also omitted.

Source: Author's calculations from SNL with exchange enrollment from ASPE and population from Census. Post values are averages from 2014Q1 and 2014Q2, weighted by average monthly enrollment. Pre values are an estimate of what the post value would have been absent the implementation of the ACA. They are obtained by estimating a seasonally-adjusted trend regression for each series from 2008Q1 to 2014Q2, omitting 2013Q4 and allowing for a separate intercept for 2014. The pre value reflects the post value minus the 2014 intercept. See text for more details.

	Direct Enforce-ment	State Exchange	Exchange Glitches	Medicaid Expansion	Non-Grand-fathered Plans	Com-munity Rating	Guranteed Issue	Number of Insurers
AK	0	0	0	0	0	0	0	3
AL	1	0	0	0	1	0	0	1
AR	0	0	0	1	0	0	0	4
AZ	0	0	0	1	0	0	0	6
CA*	0	1	0	1	0	0	0	1
CO	0	1	0	1	0	0	0	13
CT	0	1	0	1	0	0	0	5
DC	0	1	0	1	0	1	0	7
DE	0	0	0	1	0	0	0	4
FL	0	0	0	0	1	0	0	18
GA	0	0	0	0	1	0	0	12
HI	0	1	1	1	1	0	0	3
IA	0	0	0	1	1	1	0	4
ID	0	0	0	0	1	1	1	6
IL	0	0	0	1	1	0	0	9
IN	0	0	0	0	0	0	0	5
KS	0	0	0	0	1	0	0	7
KY	0	1	0	1	1	1	0	7
LA	0	0	0	0	1	1	0	6
MA*	0	1	1	1	0	1	1	12
MD	0	1	1	1	0	0	0	8
ME	0	0	0	0	1	1	1	5
MI	0	0	0	1	1	0	1	23
MN	0	1	1	1	0	1	0	9
MO	1	0	0	0	1	0	0	11
MS	0	0	0	0	0	0	0	2
MT	0	0	0	0	1	0	0	2
NC	0	0	0	0	1	0	0	5
ND	0	0	0	1	1	1	0	4
NE	0	0	0	0	0	0	0	5
NH	0	0	0	1	1	1	0	3
NJ*	0	0	0	1	1	1	1	8
NM	0	0	0	1	0	1	0	3
NV	0	1	1	1	0	1	0	9
NY	0	1	0	1	0	1	1	17
OH	0	0	0	1	1	0	1	15
OK	1	0	0	0	0	0	0	8
OR	0	1	1	1	0	1	1	9
PA	0	0	0	0	1	0	0	22
RI	0	1	0	1	0	0	1	2
SC	0	0	0	0	1	0	0	6
SD	0	0	0	0	1	1	0	6
TN	0	0	0	0	1	0	0	5
TX	1	0	0	0	1	0	0	18
UT	0	0	0	0	1	1	1	6
VA	0	0	0	0	0	0	0	10
VT	0	1	0	1	0	1	1	3
WA	0	1	0	1	0	1	1	11
WI	0	0	0	0	1	0	0	15
WV	0	0	0	1	0	0	1	4
WY	1	0	0	0	1	0	0	3

*States with data anomalies omitted from state-level welfare regression analysis. MA is also omitted.
Source: Various, see text for more details.

	Calibrated Annual Penalty ($) 12π = 1,000			Calibrated Annual Penalty ($) 12π = 1,500			Calibrated Annual Penalty ($) 12π = 2,000		
	Full Monthly Welfare Change Per Enrollee ($)	Monthly Welfare Change from Selection Per Enrollee ($)	Optimal Annual Penalty ($)	Full Monthly Welfare Change Per Enrollee ($)	Monthly Welfare Change from Selection Per Enrollee ($)	Optimal Annual Penalty ($)	Full Monthly Welfare Change Per Enrollee ($)	Monthly Welfare Change from Selection Per Enrollee ($)	Optimal Annual Penalty ($)
	$W_{full}/\ I^{*,post}$	$W_{sel}/\ I^{*,post}$	$12\pi^{*}$	$W_{full}/\ I^{*,post}$	$W_{sel}/\ I^{*,post}$	$12\pi^{*}$	$W_{full}/\ I^{*,post}$	$W_{sel}/\ I^{*,post}$	$12\pi^{*}$
AK	125	147	8,727	107	117	3,824	90	94	3,067
AL	-61	-100	7,015	-60	-80	9,221	-59	-72	10,468
AR	-18	-145	644	-28	-86	633	-38	-83	628
AZ	-3	-6	438	-9	-12	451	-15	-18	457
CA*	-119	-147	479	-60	-122	586	-1	-82	663
CO	-9	-17	108	-12	-19	89	-15	-21	81
CT	53	-35	1,574	44	338	890	35	68	3,882
DC	21	150	492	10	13	2,313	-2	-15	1,291
DE	3	7	389	-4	2	411	-11	-3	425
FL	-22	-70	260	-28	-57	184	-35	-58	148
GA	-9	-62	590	-14	-42	567	-20	-42	558
HI	-6	-6	799	-2	-2	828	2	2	843
IA	-29	-26	-714	-33	-31	-771	-38	-36	-804
ID	-40	-37	-1,525	-43	-41	-1,702	-46	-45	-1,810
IL	-34	-55	-22	-42	-57	-77	-50	-63	-108
IN	13	-179	1,031	1	-55	1,181	-11	-58	1,224
KS	-41	-39	-241	-50	-48	-270	-59	-58	-287
KY	42	-41	1,177	36	134	-145	31	55	5,085
LA	-10	-21	356	-16	-25	363	-21	-30	366
MA*	-23	-20	1,067	-11	-3	1,132	0	11	1,162
MD	14	13	976	3	1	925	-7	-10	904
ME	139	-12	2,339	126	-17	2,159	113	41,581	1,887
MI	0	-62	893	-7	-41	898	-14	-43	899
MN	-65	-39	-2,216	-70	-48	-2,383	-74	-55	-2,500
MO	-38	-40	-5,407	-39	-40	-6,108	-40	-41	-6,523
MS	-2	-15	666	-8	-20	688	-14	-25	697
MT	-44	28	1,878	-54	-7,813	1,350	-64	-466	1,066
NC	-1	-49	841	-7	-33	868	-13	-35	875
ND	2	2	1,084	1	0	1,066	-1	-2	1,059
NE	-24	-23	-1,536	-26	-26	-1,664	-28	-28	-1,736
NH	29	34	2,429	25	26	2,313	20	20	2,265
NJ*	149	754	441	135	309	157	122	209	-121
NM	-53	-364	-561	-55	-134	-2,385	-57	-104	-3,224
NV	17	18	1,162	7	5	1,003	-4	-7	945
NY	104	-67	2,472	97	-91	1,658	91	574	493
OH	-55	-63	-8,781	-56	-61	-10,451	-57	-61	-11,472
OK	-38	-64	-73	-46	-64	-153	-53	-69	-199
OR	-66	-52	-1,467	-71	-60	-1,645	-76	-67	-1,765
PA	-40	-53	-716	-45	-54	-859	-50	-58	-939
RI	36	50	2,755	26	27	1,869	16	13	1,673
SC	6	-18	937	-2	-23	993	-10	-30	1,013
SD	-34	-30	-2,094	-36	-33	-2,278	-39	-36	-2,389
TN	-22	-29	-308	-26	-32	-365	-30	-36	-394
TX	-31	-85	38	-37	-69	-98	-43	-68	-163
UT	-27	-37	6	-35	-43	-17	-42	-50	-30
VA	0	-2	654	-4	-7	665	-7	-11	671
VT	16	20	2,484	13	14	2,167	10	10	2,056
WA	-52	-58	2,553	-48	-51	2,925	-44	-45	3,141
WI	6	2	683	-9	-15	665	-24	-31	658
WV	-31	-607	713	-40	-153	534	-49	-124	468
WY	-19	-27	201	-27	-33	211	-34	-40	216

*States with data anomalies omitted from state-level welfare regression analysis. MA is also omitted.

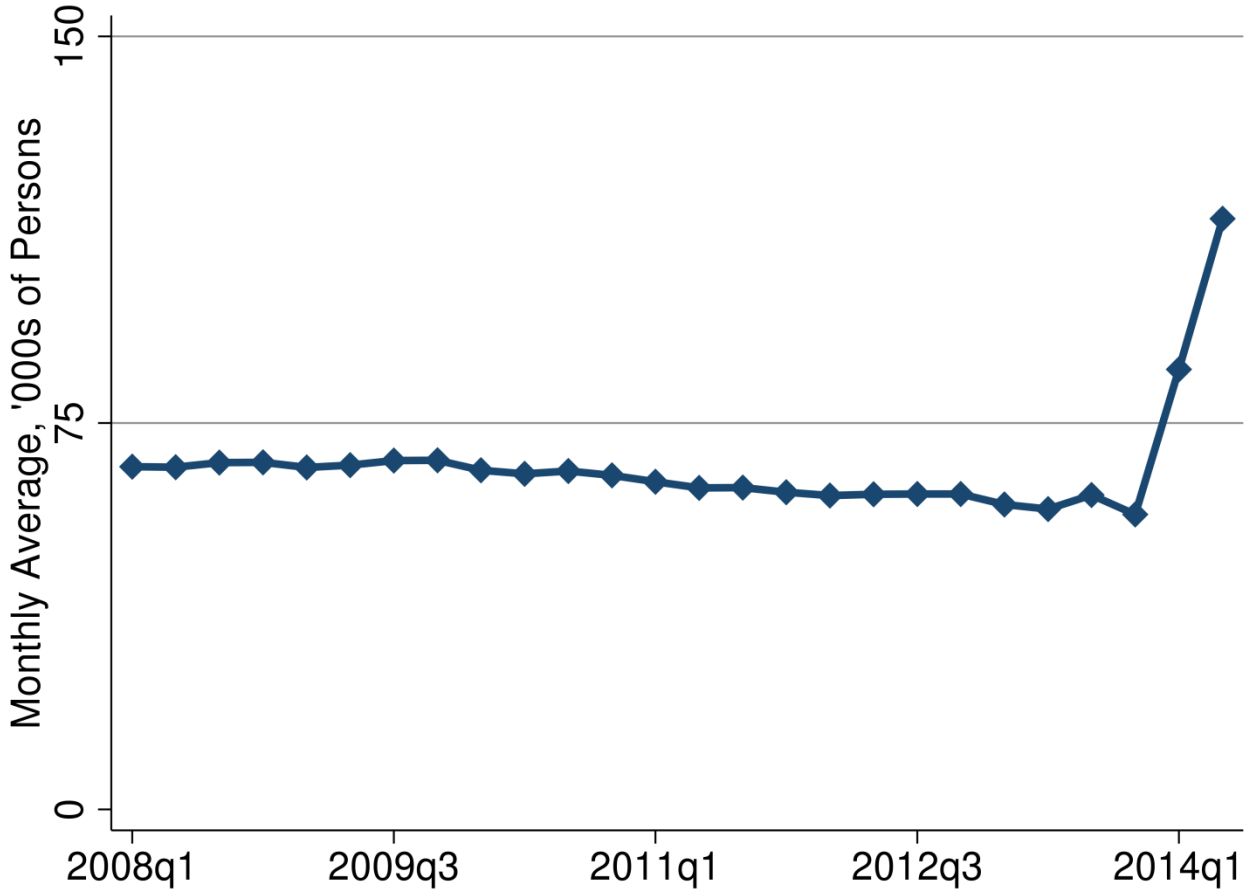
	Calibrated Annual Penalty ($)		
	12π = 1000	**12π = 1500**	**12π = 2000**
	Univariate Regression Results		
Direct Enforcement	-24.64	-23.12	-21.61
	[-47.67,-13.14]***	[-41.26,-11.84]***	[-37.92,-10.75]***
State Exchange	22.26	23.49	24.73
	[-15.55,68.16]	[-15.45,63.47]	[-11.33,66.44]
Exchange Glitches	-17.33	-18.07	-18.81
	[-51.77,31.79]	[-50.71,28.03]	[-52.7,26.44]
Medicaid Expansion	7.45	8.32	9.18
	[-16.51,33.21]	[-15.58,32.54]	[-11.38,35.79]
Non-Grandfathered Plans	-18.51	-18.45	-18.39
	[-49.03,8.4]	[-45.22,5.68]	[-47.2,6.37]
Community Rating	10.13	11.85	13.57
	[-22.37,50]	[-20.29,47.85]	[-16.88,49.45]
Guaranteed Issue	9.41	11.45	13.48
	[-29.96,62.94]	[-26.57,60.01]	[-24.55,59.07]
Number of Insurers	-0.52	-0.52	-0.52
	[-1.96,1.83]	[-1.93,1.49]	[-1.83,1.69]
	Multivariate Regression Results		
Direct Enforcement	-22.72	-20.39	-18.07
	[-57.44,-8.74]***	[-50.38,-6.74]***	[-47.43,-5.73]***
State Exchange	46.73	48.67	50.60
	[-2.52,101.03]*	[-0.72,99.50]*	[3.22,98.17]**
Exchange Glitches	-60.45	-62.94	-65.43
	[-129.97,6.39]*	[-123.82,6.73]*	[-125.60,4.63]*
Medicaid Expansion	-13.60	-13.15	-12.70
	[-39.07,11.32]	[-35.55,9.23]	[-35.67,11.21]
Non-Grandfathered Plans	-11.54	-10.62	-9.70
	[-37.12,13.59]	[-33.11,13.44]	[-29.74,16.35]
Community Rating	-3.78	-2.68	-1.59
	[-32.14,32.48]	[-28.39,29.07]	[-29.46,27.70]
Guaranteed Issue	1.44	2.87	4.31
	[-38.93,39.35]	[-32.01,39.44]	[-27.49,44.18]
Number of Insurers	-0.31	-0.34	-0.37
	[-2.48,2.22]	[-2.31,2.05]	[-2.28,1.69]
Constant	1.63	-5.81	-13.25
	[-19.79,32.55]	[-28.74,20.73]	[-33.39,12.03]

Each column of the multivariate regression results reports all coefficients from a single state-level regression of the welfare impact of the ACA for a given calibrated annual penalty on state policy variables and a constant. Each cell of the univariate regression results reports the coefficient from a separate regression on each policy variable and a constant (coefficient not reported). See text for more details.

*, **, *** indicate significance at the 10%, 5%, 1% levels, respectively, block-bootstrapped by state.

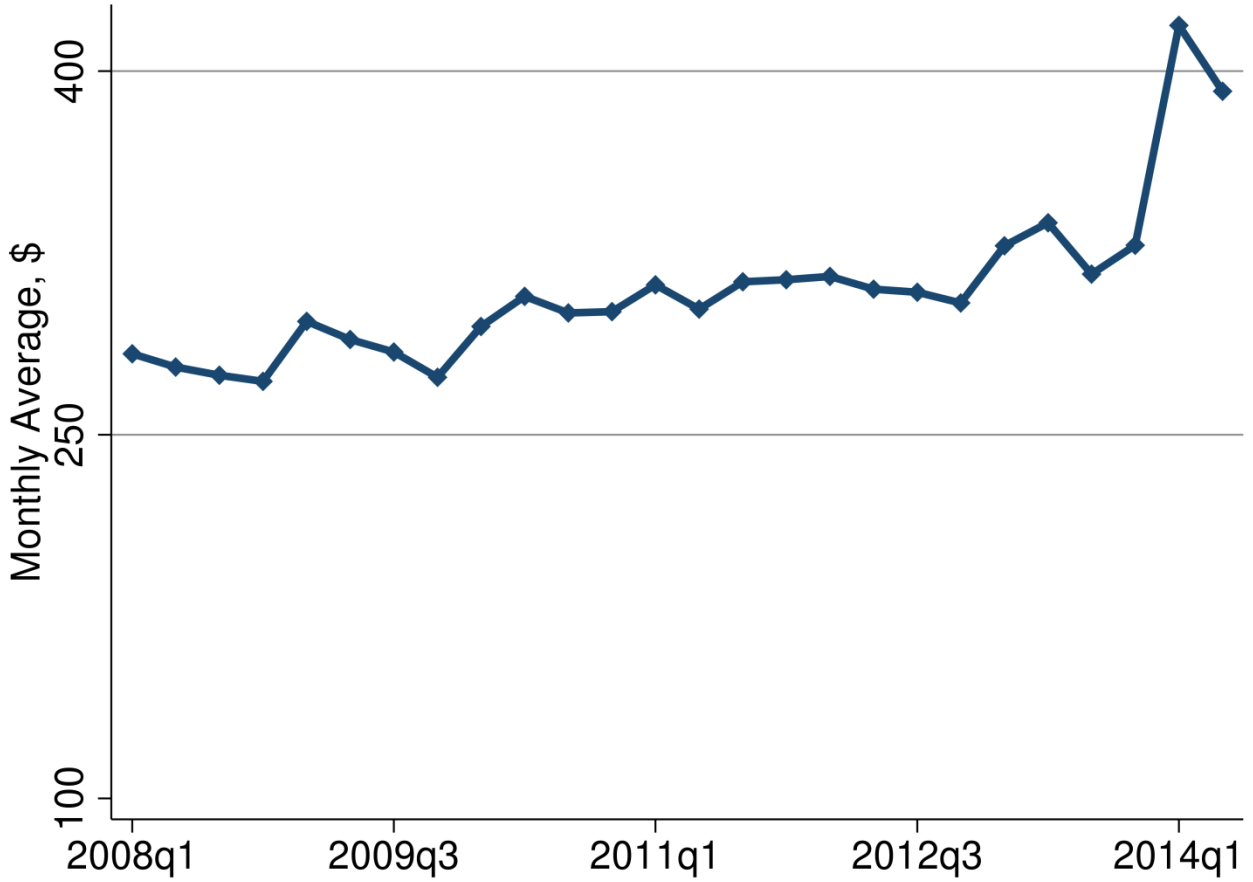
Connecticut Coverage Increased in 2014

By 42,000 monthly relative to seasonally-adjusted trend



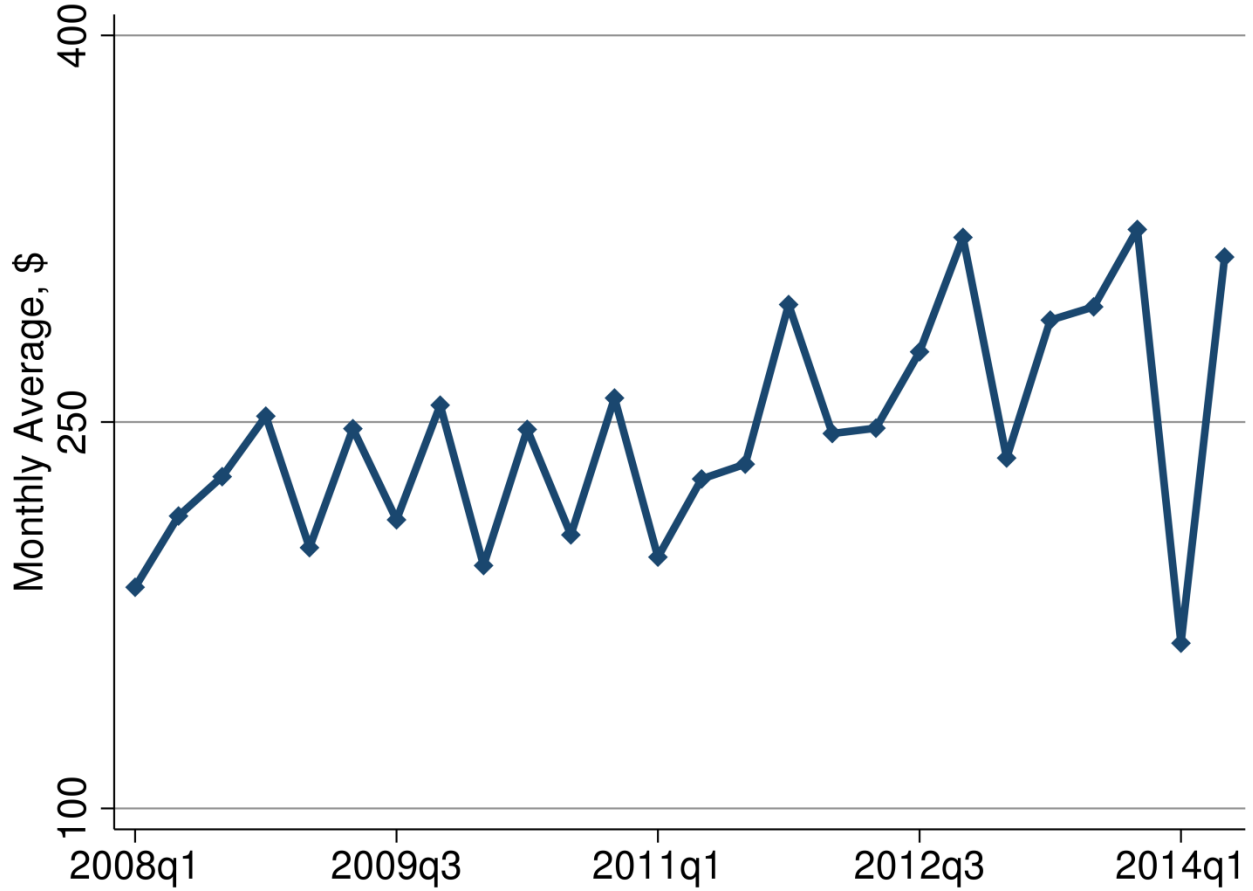
Connecticut Premiums Increased in 2014

By $68 per month relative to seasonally-adjusted trend



Connecticut Average Cost Decreased in 2014

By $35 per month relative to seasonally-adjusted trend

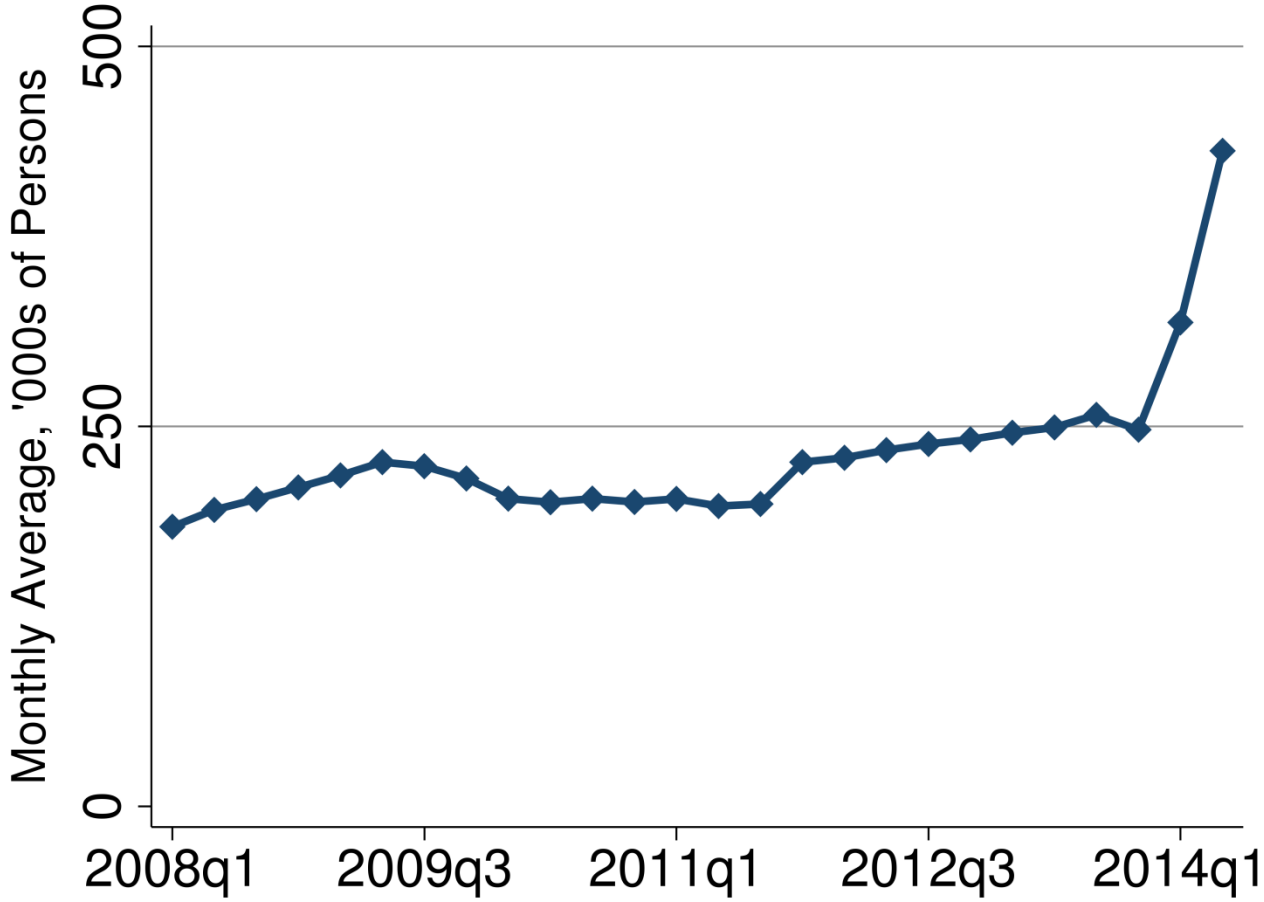


Decrease in average cost suggests welfare gains from reductions in adverse selection
Increase in markups (premiums minus costs) suggests welfare losses from increased markups
Model shows gain of $530 per year per market participant (gains from selection outweigh losses from markups), optimal penalty $890 (higher than calibrated $1,500)

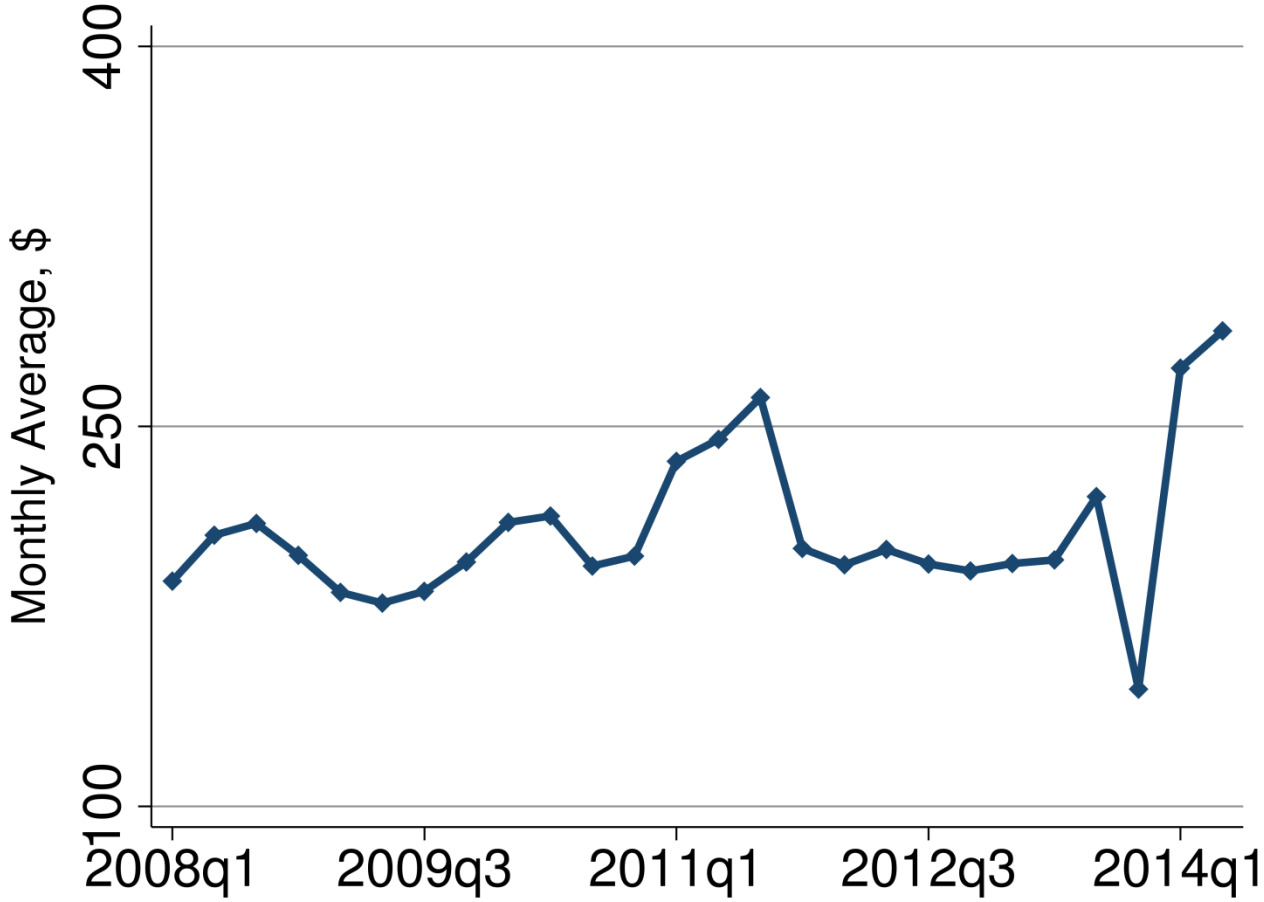
How Representative was the Connecticut Experience?

- Coverage increased in nearly all states
- Adverse selection in 19 states (average cost decrease with increased coverage), advantageous selection in all others
- Markups (premiums minus costs) increased in all *but* 10 states

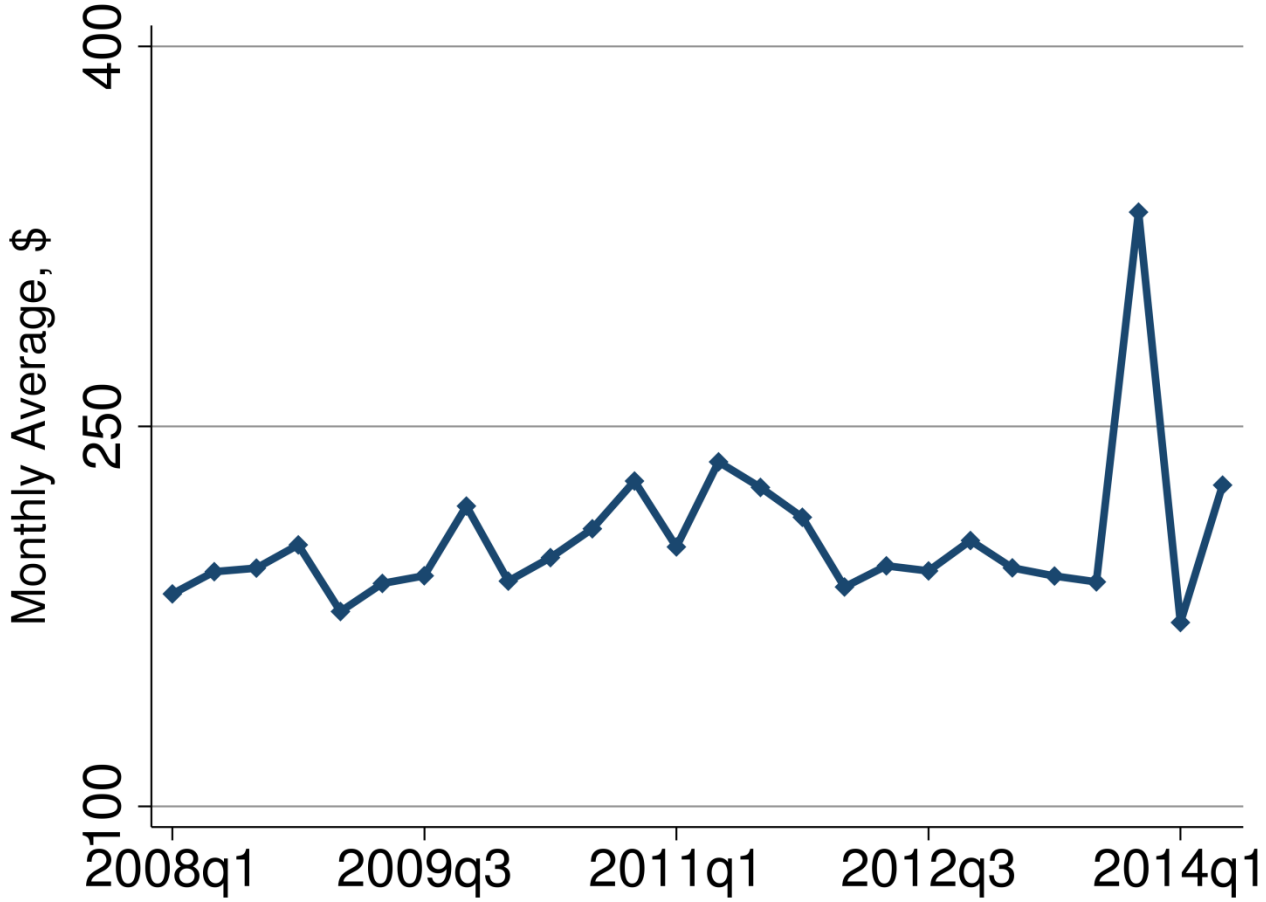
Michigan - Coverage



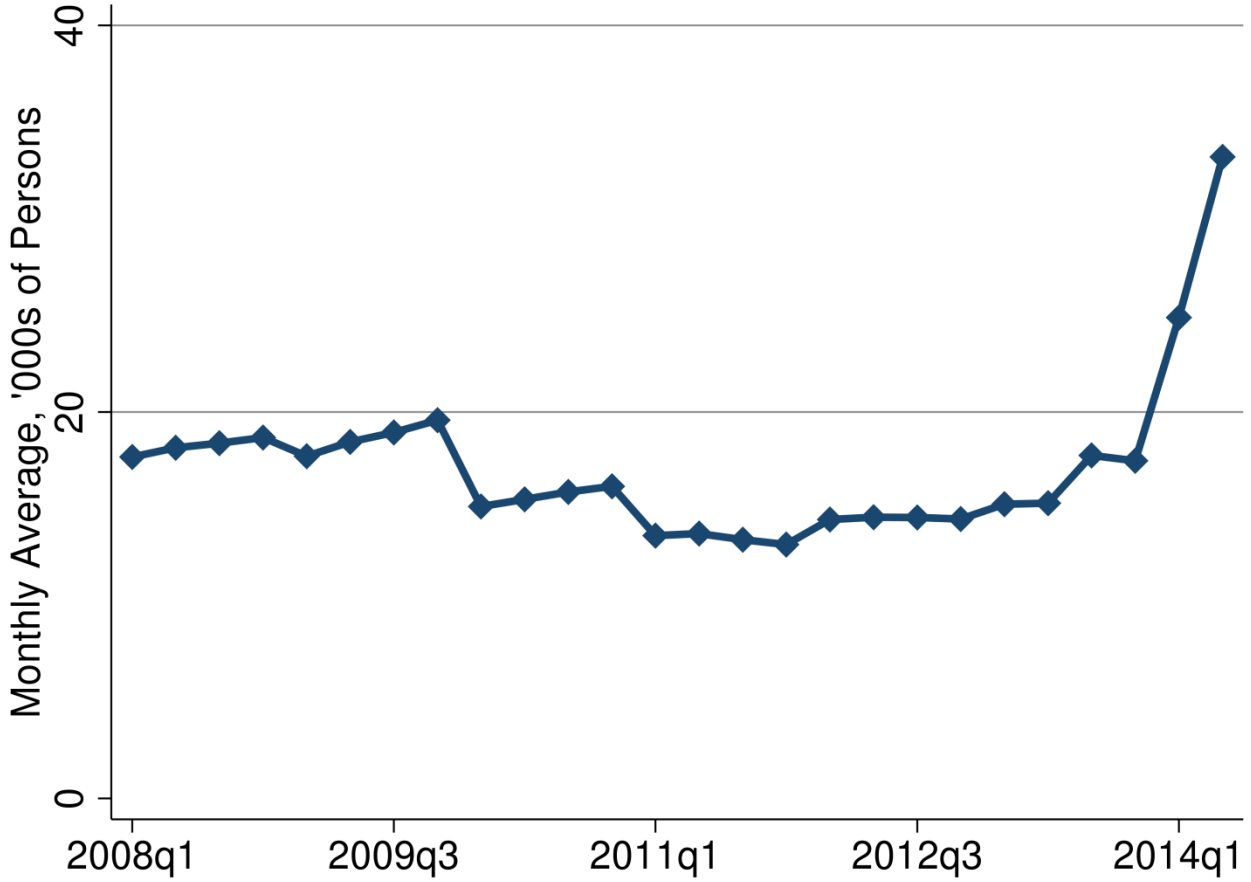
Michigan - Premium



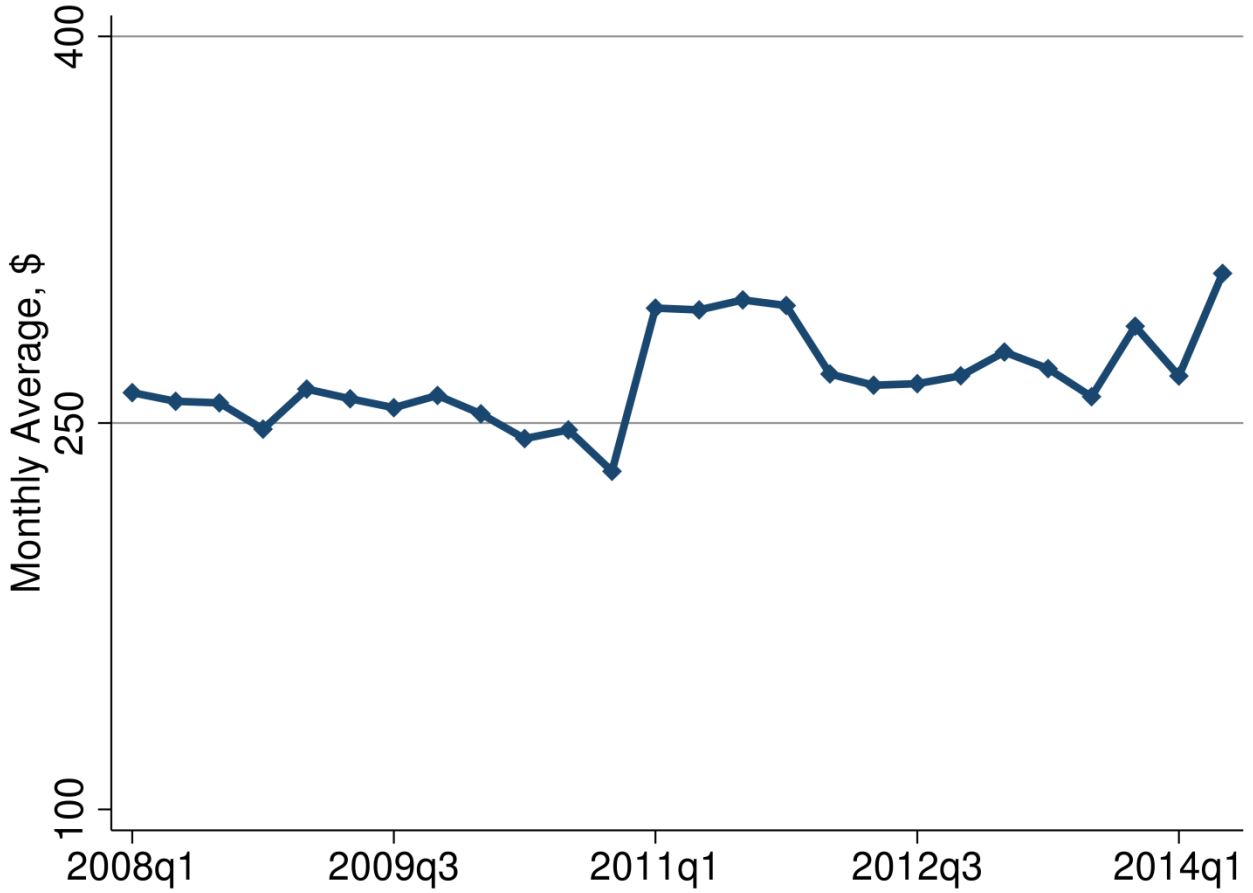
Michigan – Average Cost



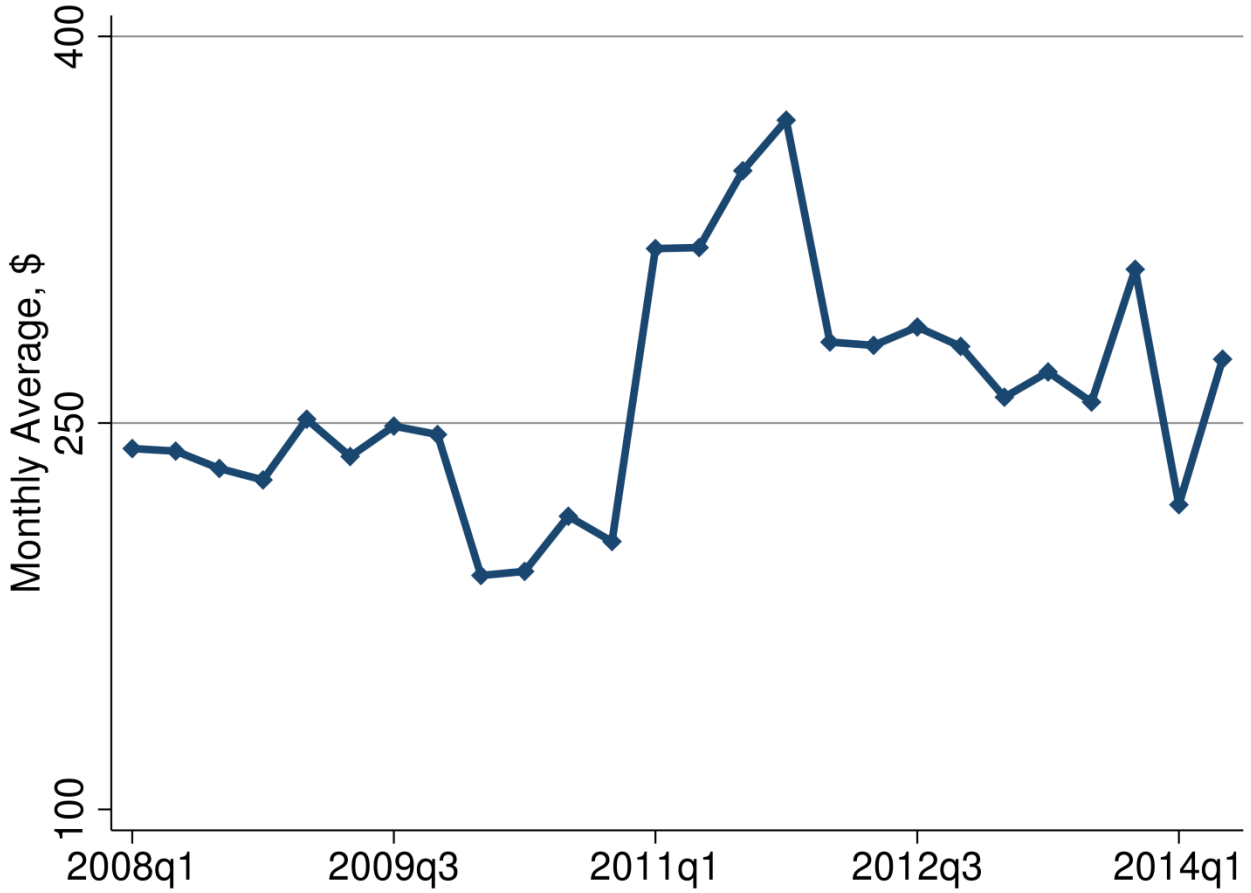
District of Columbia - Coverage



District of Columbia - Premium

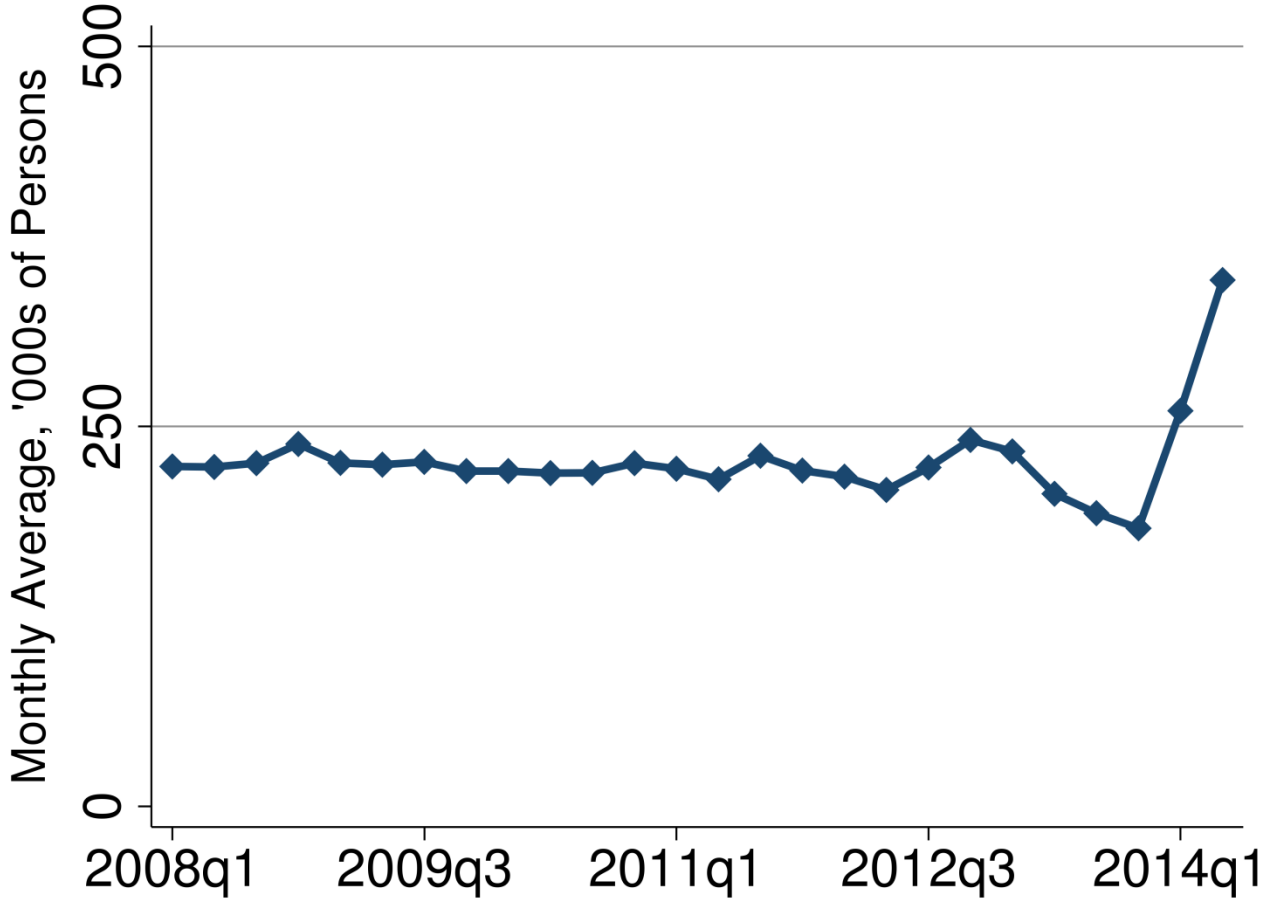


District of Columbia – Average Cost



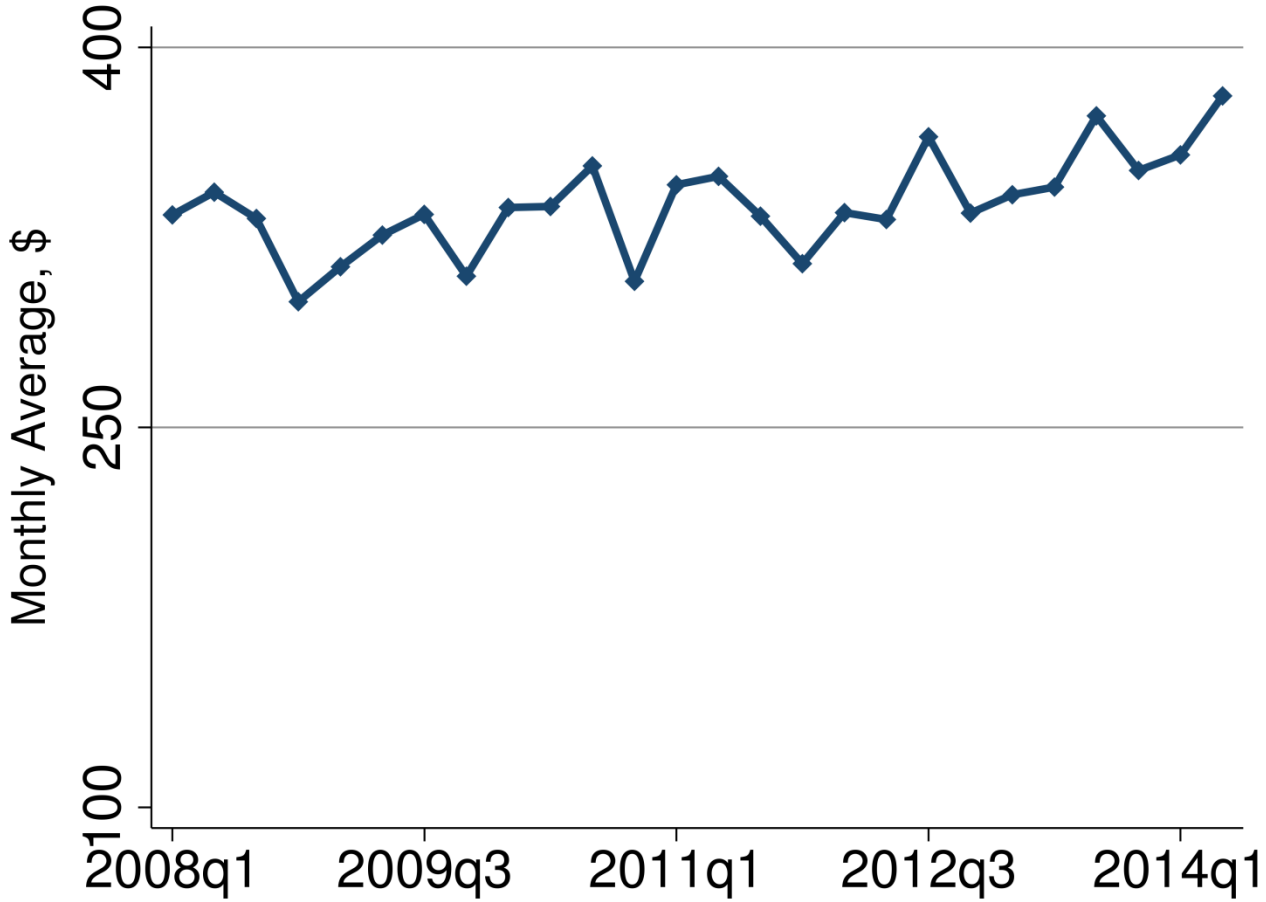
New York Coverage Increased in 2014

By 91,000 monthly relative to seasonally-adjusted trend



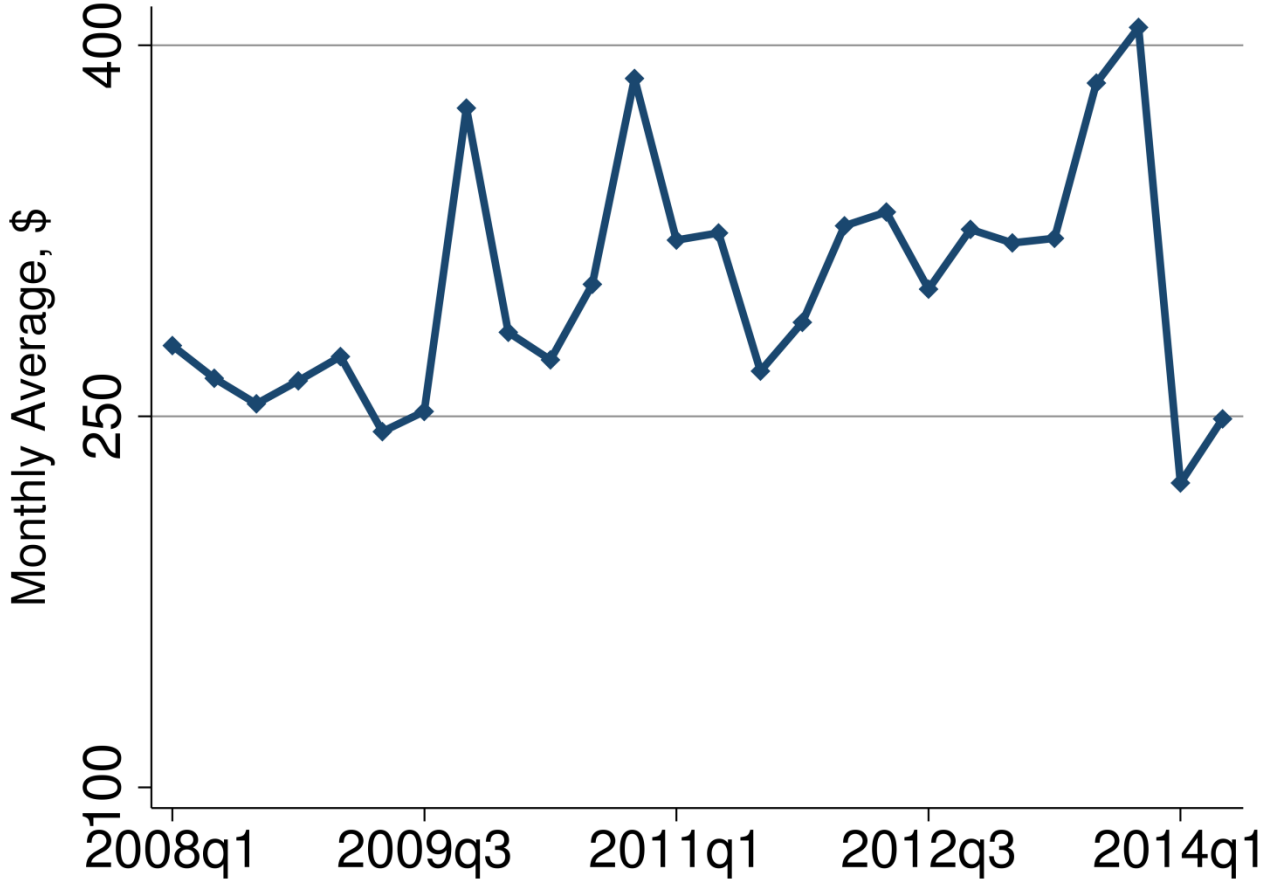
New York Premiums Increased in 2014

By $16 per month relative to seasonally-adjusted trend



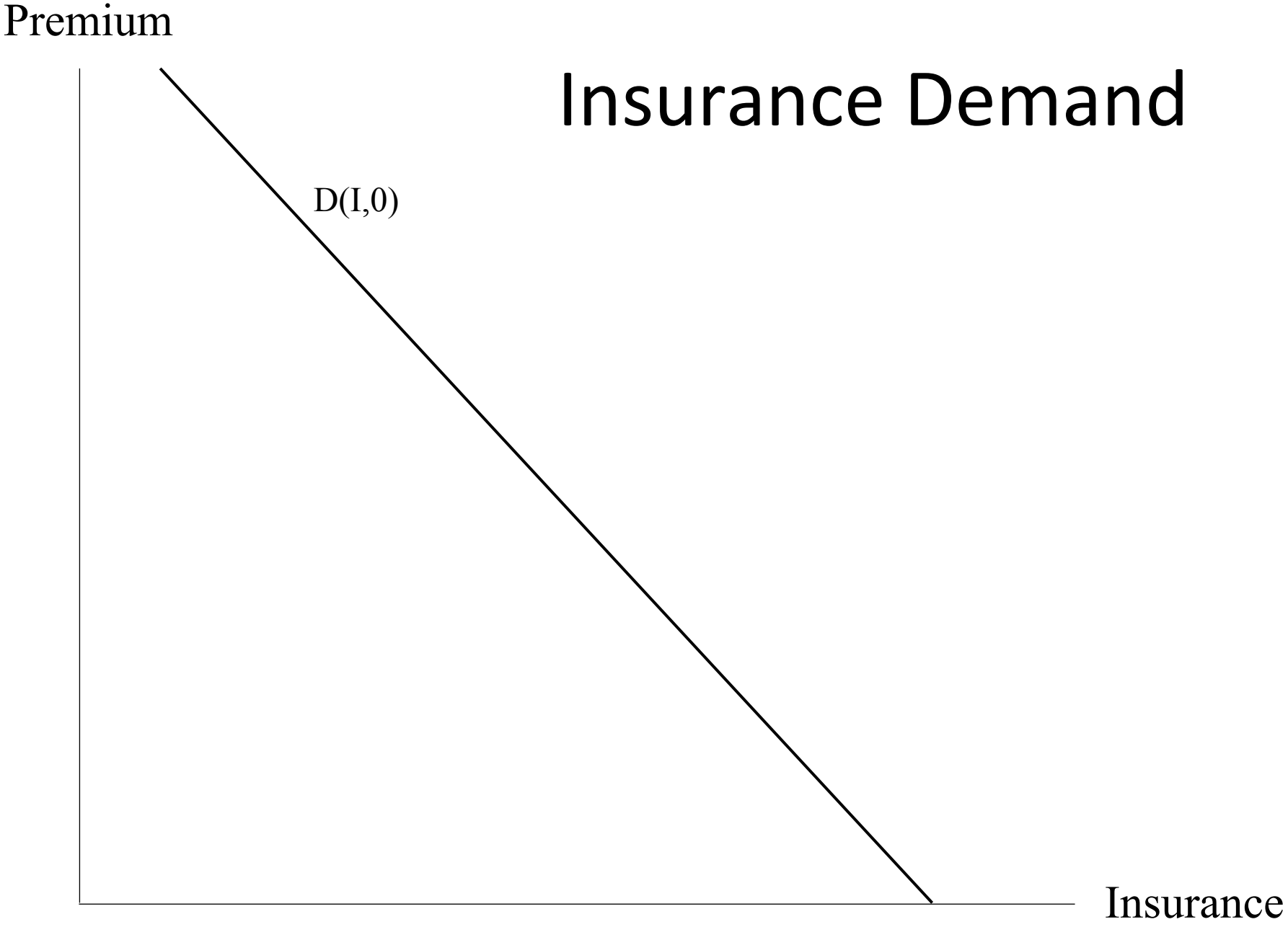
New York Average Cost Decreased in 2014

By $113 per month relative to seasonally-adjusted trend

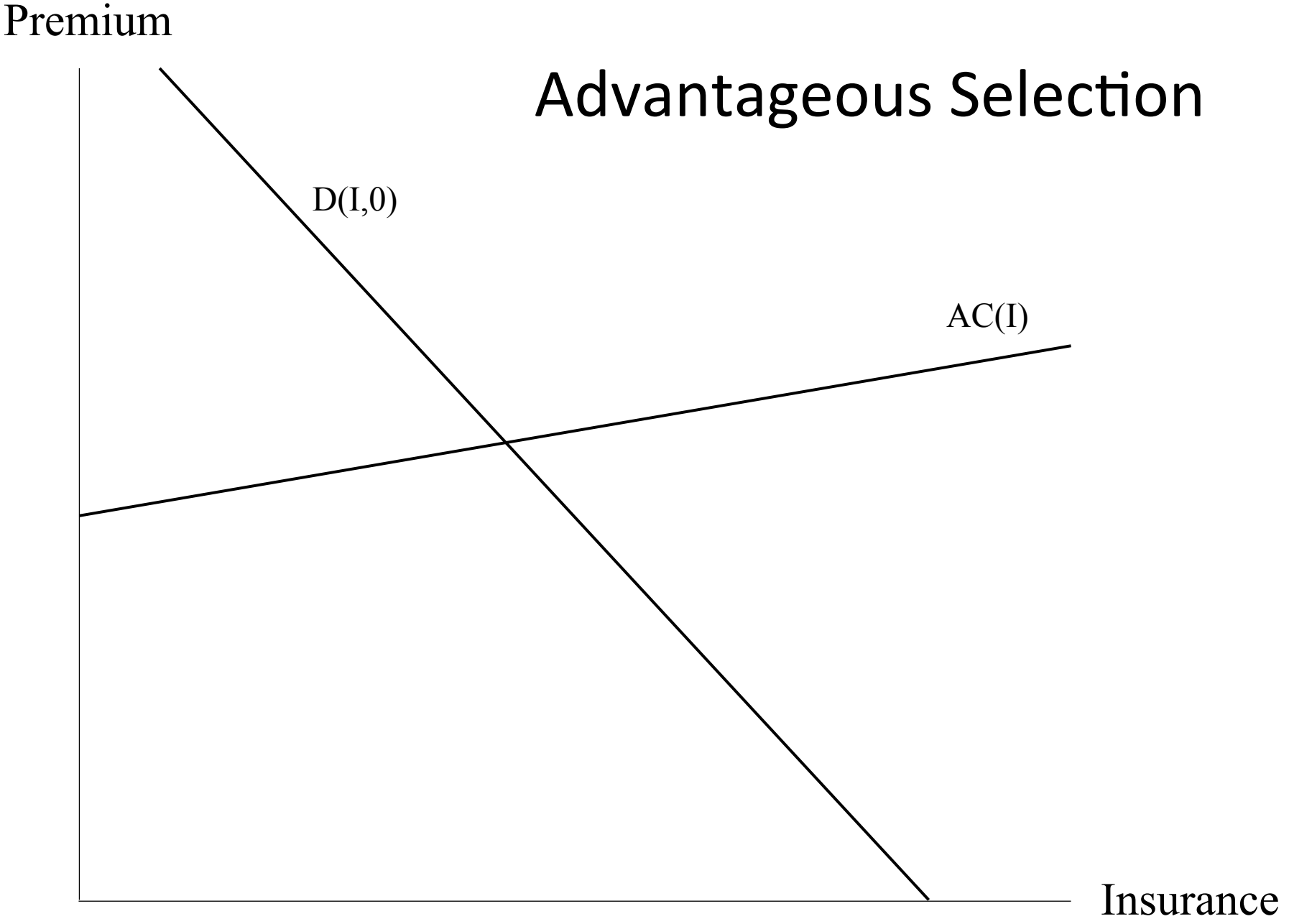


Decrease in average cost suggests welfare gains from reductions in adverse selection
Increase in markups (premiums minus costs) suggests welfare losses from increased markups
Model shows gain of $1,164 per year per market participant (gains from selection outweigh losses from markups), optimal penalty $1,658 (higher than calibrated $1,500)

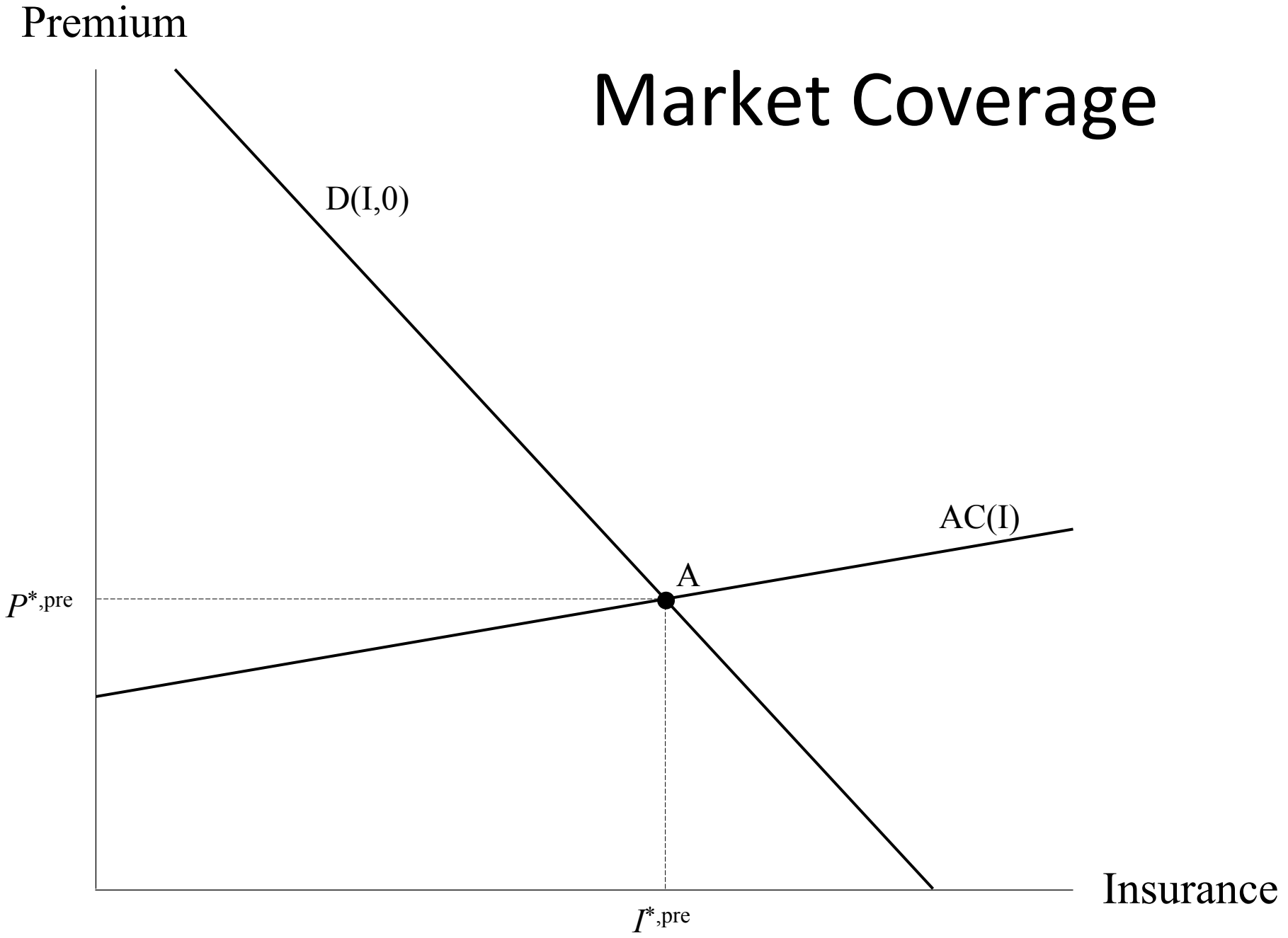
Insurance Demand



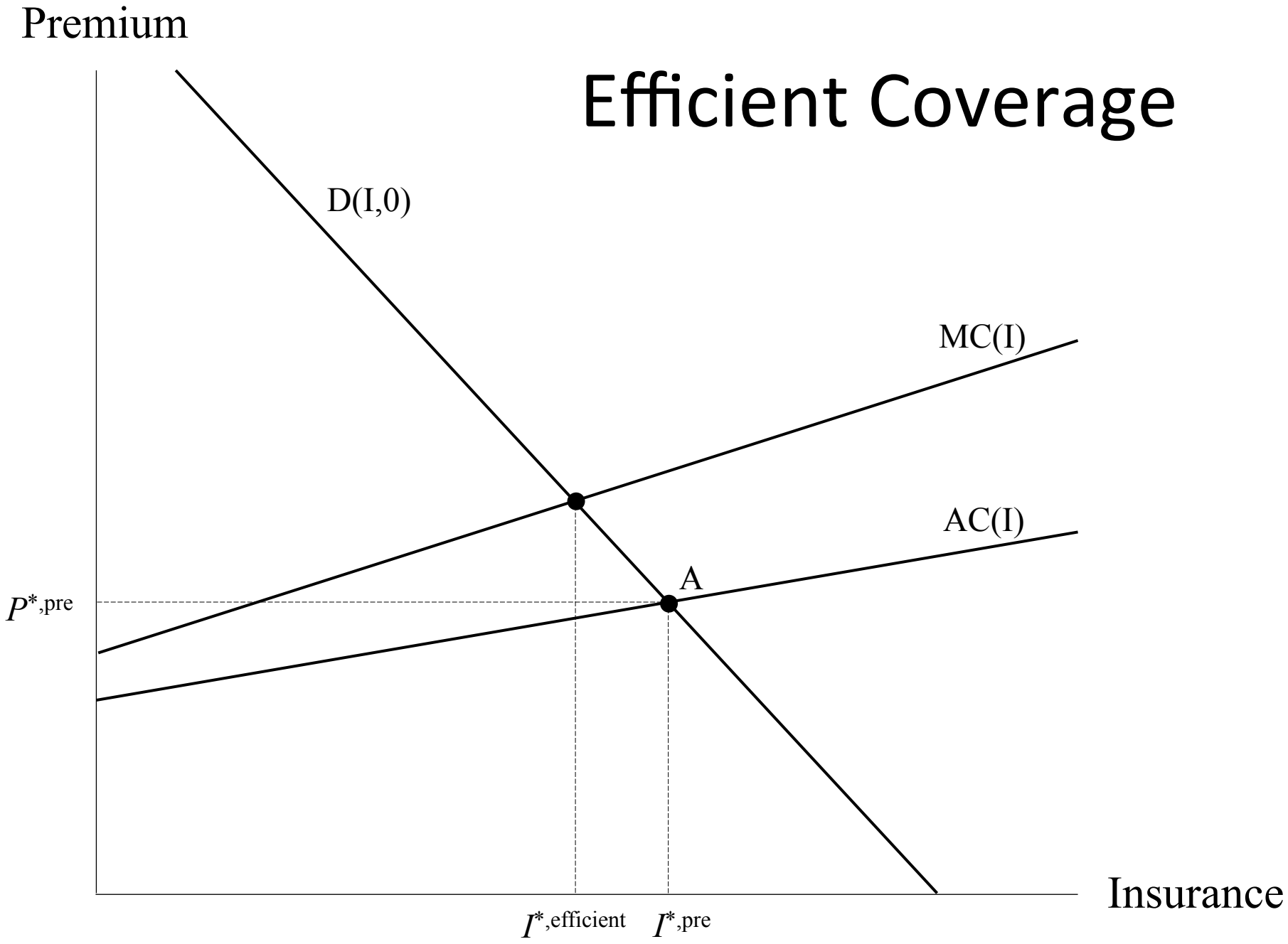
Advantageous Selection



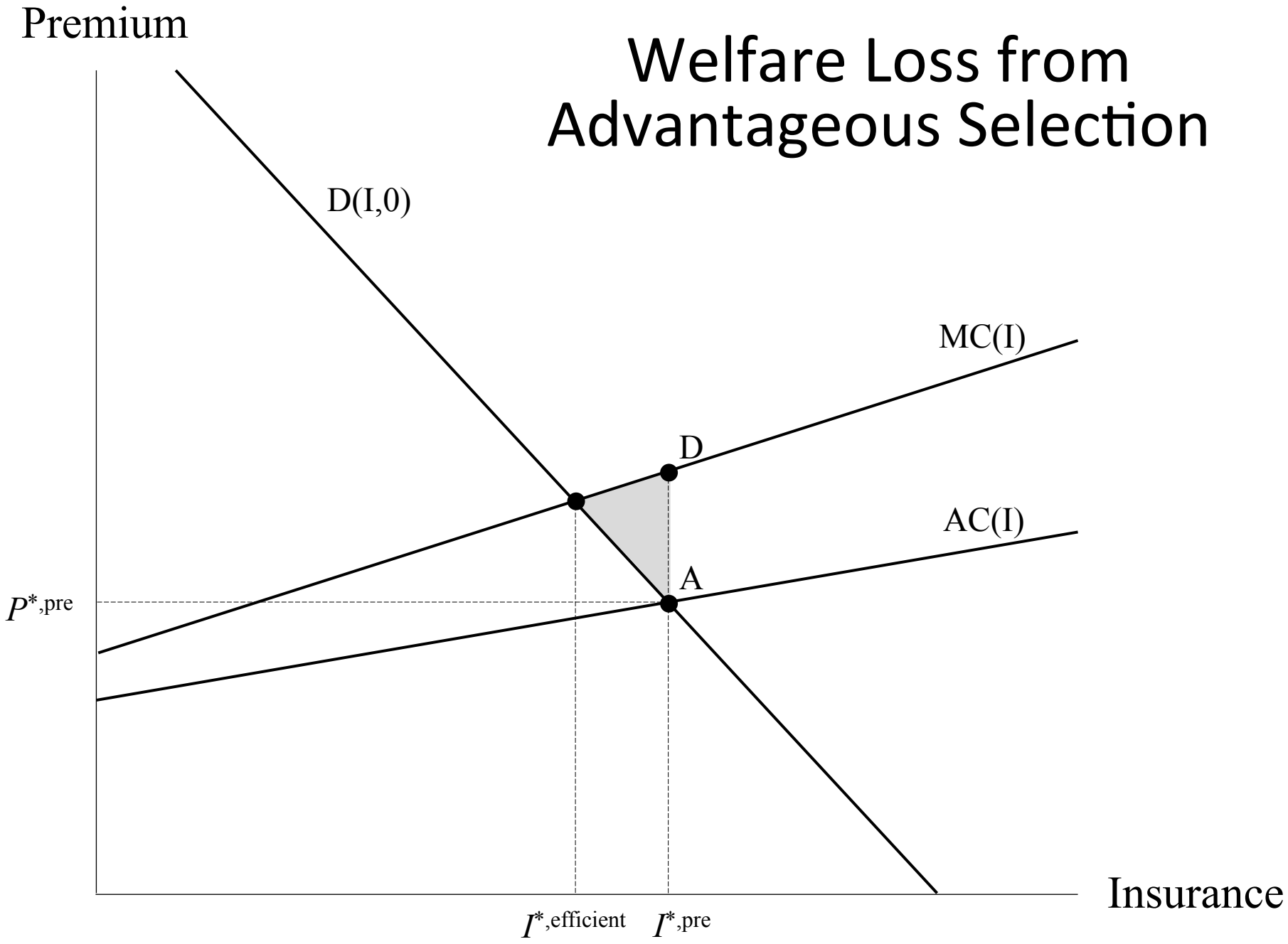
Market Coverage

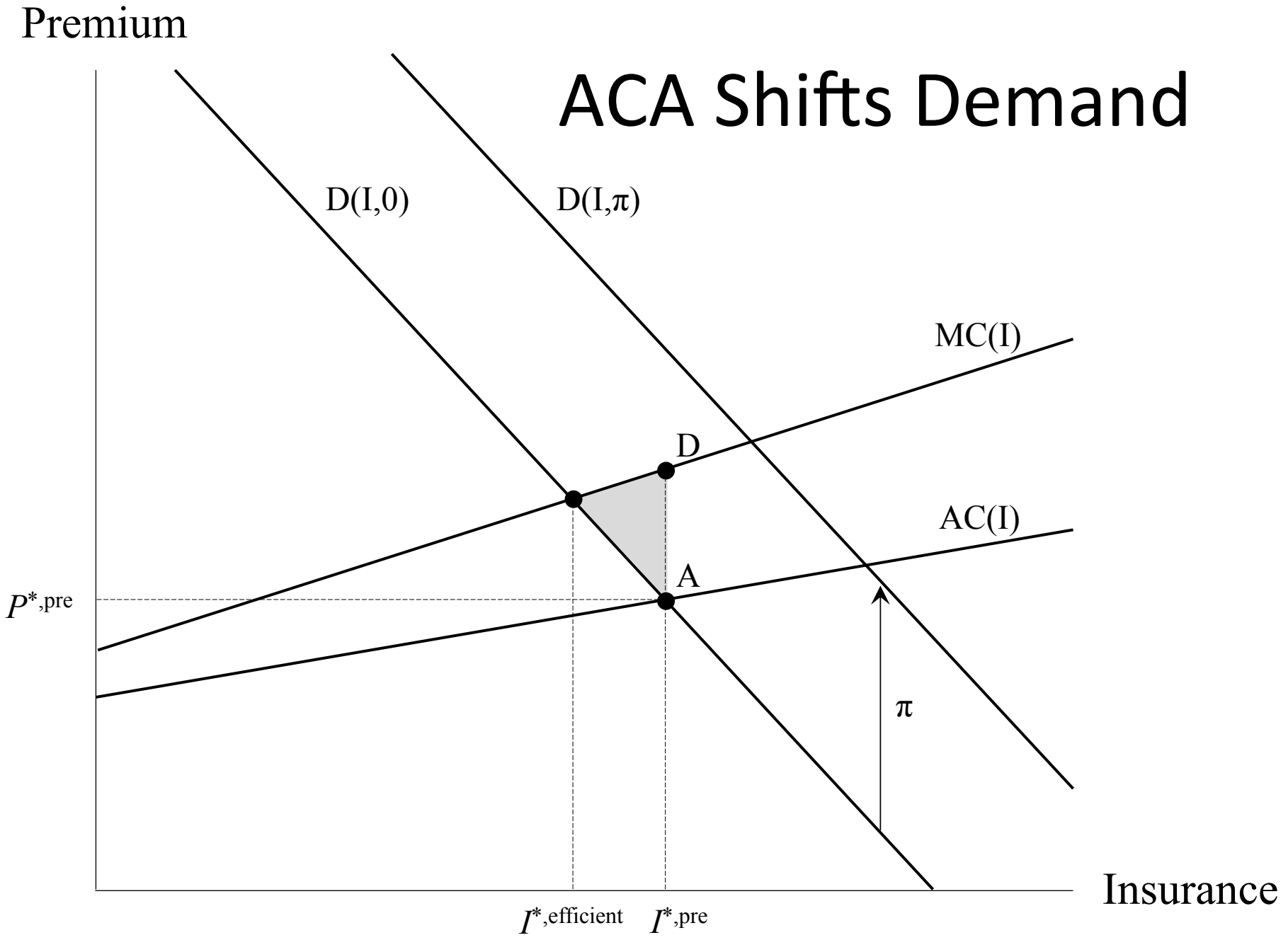


Efficient Coverage

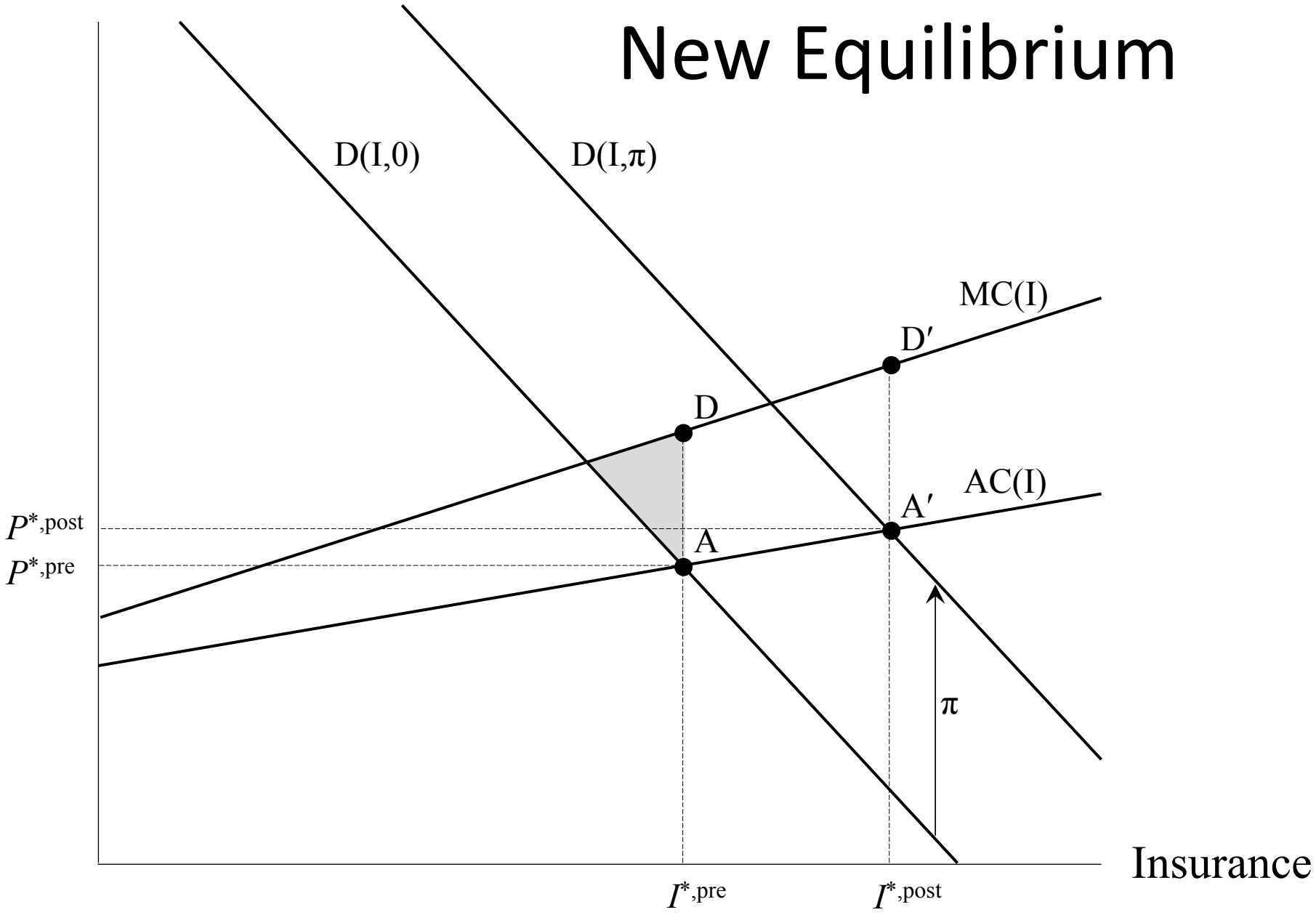


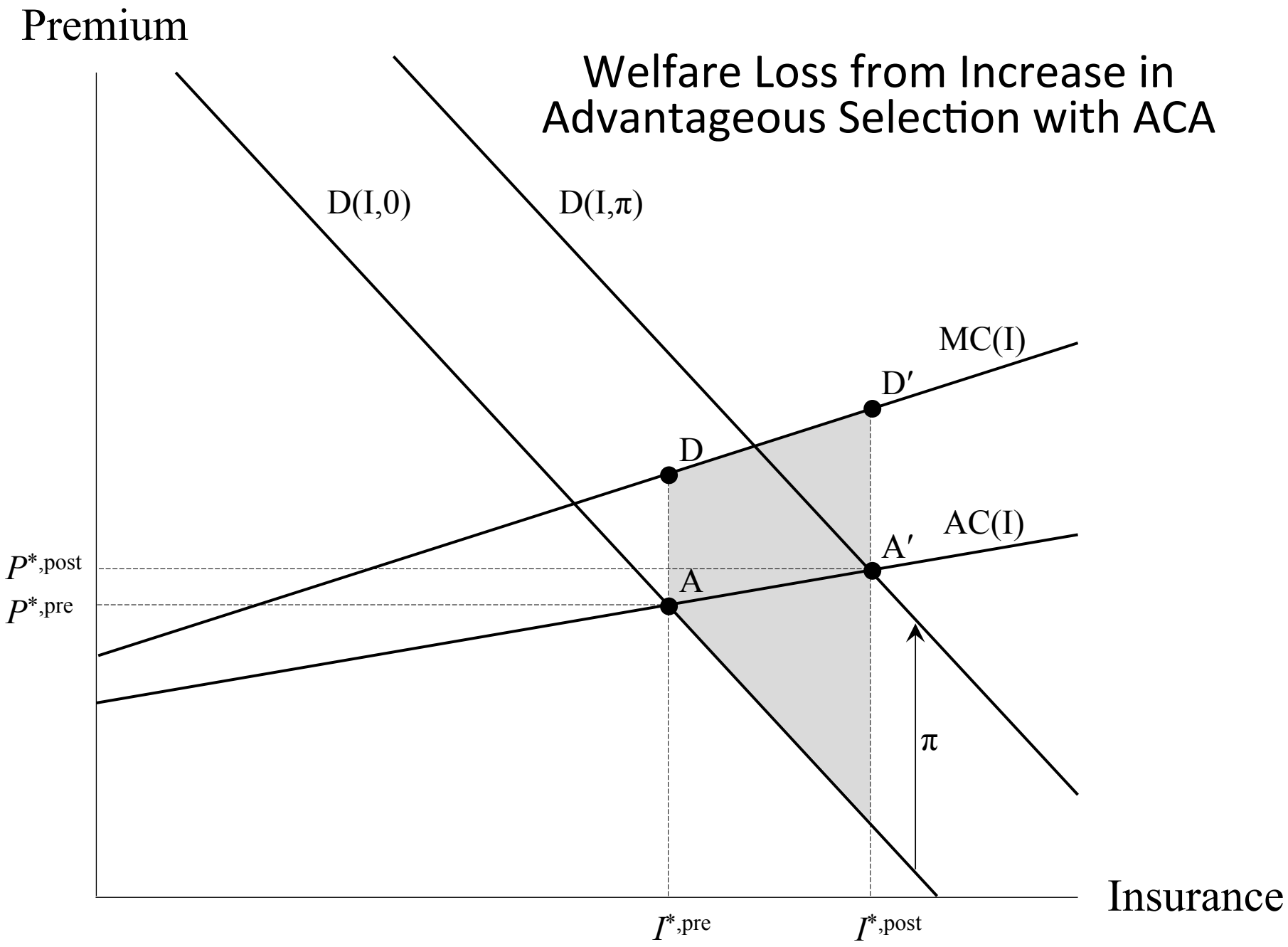
Welfare Loss from Advantageous Selection



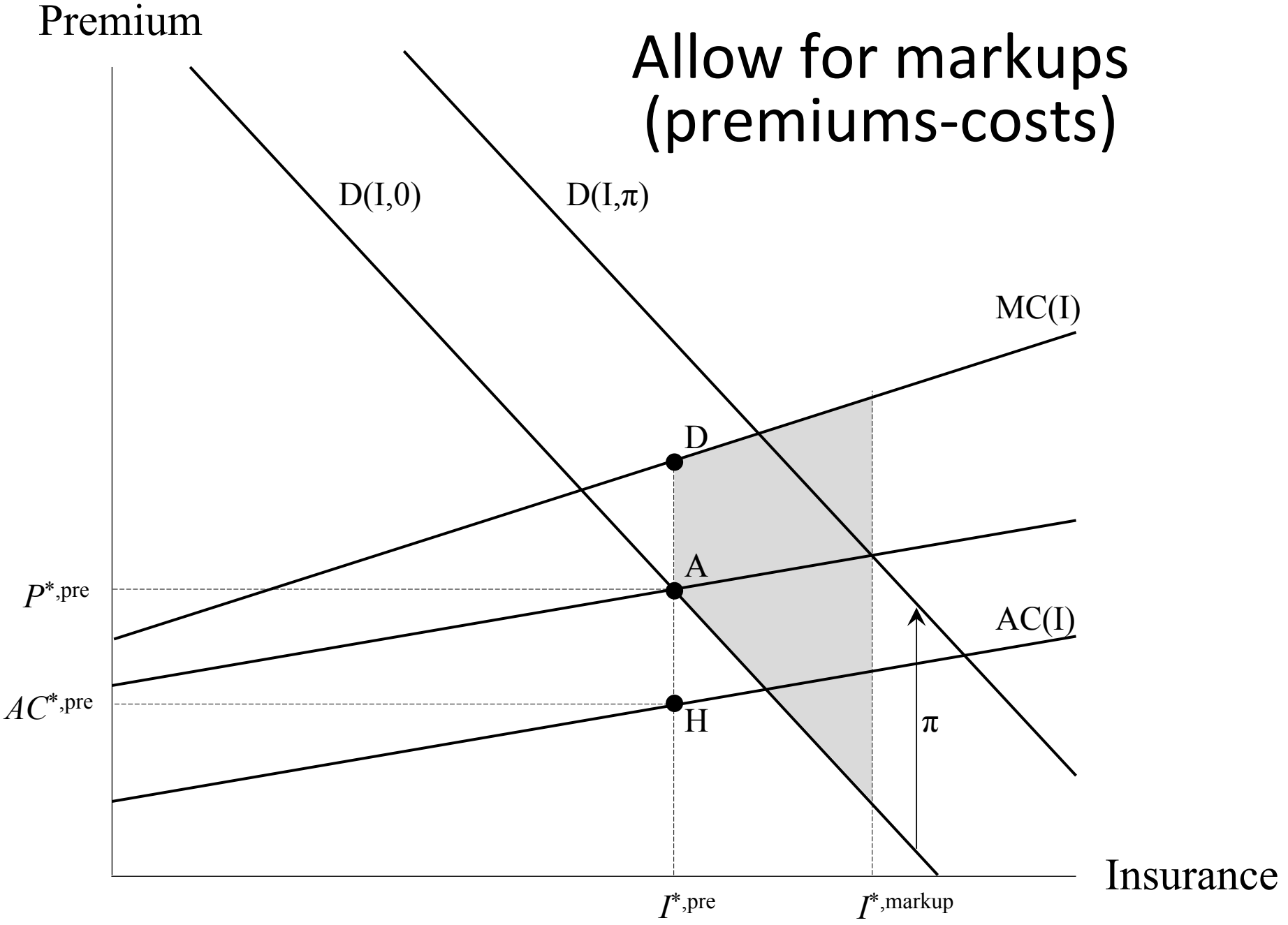

Premium
ACA Shifts Demand
D(I,0)
D(I,π)
MC(I)
D
AC(I)
A
P*,pre
π
Insurance
I*,efficient
I*,pre

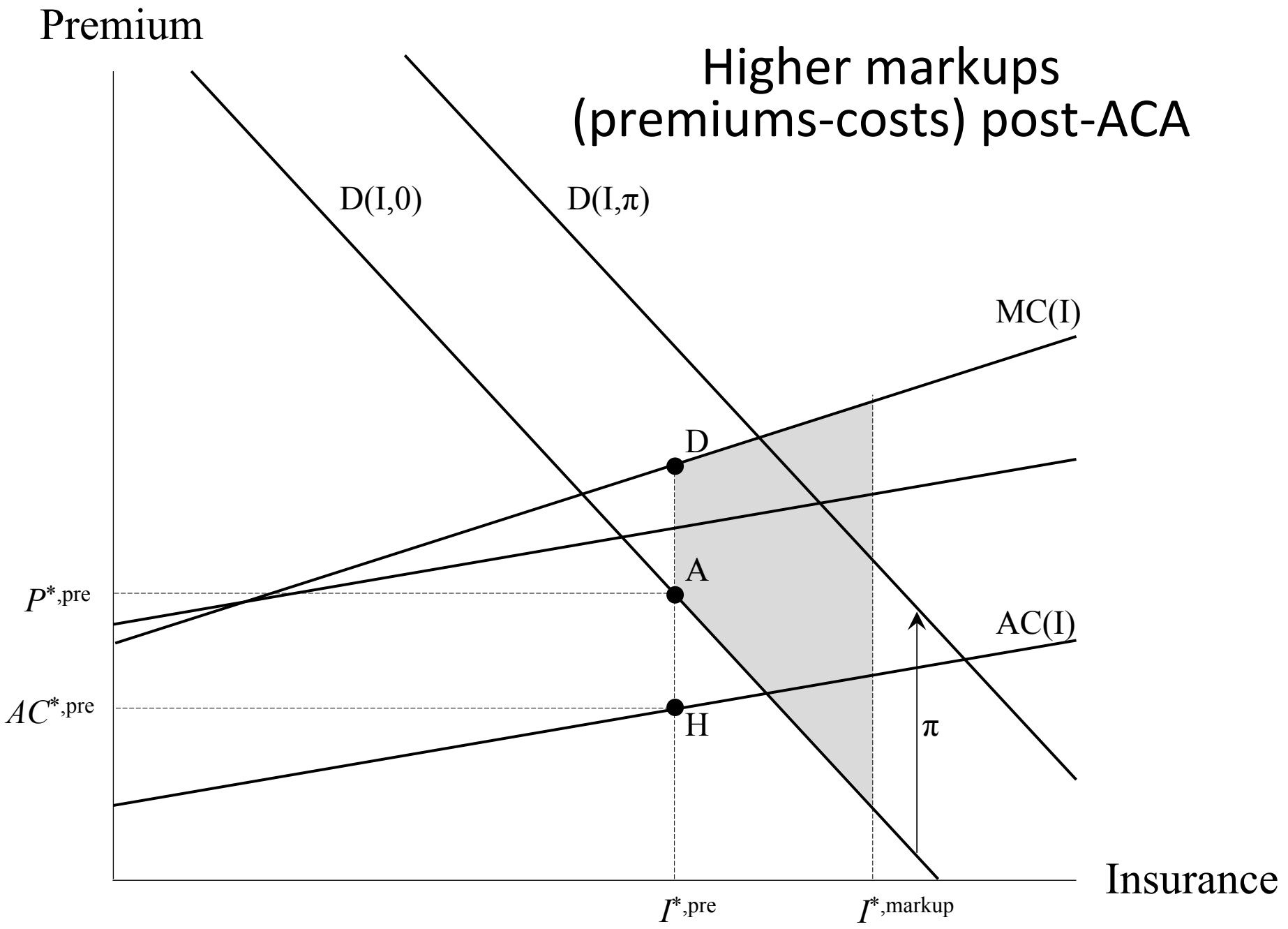
New Equilibrium



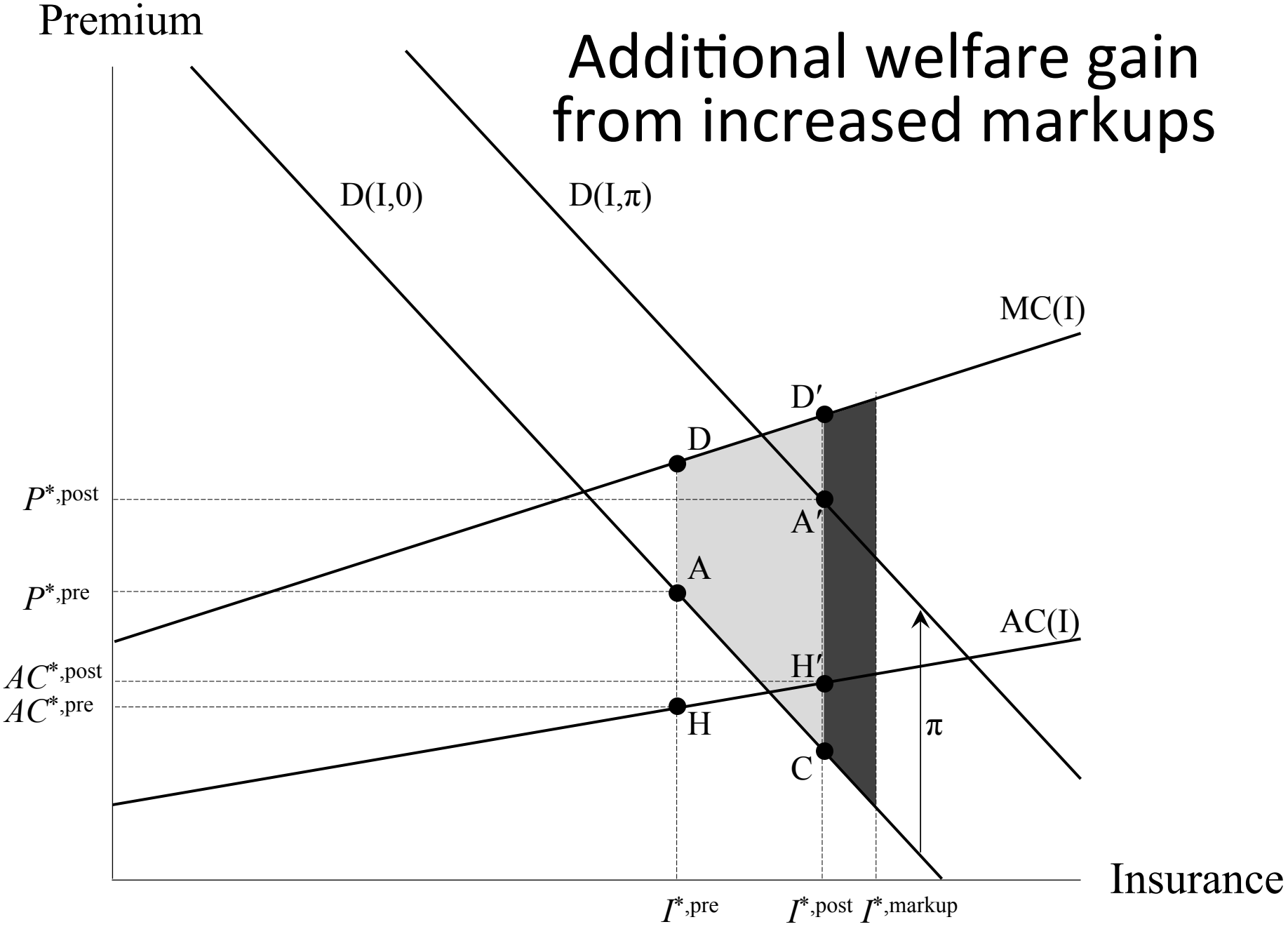

Premium
Welfare Loss from Increase in Advantageous Selection with ACA
D(I,0)
D(I,π)
MC(I)
D′
D
AC(I)
A′
A
P*,post
P*,pre
π
Insurance
I*,pre
I*,post

Allow for markups (premiums-costs)




Premium
Higher markups
(premiums-costs) post-ACA
D(I,0)
D(I,π)
MC(I)
D
A
AC(I)
$P^{*,pre}$
$AC^{*,pre}$
H
π
Insurance
$I^{*,pre}$
$I^{*,markup}$

Additional welfare gain from increased markups



Optimal penalty given selection and markups