

The Great Equalizer: Medicare and the Geography of Financial Health

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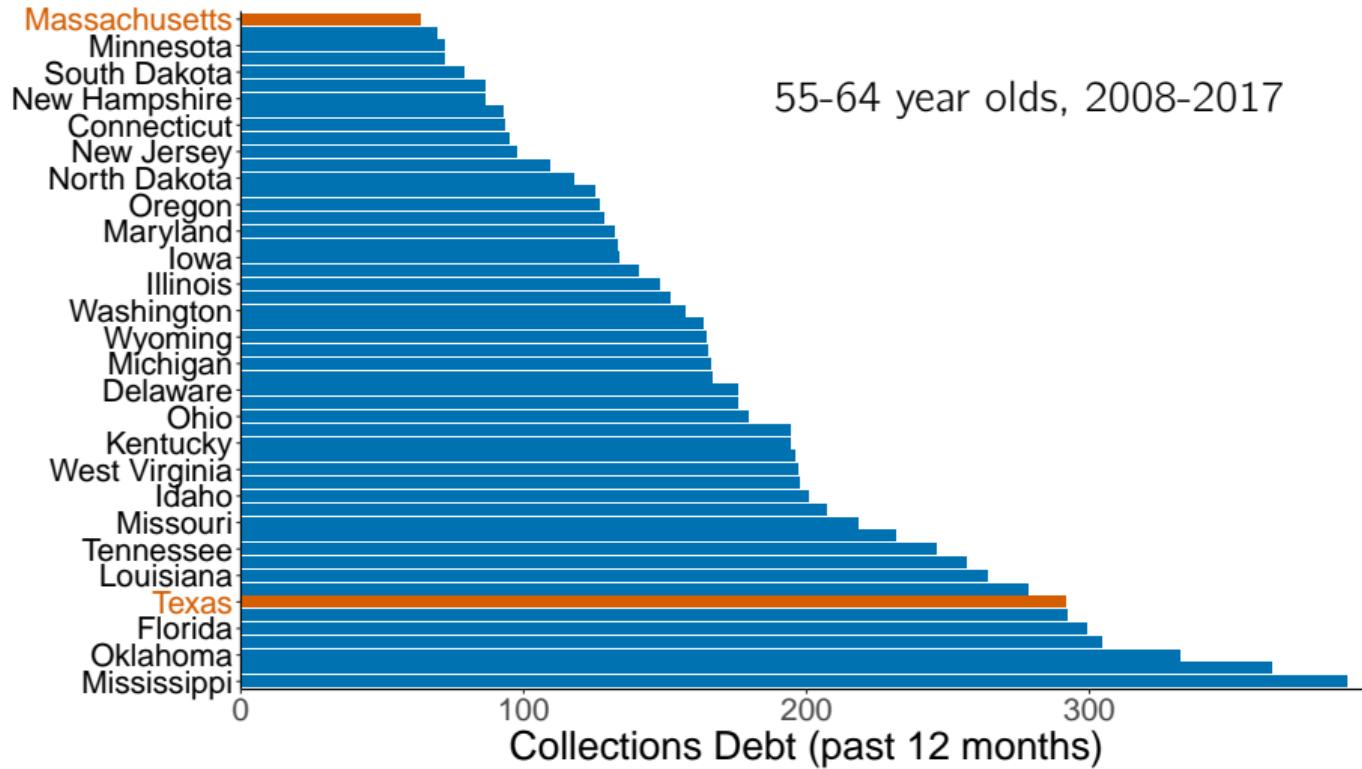
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Consumer financial strain in the United States

- Forty percent of the U.S. population lacks the financial cushion to “subsist at the poverty level for three months in the absence of income.” (SIPP)
- 30 million Americans currently subject to debt collection (CFPB)
 - \$1,500 average amount of debt subject to collection
- The level of consumer financial strain varies sharply across the country with low levels in the Upper Midwest and high levels in the Deep South (Keys, Mahoney and Yang (2021))

US characterized by high variance of financial strain across states



Why so much variation?

- Many potential explanations:
 - local institutional / economic conditions (where we live)
 - behaviors and feature of residents (who lives where)
 - interaction between the two
- This paper: extend existing work on link between health insurance and financial health
- Focus on huge variation in health insurance differences across states
 - Variation in access to health insurance across states driven by state differences in policy
 - Federalism in health insurance subsidies → big cross-state differences
 - This all changes at age 65: Medicare

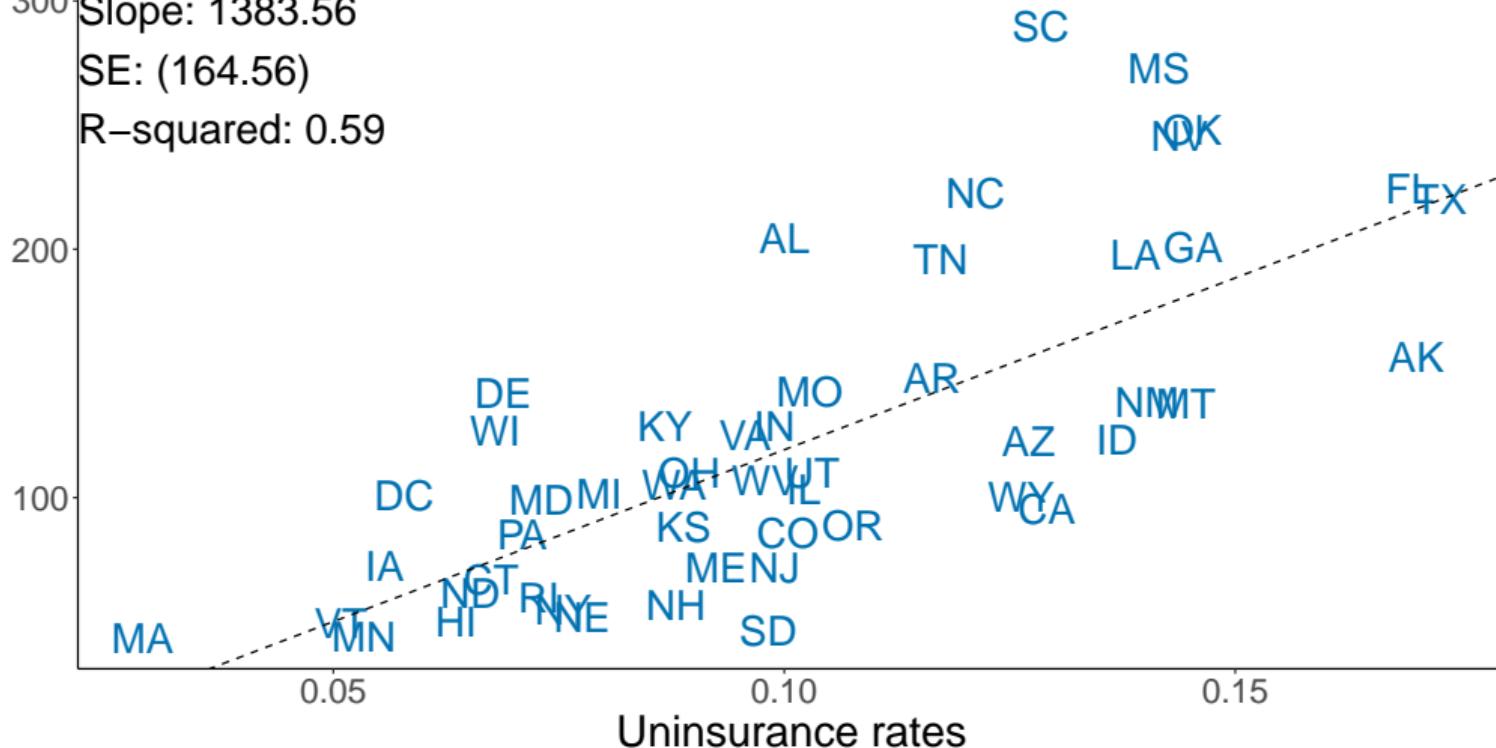
Cross-sectional link between Financial strain and health insurance

Avg. collections debt

Slope: 1383.56

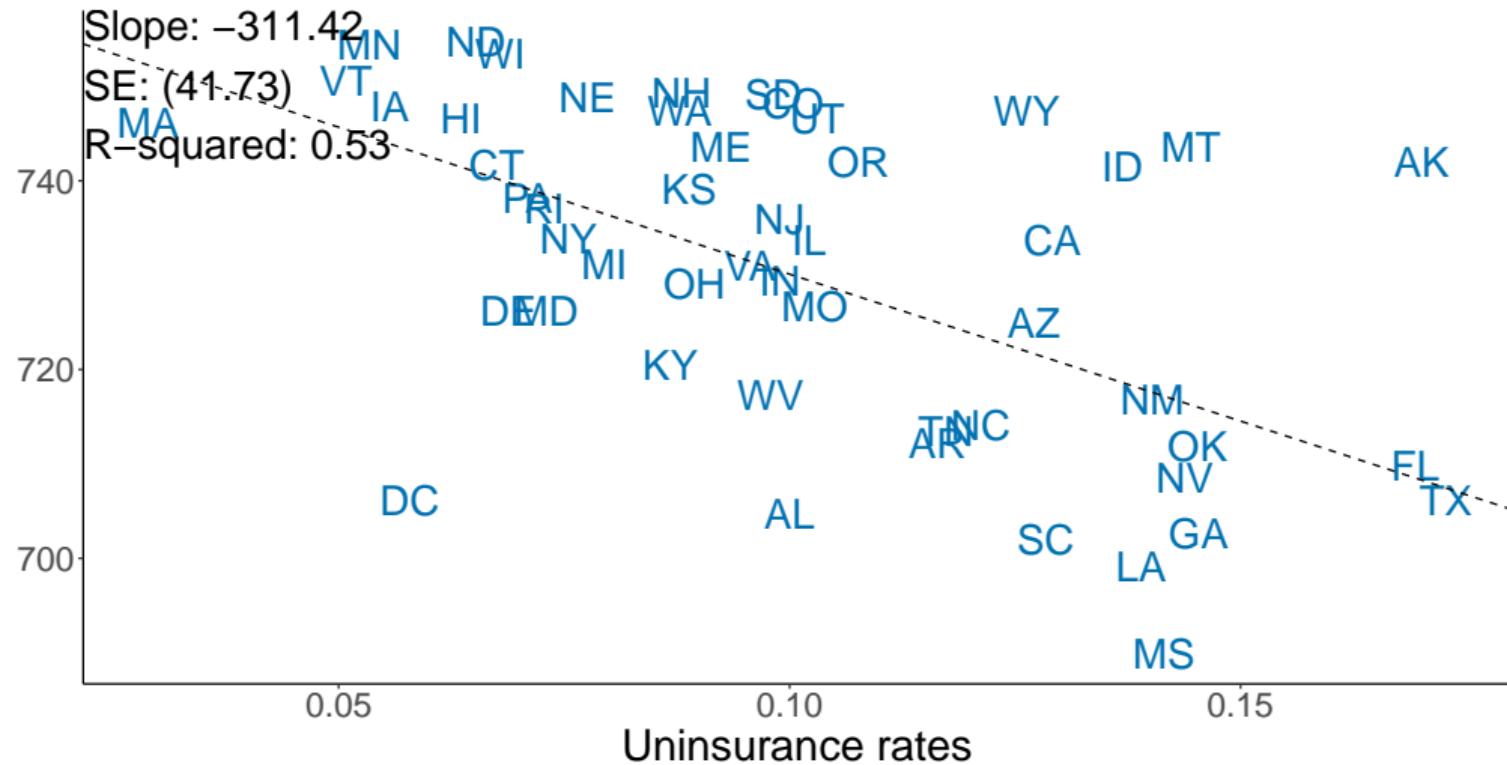
SE: (164.56)

R-squared: 0.59



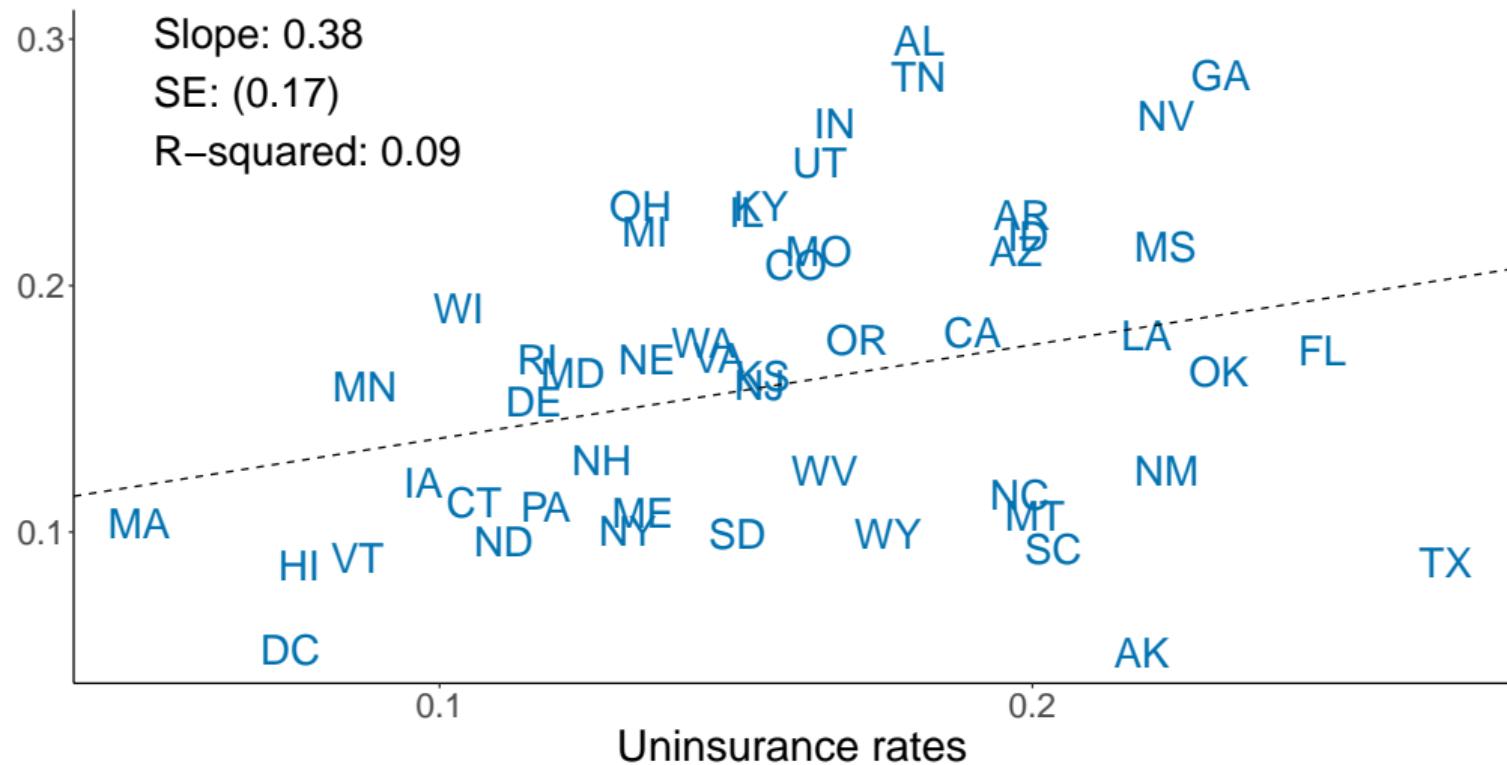
Cross-sectional link between Financial strain and health insurance

Average Credit Score



Cross-sectional link between Financial strain and health insurance

Annual bankruptcy filing rates (p.p.)



What we do in this paper

- How does health insurance shape the geography of US financial health?
 1. Estimate effect of Medicare on outcomes - both average and variance reduction
 2. Identify which regions in the U.S. have the largest gains, and their characteristics
 3. Construct forecasts of the causal effect of expanding coverage to the near-elderly
- Our approach combines large credit report data with regression discontinuity design
 - Estimate RD separately across locations
 - Construct robust estimates of variance reduction due to Medicare
 - Combine with location characteristics to construct MSE-minimizing forecasts of treatment effects (Chetty and Hendren (2018))

Data: New York Fed Consumer Credit Panel / Equifax



- Panel dataset constructed by the Federal Reserve Bank of New York
- Five percent random sample of U.S. population from 1999-2017
- **Limitation:** discrete running var. and need “donut” RD since Equifax has birth year
 - Solution: Kolesar and Rothe (2018) approach.

Data: Additional sources

- American Community Survey, 2008-2017
 - Data are available at the Public Use Microdata Area (PUMA)-by-age-by-year level
 - Demographic data (e.g., marital status) to test for covariate smoothness
 - Health insurance data to validate “first stage” and to use in a fuzzy-RD setup
- Additional area-level characteristics
 - Healthcare Cost Report Information System (HCRIS) data on hospital characteristics (e.g., share for-profit) at the county level
 - Dartmouth Atlas data on risk-adjusted Medicare spending per enrollee

Research design - Medicare eligibility at age 65

- In the United States, Medicare is near-universal health insurance coverage
 - Eligibility turns on at sixty-fifth birthday
- We use an RD approach as in prior work (Card et al. (2008,2009), Barcellos and Jacobsen (2015))
- Identify *causal* impact of health coverage on financial health outcomes
 - Approach: compare age 65^- to 65^+ using RD

$$y_i(\text{age}) = \underbrace{\gamma \times 1(\text{age} > 65)}_{\text{Medicare}} + \underbrace{g^{\text{age} < 65}(\text{age}) + h^{\text{age} > 65}(\text{age})}_{\text{effect of age}} + \epsilon_i$$

$$\gamma = \underbrace{\lim_{\text{age} \rightarrow 65^+} E(y_i(\text{age}))}_{\text{Age 65 with Medicare}} - \underbrace{\lim_{\text{age} \rightarrow 65^-} E(y_i(\text{age}))}_{\text{Age 65 without Medicare}} .$$

Research design - RD with discrete running variable + donut

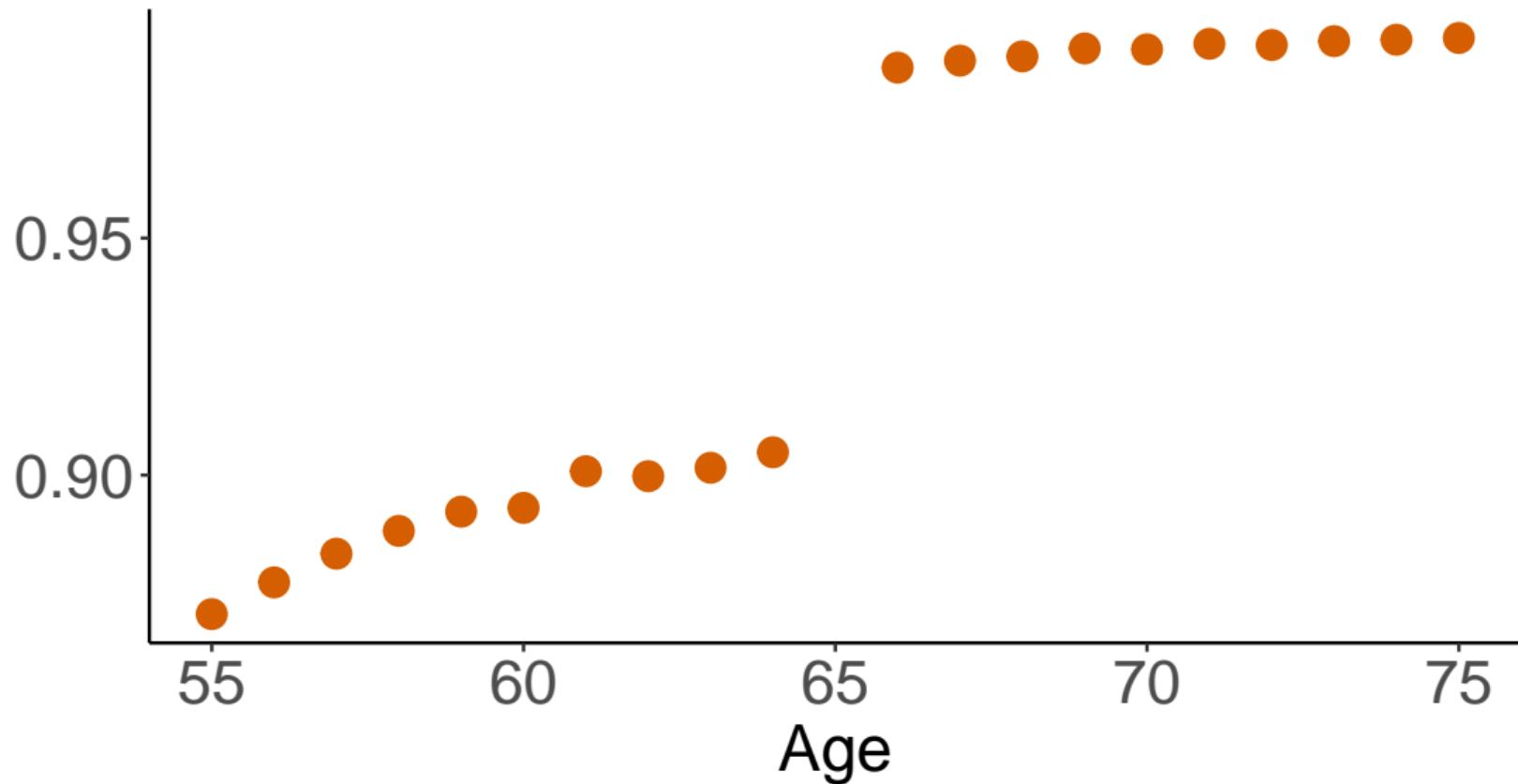
- Key data limitations:
 - Equifax: we observe *birth year*, not age
(What age is birth year 1959 in 2019? 60 or 61?)
 - ACS + Equifax: we observe data discretely
- Issue:
 - RD estimation requires “continuous” variation near cutoff
 - Donut exacerbates issue
 - Can create both bias and standard error issues in estimation
- Our solution:
 - Kolesar and Rothe (2018) estimation approach
 - Account for bias in estimation and confidence intervals
 - Estimated using data collapsed to location-age cells (with weights)

Research design - Estimation details

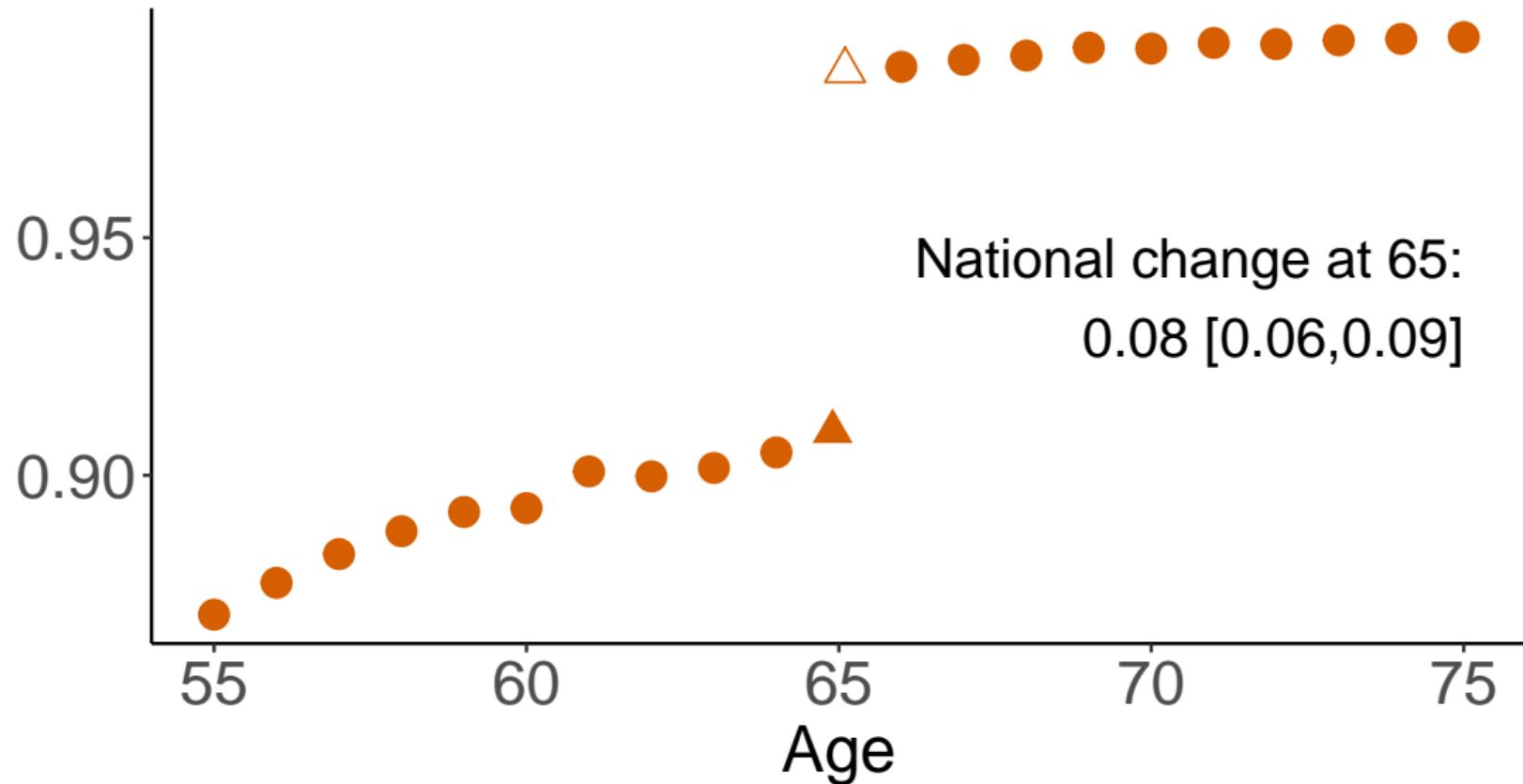
$$\gamma = \underbrace{\lim_{\text{age} \rightarrow 65^+} E(y_i(\text{age}))}_{\mu^+} - \underbrace{\lim_{\text{age} \rightarrow 65^-} E(y_i(\text{age}))}_{\mu^-}$$

- Limit to age 65 requires extrapolation if data is discrete
 - Kolesar and Rothe (2018) solution: bound on second derivative of CEF
- Estimate γ , $\lim_{\text{age} \rightarrow 65^+} E(y_i(\text{age}))$, $\lim_{\text{age} \rightarrow 65^-} E(y_i(\text{age}))$ in two ways:
 - Pooled across all data (national estimate)
 - Separately across locations \rightarrow set of τ_l , μ_l^+ and μ_l^- .
 - Define $\phi = 1 - \text{Var}(\mu_l^+)/\text{Var}(\mu_l^-) \rightarrow$ s.e. from delta method
- Identifying assumption: smoothness of potential confounders across discontinuity
 - Across locations requires smoothness of covariates **in each locality** at age 65

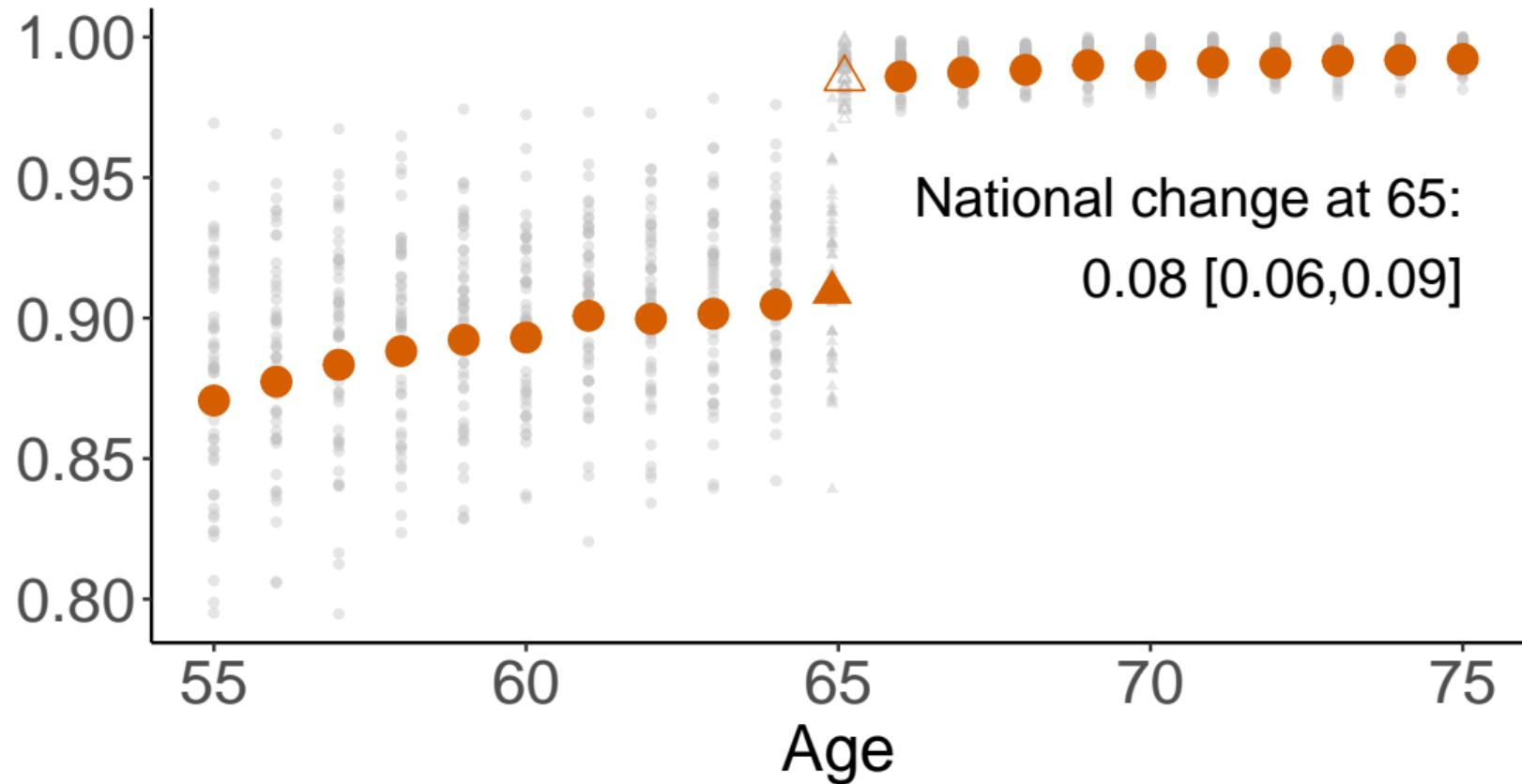
"First" -stage: Has insurance coverage



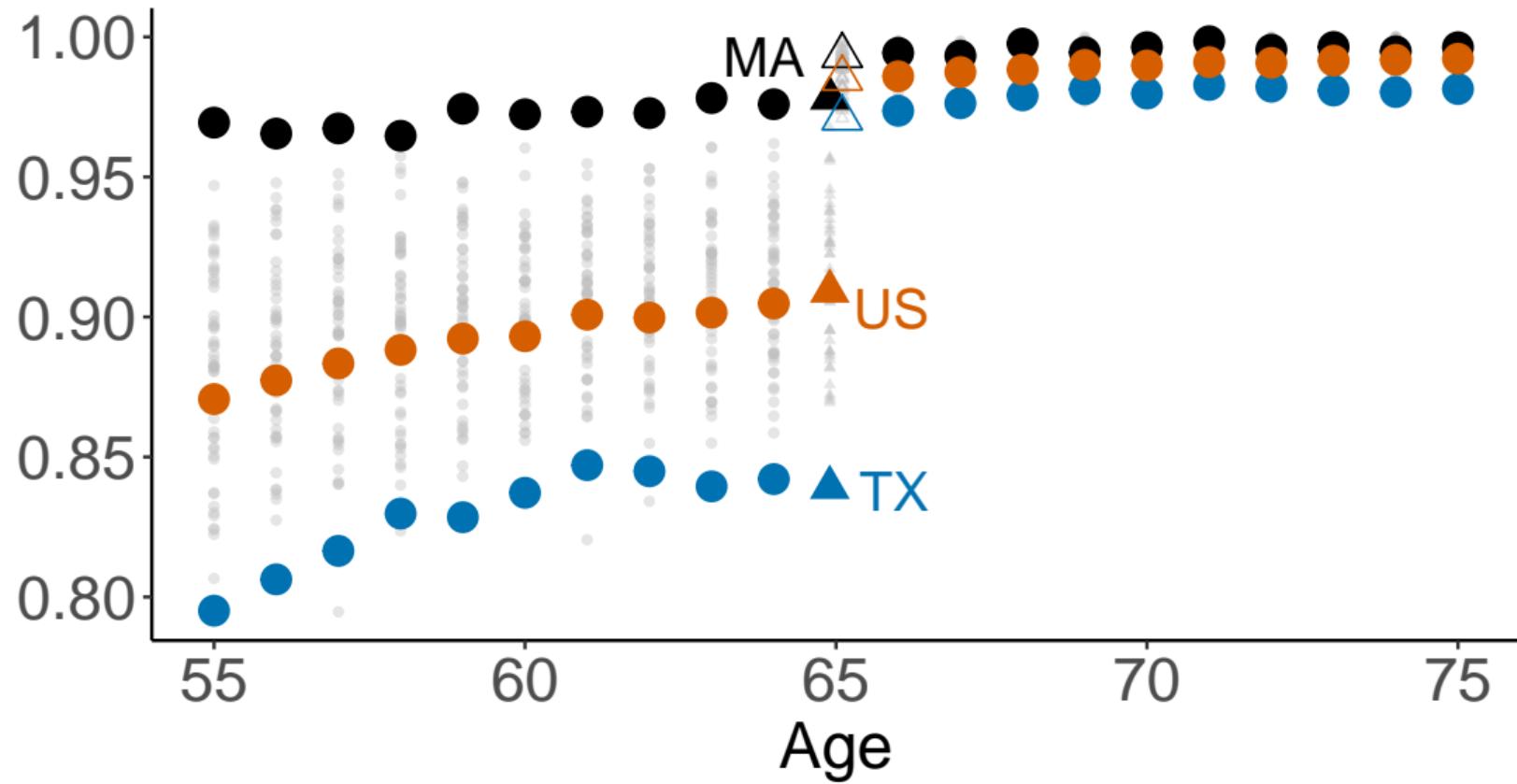
"First" -stage: Has insurance coverage



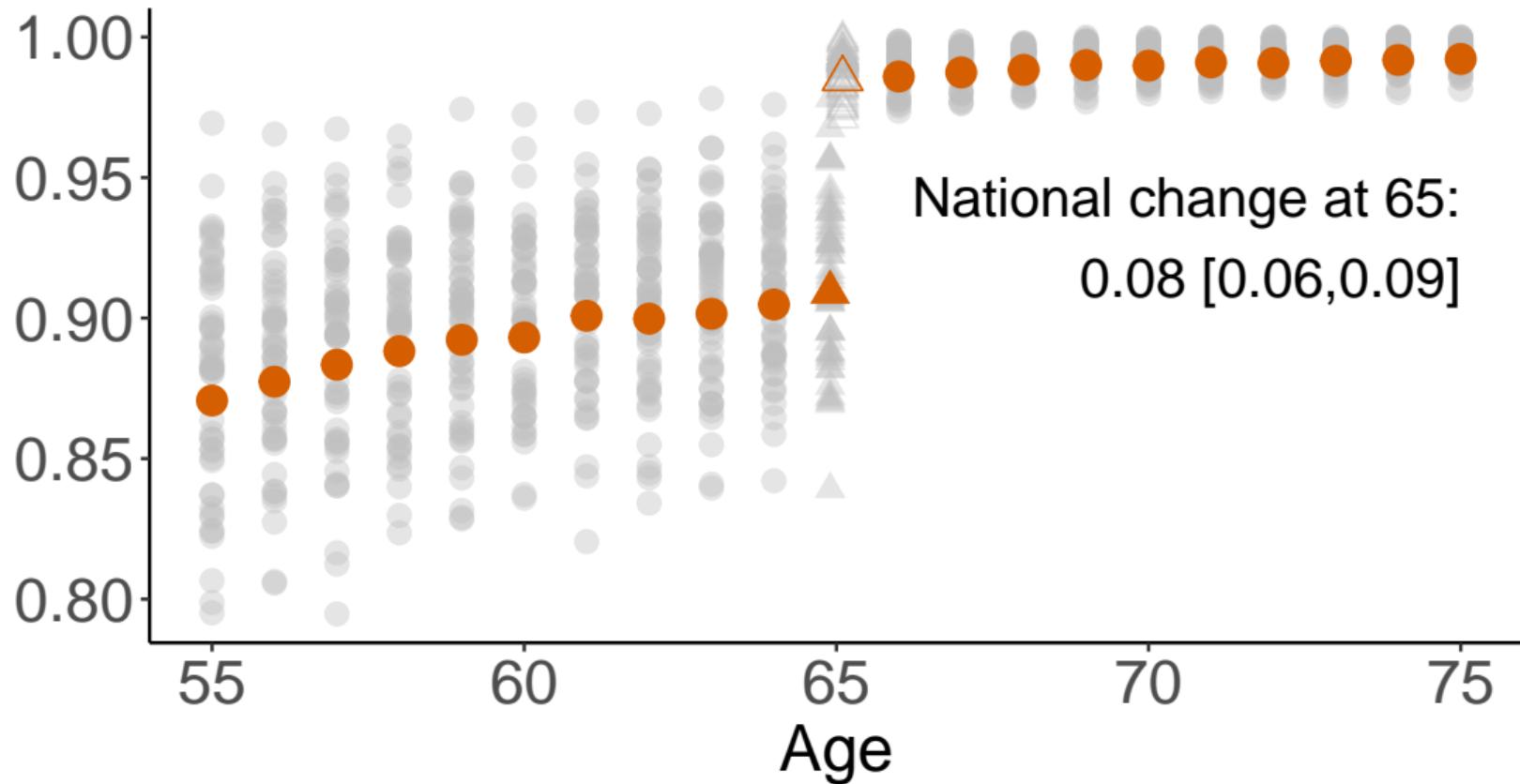
"First"-stage: Has insurance coverage



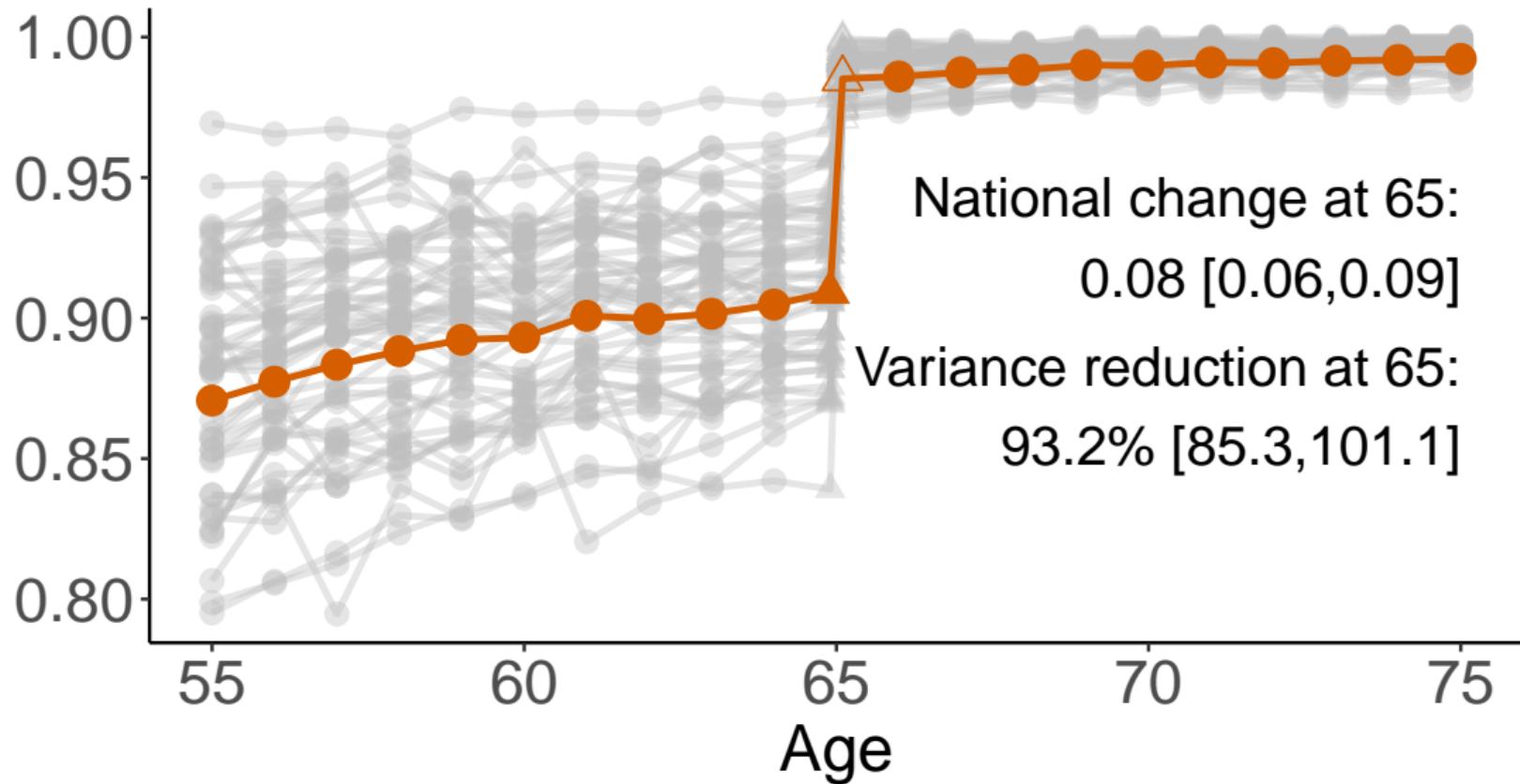
"First" -stage: Has insurance coverage



"First"-stage: Has insurance coverage



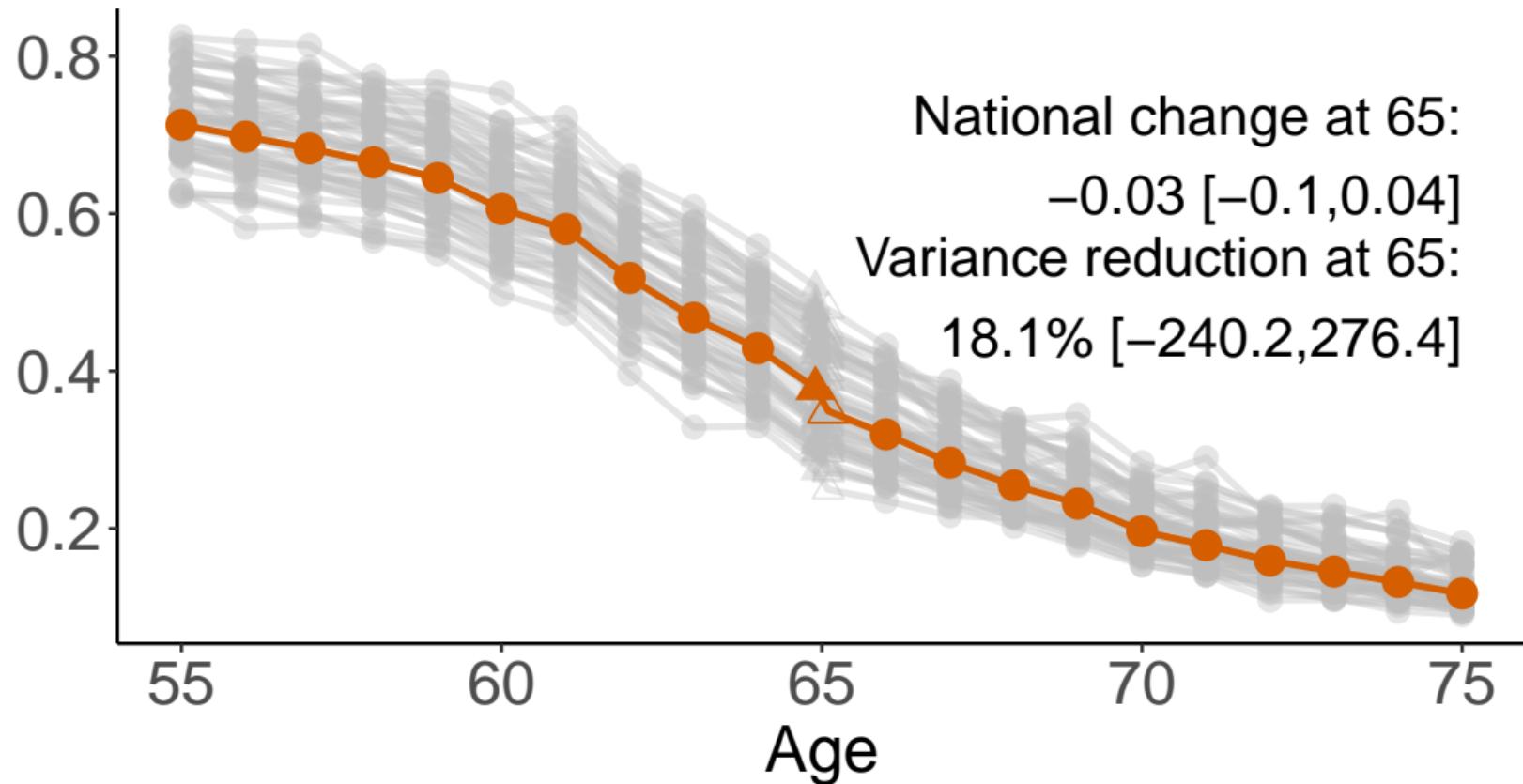
"First" -stage: Has insurance coverage



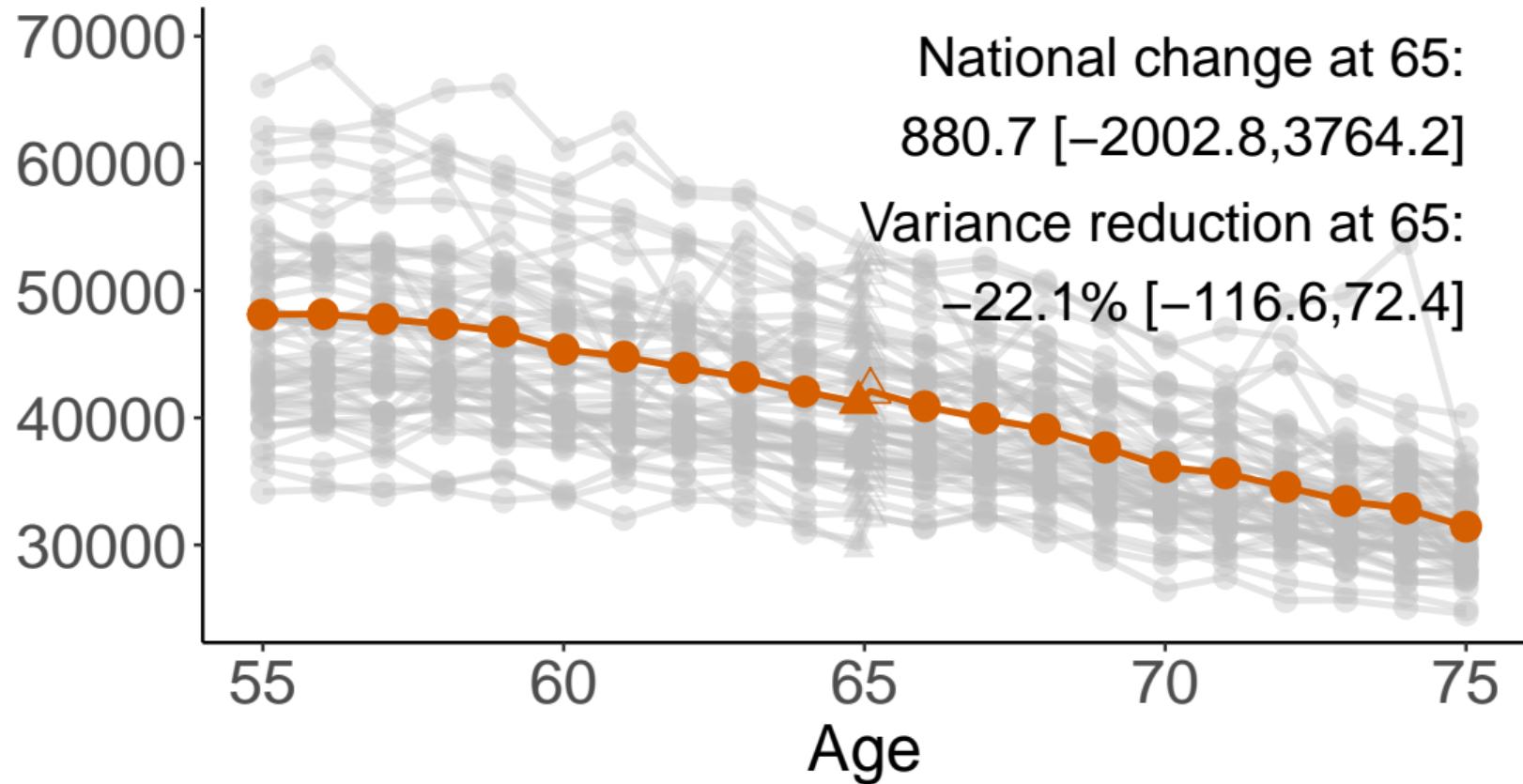
Covariate smoothness

- RD approach at age 65 needs to identify exclusively effect of Medicare
 - Not other simultaneous shocks
- Partial test: change in other demographic characteristics in ACS

Covariate smoothness: employment



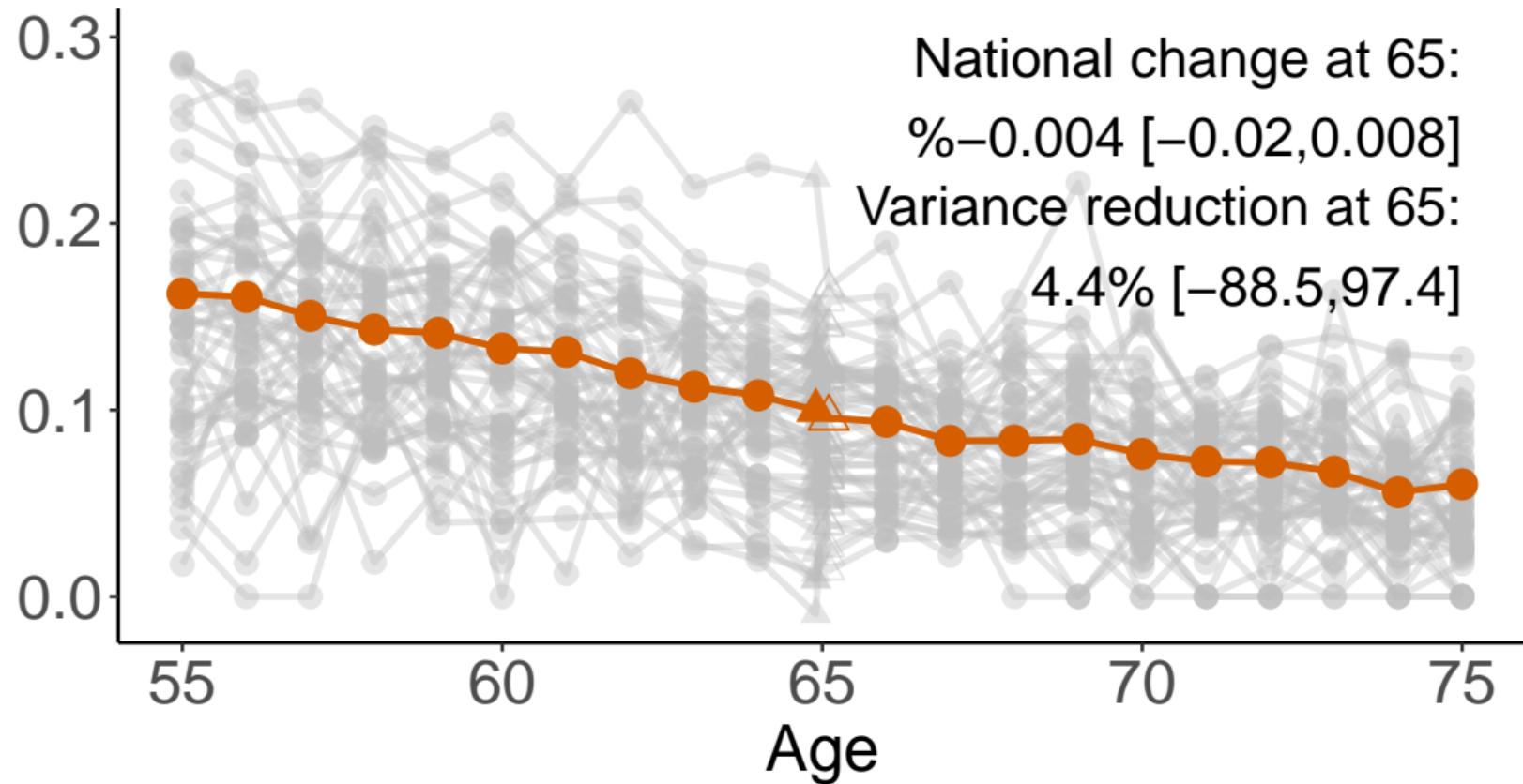
Covariate smoothness: total income



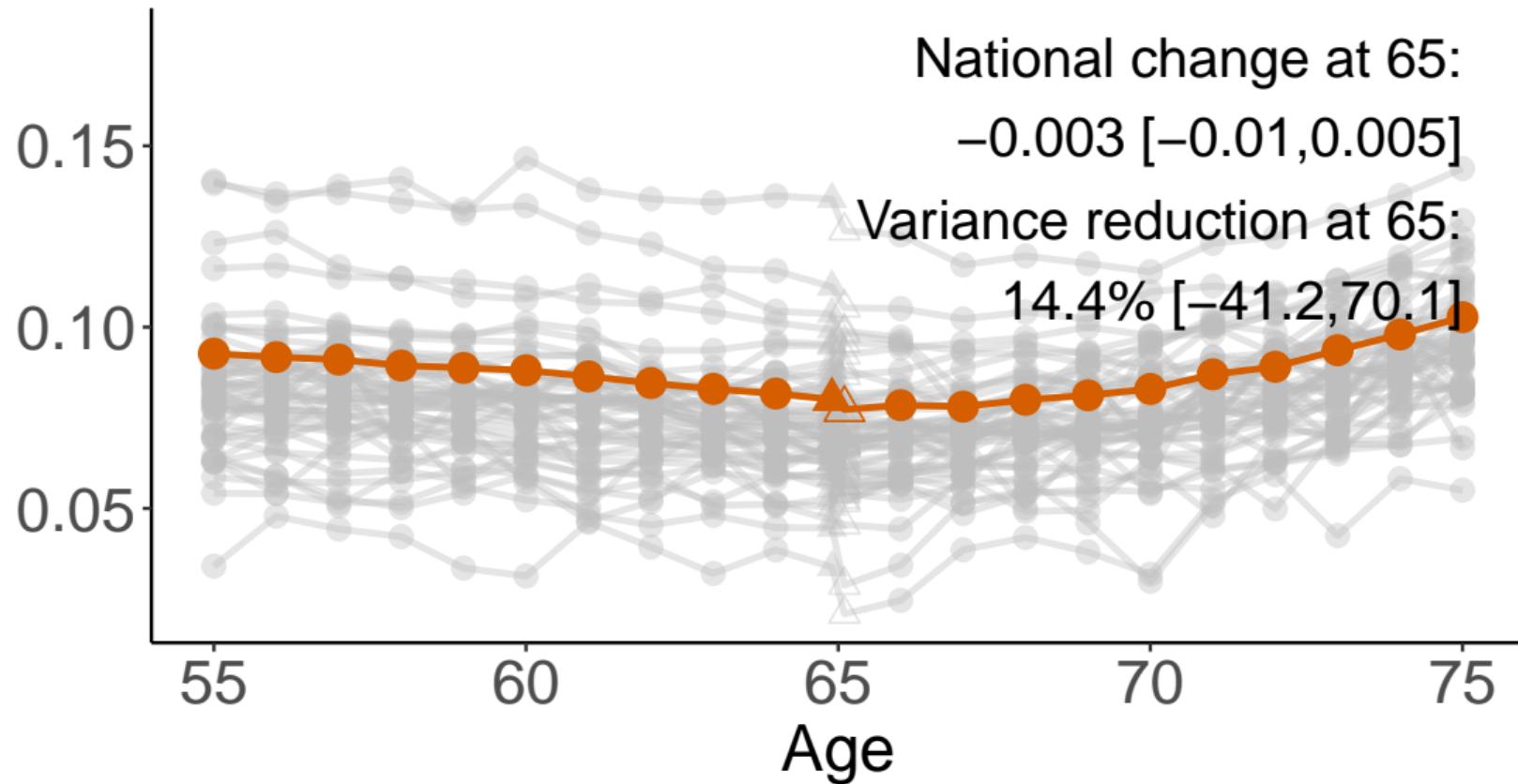
Covariate smoothness

- RD approach at age 65 needs to identify exclusively effect of Medicare
 - Not other simultaneous shocks
- Partial test: change in other demographic characteristics in ACS
 - Homeownership, marital status, gender share, household composition, hours worked per week, mobility, and social security income
 - No significant differences
- Interpretation: at age 65, vast majority of Americans become eligible for Medicare, without other simultaneous shocks
 - “Bunching” is not plausible in age design
- **Next:** The effects of Medicare on financial health

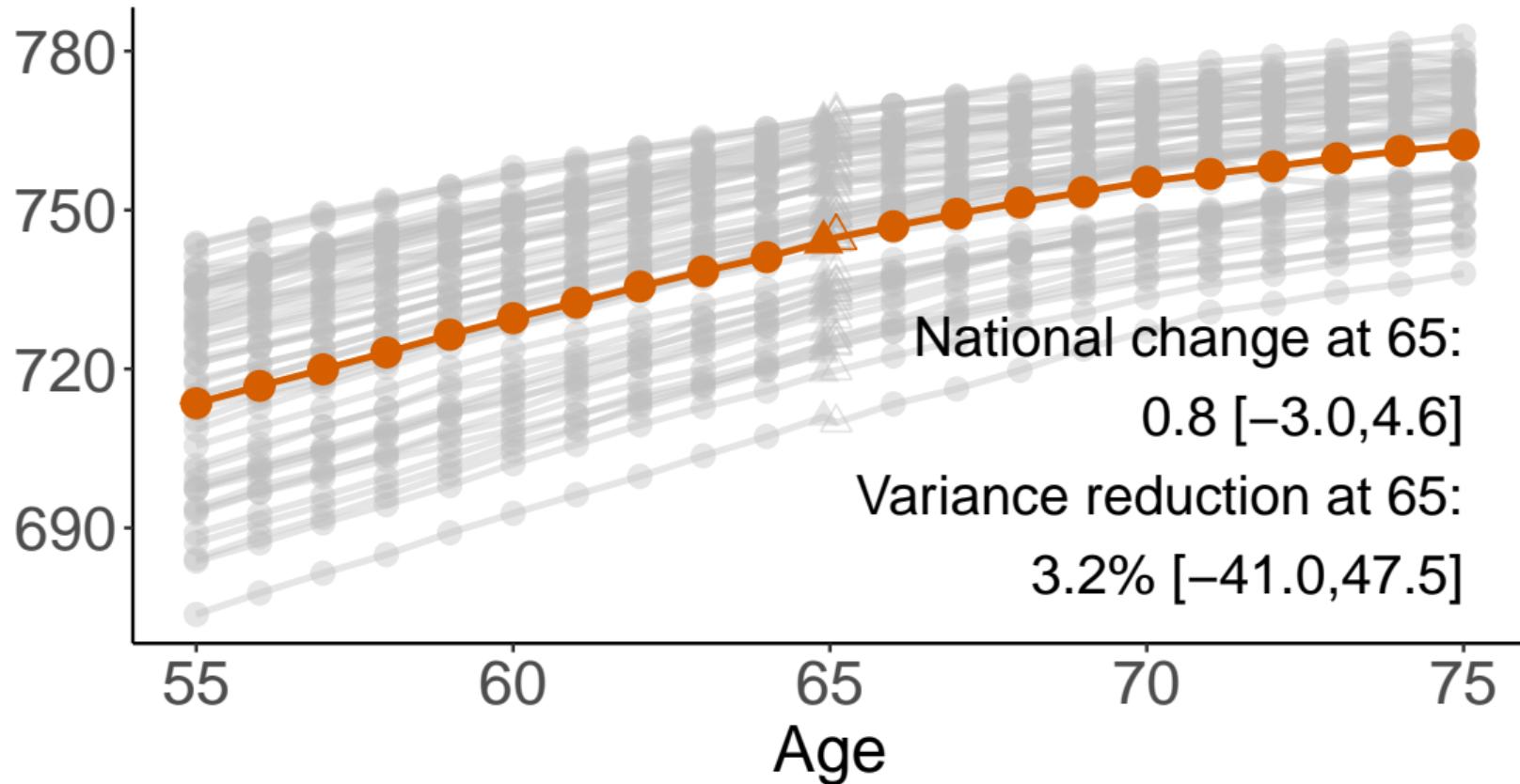
Credit market outcomes: bankruptcy filing rates (p.p)



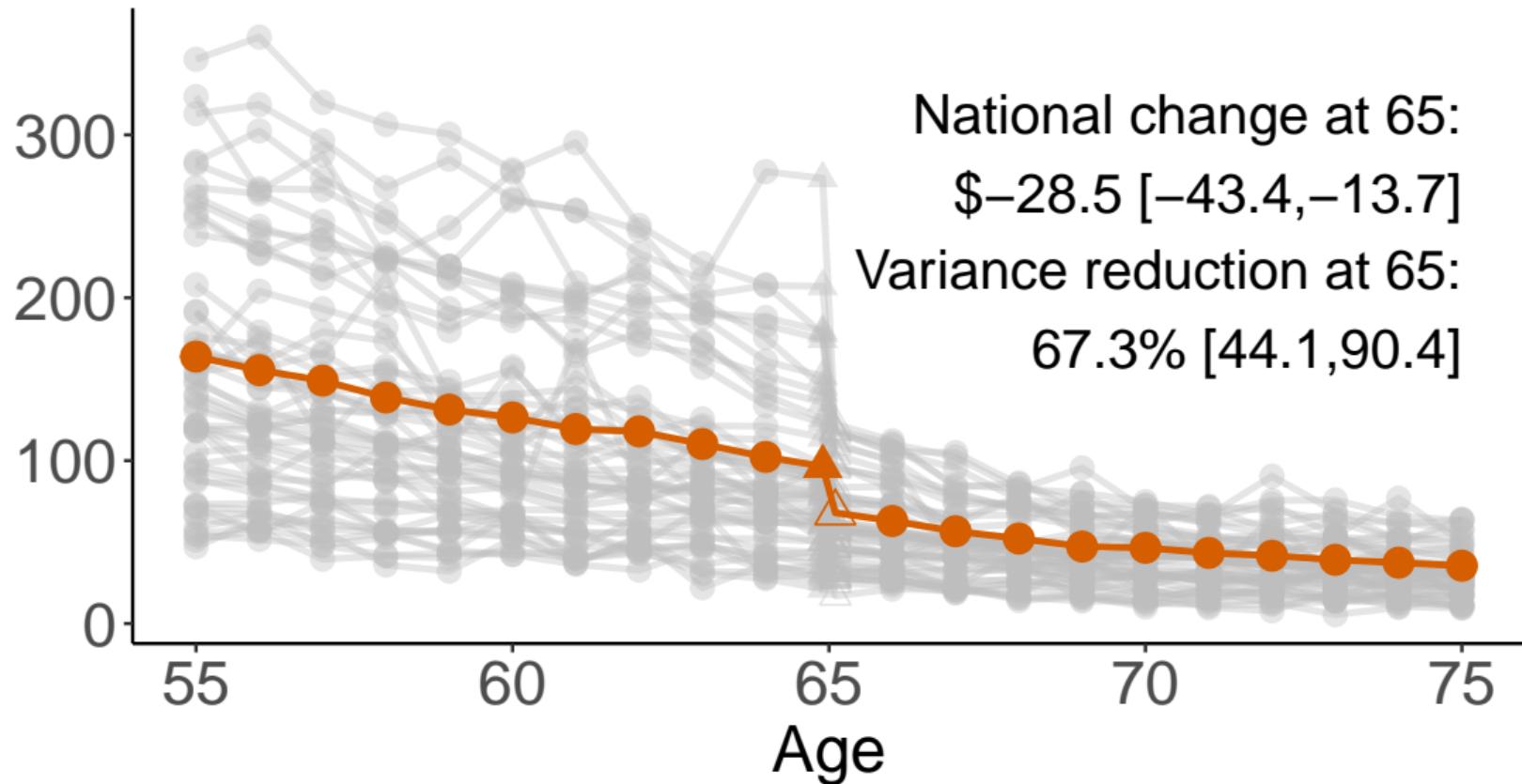
Credit market outcomes: Share of credit card debt delinquent



Credit market outcomes: Credit Score



Credit market outcomes: Collections debt



Reduced form impact of Medicare on financial strain

- No statistically sig. effects on most financial outcomes
- Except debts in collections
 - ≈ 4 million ppl turn 65 annually: $4M \times 30 = \$120M$ annual in collections debt
 - Given small % with debts, large impacts on those affected ($\approx \$400$ pp w/ collections)
- Shocks leading to healthcare-related collections debt not affecting traditional measures of distress (bankruptcy, credit score, delinquency) in the short-run
- Medicare substantially reduces the variance of health insurance status and collections debt across states
 - Not just reducing similarly for everyone, but bringing right tail in

Collections debt has consequences beyond financial health

PROPUBLICA



AMBULANCE, JUDGE, JAIL

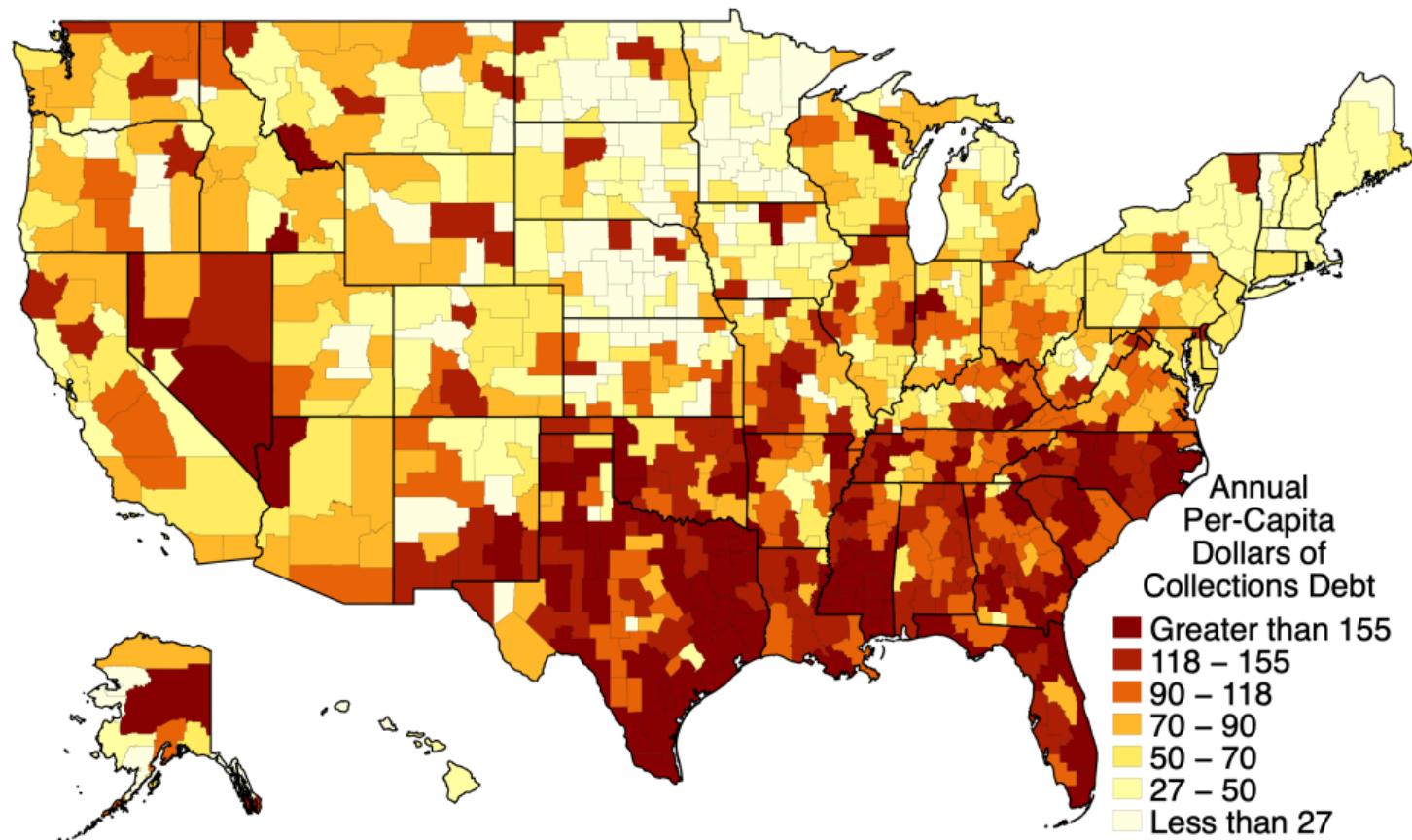
**When Medical Debt Collectors
Decide Who Gets Arrested**

f t Donate

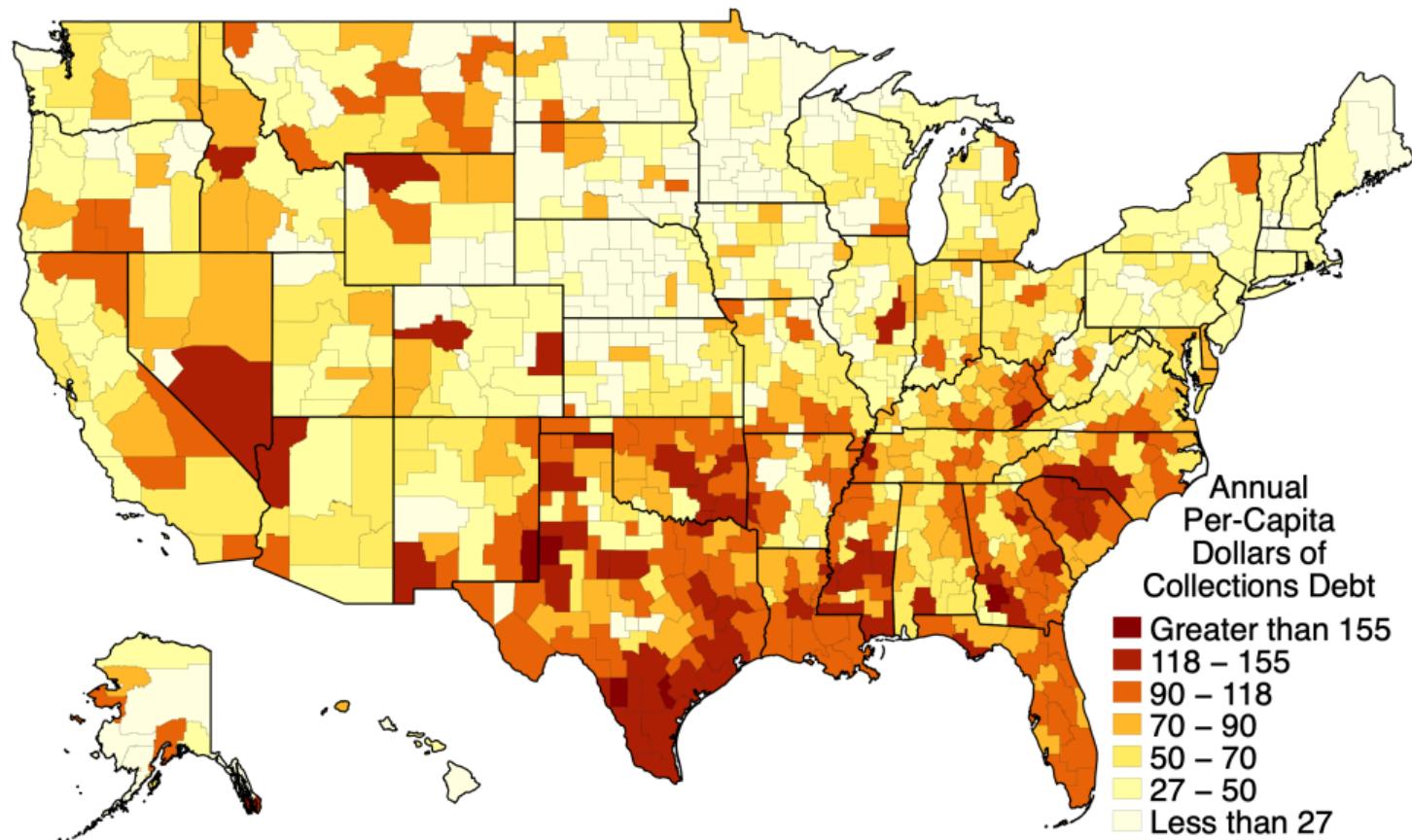
Medicare and the geography of collections debt

- Large reductions in cross-state variance of health insurance and debt collections – limited impacts on other financial health outcomes
 - Regional "federalism" → Uniform national policy
- Where is the reduction in variance?
 - μ^+ and μ^- constructed for each commuting zone
 - Let's take a look at a map of them

Counterfactual debt in collections by CZ at age 65, without Medicare



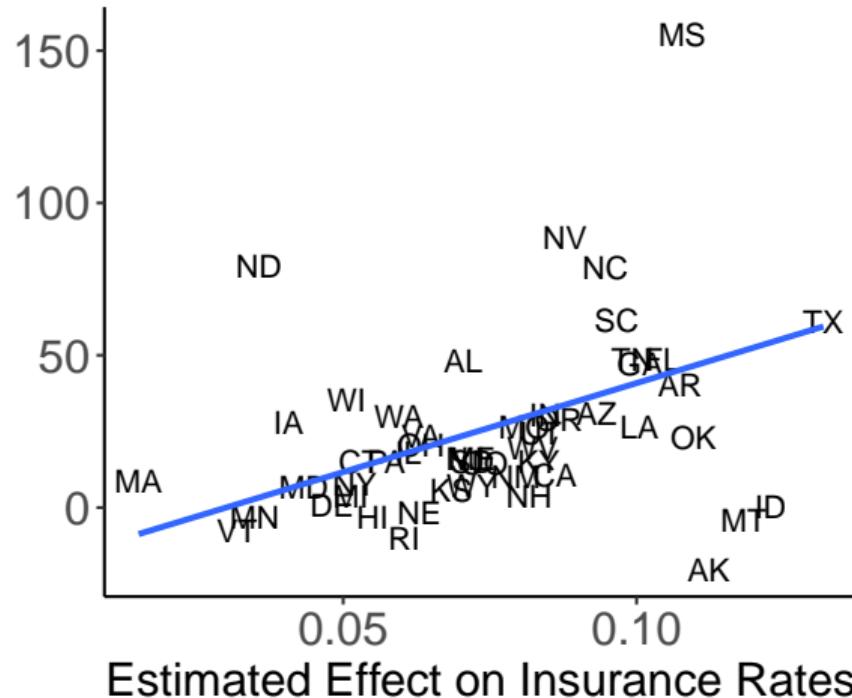
Counterfactual debt in collections by CZ at age 65, with Medicare



What are the features of these areas?

- Examine the CZ-level characteristics of areas with the largest drops in collections debt
 1. An “extensive margin” effect of health insurance?
 2. Demographic differences?
 3. Health care industry?
- Approach: Compare RD estimates for insurance cov. and collections by location

Effect on collection debts vs. effect on uninsurance

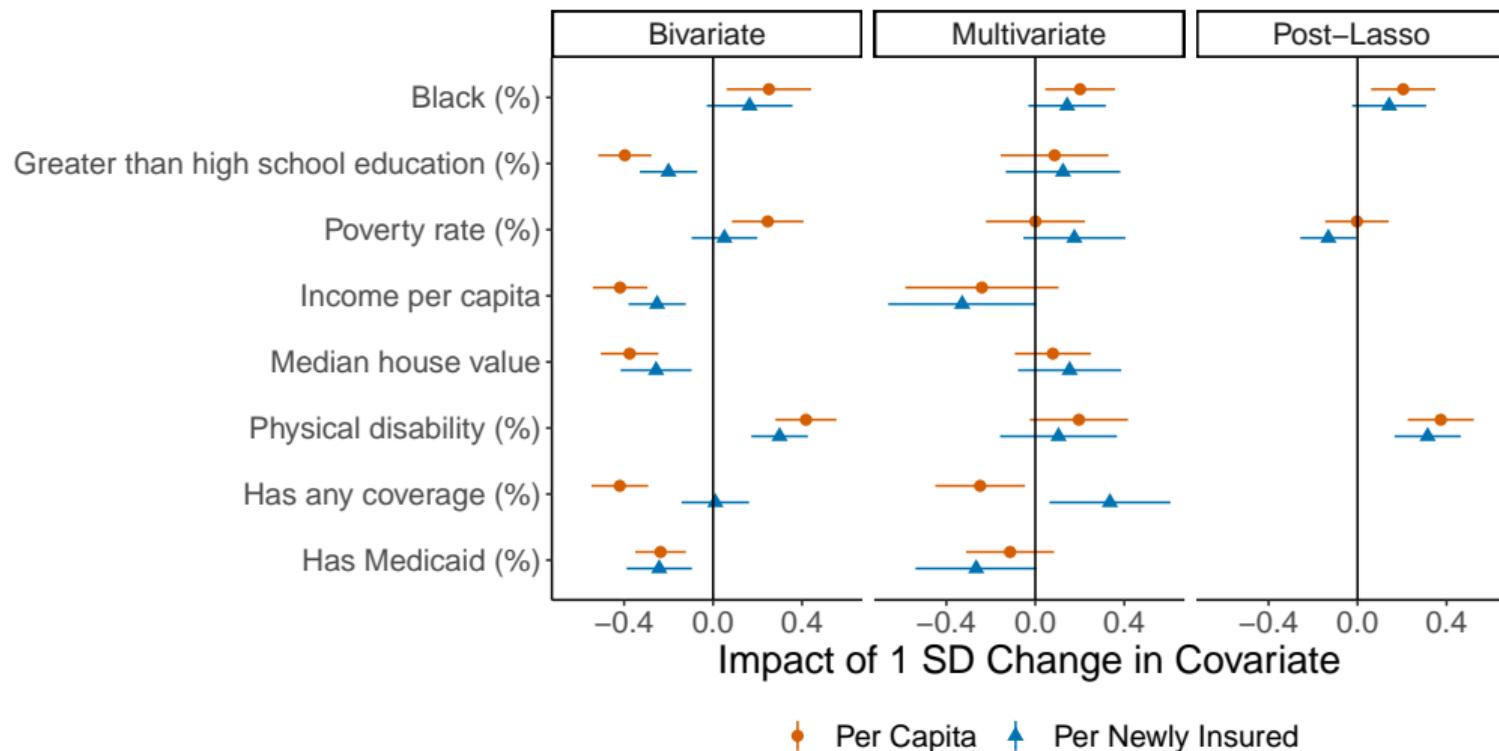


1. Δ insurance explains large share of variation ($R^2 = 0.37$) in Δ collections
2. Low Δ insurance \leadsto low Δ collections
3. Slope $\approx \$584^\dagger$

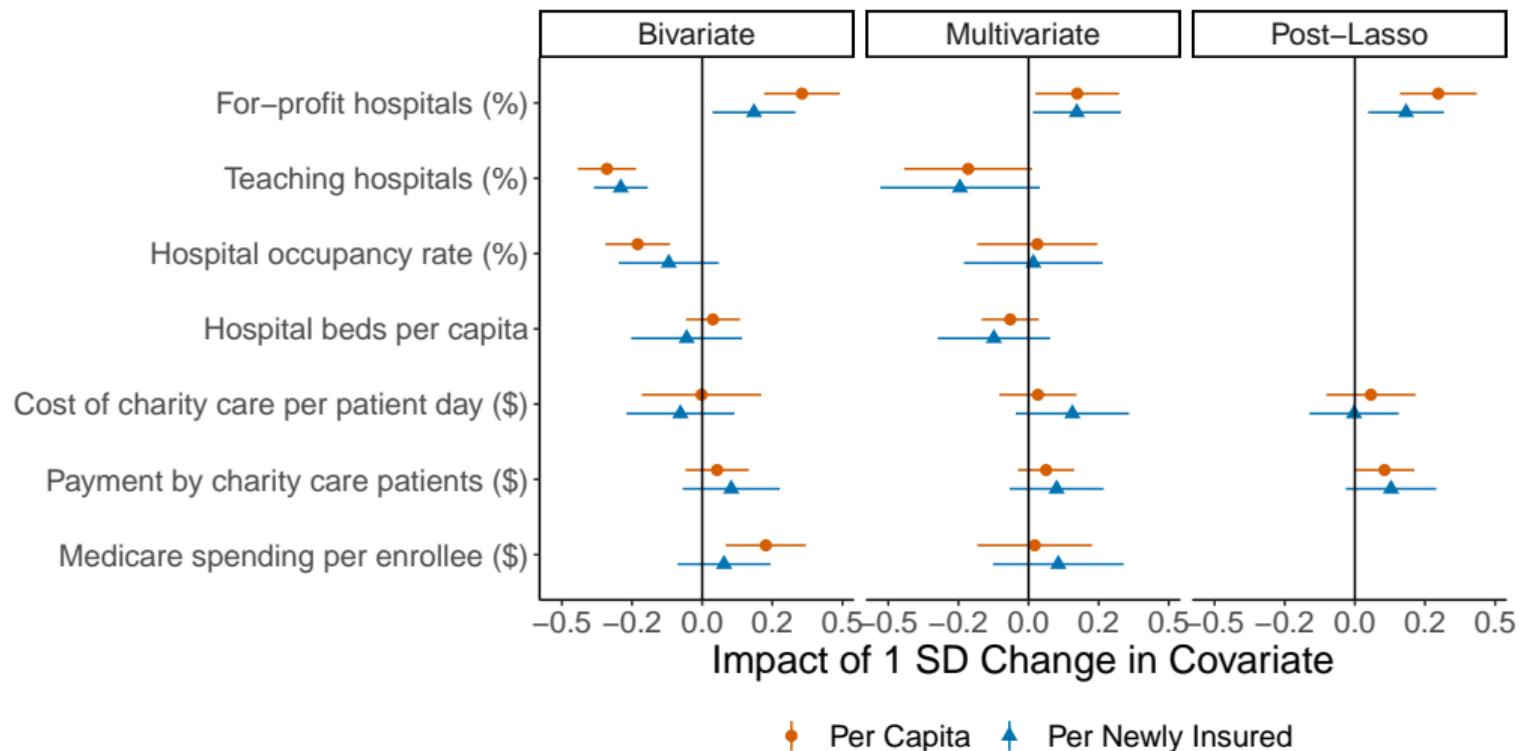
Our “heroic” calculation of health insurance treatment effects

- We consider two aspects of treatment effect:
 1. γ : **Per capita** effects of Medicare (estimated effects above)
 2. β : **Per newly-insured** effects of Medicare
- We estimate β_I by scaling γ_I by the estimated gains in insurance
 - This is the change in collections debt (or other outcomes) *per newly-insured*
 - Effectively the Wald estimator from IV of Medicare → Insurance → Collections
 - However, implausible that the exclusion restriction holds; instead, convenient scaling
- Look at correlation of γ and β with area-level factors across commuting zones
 - Bivariate correlations
 - Multivariate regression (include all controls)
 - Post-LASSO (choose most important regressors with LASSO, then OLS)

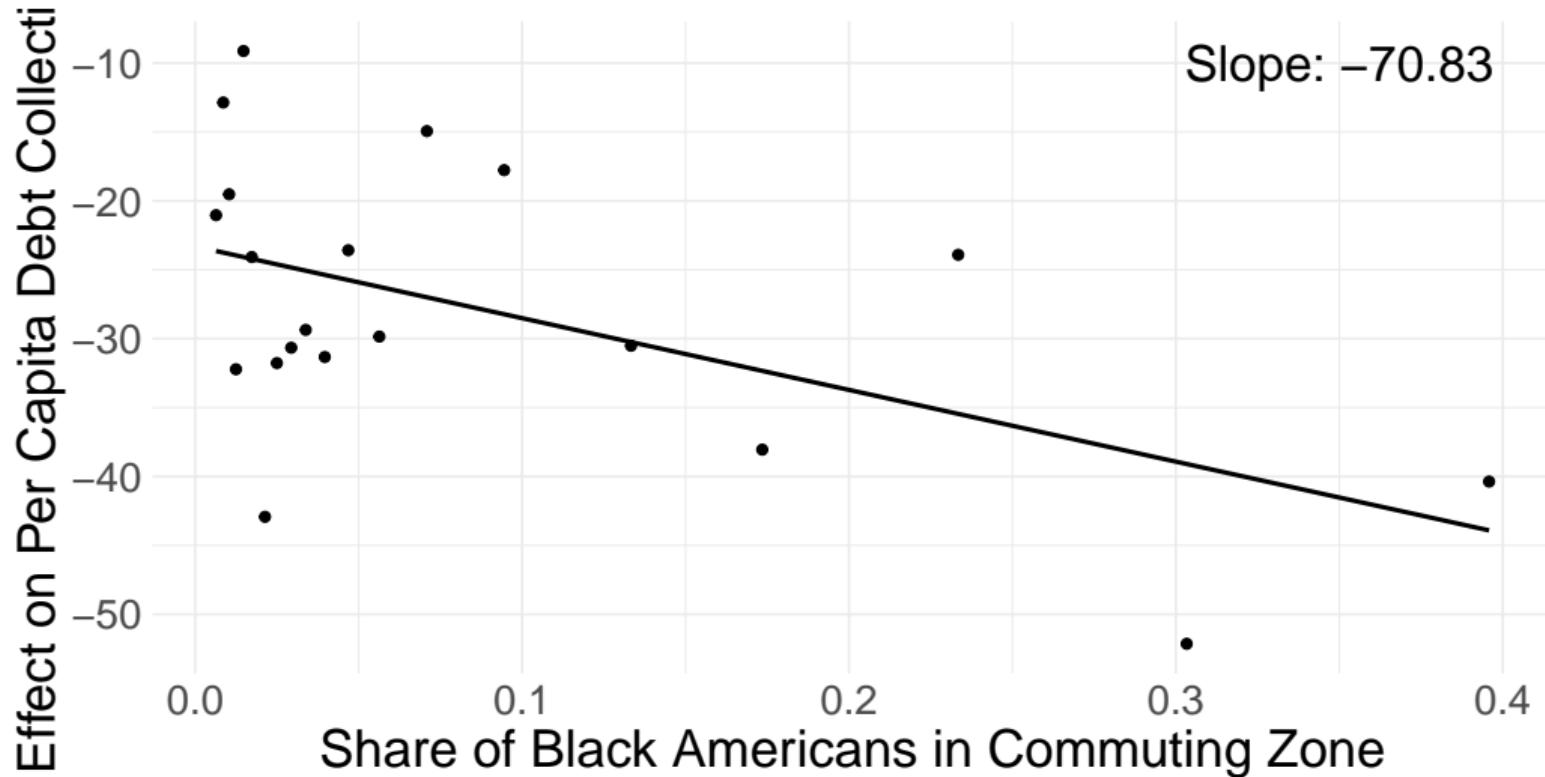
Correlates of collections drop: Area-level demographic characteristics



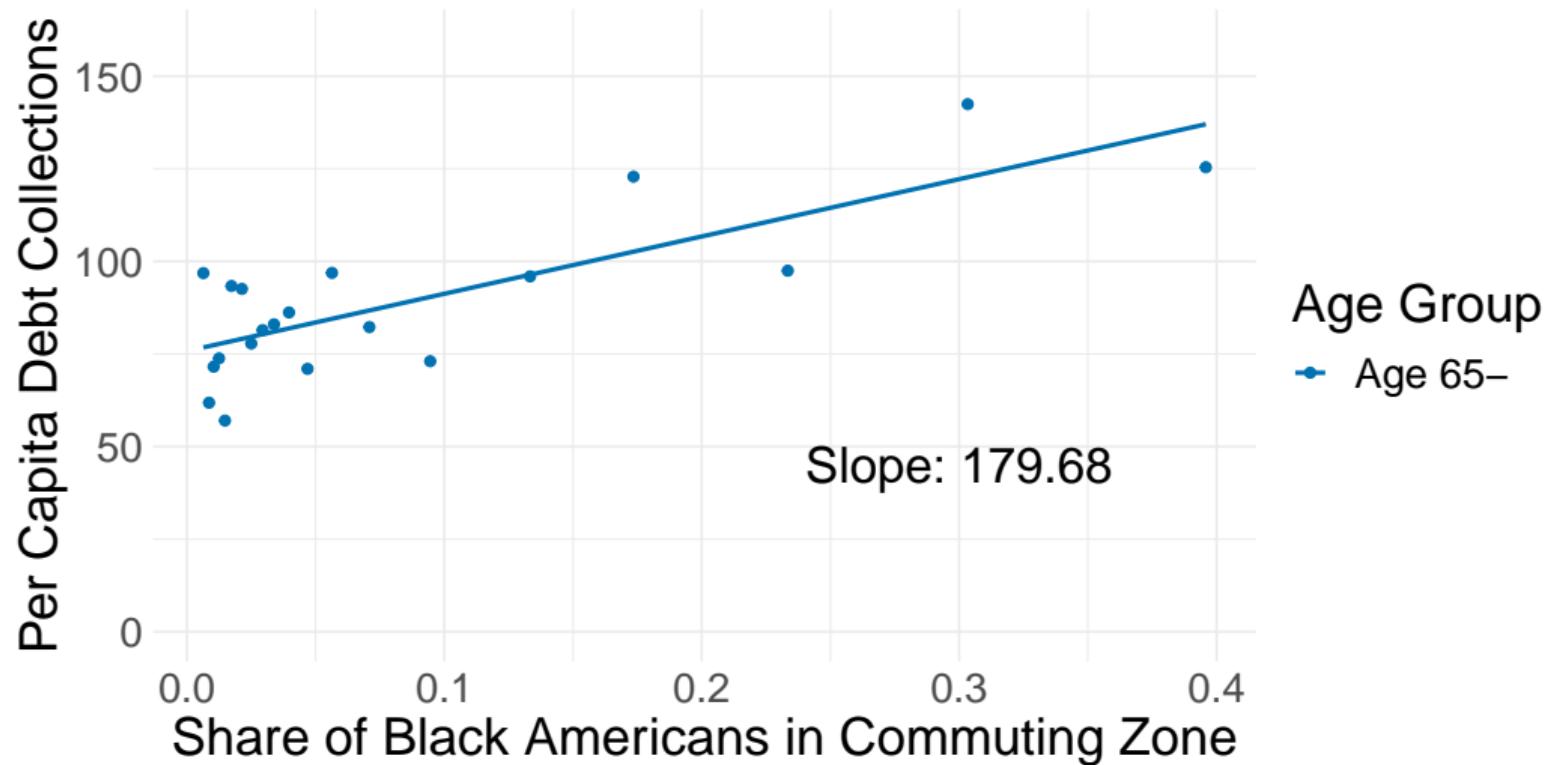
Correlates of collections drop: Healthcare market characteristics



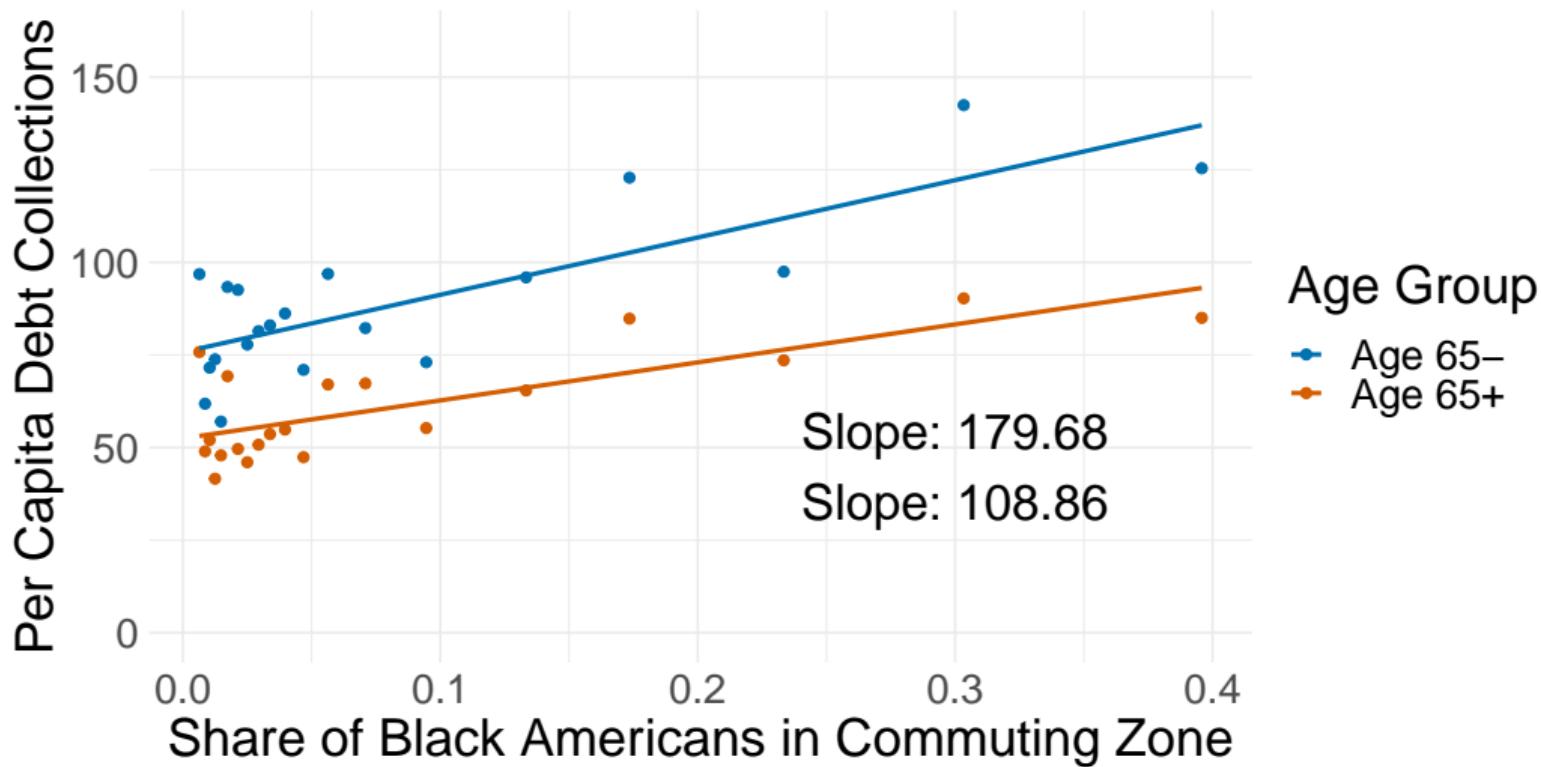
Correlates of collections drop: share of Black Americans



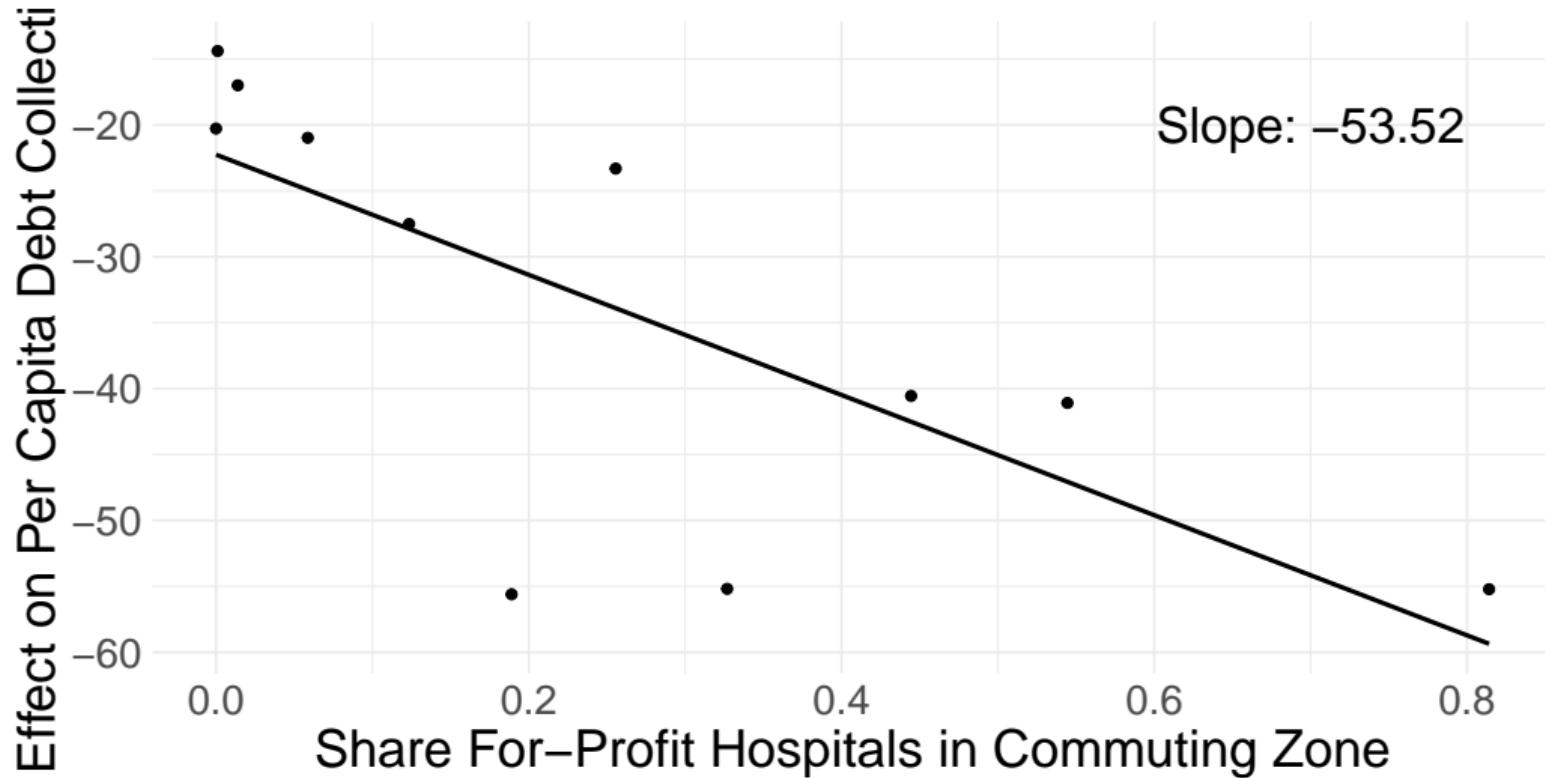
Correlates of collections **levels**: share of Black Americans



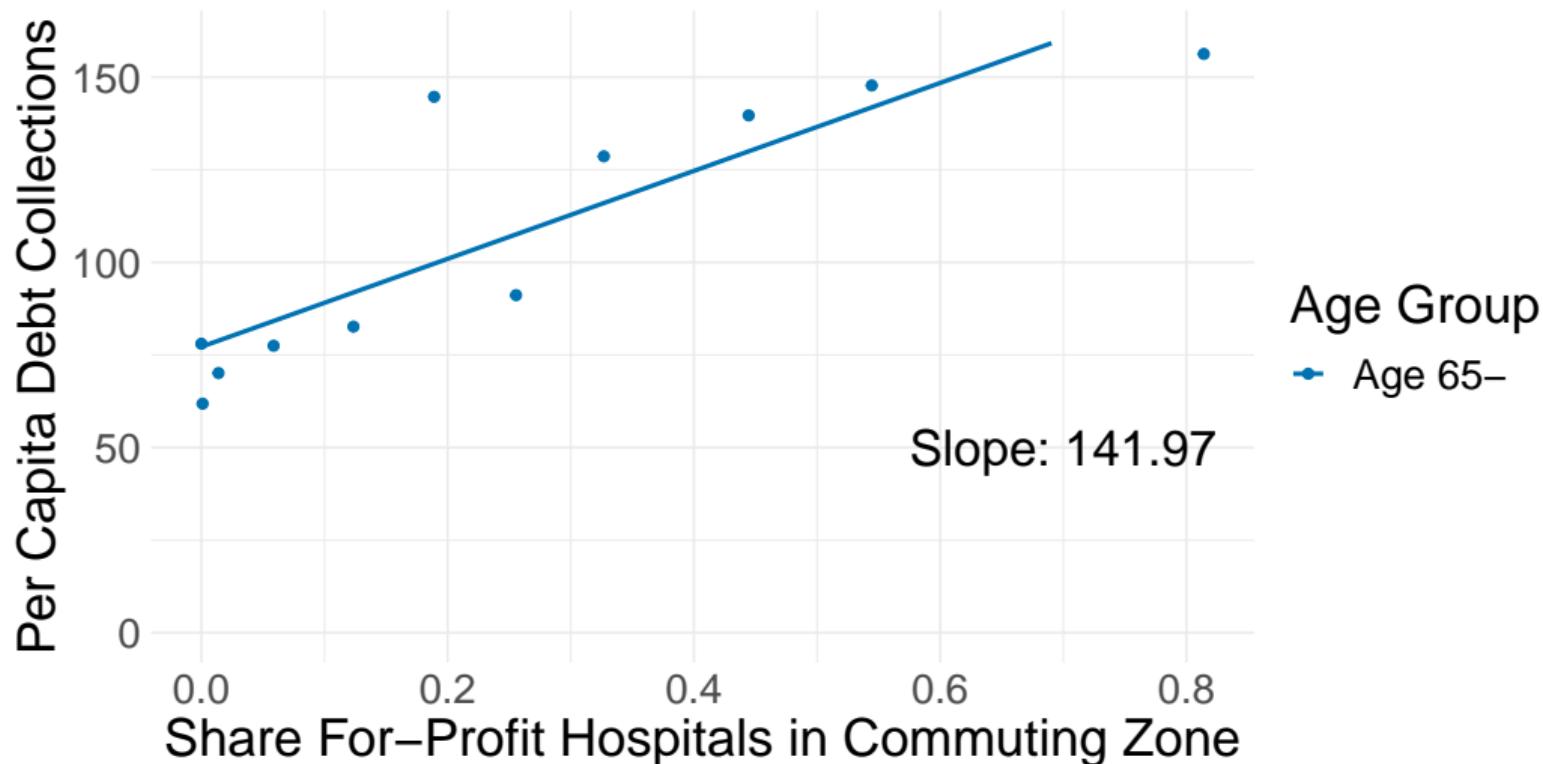
Correlates of collections **levels**: share of Black Americans



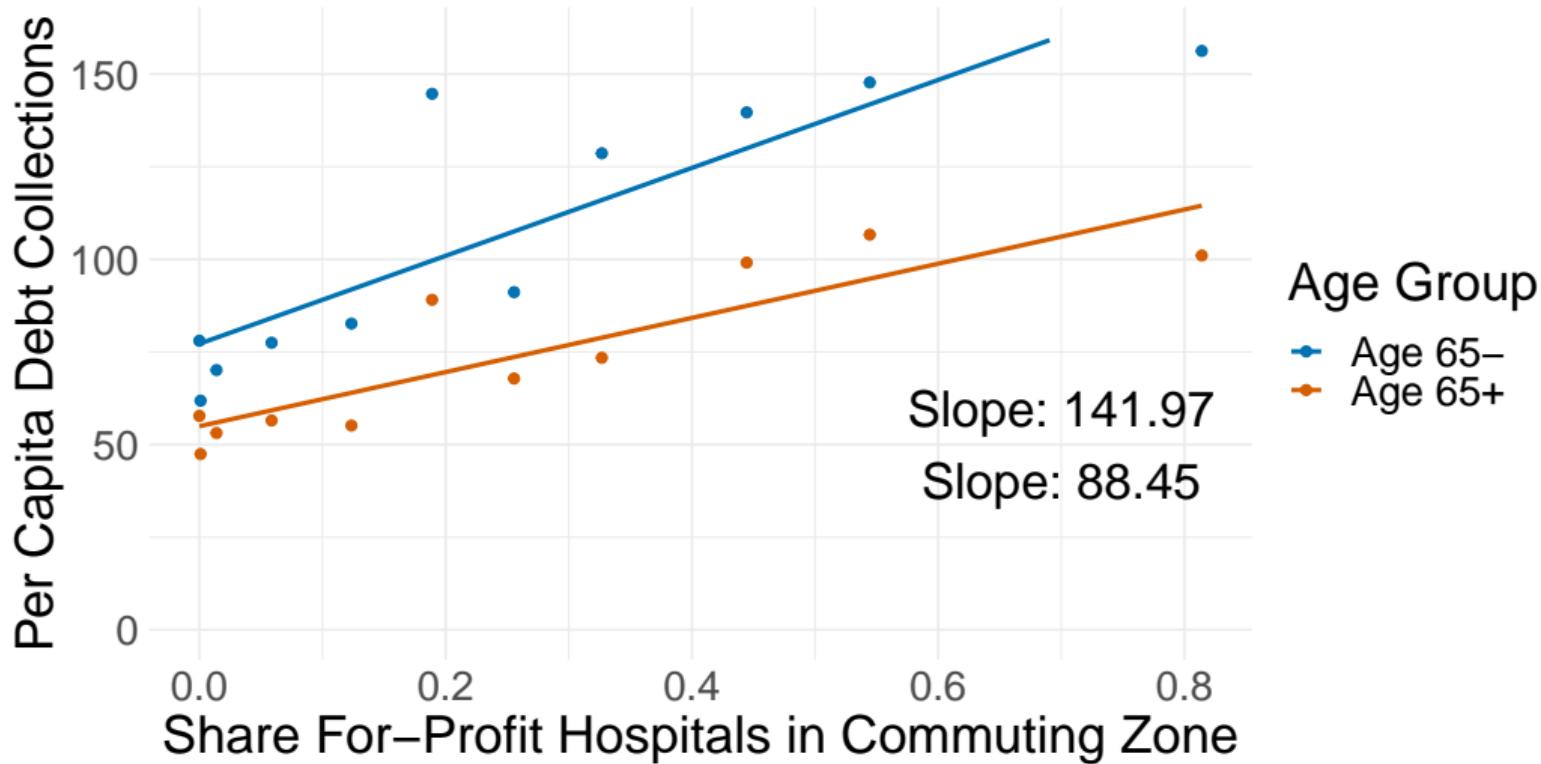
Correlates of collections drop: share of for-profit hospitals



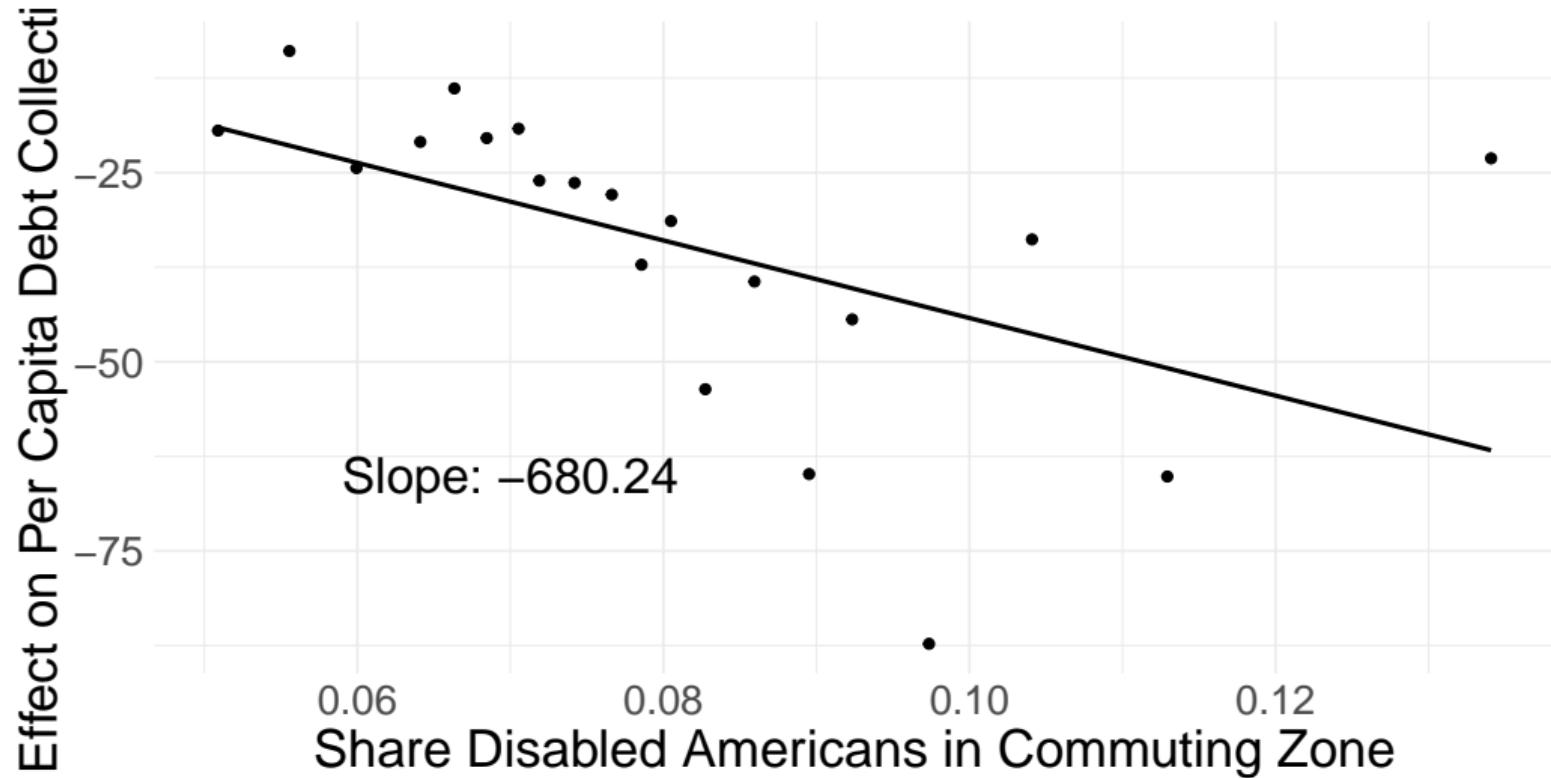
Correlates of collections **levels**: share of for-profit hospitals



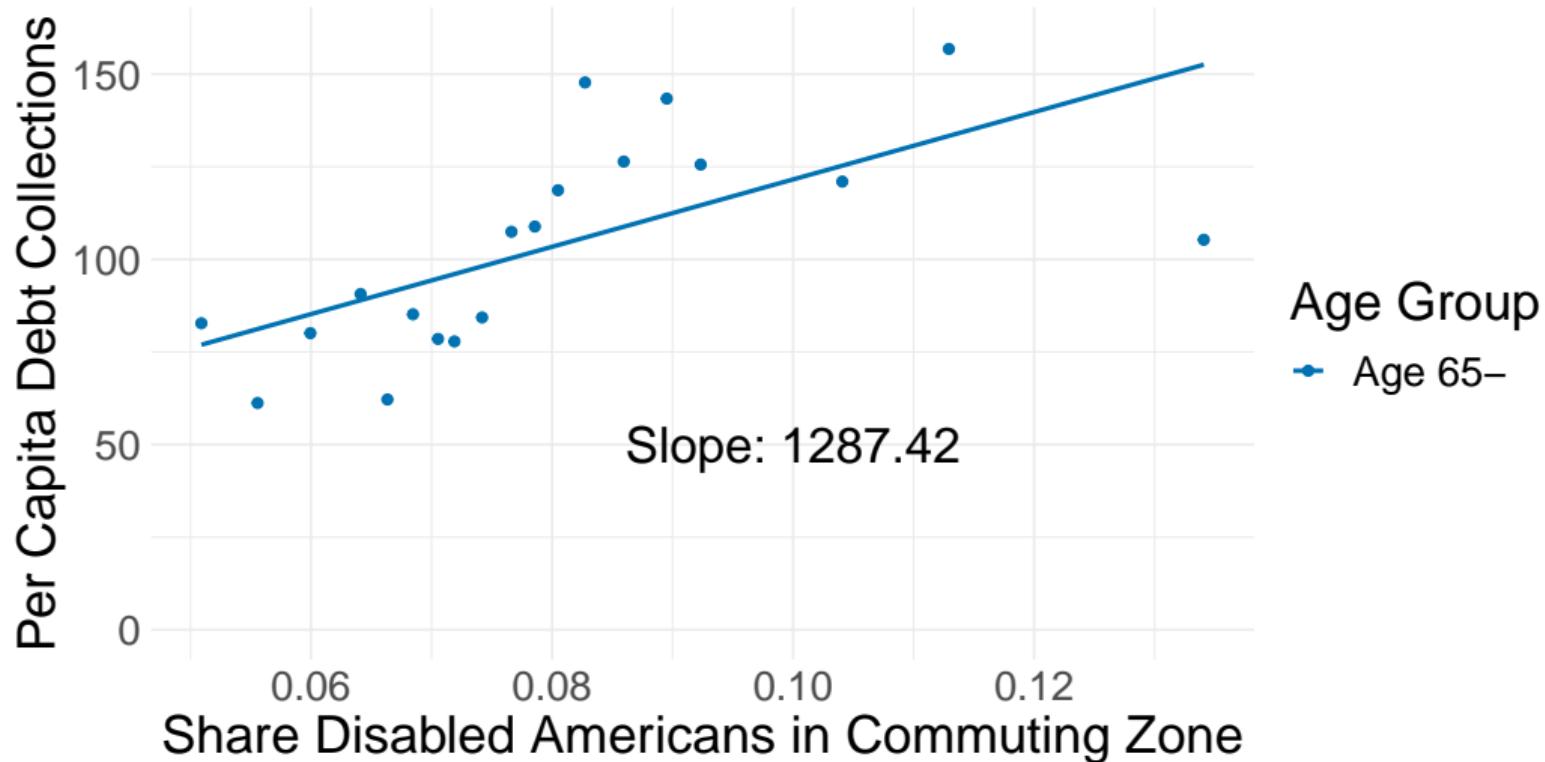
Correlates of collections **levels**: share of for-profit hospitals



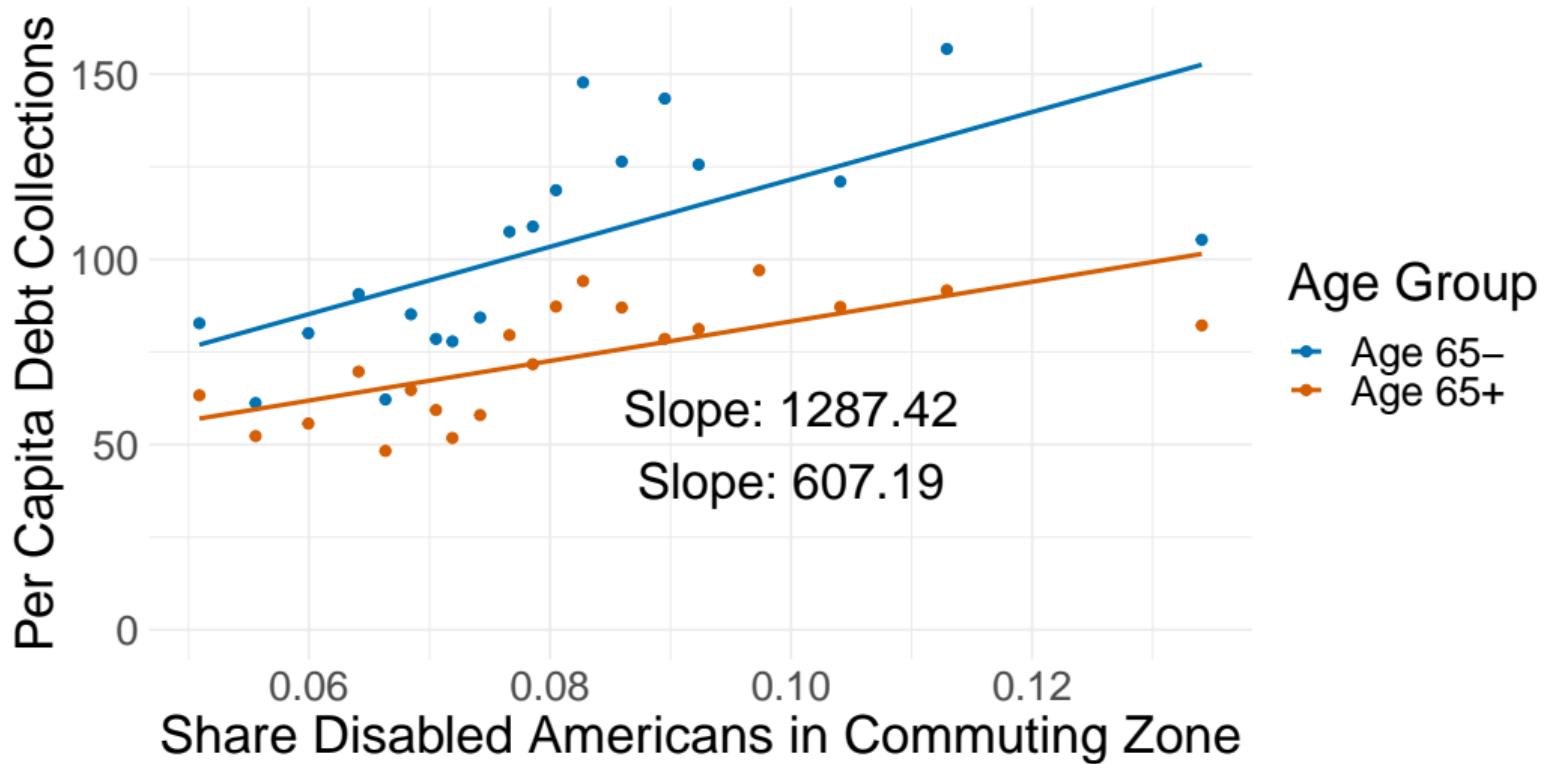
Correlates of collections drop: share of disabled Americans



Correlates of collections **levels**: share of disabled Americans



Correlates of collections **levels**: share of disabled Americans



Correlates of collections drop: What we learned

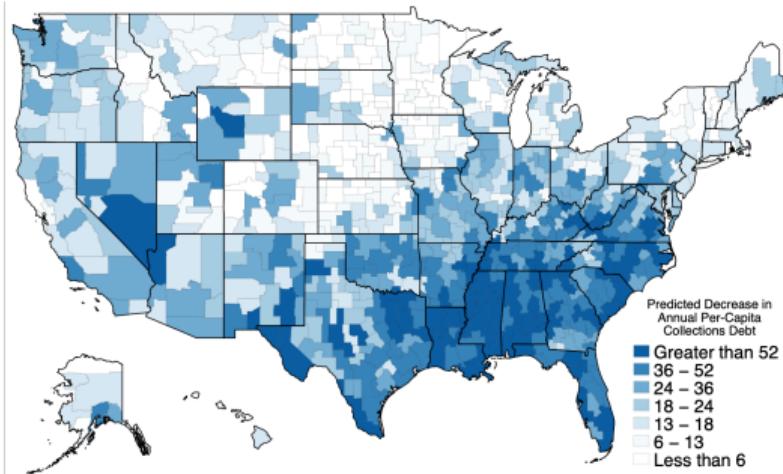
- Uninsured experience larger gains in financial due to Medicare at age 65 in areas with:
 - Larger shares of black residents
 - Larger shares of people with disabilities
 - Larger shares of for-profit hospitals
- For-profit hospital correlation consistent with observational evidence that for-profit hospitals offer less charity care than not-for-profits (e.g., Horwitz, 2005; Schlesinger and Gray, 2006; Valdovinos, Le and Hsia, 2015)
- ACA requires non-profit hospitals to have written financial assistance policies

Forecasts of causal effects of health insurance on financial strain

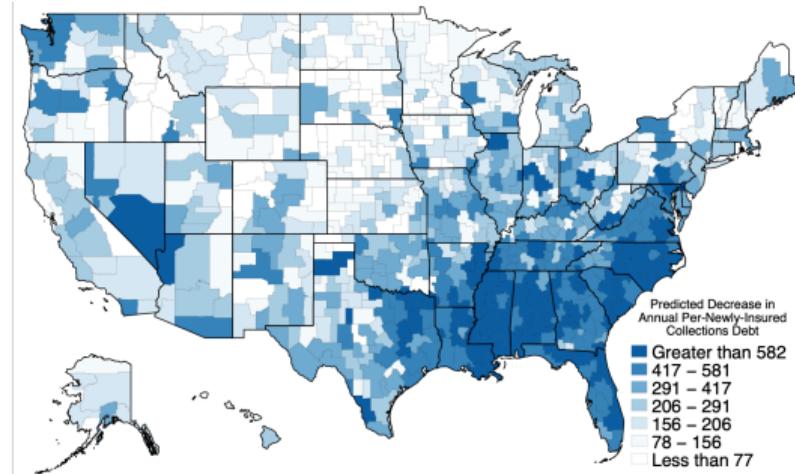
- Construct forecasts of the causal effect of expanding (nearly) universal health insurance in each commuting zone
- Forecasts combine our unbiased RD estimates with predicted effects for each CZ based on demographic and healthcare market chars
 - Following Chetty and Hendren (2018)
 - Both per capita and per newly insured
- Largest forecast reductions in collections debt are concentrated in the South
 - E.g., forecast for Raleigh, NC is a reduction in collections of \$48 vs. forecast of \$8 for SF
 - Not just due to differences in uninsurance rate (NC \approx 6.5% vs. SF \approx 5.9%)
 - Forecast reduction in collections *per newly-insured* \$761 in Raleigh, 345% higher than SF

Forecasts of causal reductions in collections debt

Panel A: Per capita, 2008-2017



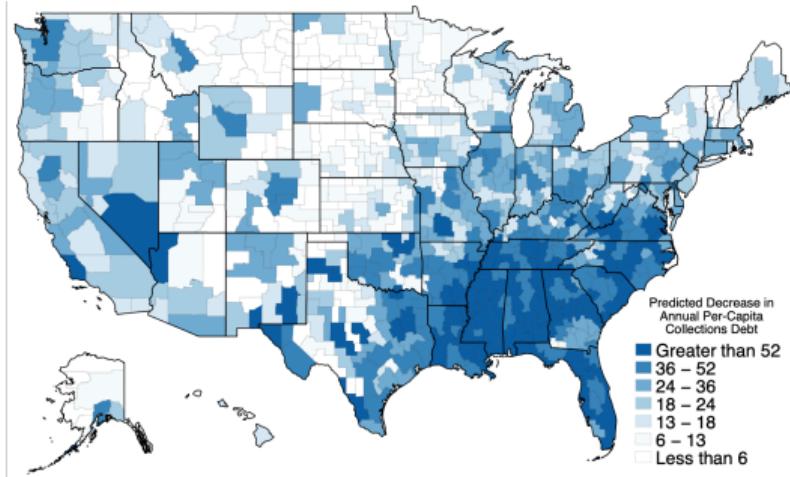
Panel B: Per newly insured, 2008-2017



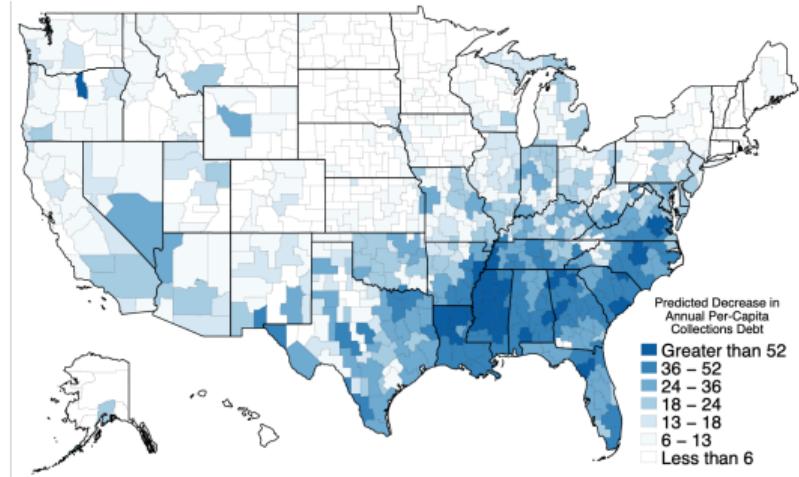
- Overall forecast reductions as well as forecast reductions *per newly-insured* concentrated in the South.

How has the ACA changed the forecast?

Panel A: Pre-ACA, 2008-2013

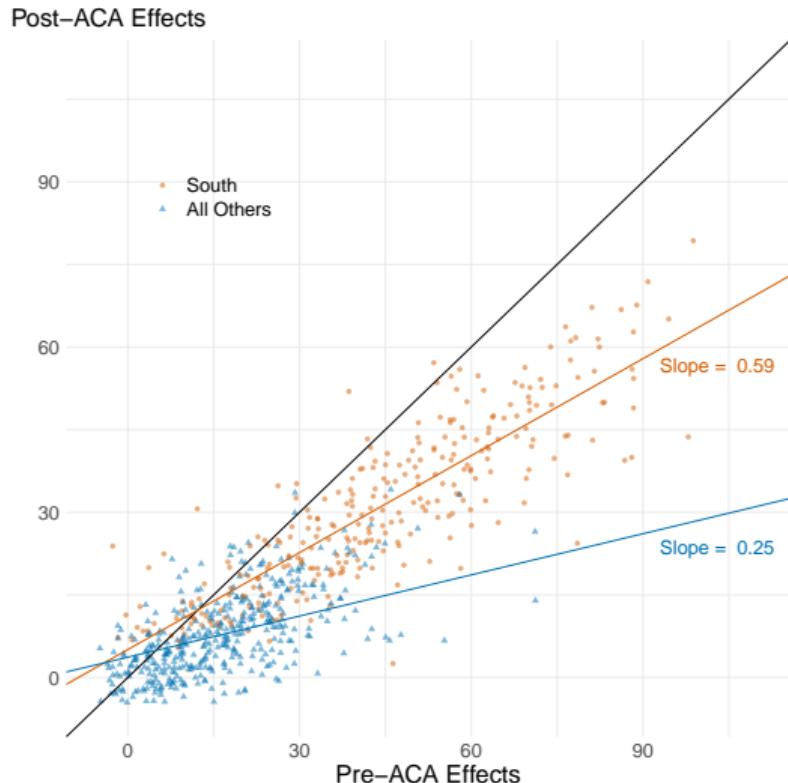


Panel B: Post-ACA, 2014-2017



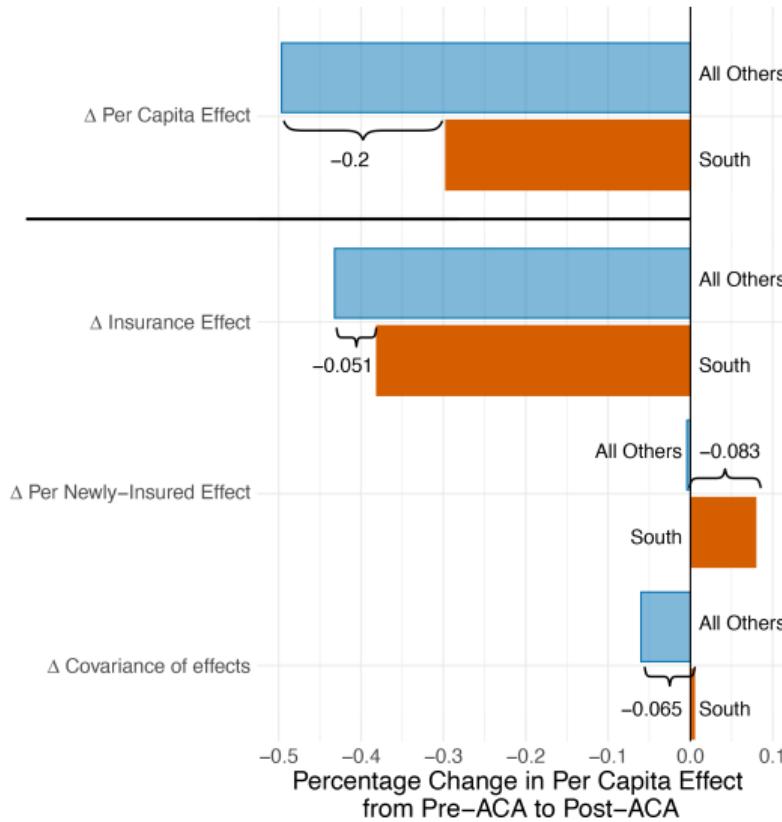
- Forecast reductions in collections from an expansion to the near-elderly have grown more concentrated in the Deep South (LA, AL, MS, GA, SC, TX, FL).
- Uninsured concentrated in South where reductions *per newly-insured* remain largest

Comparing the targeting of the ACA across South vs. Non-South



- Effect of Medicare in Pre-ACA vs. Post-ACA
- ACA reduces effect of Medicare substantially more in the non-South
- Commuting zones in the South continued to have similar Medicare effects post-ACA

Comparing the targeting of the ACA across South vs. Non-South



Decompose the gap in the decline post-ACA in the effect of Medicare into three parts

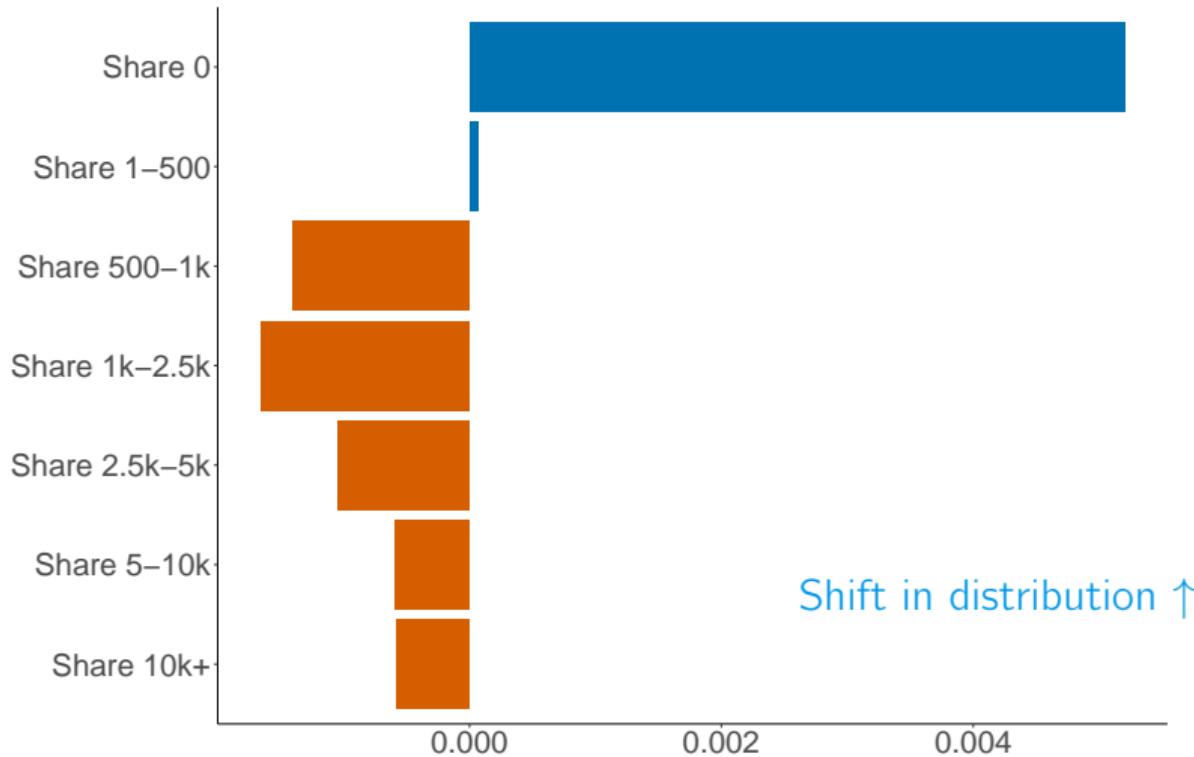
1. One-quarter from higher insurance in non-South
2. Two-fifths from bigger impact per-newly insured
3. One-third from better targetting of insurance

Conclusion

- Health insurance reduces consumer collections debt but not other measures
 - Average dollar reduction of \$28 per capita, \$584 per newly insured
- Medicare reduces geographic variance in collections by 2/3
- Collections debt drop from Medicare is highest in places:
 - with larger share of black and disabled Americans, and more for-profit hospitals
- Largest forecast reductions in collections debt are concentrated in the South
 - Forecasts remain large after ACA but more concentrated in “Deep South”
 - Why? Near-elderly uninsured more concentrated in the South and forecast reductions in collections debt *per newly-insured* also largest in the South (pre- and post-ACA)

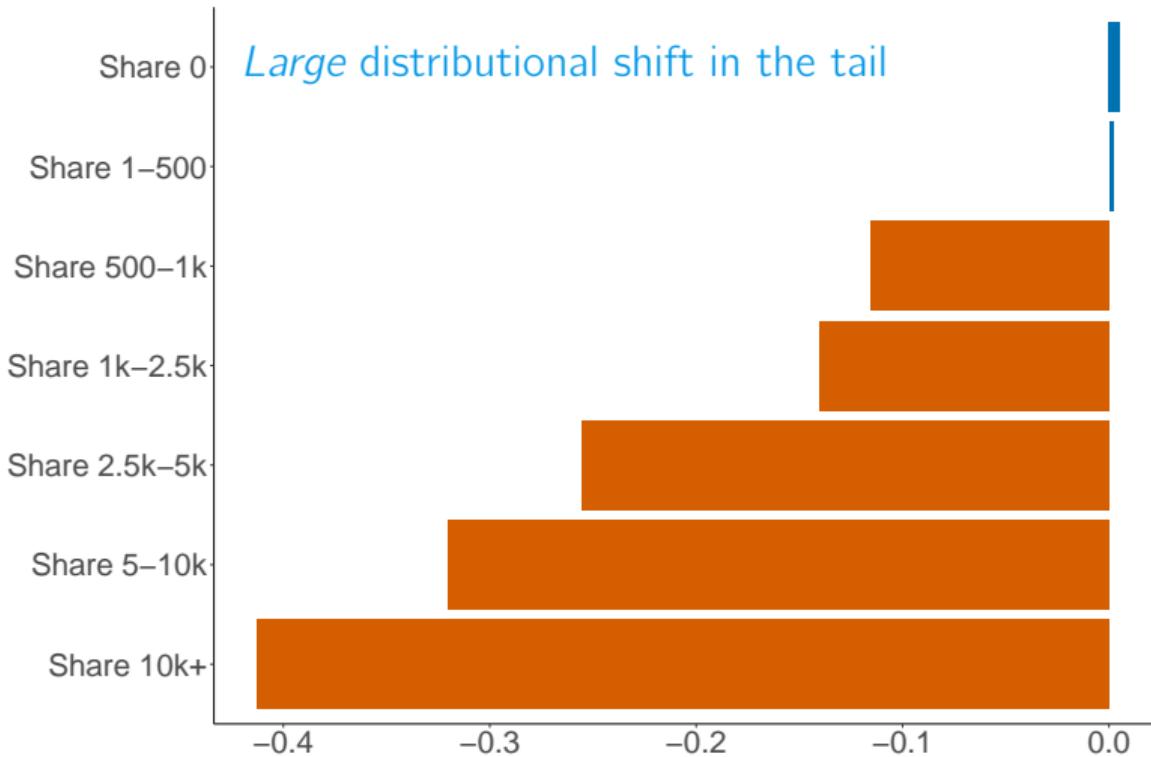
Distributional impact on debt collection

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Distributional impact on debt collection (as percent of 65- mean)

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Covariate smoothness: social security income

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