HIDDEN MEDICAL DEBT AND CONSUMER ACCESS TO CREDIT

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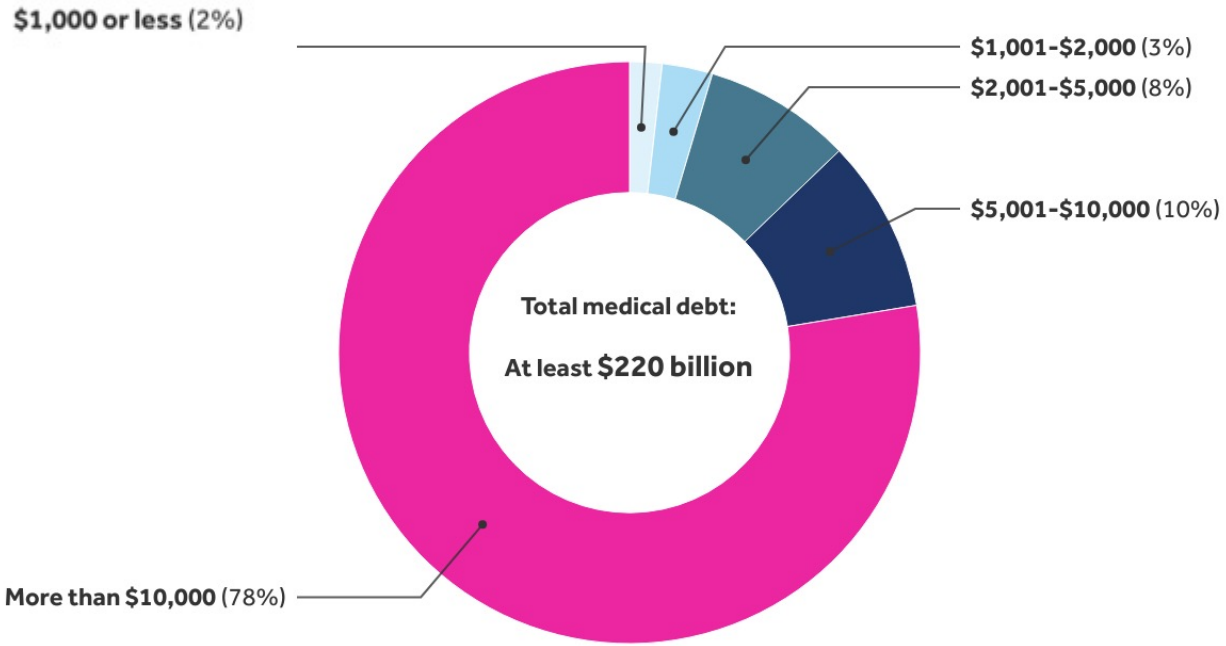
June 11th, 2026

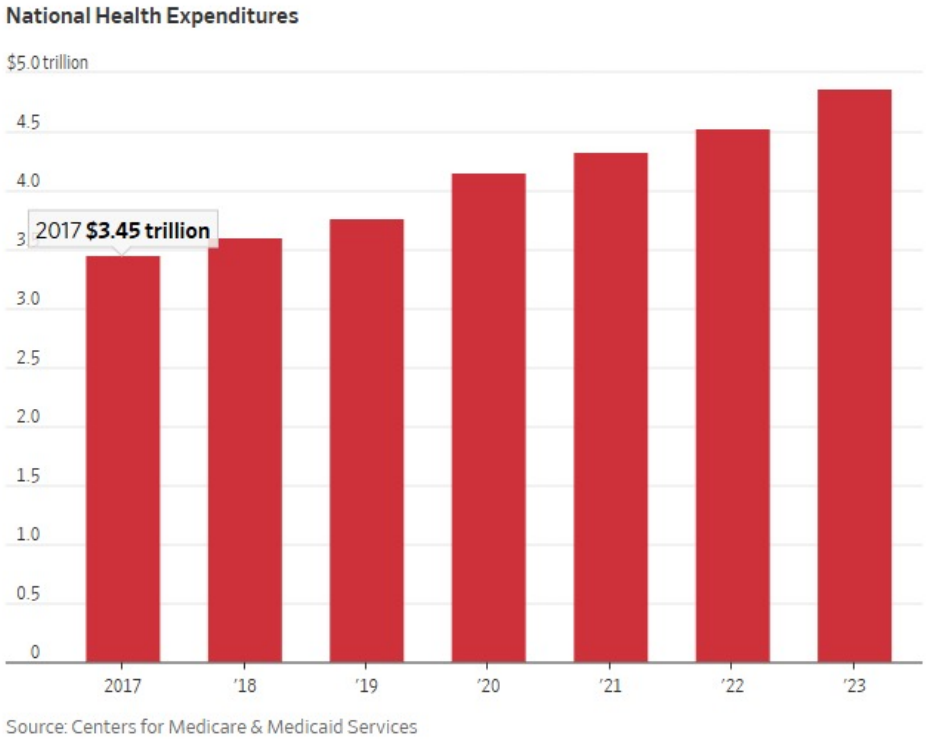
HEALTHCARE COSTS IMPLICATIONS

- Kaiser Family Foundation
  - U.S. consumers owe at least **$220 billion** in medical debt (2021)—about 29% of credit card debt
  - Most of that debt is owed by people with over $10,000 in debt



Source: Kaiser Family Foundation

- Rising healthcare costs in the U.S.



Source: Wall Street Journal

LIMITED MEDICAL DEBT/COLLECTIONS REPORTING

Kaiser Family Foundation

U.S. consumers owe at least **$220 billion** in medical debt (2021)—about 29% of credit card debt

Credit Bureau Files

About **$60.6 billion** of medical debt was recorded by a credit bureau in September 2021

Based on 5% random sample of consumers in Experian (2017-2023)

- **Medical debt and collections are not systematically reported to credit bureaus**

- Why?
  1. Insurance adjustments, disputes, and delays in processing make it difficult to determine the final amount a patient owes.
  2. Medical debt is processed "in-house" by healthcare providers
     - Reputational concerns
     - Cost efficiency
  3. Long cycles of debt collection and renegotiation
  4. Ultimately transfer to (small) collection agencies that have little to no ties with credit bureaus

POLICY DEBATE

Policymakers:

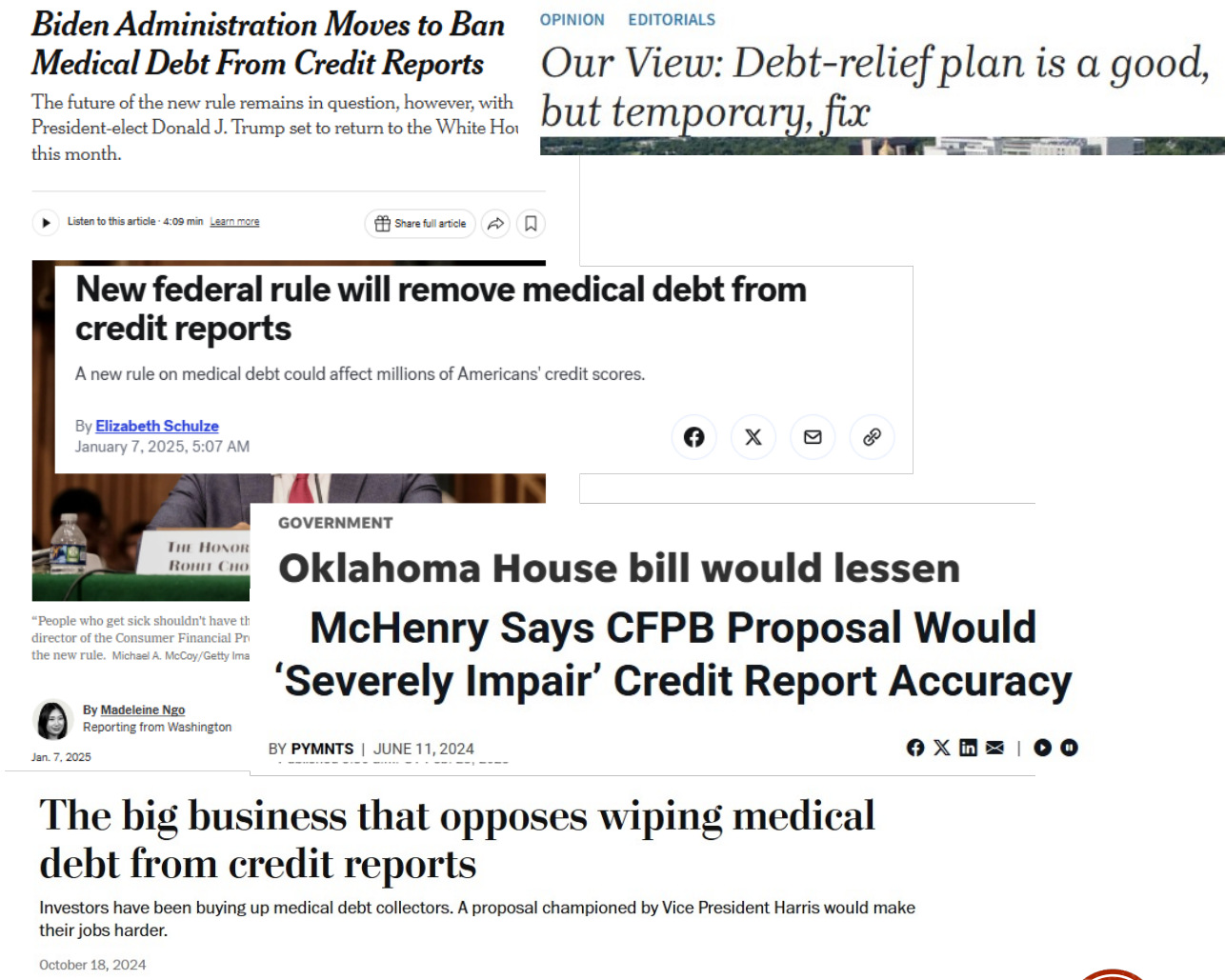
- Medical debt data are imprecise and put undue pressure on consumers
- 2022 Policy Shift
  - Limited reporting of medical debt and related collection balances to credit bureaus
- 2025 Biden admin introduced full ban

Lending industry advocates:

- Medical debt data are *incomplete*
  - Impedes the ability to assess consumers' true indebtedness
- Advocate better, timely reporting practices

BOTH: Lenders are unaware

- Implications on consumer access to credit



Biden Administration Moves to Ban Medical Debt From Credit Reports

The future of the new rule remains in question, however, with President-elect Donald J. Trump set to return to the White Hou this month.

Listen to this article · 4:09 min Learn more

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OPINION EDITORIALS

Our View: Debt-relief plan is a good, but temporary, fix

New federal rule will remove medical debt from credit reports

A new rule on medical debt could affect millions of Americans' credit scores.

By Elizabeth Schulze
January 7, 2025, 5:07 AM

"People who get sick shouldn't have th director of the Consumer Financial Pr the new rule. Michael A. McCoy/Getty Ima

By Madeleine Ngo
Reporting from Washington
Jan. 7, 2025

GOVERNMENT

Oklahoma House bill would lessen

McHenry Says CFPB Proposal Would 'Severely Impair' Credit Report Accuracy

BY PYMNTS | JUNE 11, 2024

The big business that opposes wiping medical debt from credit reports

Investors have been buying up medical debt collectors. A proposal championed by Vice President Harris would make their jobs harder.

October 18, 2024

ECONOMIC RATIONALE

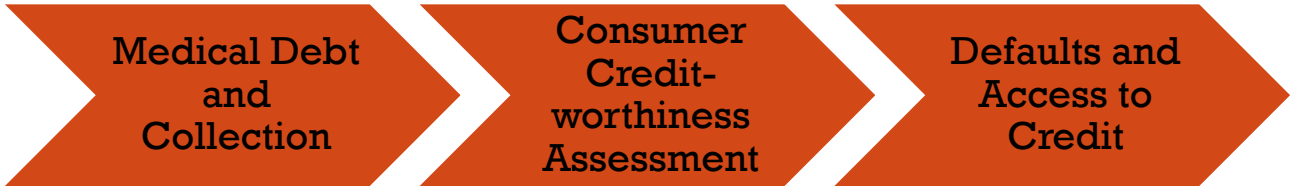
Limiting negative public information increases credit access for **direct beneficiaries**

- Bankruptcy flag removal increases credit limits, credit scores, borrowing, and entrepreneurial activities
  - Dobbie et al. (2020); Gross et al. (2020); Herkenhoff et al. (2021)
- Removing medical collection data (2022 Policy Shift):
  - CFPB (2024) reports credit score increase by 20 points, on average
  - Duarte et al. (2025)

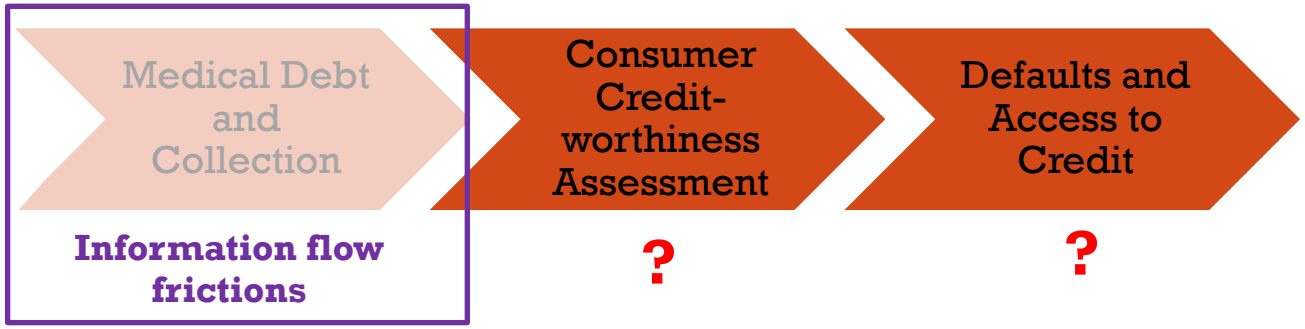
Incomplete credit information is associated with **lower overall social welfare**

- Aggregate access to credit and social welfare declines
  - Liberman et al. (2018); Jansen et al. (2025)
- Adverse selection framework predicts **risk pooling behavior by lenders**
  - Chatterjee et al. (2023, 2025)

THIS PAPER


Medical Debt and Collection
Consumer Credit-worthiness Assessment
Defaults and Access to Credit

THIS PAPER



1. **Does hidden medical debt affect informativeness of consumer creditworthiness measures?**
   - **Credit scores and DTIs' ability to predict defaults**

2. **Are lenders aware of the impact of hidden medical debt?**
   - **Effects on credit supply**

❖ Leverage the ***2022 Policy Shift*** (information friction shock)

RESULTS IN A NUTSHELL

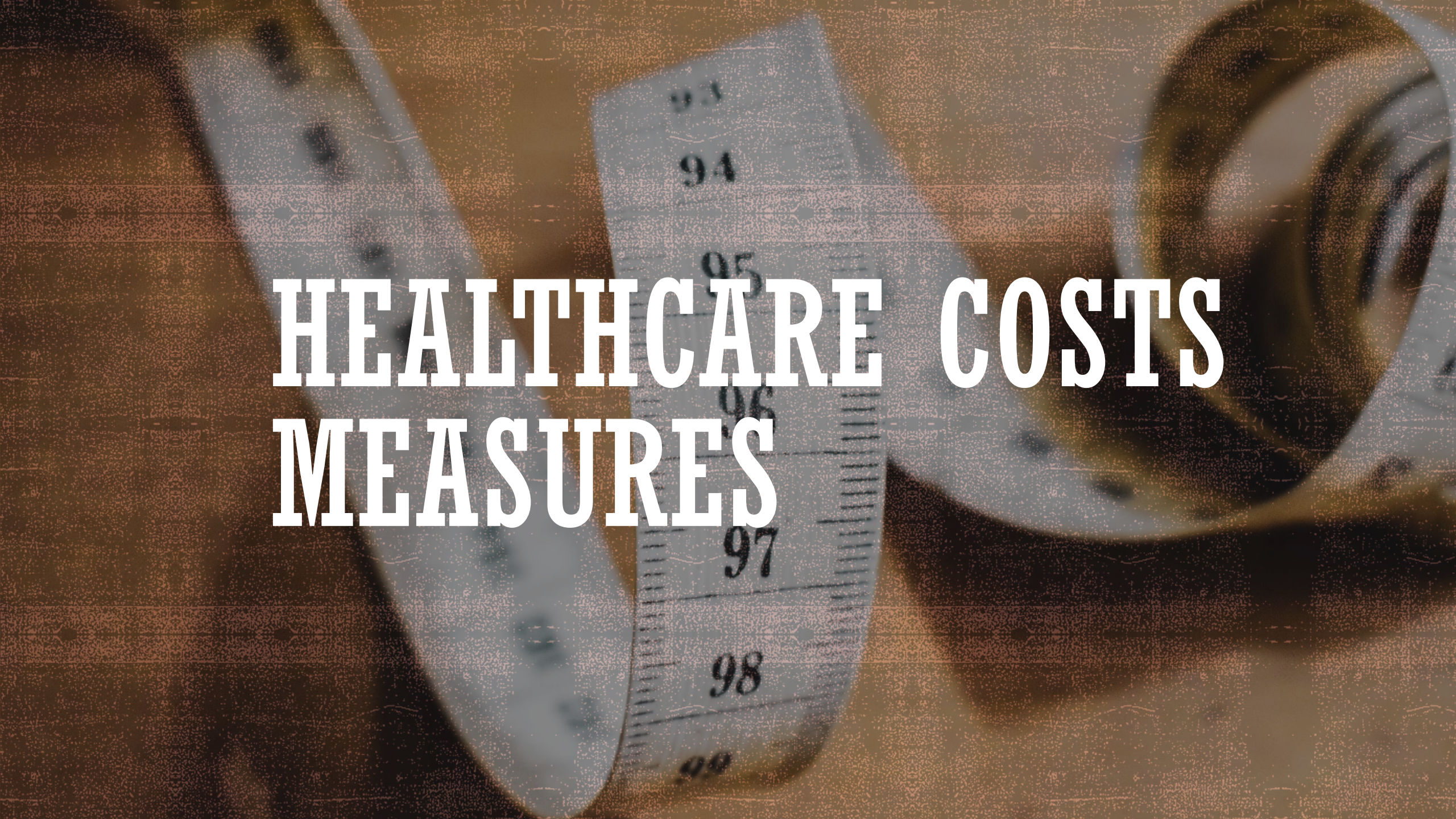
Introduce a new HCC measure that captures geographic heterogeneity in healthcare cost

- Validate this measure using available data on medical debt and collections
  - Assumption: observable medical debt and related collections are not randomly distributed

1. **Credit scores overestimate the quality of borrowers in high HCC CBSAs:**
   - Consumers in high HCC geographies default more conditional on their credit scores
     - More so for low credit score borrowers
     - More so for high DTI borrowers

2. **Lenders internalize the borrower risk associated with local HCC**
   - Mortgage approval rates are lower in high HCC markets, conditional on observables
     - More so for low credit score borrowers
     - More so for high DTI borrowers

3. **Economic channel: information frictions**
   - Results are stronger after Q1 2022 government regulation restriction on medical debt collection reporting


HEALTHCARE COSTS
MEASURES

MSPB HEALTHCARE COSTS DATA

Medicare Spending Per Beneficiary - Hospital

Data.CMS.gov
Centers for Medicare & Medicaid Services

The Medicare Spending Per Beneficiary (MSPB) Measure shows whether Medicare spends more, less, or about the same for an episode of care (episode) at a specific hospital compared to all hospitals nationally. An MSPB episode includes Medicare Part A and Part B payments for services provided by hospitals and other healthcare providers the 3 days prior to, during, and 30 days following a patient's inpatient stay. This measure evaluates hospitals' costs compared to the costs of the national median (or midpoint) hospital. This measure takes into account important factors like patient age and health status (risk adjustment) and geographic payment differences (payment-standardization).

- **Created by CMS to evaluate hospitals' cost (in)efficiencies** (Norton et al., 2018; Currie et al., 2023).

DISTRIBUTION OF MSPB

- Hospital level (mapped to CBSA)
- Annual
- Costs per patient, per hospitalization incident:
  - Pre-hospital
  - Hospital stay
  - Post-discharge
- Based on Medicare data:
  - Homogenous population
  - Less likely to borrow to fund medical expenses
  - Not affected by insurance coverage

Period	Type of services	Percent of costs per incident
1 to 3 days Prior to Index Hospital Admission	Home Health Agency	0.06%
	Hospice	0.00%
	Inpatient	0.03%
	Outpatient	0.73%
	Skilled Nursing Facility	0.01%
	Durable Medical Equipment	0.04%
	Carrier	2.72%
During Index Hospital Admission	Home Health Agency	0.00%
	Hospice	0.00%
	Inpatient	47.16%
	Outpatient	0.00%
	Skilled Nursing Facility	0.00%
	Durable Medical Equipment	0.09%
	Carrier	7.06%
1 through 30 days After Discharge from Index Hospital Admission	Home Health Agency	3.75%
	Hospice	0.70%
	Inpatient	13.24%
	Outpatient	4.01%
	Skilled Nursing Facility	14.50%
	Durable Medical Equipment	0.43%
	Carrier	5.47%

ADVANTAGES OF THE MSPB BASED MEASURES

1. **Price-standardized**
   - Regional payment differences are adjusted out.

2. **Free of potential biases stemming from geographical variations in healthcare utilization by patients**
   - It reports costs *per hospitalization incident* (Skinner, 2011).

3. **Adjusted for patient risk factors, including:**
   - Age
   - Severity of illness

Core MSPB variation: ***hospital inefficiency***
(overprovision of services & service quality)

OUR HCC PROXIES

1. Baseline measure:

$$MSPB\ Costs_{CBSA,t} = \frac{Avg\ Medicare\ Spending\ per\ Beneficiary\ per\ Incident_{CBSA,t}}{National\ Avg_t}$$

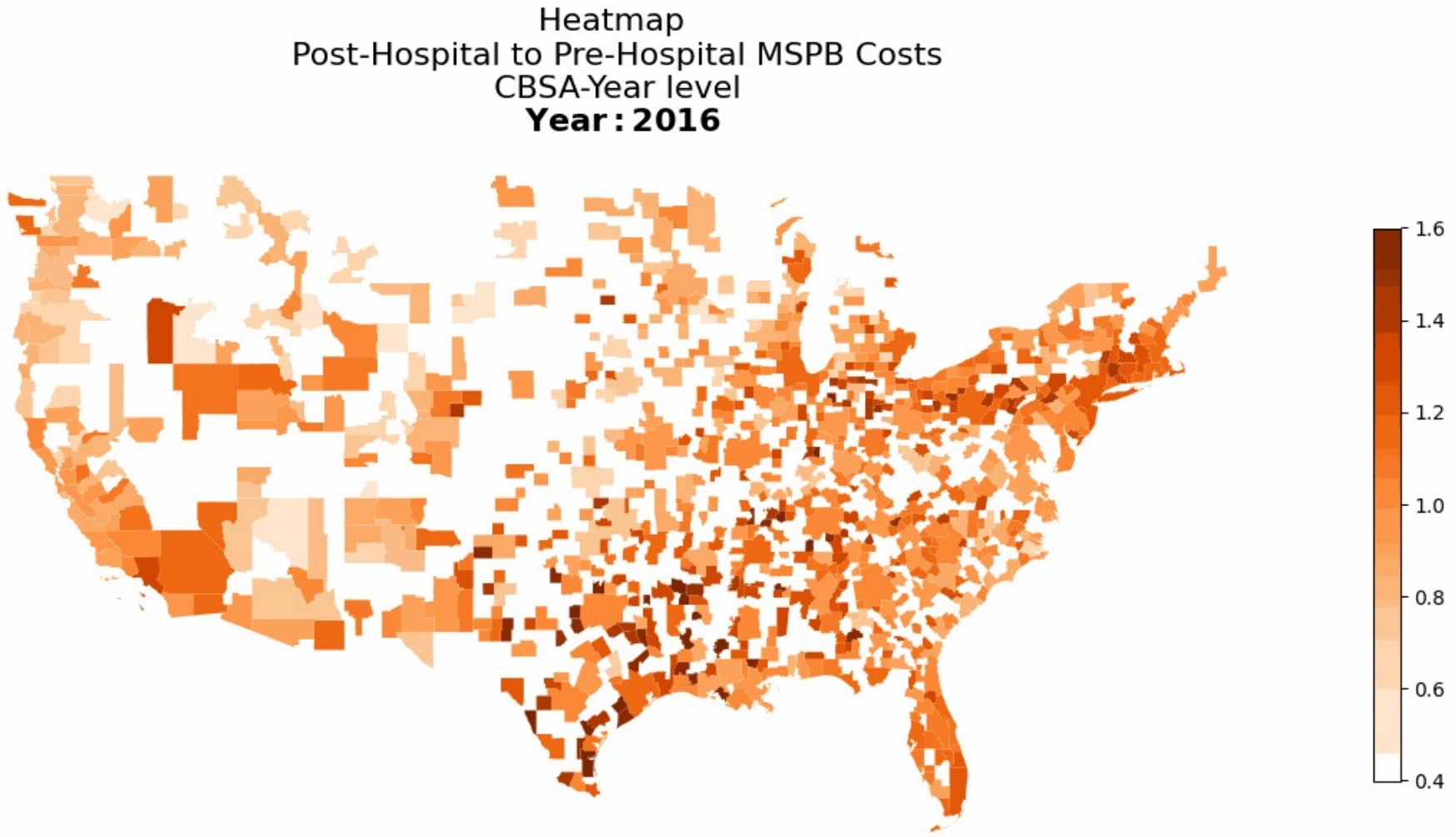
2. Post-hospitalization care-based measure:
   - Das et al. (2016); Norton et al. (2018):; Einav et al. (2023): inefficiencies in post-hospital care

$$Post{-}Discharge\ MSPB\ Costs_{CBSA,t} = \frac{Avg\ Post\ Discharge\ MSPB_{CBSA,t}}{National\ Avg_t}$$

3. Post-hospitalization costs overruns measure:

$$\left(\begin{matrix}Ratio\ of\ Post{-}Discharge \\ to\ Pre{-}Discharge\ MSPB\ Costs\end{matrix}\right)_{CBSA,\,t} = \left(\frac{Post{-}Discharge\ MSPB\ Costs}{Pre{-}Discharge\ MSPB\ Costs}\right)_{CBSA,t} / National\ Avg_t$$

GEOGRAPHIC VARIATION OF HEALTHCARE COST



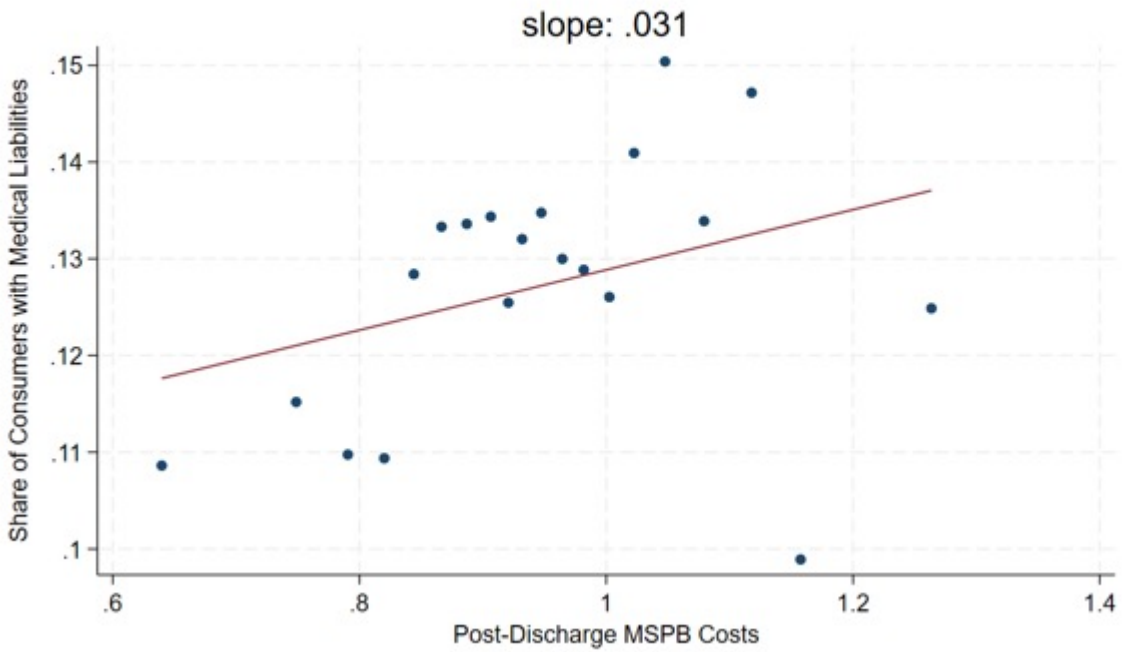
DO HCC PROXIES EXPLAIN MEDICAL DEBT AND COLLECTIONS?

- HCC proxy
  1. Contributes to HCC heterogeneity across markets √
  2. Reasonably unrelated to
     a. Local consumer financial health √
     b. Demographic characteristics √
     c. Insurance coverage √
  3. Drives medical debt and related collection ?

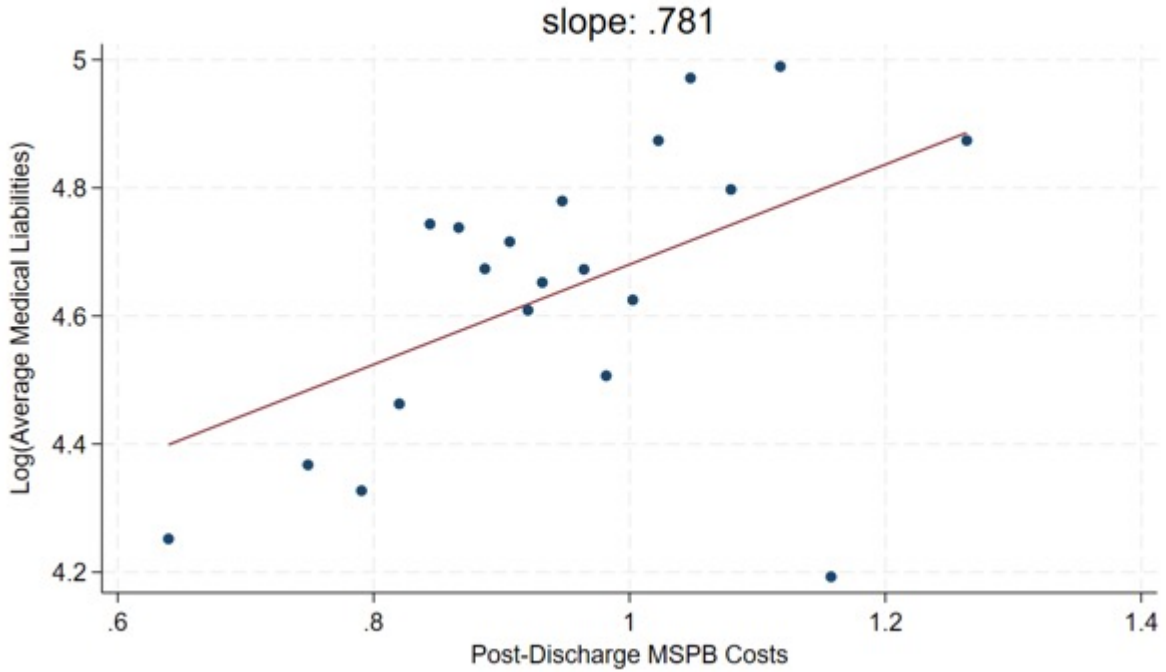
- Notably: does not (have to) capture all sources in healthcare costs heterogeneity

FIG 4: HCC AND MEDICAL DEBT COLLECTIONS

Panel A: Healthcare Costs and the Share of Consumers with Medical Liabilities



Panel B: Healthcare Costs and the Average Medical Liabilities



T2: VALIDATION: HCC AND MEDICAL DEBT COLLECTIONS

- 5% random sample of individuals in Experian aggregated to ZIP code level
- **Limited** medical debt and medical debt collections data

Dependent Variable (ZIP,t)	*Share of Consumers With Medical Debt*			*ln(Average Medical Debt)*		
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Panel B: HCC Proxy = Post-Discharge MSPB Costs						
Post-Discharge MSPB Costs$_{(CBSA, t)}$	0.099***	0.071***	0.040***	1.498***	1.169***	0.610***
	(5.90)	(4.90)	(3.20)	(5.44)	(4.61)	(2.84)
Consumer Financials$_{(ZIP, t)}$	-	Y	Y	-	Y	Y
Insurance Coverage Controls$_{(County, t)}$	-	-	Y	-	-	Y
Local Economy Controls $_{(CBSA, t)}$	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
Observations	341,673	341,673	341,673	341,673	341,673	341,673
R-squared	0.14	0.29	0.33	0.09	0.15	0.19
Within R-squared	0.10	0.26	0.30	0.07	0.13	0.17

$\beta = 0.099$ (Column 1):

- 1% higher healthcare cost than the national average is associated with a 0.099% increase in the share of consumers with medical debt accounts

DO HIDDEN MEDICAL DEBT AFFECT CONSUMER CREDITWORTHINESS MEASURES?

DATA

- Experian data :
  - 5% random sample of consumer credit records
  - Unbalanced panel of ~14 million consumers
  - Measure financial outcomes for the *representative ZIP-code level consumer*
  - Sample extends from 2017 to 2023 semiannually

- Core variables of interest (at ZIP code level)
  - Consumer financial conditions
    - Credit Score, DTI, income level, …
  - Default rates
    - Share of consumers in an area with more than 5% of outstanding debt balance in delinquent or derogatory conditions

EMPIRICAL DESIGN

$$Default_{ZIP,t+1} = \boldsymbol{\beta_0} CreditScore_{ZIP,t} + CONTROLS + \gamma_t + \mu_{CBSA} + \varepsilon_{ZIP,t+1}$$

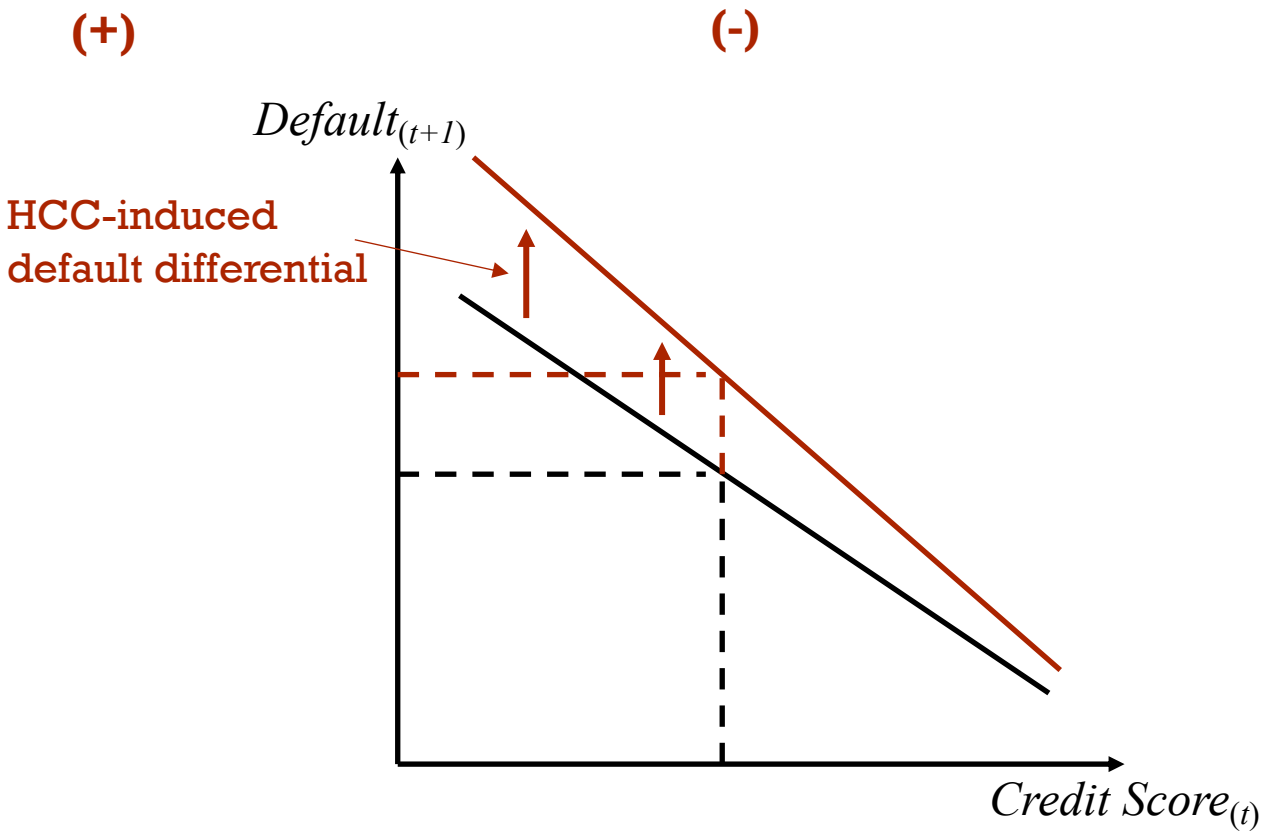


FIG 2(A): CREDIT SCORE DISTORTION

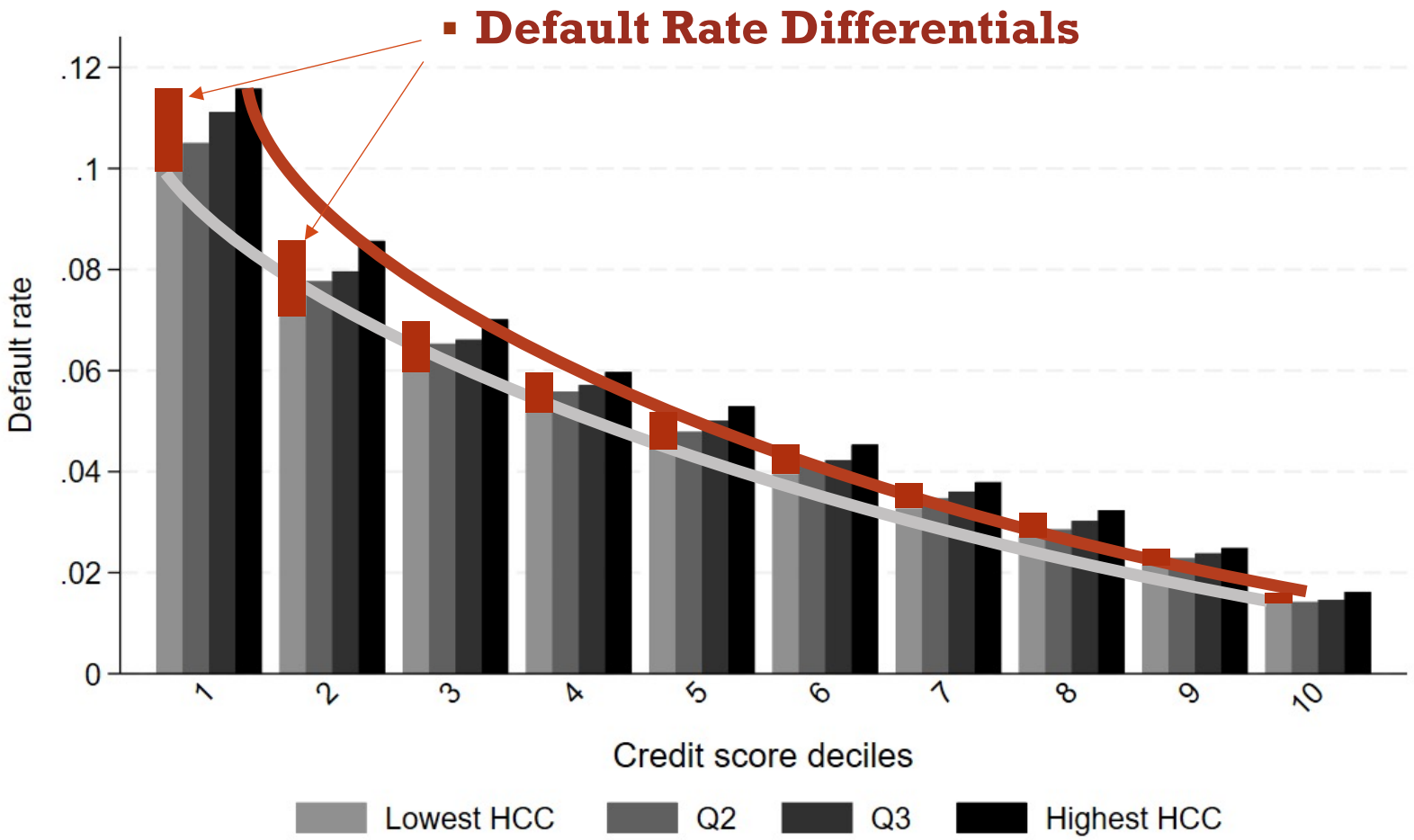


FIG 2(B): CREDIT SCORE DISTORTION

- **Default Rate Differentials**

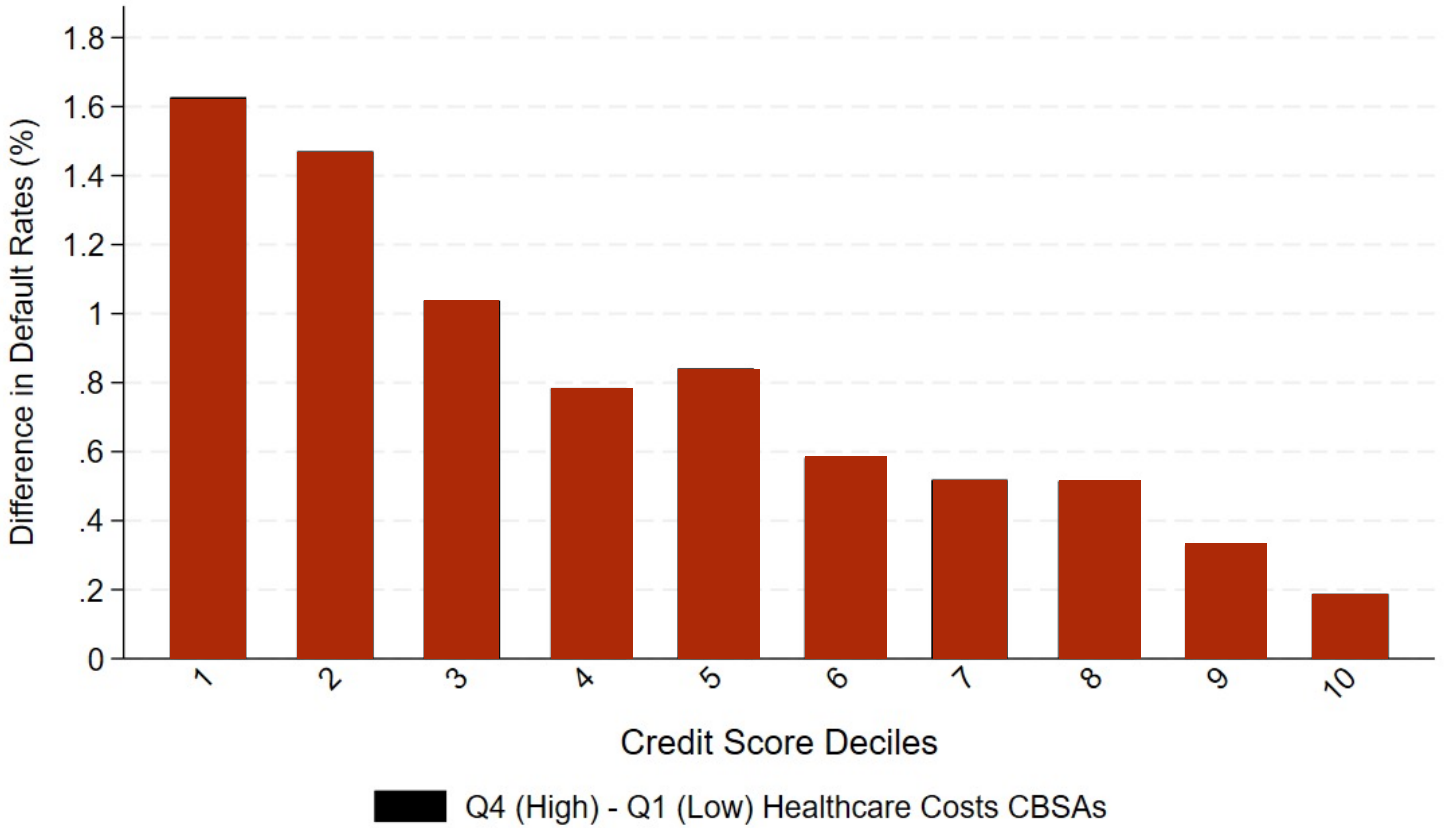
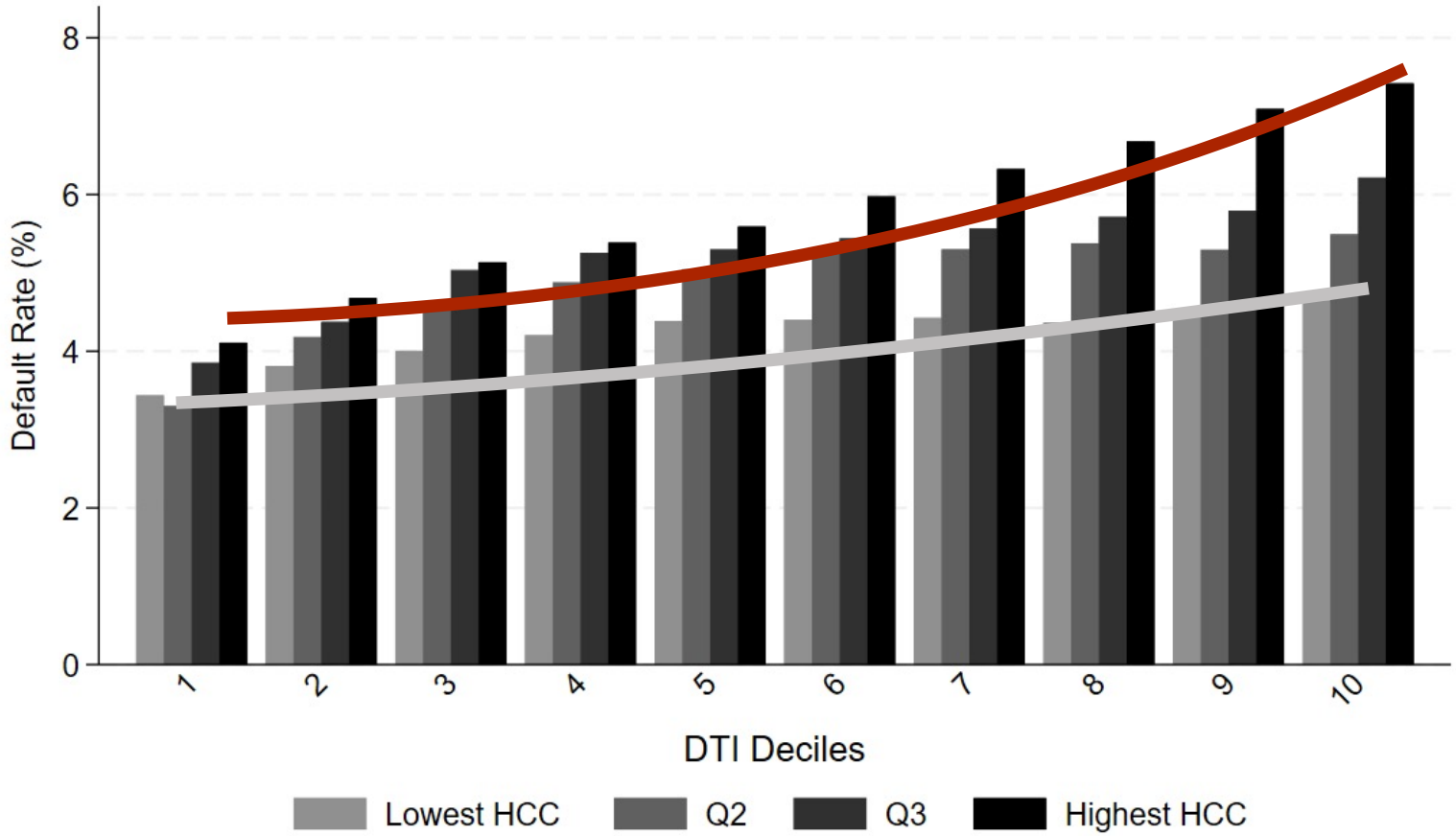


FIG 2(C): DTI DISTORTION



T3: CONSUMER DEFAULTS AND CREDIT SCORES

Dependent Variable (ZIP,t+1)	*% Delinquency or Default in the Next 6 Months*					
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Panel B: HCC Proxy = Post-Discharge MSPB Costs						
Post-Discharge MSPB Costs$_{(CBSA,\ t)}$	-	0.269***	-	0.233***	-	-
		(5.87)		(4.32)		
Credit Score/100 $_{(ZIP,\ t)}$ ×	-	-0.037***	-	-0.033***	-	-0.034***
Post-Discharge MSPB Costs$_{(CBSA,\ t)}$		(5.89)		(4.33)		(4.15)
Credit Score/100 $_{(ZIP,\ t)}$	-0.056***	-0.022***	-0.057***	-0.026***	-0.057***	-0.025***
	(30.09)	(3.86)	(30.15)	(3.71)	(29.81)	(3.23)
Consumer Financials Including DTI	Y	Y	Y	Y	Y	Y
Local Economy and Insurance Controls	Y	Y	Y	Y	Y	Y
CBSA FEs	-	-	Y	Y	-	-
Time FEs	Y	Y	Y	Y	-	-
CBSA × Time FEs	-	-	-	-	Y	Y
Observations	341,673	341,673	341,673	341,673	341,651	341,651
R-squared	0.29	0.29	0.30	0.30	0.30	0.30
Within R-squared	0.28	0.28	0.20	0.20	0.21	0.21

If Credit Score 700:

High HCC vs low HCC market matters less

For every 100 *point decline in Credit Score*:

Consumers are 0.47% more likely to default if reside in high HCC vs low HCC market

CONTROLS

- ZIP-code representative consumer financial characteristics
  - Credit score
  - Debt-to-income ratio
  - Natural logarithm of income
  - Natural logarithm of the age of the oldest credit account
  - Proportion of consumers with collections
  - Ratio of total collections to total debt balance
- Local insurance coverage and health conditions
  - Share of the local population aged 65 and older (NIH)
  - Share of local insured population (SAHIE)
  - Average case mix index capturing the local health case complexity (CMS)
- Local economic conditions (QCEW from BLS)
  - Total local employment
  - Average wages
  - Past employment and wage growth
  - 2- digit NAICS industry labor shares that account for local industry composition

T5: CONSUMERS WITH AND WITHOUT MEDICAL DEBT

Dependent Variable (ZIP,t+1)	*% Delinquency or Default in the Next 6 Months*			
Medical Debt Accounts:	*With*	*Without*	*With*	*Without*
Panel A: Credit Score Analysis				
Local Healthcare Costs$_{(CBSA,\ t)}$	0.074	0.176***	-	-
	(1.24)	(4.86)		
Credit Score/100 $_{(ZIP,\ t)}$ ×	-0.013	-0.025***	-0.012	-0.026***
Local Healthcare Costs$_{(CBSA,\ t)}$	(1.34)	(4.93)	(0.97)	(4.81)
Credit Score/100 $_{(ZIP,\ t)}$	-0.069***	-0.027***	-0.070***	-0.026***
	(7.43)	(5.48)	(6.07)	(4.96)
Consumer Financial Controls	Y	Y	Y	Y
Local Economy and Insurance Controls	Y	Y	Y	Y
CBSA FEs	Y	Y	-	-
Time FEs	Y	Y	-	-
CBSA × Time FEs	-	-	Y	Y
Observations	287,326	340,693	287,267	340671
R-squared	0.11	0.11	0.12	0.22
Within R-squared	0.04	0.04	0.04	0.17

INFORMATION FRICTIONS VS CASH FLOW CHANNELS:

2022 POLICY SHIFT

ECONOMIC CHANNEL: INFORMATION FRICTIONS

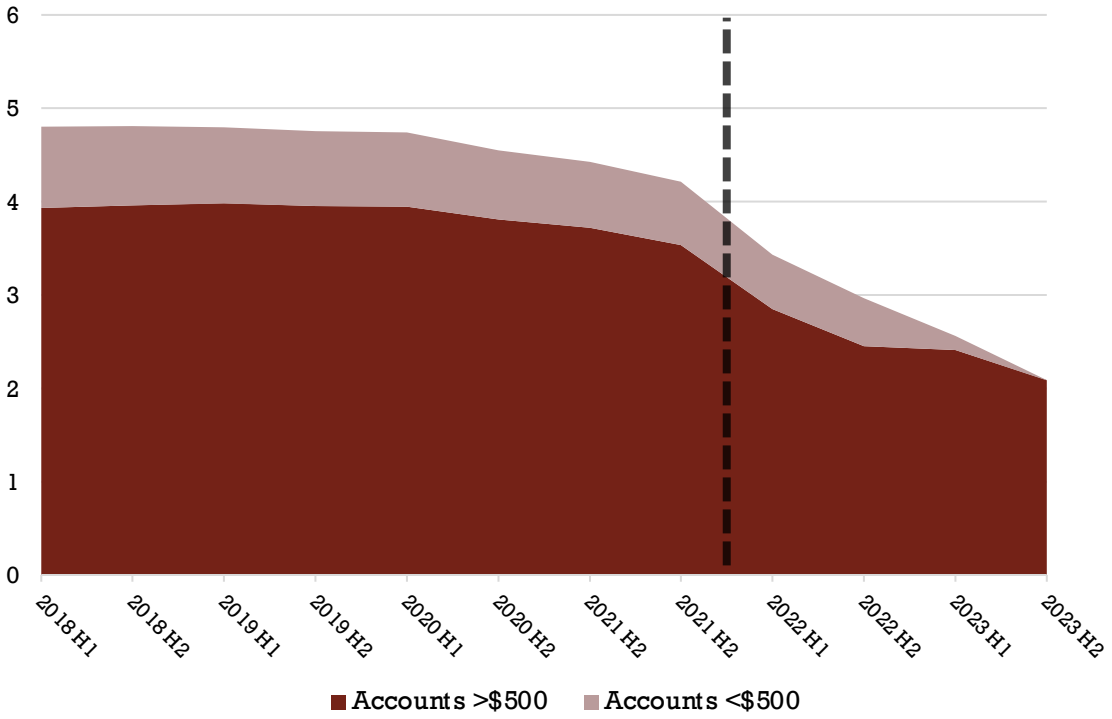
2022 Policy Shift (March 18th, 2022)

- **Effective July 1st, 2022**
  - Medical collections information that meet certain criteria will no longer be included on U.S. consumer credit reports, (Transunion, Equifax, VantageScore.com)
    - A. **Accounts that has been (potentially) paid by the consumers**
    - B. **Collection tradelines younger than 12 months**
- **Effective January 2023**
    - C. **No longer consider medical collection accounts under $500.**

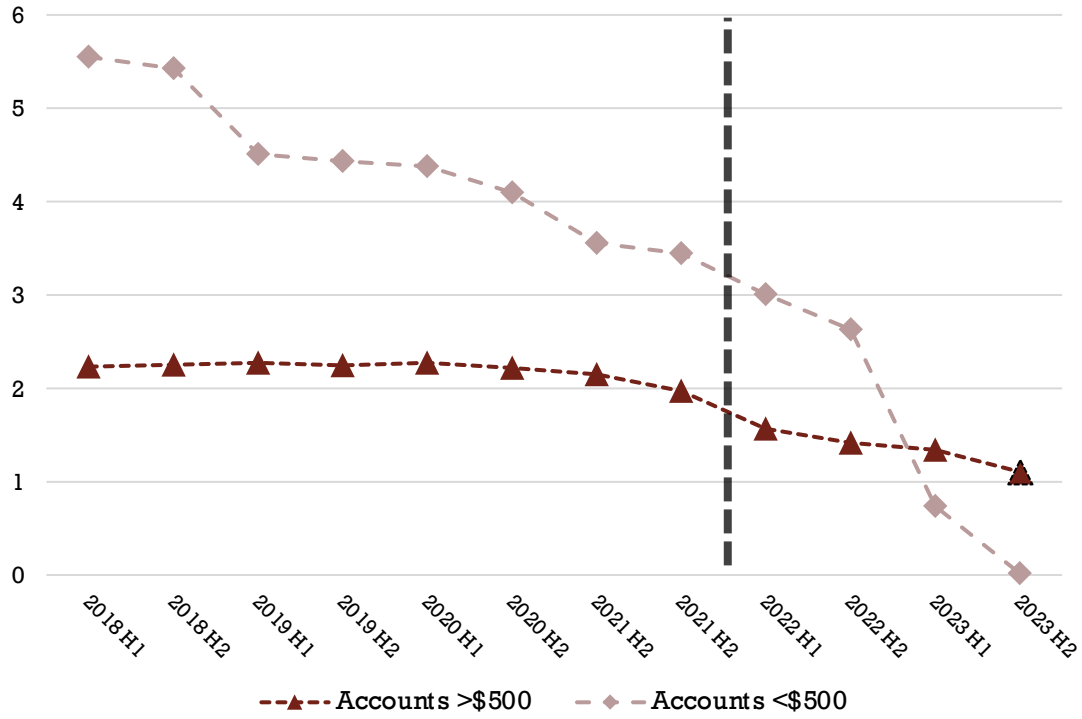
      Duarte et al (2026) explores the impact of this restriction on direct beneficiaries.
- In contrast to Klunder et al (2024) the policy eliminated medical debt from credit bureau files but not from consumer balance sheets.

MEDICAL DEBT COLLECTION ACCOUNTS

Total collection balances (**in billions of USD**)



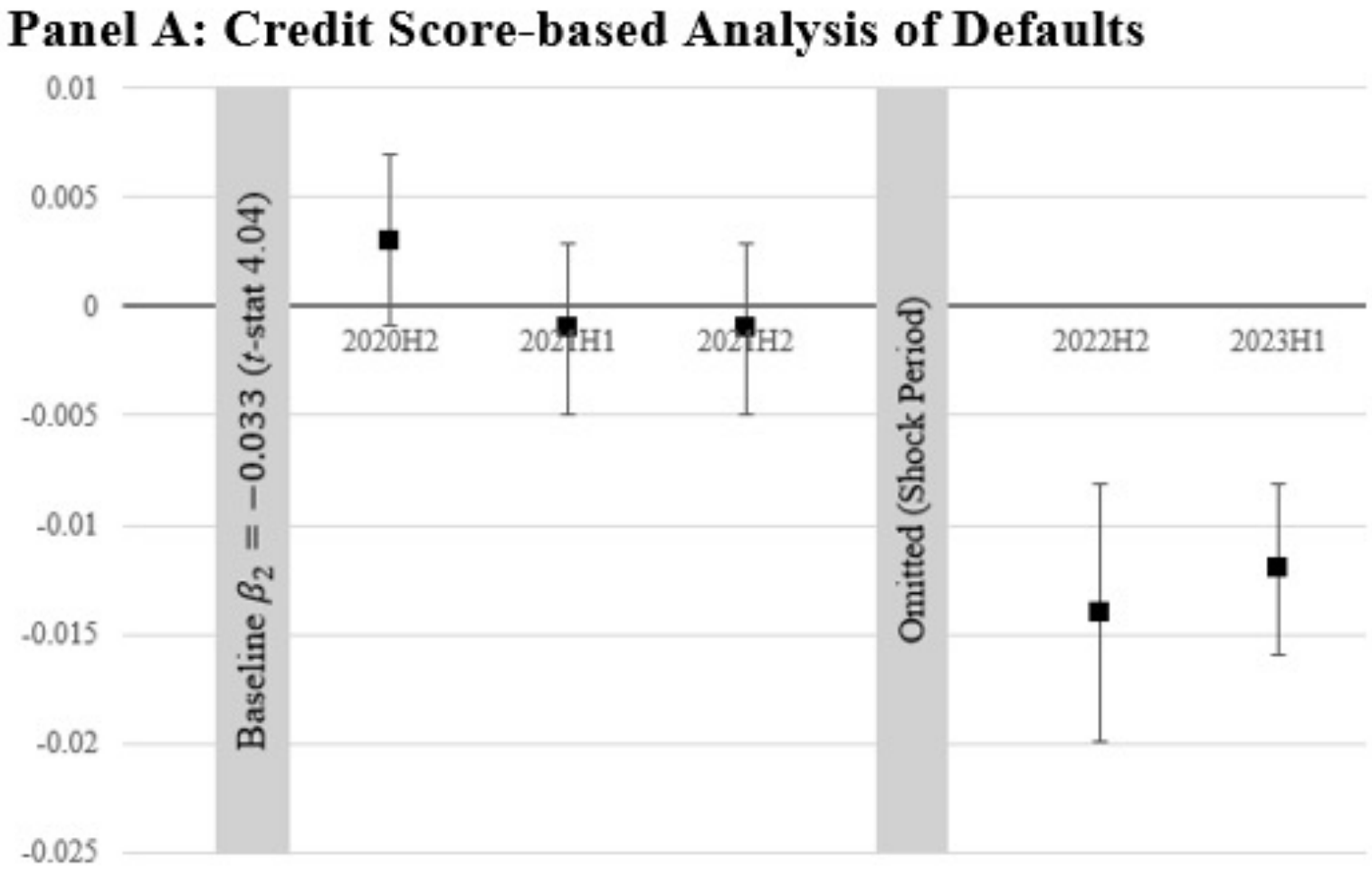
Number of collection accounts (**in millions**)



T7: 2022 POLICY SHIFT

Dependent Variable (ZIP,t+1)	*% Delinquency or Default in the Next 6 Months*			
2021 - 2023 Subsample	*Main Effect*	*Incremental Effect Post 2022*	*Main Effect*	*Incremental Effect Post 2022*
Panel A: Credit Score Analysis				
Local Healthcare Costs$_{(CBSA,\ t)}$	0.248***	0.077***	-	-
	(3.40)	(4.82)		
Credit Score/100 $_{(ZIP,\ t)}$ × Local Healthcare Costs$_{(CBSA,\ t)}$	-0.035***	-0.011***	-0.035***	-0.013***
	(3.41)	(5.14)	(3.21)	(5.01)
Consumer Financial Controls		Y		Y
Local Economy and Insurance Controls		Y		Y
CBSA FEs		Y		-
Time FEs		Y		-
CBSA × Time FEs		-		Y
Observations		104,018		104,012
R-squared		0.29		0.28
Within R-squared		0.20		0.20

F6: PARALLEL TRENDS TESTS



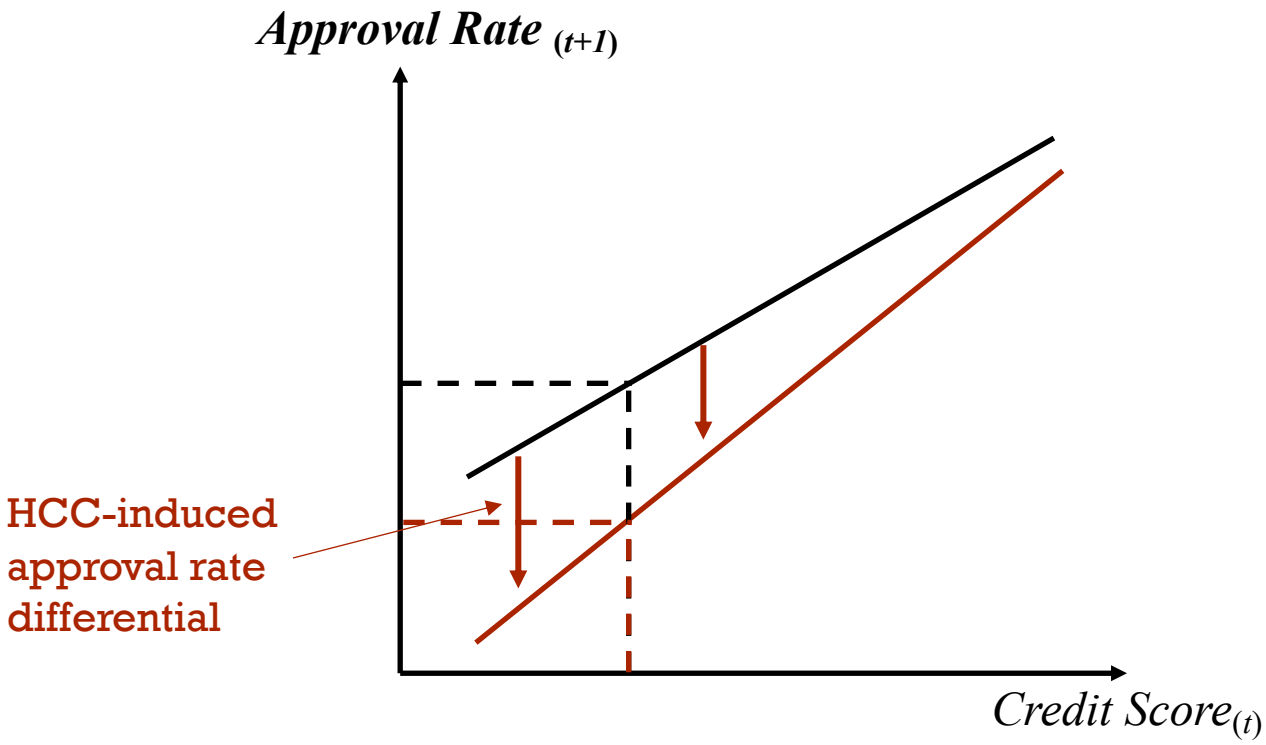

ARE LENDERS AWARE?

EMPIRICAL DESIGN

$$Loan\ Aproval\ Rate_{ZIP,lender,loan\ type,t+1} = \boldsymbol{\beta_1} Healthcare\ Cost_{l,t} +$$

$$\boldsymbol{\beta_2}\ Credit\ \ Score_{ZIP,t} \times Healthcare\ Cost_{CBSA,t} +$$

$$Lender \times year \times loan\ type\ FEs +\ CONTROLS + \varepsilon_{ZIP,t}$$



Predictions:

- $\boldsymbol{\beta_1 < 0}$
- $\boldsymbol{\beta_2 > 0}$

FIGURE 3: DIFFERENCE IN MORTGAGE APPROVAL RATES BY HEALTHCARE COST AND CREDIT SCORES

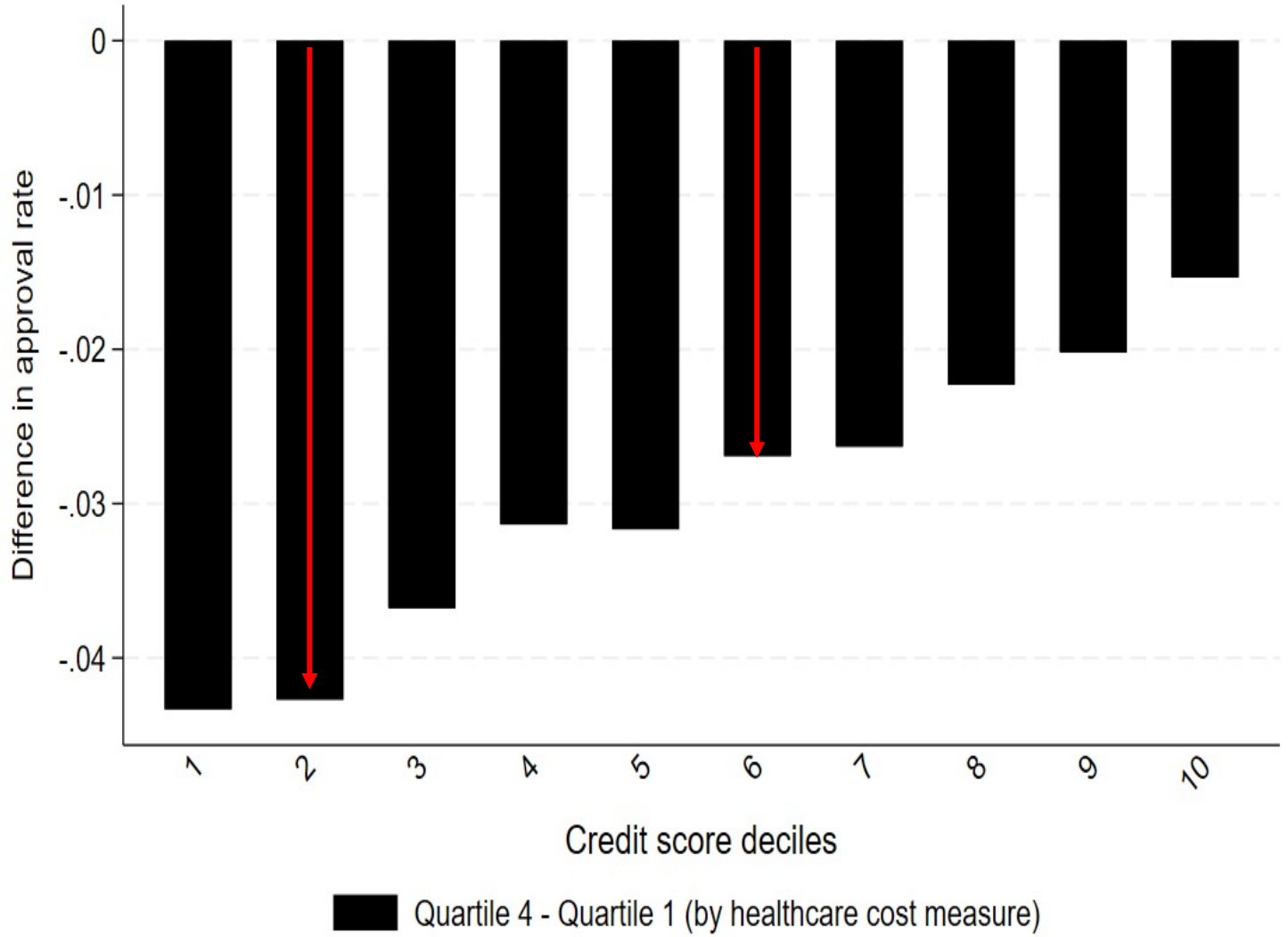
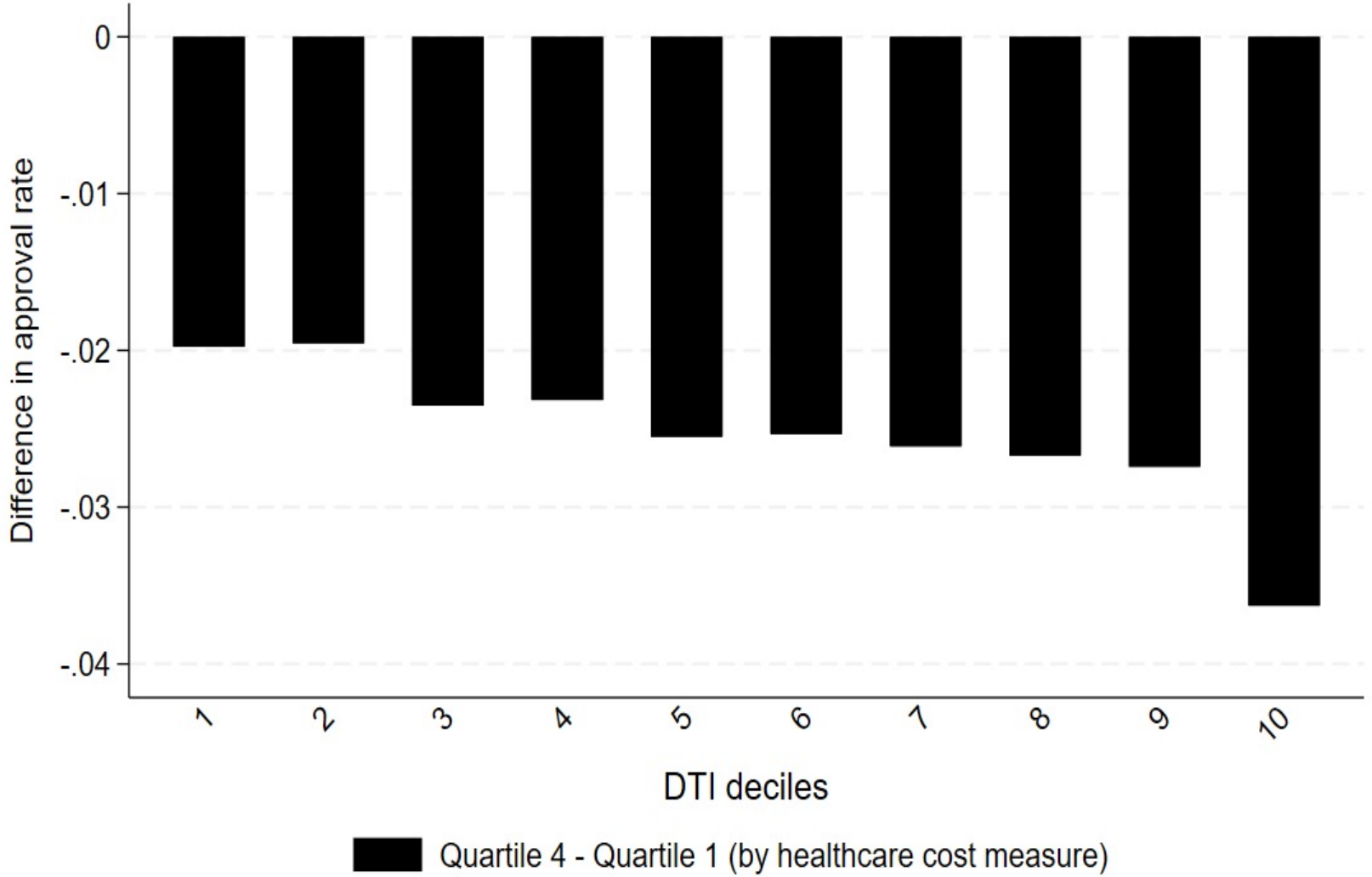


FIGURE 3: DIFFERENCE IN MORTGAGE APPROVAL RATES BY HEALTHCARE COST AND DTIS



T8: MORTGAGE APPROVAL RATES

	Mortgage Approval Rate (%) (ZIP, year, lender, loan type)			
	(1)	(2)	(3)	(4)
Panel A: Credit Score Analysis				
Local Healthcare Costs$_{(CBSA, t)}$	-	-0.433**	-	-
		(2.55)		
Credit Score/100 $_{(ZIP, t)}$ ×	-	0.061**	-	0.063**
Local Healthcare Costs$_{(CBSA, t)}$		(2.53)		(2.52)
Credit Score/100$_{(ZIP, t)}$	0.066***	0.067***	0.066***	0.066***
	(36.20)	(38.60)	(35.81)	(38.24)
Other Loan Characteristics	Y	Y	Y	Y
Local Consumer Financials	Y	Y	Y	Y
Local Economy and Insurance Coverage Controls	Y	Y	Y	Y
Lender × Time × Loan Type FEs	Y	Y	Y	Y
CBSA FEs	Y	Y	-	-
CBSA × Time FEs	-	-	Y	Y
Observations	4,236,291	4,236,291	4,236,289	4,236,289
R-squared	0.64	0.64	0.64	0.64
Within R-squared	0.13	0.13	0.13	0.13

If Credit Score 700:

High HCC vs low HCC market matters less

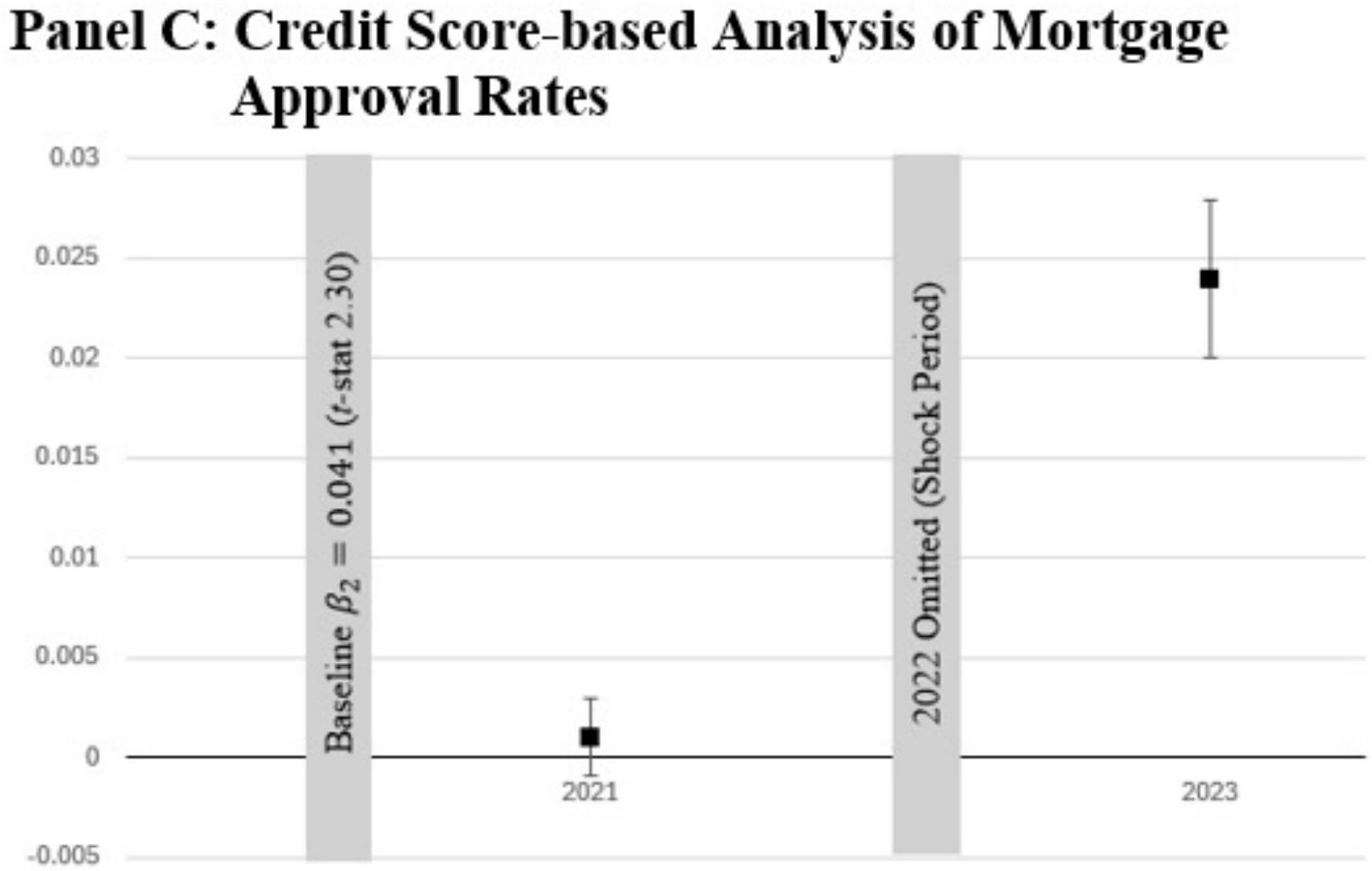
For every 100 *point decline in Credit Score*:

Consumers are 0.67% more likely to be rejected if reside in high HCC vs low HCC market

T9. LENDERS' REACTION TO 2022 POLICY SHIFT

	Mortgage Approval Rate (%) *(ZIP, year, lender, loan type)*			
2021 - 2023 subsample	*Main Effect*	*Incremental Effect: Post 2022*	*Main Effect*	*Incremental Effect: Post 2022*
Panel A: Credit Score Analysis				
Local Healthcare Costs$_{(CBSA, t)}$	-0.383**	-0.210***	-	-
	(2.27)	(12.73)		
Credit Score/100 $_{(ZIP, t)}$ ×	0.055**	0.026***	0.055**	0.028***
Local Healthcare Costs$_{(CBSA, t)}$	(2.34)	(12.17)	(2.33)	'(13.33)
Other Loan Characteristics		Y		Y
Local Consumer Financials		Y		Y
Local Economy and Insurance Coverage Controls		Y		Y
Lender × Time × Loan Type FEs		Y		Y
CBSA FEs		Y		-
CBSA × Time FEs		-		Y
Observations		1,449,428		1,449,427
R-squared		0.64		0.64
Within R-squared		0.13		0.13

PARALLEL TREND TESTS



TO CONCLUDE

Introduce a new HCC measure that captures geographic heterogeneity in healthcare cost

- Validate this measure using available data on medical debt and collections
  - Assumption: observable medical debt and related collections are not randomly distributed

1. **Credit scores overestimate the quality of borrowers in high HCC markets:**
   - Consumers in high HCC geographies default more conditional on their credit scores
     - More so for low-credit-score borrowers
     - More so for high-DTI borrowers

2. **Lenders internalize the borrower risk associated with local HCC**
   - Mortgage approval rates are lower in high HCC markets, conditional on observables
     - More so for low-credit-score borrowers
     - More so for high-DTI borrowers
     - The evidence is consistent with risk pooling

3. **Economic channel: information frictions**
   - Results are stronger after Q1 2022 regulatory restriction on medical debt collection reporting

THANK YOU