To Pay or Autopay?
Fintech Innovation and Credit Card Payments

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AFA 2025

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Great paper!

Rich administrative data +
quasi-experimental variation

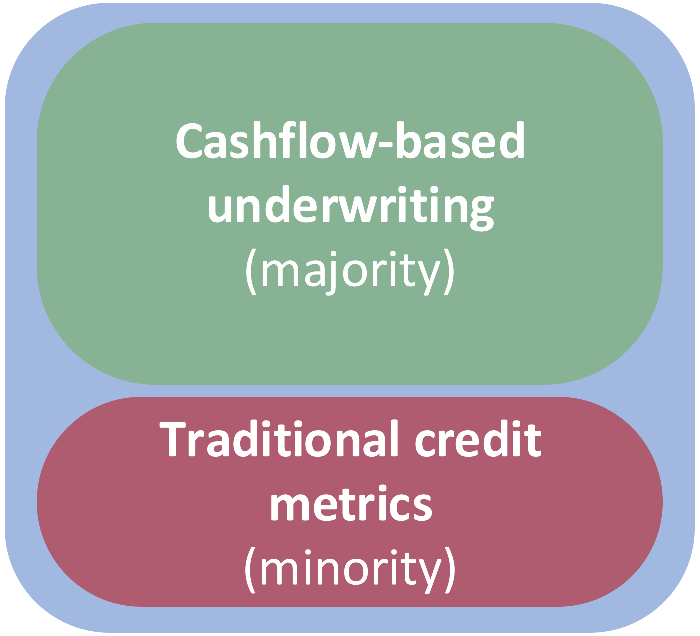
An important contribution to both
Nudge & Fintech literatures!

Part I

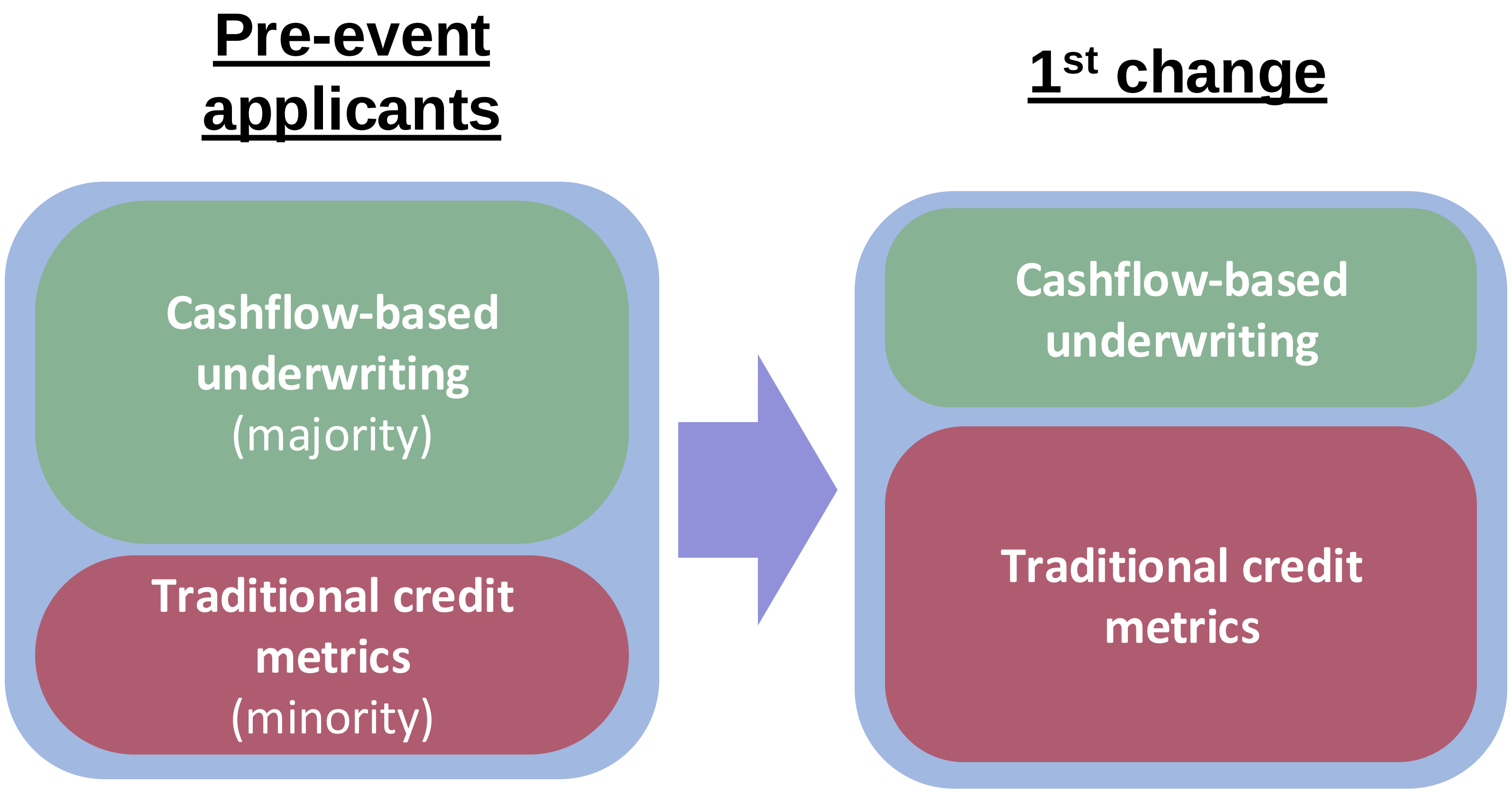
The Policy Variation

Policy variation

<u>Pre-event applicants</u>



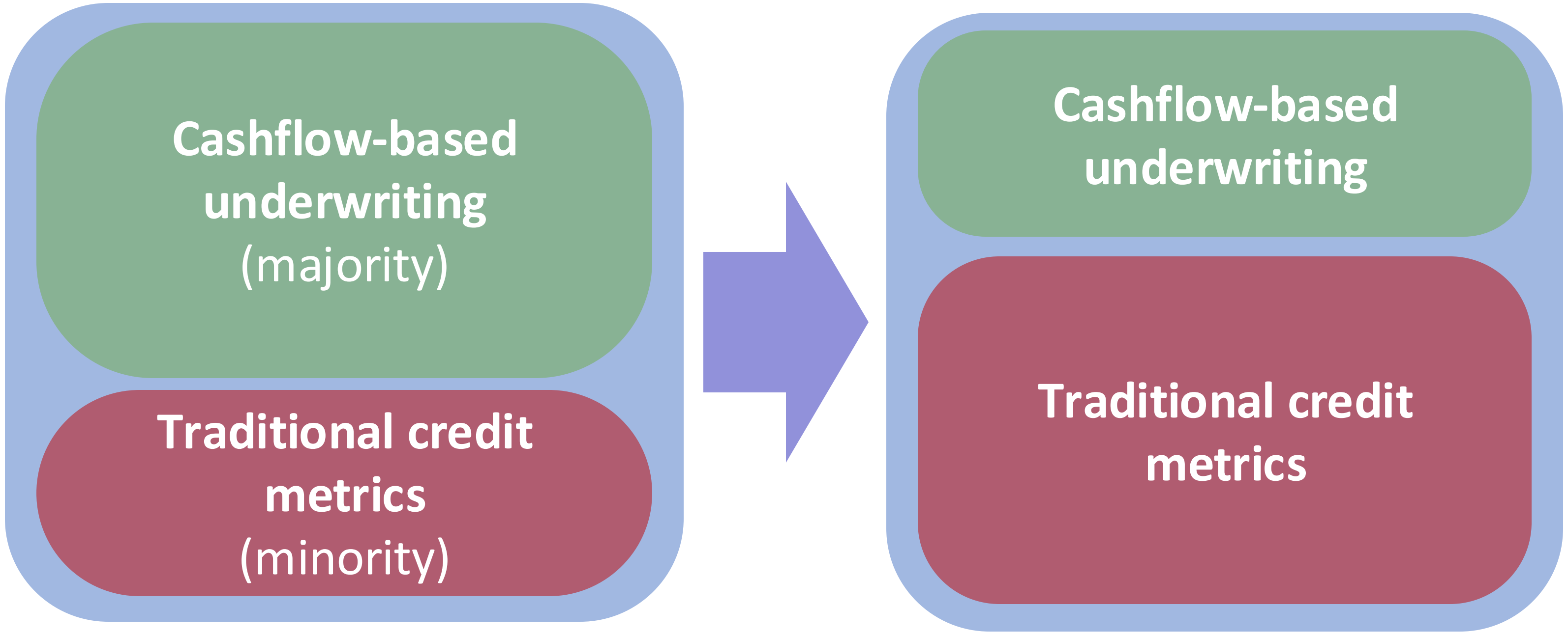
Policy variation



Policy variation

Pre-event applicants

1st change

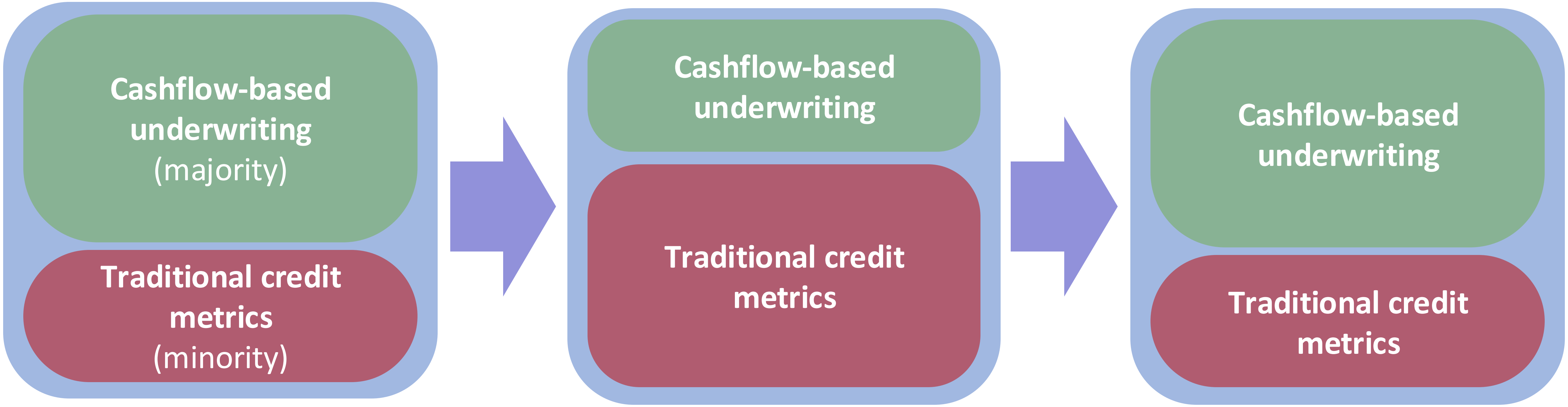


Outcomes for approved borrowers:

↗ income
↗ credit limit
↘ auto-pay & min payment
↗ charge-offs
≈ avg. payment

Policy variation

Pre-event applicants | **1st change** | **2nd change** (a few months later)



Outcomes for approved borrowers:

1st change:
- ↗ income
- ↗ credit limit
- ↘ auto-pay & min payment
- ↗ charge-offs
- ≈ avg. payment

2nd change:
- ↘ income
- ↘ credit limit
- ↗ auto-pay & min payment
- ≈ charge-offs
- ≈ avg. payment

Part II

The Mechanism

4 Types of Applicants

High Trad
High CF

$\Rightarrow$ **Always approved**

4 Types of Applicants

High Trad
High CF

⇒ Always approved

Low Trad
High CF

⇒ Depends on screening

⇒ technology

High Trad
Low CF

4 Types of Applicants

High Trad
High CF

⇒ Always approved

Low Trad
High CF

⇒ Depends on screening
⇒ technology

High Trad
Low CF

Low Trad
Low CF

⇒ Never approved

Channel 1: Change in selection ?

Before: most applicants subject to CF underwriting

High Trad
High CF

Low Trad
High CF

High Trad
Low CF

Low Trad
Low CF

High Trad
High CF

Low Trad
High CF

Channel 1: Change in selection ?

High Trad
High CF

Low Trad
High CF

High Trad
Low CF

Low Trad
Low CF

Before

High Trad
High CF

Low Trad
High CF

1st change:
↘ reliance on
CF underwriting

After

High Trad
High CF

High Trad
Low CF

Channel 1: Change in selection ?

High Trad
High CF

Low Trad
High CF

High Trad
Low CF

Low Trad
Low CF

Before

High Trad
High CF

Low Trad
High CF

1st change:
↘ reliance on
CF underwriting

After

High Trad
High CF

High Trad
Low CF

↗ income
↗ credit limit

Better trad. credit metrics

Channel 1: Change in selection ?

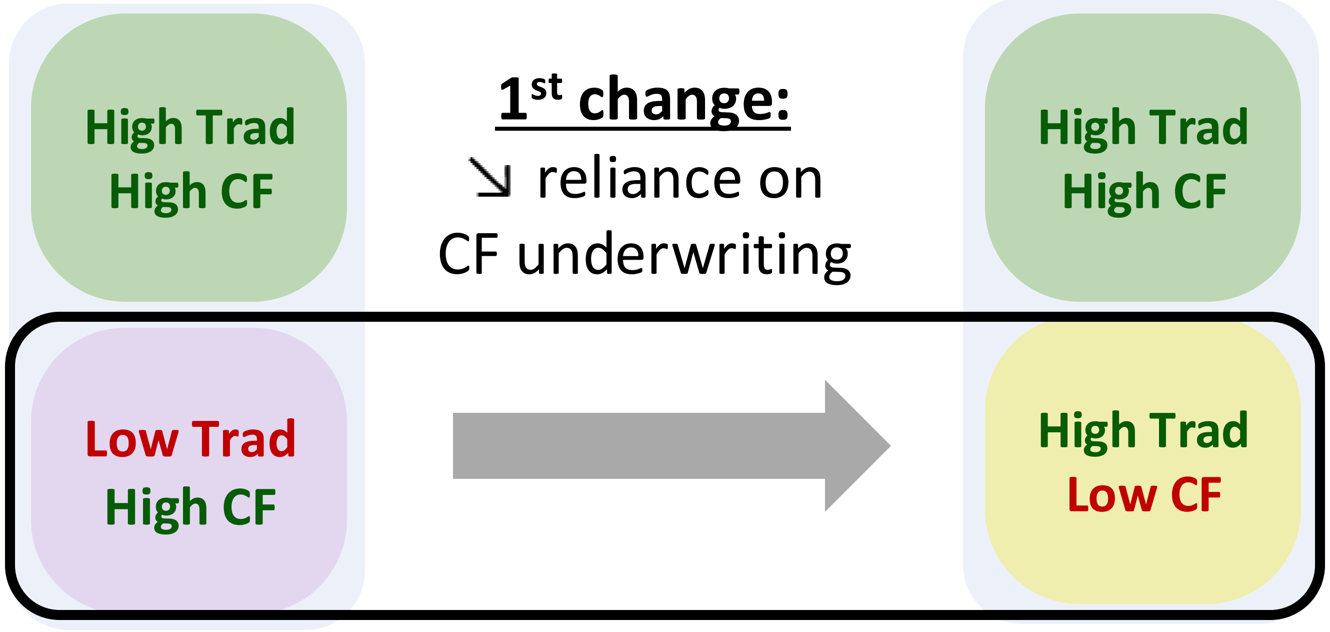
High Trad
High CF

Low Trad
High CF

High Trad
Low CF

Low Trad
Low CF

Before **After**



↗ income
↗ credit limit
} Better trad. credit metrics

↘ auto-pay & min payment
↗ charge-offs
} Worse cashflow metrics ?

≈ avg. payment

Is it all selection?

Careful (and convincing) discussion of selection in the paper!

My read: the lender changed screening thinking it would not adversely affect credit outcomes and was surprised by the $\nearrow$ in charge-offs!

Consistent with this: reversed change after few months!

=> Something else is happening!

Channel 2: Change in behavior ?

High Trad
High CF

Low Trad
High CF

High Trad
Low CF

Low Trad
Low CF

Before

High Trad
High CF

Low Trad
High CF

1st change:
↘ reliance on
CF underwriting

After

High Trad
High CF

High Trad
Low CF

Channel 2: Change in behavior ?

High Trad
High CF

Low Trad
High CF

High Trad
Low CF

Low Trad
Low CF

Before

High Trad
High CF

Low Trad
High CF

1st change:
↘ reliance on
CF underwriting

After

High Trad
High CF

High Trad
Low CF

↘ auto-pay & min payment
↗ charge-offs

Change in behavior due to
↘ ease of auto-pay

Unintended consequences of nudging

Unintended consequences of ~~nudging~~ cashflow underwriting

Unintended consequences of ~~nudging~~ cashflow underwriting

We generally think of cashflow underwriting as a superior screening technology

BUT can have unintended behavioral response:

Bank account linking for underwriting reduces frictions for auto-pay adoption!

As much a contribution to nudging literature as to the growing literature in fintech:

Berg, Fustter, Puri '24 ; Blickle, He, Huang adn Parlatore '24

Screening technology can change choice architecture & behavior!

=> we might over-estimate the improvement in selection from fintech

Part III

Welfare Impact

Nudging in credit market

Growing literature has considerably improved understanding of the **direct & indirect treatment effect** of nudges in credit markets …

Guttman-Kenney et al ‘24: no long-term impact on CC debt

Medina 2012: credit repayment text ↗ overdraft fees

Medina Grodzicki 2023: credit card nudge ↗ student loans

Nudging in credit market

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… yet more outcomes relevant for **welfare** than we can (ever?) measure

(e.g., pawn shops, late bills, informal credit, ret. saving, labor productivity etc.)

Behavioral welfare analysis

- Apply the behavioral welfare framework of Choukhmane Palmer '24 (adapted from Bernheim, Taubinsky '18; Alcott,Taubsinky '24 ; Reck Seibold '24):

$$\max_{c_i, ret_i, liq_i} \quad u(c_i) + v_i(cc_i\, , r) + \beta_i V_i(-cc_i\, , a_i)$$

$$s.t. \quad c_i = c_i = y_i + cc_i - a_i - R^{cc}(cc_i) + R^a(a_i)$$

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$$s.t. \quad c_i = c_i = y_i + cc_i - a_i - R^{cc}(cc_i) + R^a(a_i)$$

- Planner thinks each individual $p_i\%$ too impatient & gives no normative weight to anchoring utility

$$W(r) = \int_i \omega_i \left[u(c_i(r)) + \cancel{v_i(cc_i, r)} + \beta_i (1 + p_i) V_i(-cc_i(r)\,,\, a_i(r))\right] didi$$
$$+\mu \int_i (R^{cc}(cc_i(r)) - R^a(a_i(r)))\, di$$

where ω_i are welfare weights, μ is marginal social value of financial profits and $\gamma_i = \frac{v_{cc}}{u'}$ captures the strength of anchoring

Behavioral welfare analysis

Abstracting from redistribution ($g_i = 1$):

$$\frac{dW(r)/dr}{\mu} = \int_i \left\{ p_i \underbrace{\left(-\frac{dc_i}{dr} \right)}_{\text{cons. resp.}} + (1 + p_i)\, \gamma_i \underbrace{\left(-\frac{dcc_i}{dr} \right)}_{\text{CC repayment resp.}} + \underbrace{\frac{dR^{cc}}{dr} - \frac{dR^a}{d}}_{\text{interest resp.}} \right\} di$$

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- **Consumption response:** did the policy lead the most **present biased individuals** to cut their spending? $cov\left(p_i, -\frac{dc_i}{dr}\right) > 0$

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- **CC borrowing response:** did the policy reduce anchoring (e.g. $\uparrow$ CC borrowing for those anchored $<$ optimal) those **most prone to anchoring**? $cov\left(\gamma_i, \frac{dcc_i}{dr}\right) > 0$

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- CC borrowing response: did the policy reduce anchoring (e.g. $\uparrow$ CC borrowing for those anchored $<$ optimal) those most prone to anchoring? $cov\left(\gamma_i, \frac{dcc_i}{dr}\right) > 0$
- **Net interest payments:** did the policy reduce net interest payments? $\mathbb{E}\left(\frac{dR^{cc}}{dr} - \frac{dR^a}{d}\right) < 0$