Evaluating Hard Paternalism:
Evidence From Tightening Credit Card Minimum Payments

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The views presented are the authors and do not necessarily reflect those of the Bank of Canada.

DISCLAIMER: WORK-IN-PROGRESS. RESULTS MAY CHANGE.

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- **Data** Bank of Canada consumer credit reporting data.
- **Policy Variation:** Quebec policy changes vs. Rest of Canada unaffected.
- **Difference-in-Differences** matching cards in Quebec to those in Ontario
  (same bank's credit card and closest-matched credit score, limit, balance, income)

One Slide Summary

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1. Motivation
2. Quebec Policies
3. Existing Cards Analysis
4. New Cards Analysis

1. Motivation

Stylized Motivating Example: Why Reduce Credit Card Debt?

Imagine two types of agents using credit cards: (Heidheus & Köszegi, 10, 15; Campbell, 16)

- "Sophisticated"
- "Naïves" overborrow (e.g. financially illiterate, naïve present focus, anchoring)

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Unfortunately 'ideal policies' of information disclosures & nudges ineffective.
"nudges are not enough" (Laibson, 2020)

Need to evaluate hard paternalistic policies trade-off benefits of 1. vs. costs of 2.

(Campbell, 16; Chater & Loewenstein, 17, 22)

- Want policy forcing credit card lenders involuntarily ↑ minimum payment
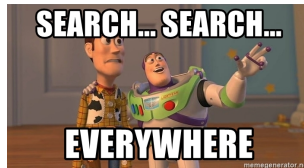
- Want policy forcing credit card lenders involuntarily ↑ minimum payment
- Policy variation does not exist in US.
  - small, idiosyncratic changes by a few lenders.

- Takes us to Quebec, Canada!
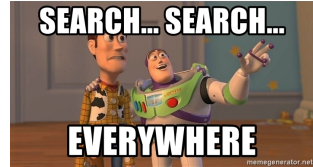
2. Quebec Policies

Quebec: A Laboratory for Hard Paternalism Aiming to Reducing Credit Card Debt

Quebec Office de la protection du consommateur:

"These changes are part of the measures adopted by the government to prevent indebtedness."

"It is advantageous to pay the balance of your credit card each month, because no credit charges are then applicable."

Quebec rolls out new credit card rules aimed at lowering high household debt

By Reuters Staff   2 MIN READ   f   y

OTTAWA, Aug 2 (Reuters) - The Canadian province of Quebec has become the first in the country to require minimum credit card payments as legislators try to tackle rising household debt levels.

Quebec introduces credit card regulations aimed at curbing consumer debt

CTVNews.ca Staff

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Quebec Policy Experiments

No credit card minimum payment requirements:

- Pre-August 2019: Anywhere in Canada.
- Post-August 2019: Outside Quebec.

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Quebec introduced credit card minimum payment policies from August 2019:
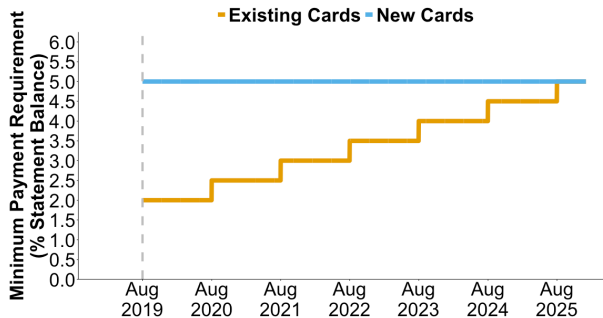
3. Existing Cards Analysis

# How Lenders Implemented? Non-binding, Bind, Bind and go beyond

Lender	July 2019 Ontario	Quebec	August 2019 Ontario	Quebec
A	$10 + interest + fees			max {2.0% statement balance, $10}
B,C,D	$10 + interest + fees			max {2.5% statement balance, $10}
E	$10 + interest + fees			max {3.0% statement balance, $10}
F	max {1.0% statement balance, $10}			max {2.0% statement balance, $10}
G	max {1.0% statement balance, $10}			max {3.0% statement balance, $10}
H	max {2.0% statement balance, $10}			max {2.0% statement balance, $10}
I	max {2.5% statement balance, $10}			max {2.5% statement balance, $10}
J	max {3.0% statement balance, $10}			max {3.0% statement balance, $10}

After 2019, lenders typically are increasing 0.5 p.p. p.a. until reaches 5%.

'First Stage': Quebec Unconditional Means Show ↑ Minimum Payments
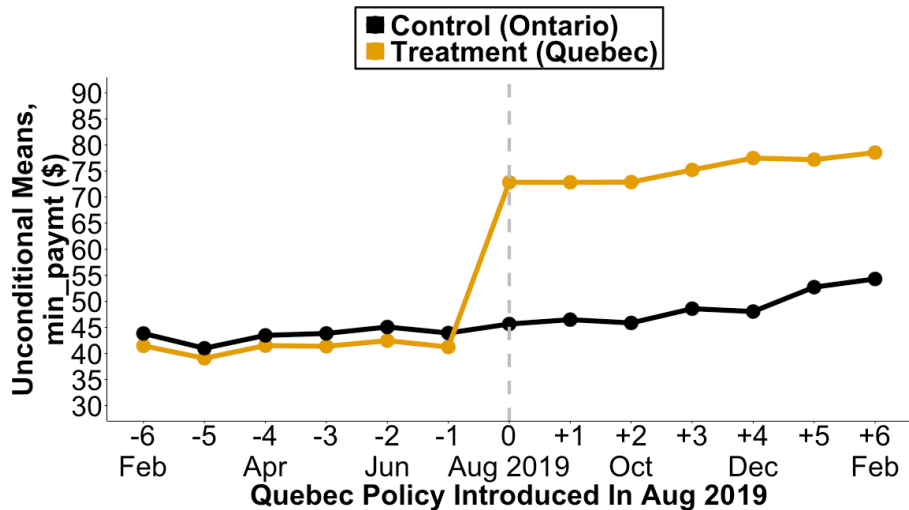
Effects On Credit Card Debt (Statement Balance - Payments)
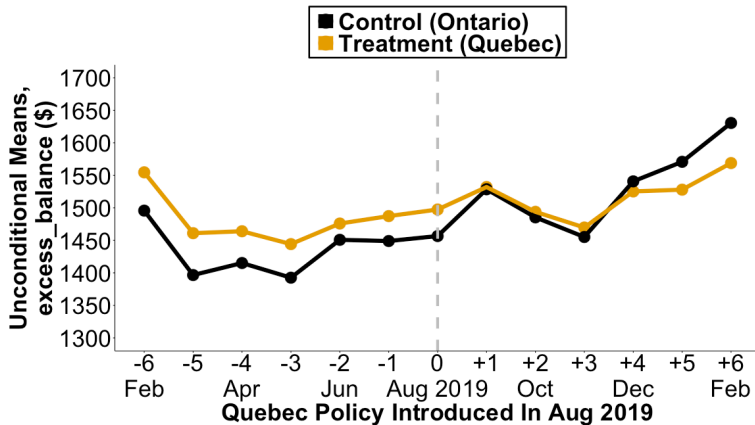
'Delinquency:' Zero-to-small average increase (+0.1 p.p.)

4. New Cards Analysis

5% Minimum Payment on New Cards in Quebec since Aug 2019 is Binding

Lender	Pre-Aug 2019 Formulae in Quebec & Ontario	
A,B,C,D,E	$10 + interest + fees	
F,G	max {1.0% statement balance, $10}	
H	max {2.0% statement balance, $10}	
I	max {2.5% statement balance, $10}	
J	max {3.0% statement balance, $10}	

Post-Aug 2019 All new cards in Quebec: {max {5.0% statement balance, $10}

- Differences between cohorts of newly-issued credit cards.

$$\delta_t = \left((\bar{Y}_{POST,t}^{Quebec}) - (\bar{Y}_{PRE,t}^{Quebec}) \right) - \left((\bar{Y}_{POST,t}^{Ontario}) - (\bar{Y}_{PRE,t}^{Ontario}) \right)$$
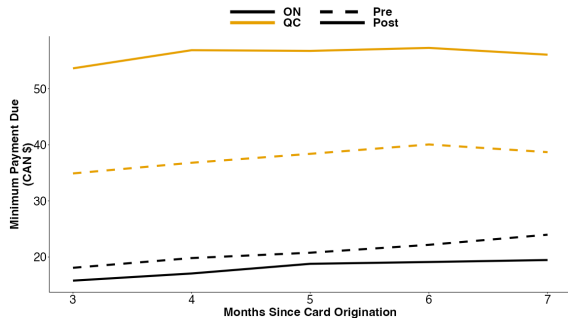
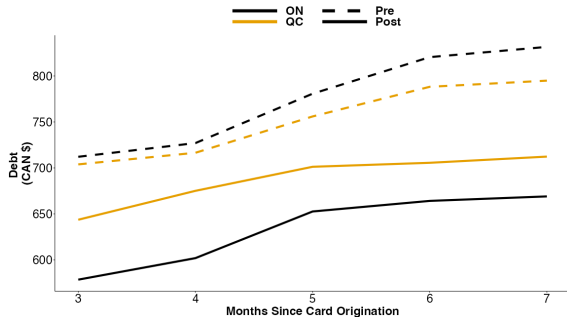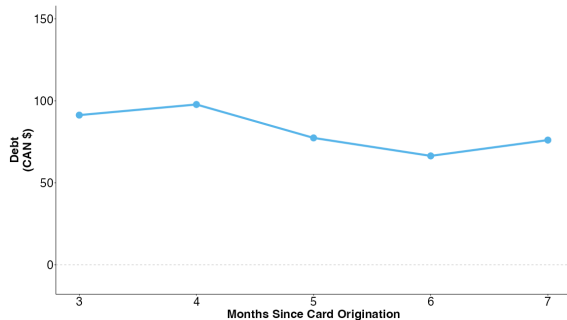· Differences between cohorts of newly-issued credit cards.

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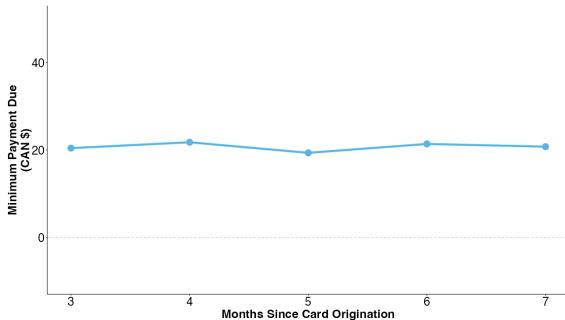
Unconditional Means

Regression Estimates

Unconditional Means

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No signs policy led to debt reduction.

13

Unconditional Means
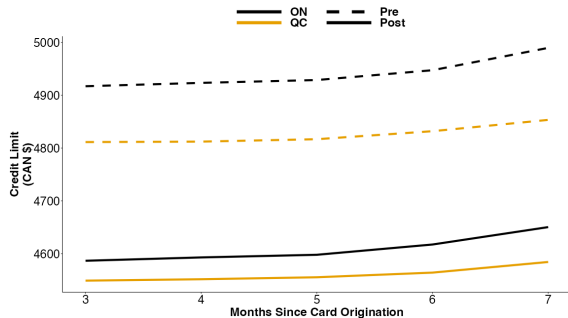
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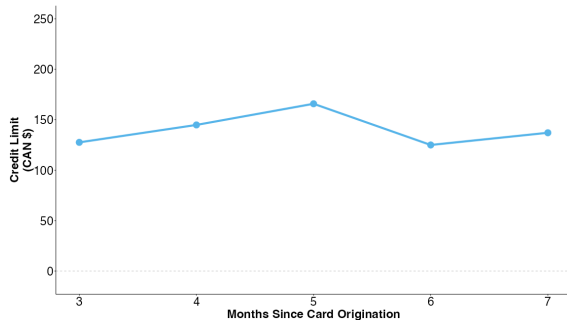
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Next Steps for Reduced Form Analysis

- Move from account-level to consumer-level and study heterogeneity:
  - By exposure to ↑ minimum payment.
  - By financial sophistication proxies.
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Potential Longer Term Aims

- Reduced form estimates → welfare analysis for optimal minimum payment policy.

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Appendix

Theory & Empirics on Credit Card Borrowing

- Standard models cannot explain observed levels of credit card indebtedness.
  (e.g. Ausubel, 91; Angeletos et al., 01; Laibson et al, 03)

- Naïve present focus theoretically best explains.
  (e.g. Heidheus & Köszegi, 10, 15; Laibson et al.,22)

- Empirically lack of financial illiteracy re: credit cards.
  (e.g. Soll et al., 13; Lusardi & Tufano, 15; Seira et al., 17; Adams et al.,22)

- Empirically find concoction of mistakes & behavioural biases.
  (e.g. Stewart, 09; Meier & Sprenger, 10; Gathergood et al., 19; Kuchler & Pagel, 21)

- But not all 'behavioural' - liquidity constraints more binding than previously thought.
  (e.g. Guttman-Kenney et al., 23)

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Policymakers have variety of options starting with 'non-price interventions (NPIs)':

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   - **Doesn't work** in US (Agarwal et al., 15 *QJE*; Keys & Wang 15 JFE), Mexico (Seria et al., 17 *AEJ: EP*), UK (Adams et al., 22 *Economica*).
2. **Nudges** targeted at biases / steering actions / reducing frictions.

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2. **Nudges** targeted at biases / steering actions / reducing frictions.
   - **Doesn't work!** E.g. Adams et al. (22 *Economica*), Guttman-Kenney et al. (23 WP).

Need to evaluate **hard paternalism** (e.g. Chater & Loewenstein, 17, 22)
"Nudges are not enough" (Laibson, 20)

"If nudges are unavailable or inadequate, consumer financial regulation must confront the tradeoff between the benefits of intervention to behavioral agents, and the costs to rational agents." - John Campbell (16 AEA)

Hard Paternalistic Policy To Reduce Credit Card Debt

Mandate tighter (higher) credit card minimum payments.

How to evaluate?

- Is it effective at reducing indebtedness?
    - Credit card debt.
    - Other debt.

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- Is it effective at reducing indebtedness?
    - Credit card debt.
    - Other debt.
- If so, which consumers reduce debt?
- What are the costs of this debt reduction? (e.g. ↑ delinquencies, ↓ credit access)

Trade-off debt reduction benefits for naïves VS. costs of delinquencies for constrained.

Why ↑ minimum payments may not mechanically ↓ debt?

- Δ non-payments > Δ payments at higher minimum.
- Offsetting cardholder responses (e.g. ↑ spending).
- Offsetting credit card lender responses (e.g. ↑ APRs, limits).

Nudging

- DellaVigna & Linos (21 ECTA) meta-analysis of BIT nudges: 8 % increase.
- Milkman et al. (Nature, 22) megastudy 8% of nudges tested had significant effects.
- Null results common: e.g. Linos et al. (AEJ: EP 22) testing nudges on EITC.
- John Campbell (AEA 2016): *"Beyond the easy cases where behaviorally biased households can be "nudged" to avoid mistakes with minimal effects on rational households, financial regulators face a difficult trade-off between the benefits of regulation to households that make mistakes, and the costs of regulation to other financial market participants."*
- George Loewenstein & Nick Chater (BPP 2017, 2022) *"Nudges are the most prominent but not necessarily the most powerful."* & *"Focusing on the individual-level solutions has led behavioral public policy astray."*
- David Laibson (AEA 2020) *"Nudges are not enough".*
- See Bernheim & Taubinsky (Handbook 2018) discussion.

Prior Minimum Payment Papers

- D'Astous & Shore (17, *JFQA*): Finds delinquencies ↑ in response to minimum payment ↑.

- Keys & Wang (19, *JFE*): Show anchoring of consumers to minimum payments. Exploit small, idiosyncratic increases & decreases in minimum payments.

- Castellanos, Jimenez-Hernandez, Mahajan & Seira (20, *WP*): Studies credit access in developing countries. Mexico RCT finds delinquencies unresponsive to minimum payment ↑.

- Medina & Negrin (21, *MS*): Reference effect of Mexican minimum payment changes.

- Agarwal, Hadzic, Song, & Yildirim (23 RFS): Effects of minimum payments in Turkey.

"Developing more theory and evidence on optimal policy under consumer heterogeneity is an important area for future work." - Keys & Wang (19, *JFE*).

Quebec Policy Experiments

*"The amounts requested by credit card issuers as a minimum payment have decreased significantly since the late 1980s. Indeed, the percentage requested as a minimum payment has decreased from 5% to 2%. This practice has the effect of **considerably extending the period during which the consumer who pays only the minimum amount will have to repay the amount owed and of increasing the amount of credit charges** that will have to be paid to pay the balance in full."*

- Lise Thériault, Quebec Liberal Party

*"We find it good that we are increasing, there, gradually to 5%, but **we were afraid of the price shock that it could have on the most vulnerable consumers**."*

- Catherine Fournier, Parti Québécois

'First Stage': Quebec CDFs Show ↑ Minimum Payments
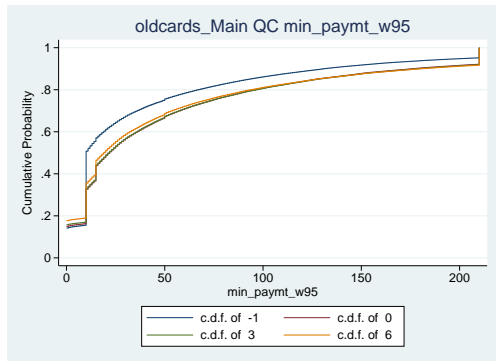
Minimum Payments ($)

Minimum Payments (% statement balance)
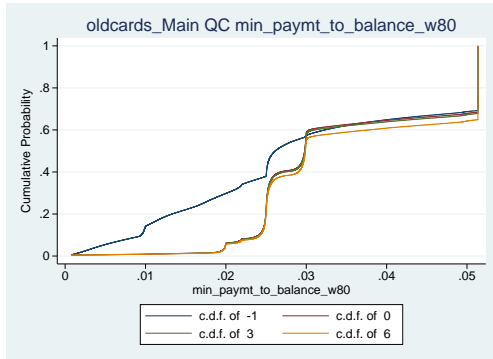
Lots of heterogeneity: E.g. statement balances $500+
experience mean minimum payments ≈ $50 to $100 per month.

↑ Statement Balances in Quebec vs. Ontario

Unconditional Means
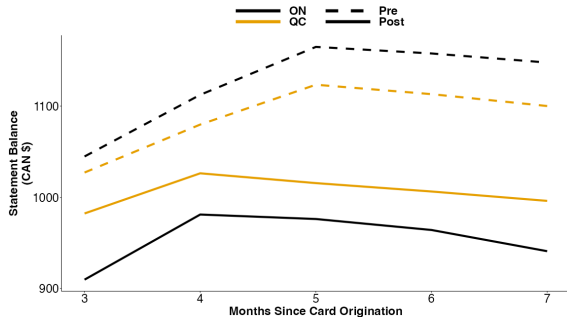
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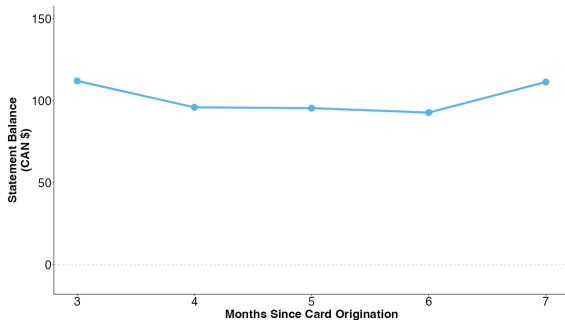
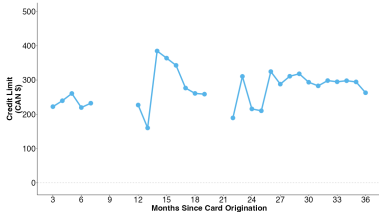Calculating how much ↑ spending required to offset lost interest revenue.
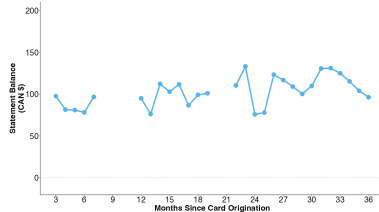
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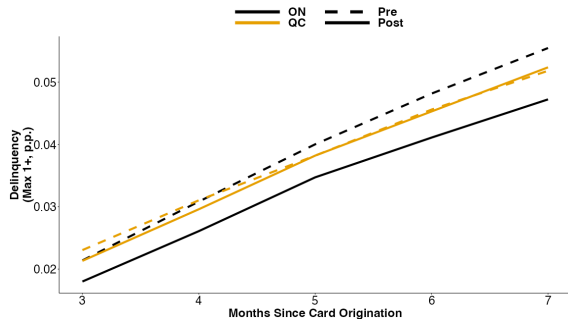
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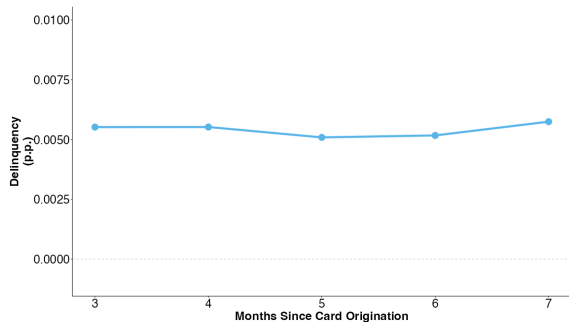
Results Hold for Long-Run: 3 Years in Unbalanced Panel
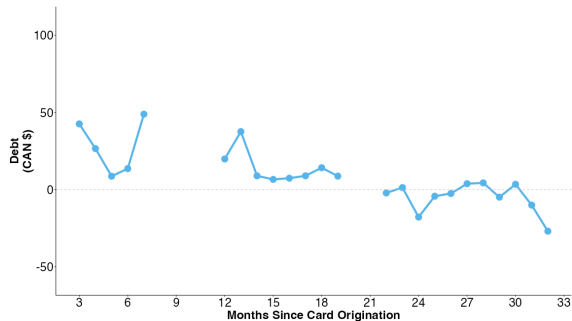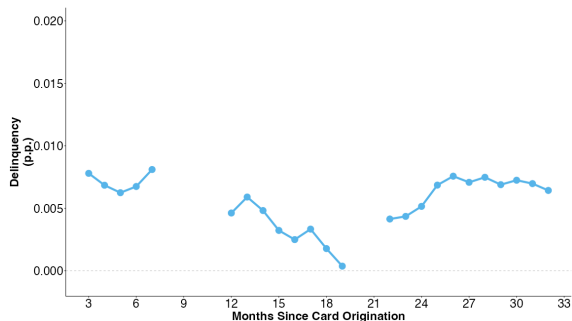
Credit Limit

Statement Balances

Debt
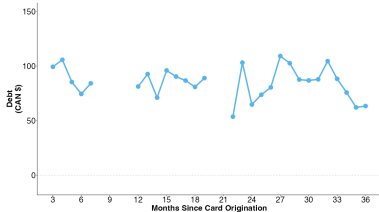
Delinquency
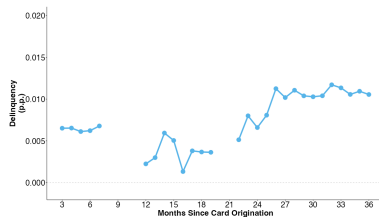
Adding Additional Cohorts (May - Nov 2019) in Unbalanced Panel
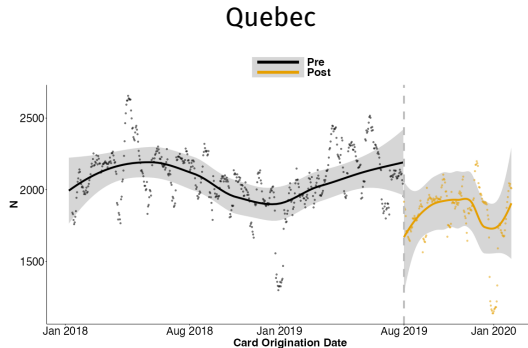
Still no (economically meaningful) average ↓ debt.
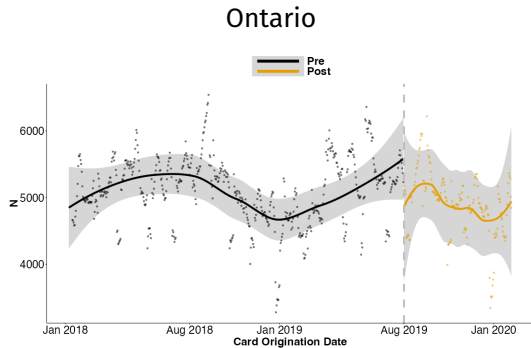

Potentially some interesting short-run to long-run dynamics to explore.

Extensive Margin: ↓ New Card Originations

Loess on daily data. Dots are 7 day moving average.