The Transmission of Corporate Tax Cuts to Consumer Loans: Evidence from the TCJA

João Granja
Chicago Booth

Fabian Nagel
Stanford

Arndt Weinrich
Rotterdam

Community Banking Research Conference

Federal Reserve Bank of St. Louis · October 6, 2026

Introduction

Motivation

- Tax Cuts and Jobs Act of 2017 – one of the largest corporate tax cuts in U.S. history
  - Statutory corporate income tax rate cut from 35% to 21%

- Considerable public debate about its distributional effects:
  - **[Supporters]** Boosts investment and U.S. competitiveness
  - **[Critics]** Exacerbates inequality: "Gains for firms and shareholders at the expense of middle-class families"

Statutory incidence $\neq$ economic incidence

$\Rightarrow$ **This paper: Broader distributional consequences: How much of the corporate tax cut is passed through to households via lower product prices?**

Setting

Consumer Auto Lending in the US Banking sector

- **Scale & reach:** Auto loans comprise ~10% of U.S. household debt ($17.8T); over 35% of households hold at least one auto loan — spanning low- to high-income groups
- **Clean control group:** Credit unions compete directly with banks in auto lending but are *tax-exempt*

Empirical Strategy

- Difference-in-Differences: **Banks** (treated) vs. **Credit Unions** (control); granular credit bureau data

Transmission?

Research Questions:

- How does the TCJA corporate tax cut impact prices & quantities?
- Is there heterogeneity in the transmission of the tax cuts to prices & quantities across consumers?
- What economic factors are associated with greater transmission of tax cuts to prices? Market Power, Adverse Selection, Bank Capitalization?

Side Note:

- The answers to these questions implicitly speak to whether credit unions' tax-advantaged status translates into a favorable competitive position in the product market
  - We take no stand on whether that advantage is *desirable*; that would require other methods and empirical analyses

What We Find

Transmission to Borrowers

- **11.8%** (gradual) decrease in interest rates for bank borrowers relative to credit union borrowers — about **54 bps**
- Effect throughout the credit quality distribution: prime (−12.6%) *and* subprime (−8.2%)
- 45–80% of the mechanical decline in banks' cost of capital reaches consumers

Market Power, Selection & Bank Capitalization

- Model suggests 3 key mechanisms: Market Power, Selection & Bank Capitalization
- Empirical work suggests that capitalization explains differences in the transmission of tax cuts to interest rates; Limited role for Market Power and Selection

Data

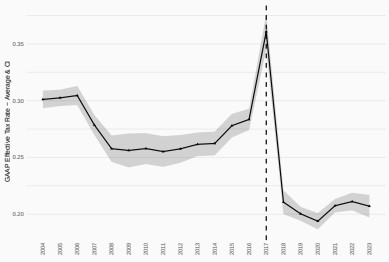
Data

Credit Bureau Consumer Credit Panel

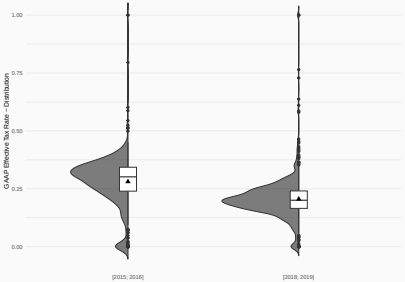
- 10% random sample of all individuals with US credit history
- Granular individual trade-line level: loans, imputable interest rates, lender-type identifier
- **Consumer Auto Loans** (35% of U.S. Households)
- Sample: similar interest rates and maturities, but on average, banks serve borrowers with higher credit scores

▸ Descriptive Statistics

Banks' Tax Reporting around the TCJA



(a) Banks' GAAP ETRs

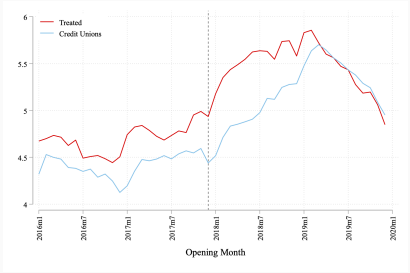


(b) Changes in Banks' GAAP ETRs

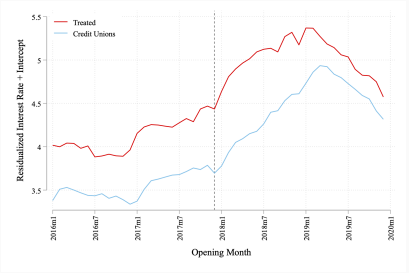
⇒ **Effective tax rates declined substantially following the TCJA**

▸ Deferred Tax Assets

Interest Rates: Banks vs. Credit Unions



(a) Interest Rate



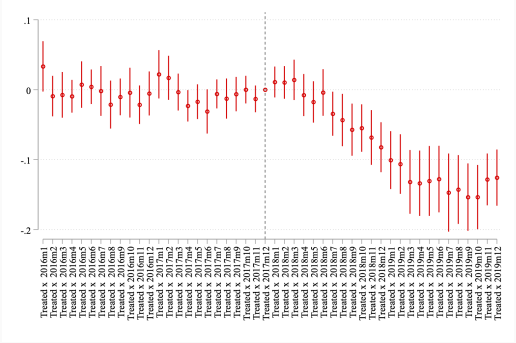
(b) Adjusted for Credit Quality

- **Unadjusted:** banks set *higher* rates than credit unions before the TCJA, but *equal* rates after
- **Adjusted for the different risk profiles of the clientele:** banks set higher rates *throughout* — consistent with credit unions' tax advantage

Main Results

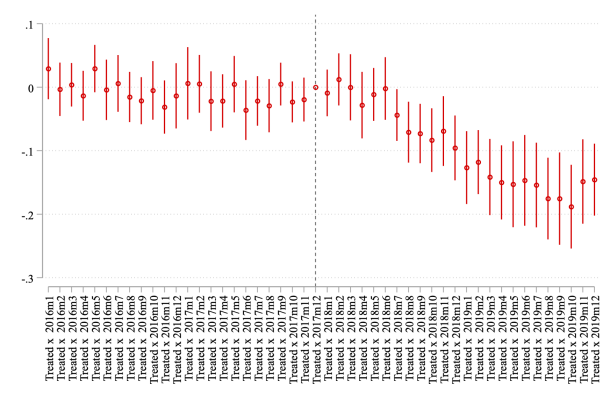
Dynamic Effects on Interest Rates

$$\ln(r_{ijt}) = \sum_{m \in [\mathbf{2016}m\mathbf{1}; \mathbf{2019}m\mathbf{12}]} \beta_m \mathbb{1}\{t \in m\} \times Treated_j + \gamma_{jsb} + \eta_{jmc} + \delta_{sbtmc} + \sigma_{fbtc} + \epsilon_{ijt}$$



- **No significant change** in bank vs. credit union interest rates *prior* to the TCJA
- **Gradual but significant adjustment** in interest rates after the TCJA
  - *"there is going to be some bleed [...] but I also expect that that's going to take place over a time"*

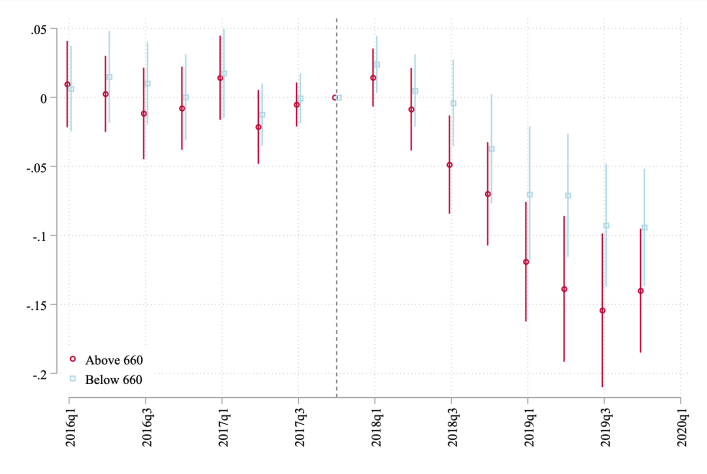
Dynamic Effects: Borrowers with a Past Credit Union Relationship



- Results are **similar** when we restrict the sample to clients who have had a relationship with a **credit union** at some point in their past

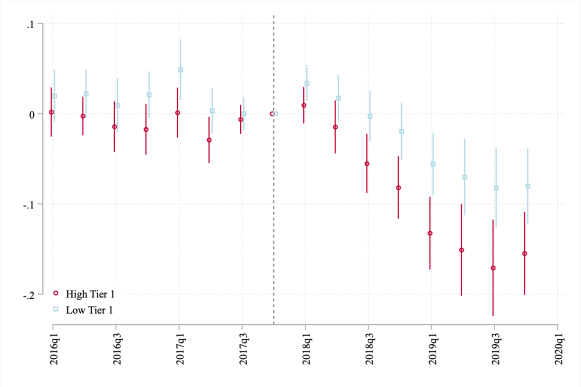
▸ Long-Run Effects

Effects by Credit Score



- The effect is **stronger for prime borrowers** (credit score ≥ 660) than for **subprime borrowers**

Effects by Bank Capitalization



- Effects are **less pronounced for thinly capitalized banks** (bottom quintile of Tier 1, in blue)
  - Simple reason: these banks benefit from greater **interest expense tax shields**, so a cut in the tax rate benefits them relatively less

Conclusion

Conclusion

Main Findings

- Banks passed **45–80%** of TCJA cost-of-capital gains to borrowers via **lower auto loan rates** (−54 bps; −11.8% relative to credit unions)
- Rate reductions present **across the credit score distribution** — prime (−12.6%) and subprime (−8.2%) borrowers both benefit
- **Aggregate savings** of ∼$2.7 billion in lifetime interest payments on auto loans originated at post-TCJA rates
- Transmission **stronger** for well-capitalized banks; **weaker** for highly leveraged banks — consistent with model predictions

Policy Implications

⇒ Corporate tax cuts have **broader distributional reach** than statutory incidence suggests: benefits flow not only to **shareholders** but also to **consumers across the income distribution**

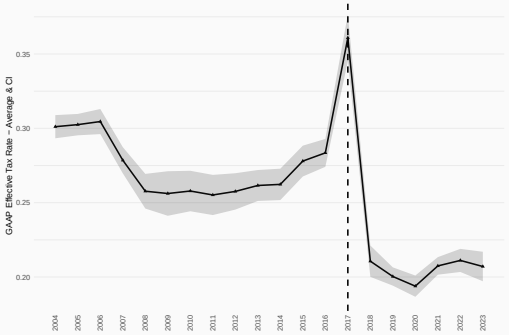
⇒ Bank tax burdens are **partly borne by local borrowers**, and transmission depends on bank **capitalization**

Thank you!

The Transmission of Corporate Tax Cuts to Consumer Loans

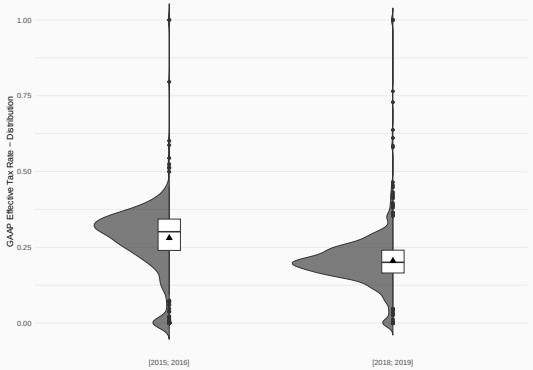
Appendix

TCJA and the Banking Sector



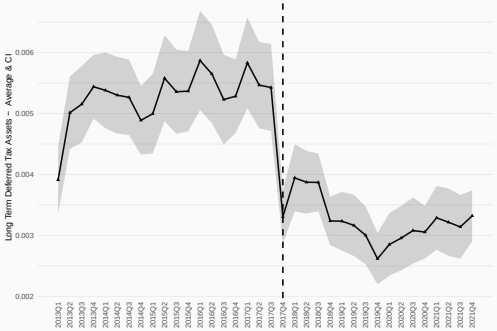
Back

TCJA and the Banking Sector



Back

TCJA and the Banking Sector: Deferred Tax Assets



Back

Descriptive Statistics

	Count	Mean	Sd	P25	P50	P75
Panel A: Banks						
Interest Rate	1,458,960	5.08	2.45	3.54	4.69	6.01
Loan Size	1,458,960	25,832	12,166	16,698	23,870	32,884
Credit Score	1,458,960	731	66	681	738	788
Maturity	1,458,960	5.53	0.90	5.00	6.00	6.00
Panel B: Credit Unions						
Interest Rate	1,826,743	4.80	2.64	3.19	4.10	5.49
Loan Size	1,826,743	24,153	12,284	14,981	22,146	31,444
Credit Score	1,826,743	715	67	663	718	768
Maturity	1,826,743	5.61	1.02	5.00	6.00	6.25

Back

Fixed Effects

- γ_{jsb} are lender $\times$ credit score bucket fixed effects that capture invariant differences in interest rates charged by each lender across the credit score distribution.
- η_{jmc} are lender $\times$ maturity $\times$ county fixed effects that capture time-invariant differences across credit terms offered by lenders within specific maturities and counties
- δ_{sbtmc} are credit score bucket $\times$ month $\times$ maturity $\times$ county fixed effects allowing for credit score, maturity, and county specific time trends in interest rates and loan sizes

back

Fixed Effects cont'd

- σ_{fbtc} are Fed sensitivity bucket $\times$ month $\times$ county fixed effects, which allow controlling for differential monetary policy sensitivity of different lenders, and compare loans made by lenders with similar monetary policy sensitivity, in the same county, in the same month. The sensitivity buckets are quintiles of the interest beta computed in the pre-period from 2016 to 2017

▸ Fed Sensitivity Buckets ▸ back

Transmission Details

Headline Findings

- 11.4% interest rate decrease (β_{2019}) & 4.7% pre-TCJA average
  $\Rightarrow$ 54bps reduction in rates
- Net-of-Tax-Rate Elasticity $\delta_r = \frac{(1-0.35)}{4.70} \cdot \frac{0.54}{-0.14} = -0.53$
- Results driven by different customer base? $\Rightarrow$ No

back

Transmission Details

Transmission of 45-80% of Cost of Capital gain to consumers

- Assuming market-based equity ratio of 0.193 and post-tax required rate of return on equity of 0.1058 (Kovner and Van Tassel, 2022)
- Pre-tax required return on equity drops by 56bps: $0.193 * \frac{0.1058}{1-0.35} - 0.193 * \frac{0.1058}{1-0.21} = 0.0056$
- WACC banking industry 2.24% (Kovner and Van Tassel, 2022) to 4% (Damodaran).
- Incidence fully on equity, required returns mechanically decrease 14% to 25%: ($\frac{0.56}{4}$ = 14% and $\frac{0.56}{2.24}$=25%.)
- 11.4% in interest rate decrease: between 45% and 80% of the mechanical decline in the WACC was passed through to consumers
- Similar magnitude to monetary policy pass-through (Drechsler et al., 2021; Gregor et al., 2021)

back

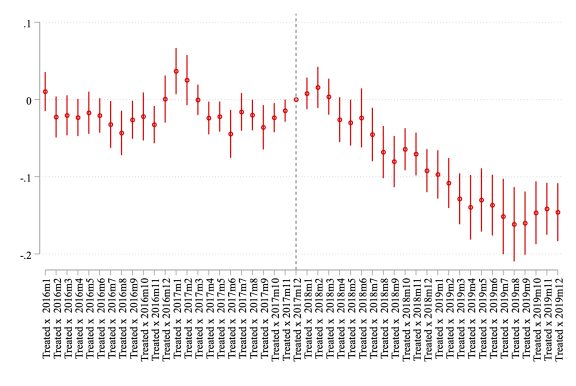
Transmission Details cont'd

Back-of-the-envelope

- Standard 5-year loan of $25,832
  - 2018: $15 per year: $75 over auto loan lifetime
  - 2019: $76 per year: $380 over auto loan lifetime
- Originations at the 2019 lower rates imply $532 million in yearly payment reductions
- Payment reduction of $2.7 billion for US households
- Relative to aggregate tax savings of $25.5 billion by banks

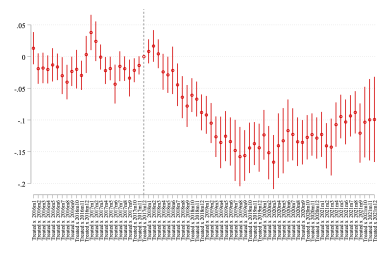
back

Dynamic Effects - Full Sample

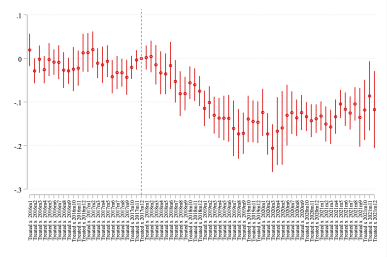


▸ Back ▸ Long-Run Effects

Interest Rate Long-Run Effects



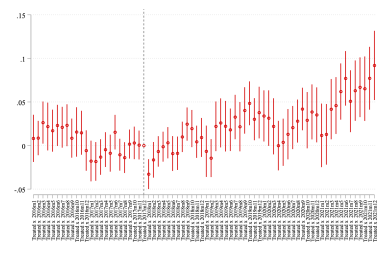
(a) Full Sample



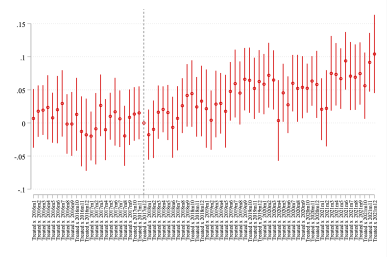
(b) Previous CU Loan

Back

Loan Size Long-Run Effects



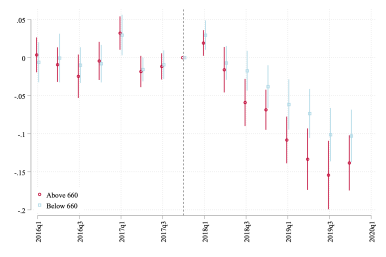
(a) Full Sample



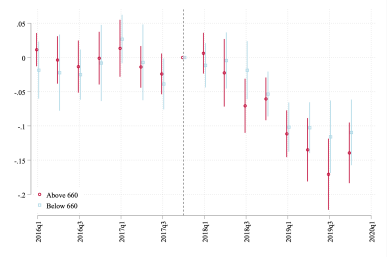
(b) Previous CU Loan

Back

Dynamic Effects by Credit Quality - Interest Rate



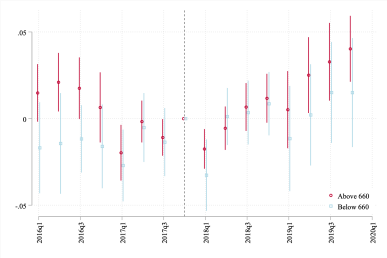
(a) Full Sample



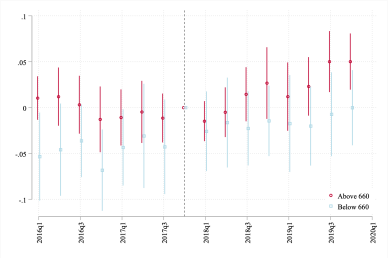
(b) Previous CU Loan

Back

Dynamic Effects by Credit Quality - Loan Size



(a) Full Sample



(b) Previous CU Loan

Back

Transmission: Overview

Imperfect Competition Transmission

$$\frac{\partial r}{\partial \tau} = \frac{r - (1-k)r_d - \theta\mu(r) - \theta MC(Q) - (1-\theta)AC(Q)}{(1-\tau)\big(\theta(1-\mu'(r) - \frac{\partial MC}{\partial r}) + (1-\theta)(1 - \frac{\partial AC}{\partial r})\big)}$$

Potential Mechanisms

- Market Power: θ
- Selection: $\frac{\partial MC}{\partial r}$ and $\frac{\partial AC}{\partial r}$
- Equity Ratio: k

Back

Market Power: Comparative Statics

- No clear directional relation between market power, θ, and transmission, $\frac{\partial r}{\partial \tau}$
  - Depends on the term, $\mu^{'}(r)$, which measures curvature of the demand, and on selection

Assuming no Selection and Linear Demand

$$\frac{\partial r}{\partial \tau} = \frac{r - (1-k)r_d - AC(Q) - \theta\mu(r)}{(1-\tau)(1+\theta)}$$

$\Rightarrow$ Transmission declining in market power

$\Rightarrow$ *"Obviously, we operate in a pretty competitive environment. So ultimately, how much gets competed away will be dependent upon that competition"*

Back

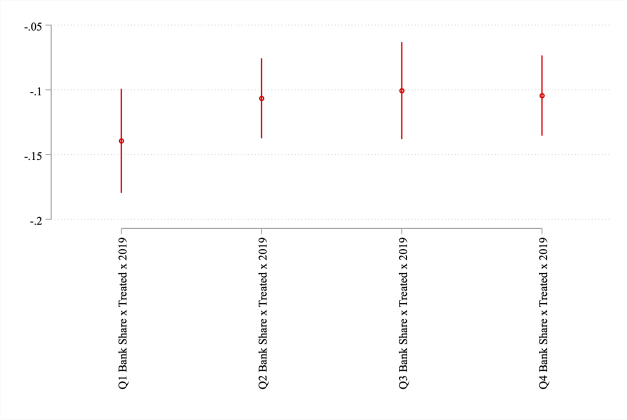
Cross-Sectional Evidence

$$
\begin{aligned}
ln(r_{ijt}) = & \sum_{Q \in [1,4]} \beta_{2018,Q} \mathbb{1}\{t \in 2018\} \times Treated_j \times \mathbb{1}\{q_c = Q\} \\
& + \sum_{Q \in [1,4]} \beta_{2019,Q} \mathbb{1}\{t \in 2019\} \times Treated_j \times \mathbb{1}\{q_c = Q\} \\
& + \gamma_{jsb} + \eta_{jmc} + \delta_{sbtmc} + \sigma_{fbtc} + \epsilon_{ijt}
\end{aligned}
$$

- Under homogeneous Cournot competition, θ, could be defined as banks' market share, $\frac{1}{n}$
- q_c quartile of average bank market share pre-TCJA

Back

Market Power: Empirics



⇒ Limited evidence for transmission declining in market power

Back

Transmission Under Perfect Competition

$$\frac{\partial r}{\partial \tau} = \frac{r - (1-k)r_d - AC(Q)}{(1-\tau)\left[1 - \frac{\partial AC(Q)}{\partial r}\right]}$$

- Transmission depends on the price-cost variation
- Under adverse selection, that is, positive price-cost variation reducing rates reduces costs

$\Rightarrow$ Transmission is higher under adverse selection

$\Rightarrow$ The less upward sloping or the more downward sloping (adverse selection) the average cost curve is, the larger transmission will be

Back

Selection: Empirics

	Two Year Delinquency		Four Year Delinquency	
	(1)	(2)	(3)	(4)
Treated x 2018	0.002	0.002*	0.000	0.001
	(0.001)	(0.001)	(0.002)	(0.002)
Treated x 2019	-0.001	-0.001	-0.002*	-0.004*
	(0.001)	(0.001)	(0.001)	(0.002)
Observations	3285703	1765476	3285703	1765476
Adjusted R^2	0.068	0.077	0.075	0.078
Lender x Score Bucket FE	Yes	Yes	Yes	Yes
Lender x Maturity x County FE	Yes	Yes	Yes	Yes
Score Bucket x Month x Maturity x County FE	Yes	Yes	Yes	Yes
Fed Sensitivity Bucket x Month x County FE	Yes	Yes	Yes	Yes
Sample	Full	Previous CU Loan	Full	Previous CU Loan
Cluster	Lender	Lender	Lender	Lender

$\Rightarrow$ Limited evidence that adverse selection may enhance the effect of tax cuts on interest rates in auto lending

Back

Equity Ratio: Comparative Statics

Transmission depends on the share of equity capital k

$$\frac{\partial r}{\partial \tau} = \frac{r - (1-k)r_d - AC(Q)}{(1-\tau)\left[1 - \frac{\partial AC(Q)}{\partial r}\right]}$$

- $(1-k)r_d$ increases with decreasing k:
  $\Rightarrow$ Lower transmission with lower equity capital (if r_d constant)
  $\Rightarrow$ Lower transmission when leverage is high
- Merge credit bureau panel with banks' Tier 1 capital ratio
- Cross sectional evidence: Treated $\times \mathbb{1}\{\text{Low Tier 1}\}$

Back

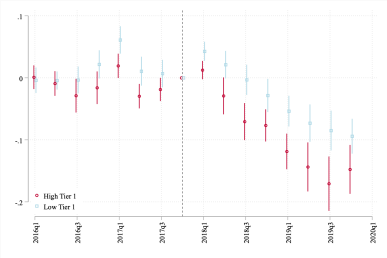
Equity Ratio: Empirics

	Ln(Interest Rate)		Ln(Loan Size)	
	(1)	(2)	(3)	(4)
Treated x 2018	-0.031***	-0.041***	-0.001	0.012
	(0.008)	(0.008)	(0.005)	(0.008)
Treated x 2019	-0.135***	-0.144***	0.029***	0.046***
	(0.018)	(0.026)	(0.008)	(0.009)
Treated x 2018 x Low Tier 1	0.029***	0.048***	-0.003	-0.008
	(0.008)	(0.011)	(0.007)	(0.014)
Treated x 2019 x Low Tier 1	0.047***	0.060**	-0.022*	-0.043**
	(0.014)	(0.024)	(0.012)	(0.021)
Observations	3285703	1765476	3285703	1765476
Adjusted R^2	0.545	0.578	0.408	0.466
Lender x Score Bucket FE	Yes	Yes	Yes	Yes
Lender x Maturity x County FE	Yes	Yes	Yes	Yes
Score Bucket x Month x Maturity x County FE	Yes	Yes	Yes	Yes
Fed Sensitivity Bucket x Month x County FE	Yes	Yes	Yes	Yes
Sample	Full	Previous CU Loan	Full	Previous CU Loan
Cluster	Lender	Lender	Lender	Lender

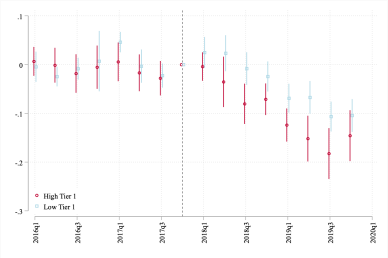
$\Rightarrow$ Transmission increases with banks' equity capitalization

Back

Equity Ratio: Dynamic Effects for Interest Rates



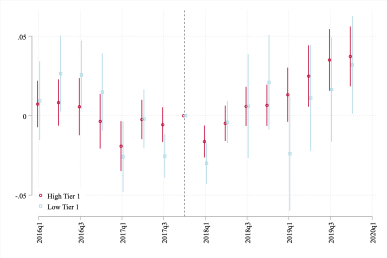
(a) Full Sample



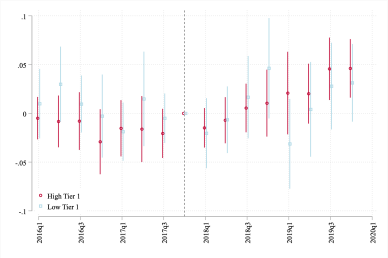
(b) Previous CU Loan

Back

Equity Ratio: Dynamic Effects for Loan Sizes



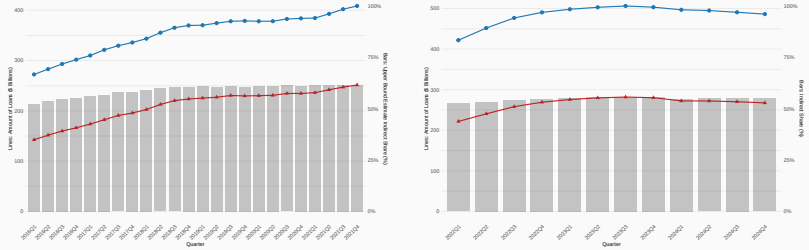
(a) Full Sample



(b) Previous CU Loan

Back

Credit Union Call Reports



(a) All Indirect (b) Indirect Auto

⇒ 50% to 60% of all credit union auto loans are indirect loans

Monetary Policy Sensitivity

- TCJA coincided with period of monetary tightening/loosening.
- Bank and CUs with different sensitivity to monetary policy?
- Construct lender-specific measure and control for heterogeneity in the analysis

$$ln(r_{ijt}) = \beta_{FedFunds}\text{Fed Funds}_t + \alpha_j + \gamma_{sb} + \epsilon_{ijt} \quad (1)$$

▸ Fixed Effects ▸ Identification

Monetary Policy Sensitivity cont'd

	Ln(Interest Rate)	Interest Rate
	(1)	(2)
Fed Funds Rate	0.133***	0.479***
	(0.010)	(0.053)
Observations	2794059	2794059
Adjusted R^2	0.459	0.452
Lender FE	Yes	Yes
Score Bucket FE	Yes	Yes
Cluster	Lender	Lender

$\Rightarrow$ 1 percentage point increase in the fed funds rate is associated with a 14.2 percent increase in auto loan rates

▸ Fixed Effects ▸ Identification

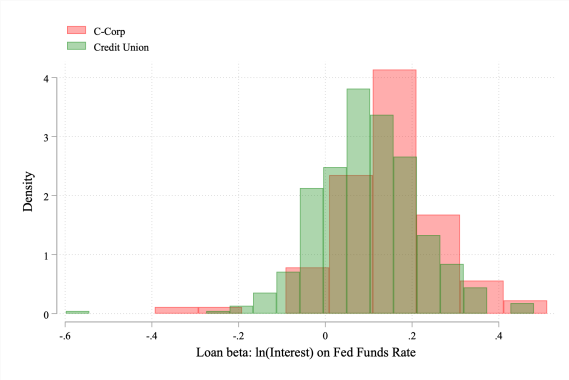
Monetary Policy Sensitivity cont'd

- Estimate lender specific monetary policy sensitivities by allowing $\beta_{FedFunds}$ to differ across lenders.
- Estimated for all lenders with more than 1,000 loans jointly in 2016 and 2017

$$ln(r_{ijt}) = \sum_j \beta_{FedFunds,j} \text{Fed Funds}_t + \alpha_j + \gamma_{sb} + \epsilon_{ijt} \tag{2}$$

▸ Fixed Effects ▸ Identification

Monetary Policy Sensitivity cont'd

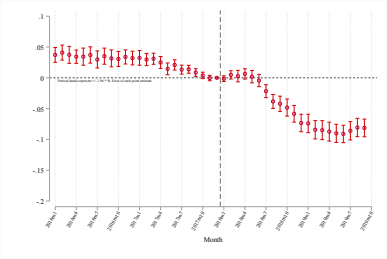


$\Rightarrow$ Construct monetary policy sensitivity buckets by sorting lenders into quintiles (at the loan level) based on their estimated $\beta_{FedFunds,j}$ coefficients.

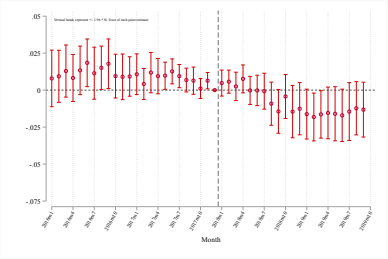
▸ Fixed Effects ▸ Identification

Other Loan Products - Rate Watch Data

- Aggregate RateWatch lending products into 4 categories: auto (new & used), other vehicles (e.g., boats), personal unsecured (across four different credit tiers), home equity loans (HELOC)
- Exclude mortgages and credit cards (pricing components beyond rates and government interventions)



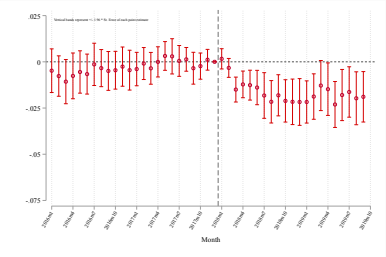
(a) Auto Market



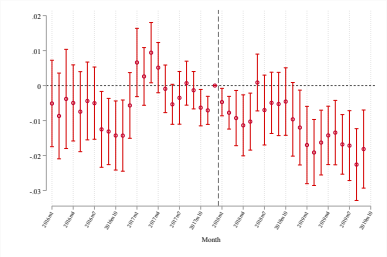
(b) Other Vehicles Market

back

Other Loan Products - Rate Watch Data cont'd



(c) Personal Unsecured Loans Market



(d) HELOC market

⇒ Economic magnitudes are smaller in other lending markets, but also support the finding that treatment effects appear soon after the passage of the TCJA

back

Itamar Drechsler, Alexi Savov, and Philipp Schnabl. Banking on deposits: Maturity transformation without interest rate risk. *The Journal of Finance*, 76(3):1091–1143, 2021.

Jiří Gregor, Aleš Melecký, and Martin Melecký. Interest rate pass-through: A meta-analysis of the literature. *Journal of Economic Surveys*, 35(1):141–191, 2021.

Anna Kovner and Peter Van Tassel. Evaluating regulatory reform: Banks' cost of capital and lending. *Journal of Money, Credit and Banking*, 54(5):1313–1367, 2022.