Measuring Valuation of Liquidity with Penalized Withdrawals

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Motivation

- Starting point: a simple and clever idea!

Observe HHs paying penalty to access ret. savings early

=

Their **valuation of liquidity>penalty**

- Simple non-parametric tool to measure variations in liquidity needs across HHs, time and space.
- Population: tax-filers w/ ret. sav. = good candidates for wealthy hand-to-mouth in HANK models

Results & Connection to Literature

2 sets of results:

1. Hhs use penalized withdrawals for self-insurance

Consistent with the literature on retirement leakage:

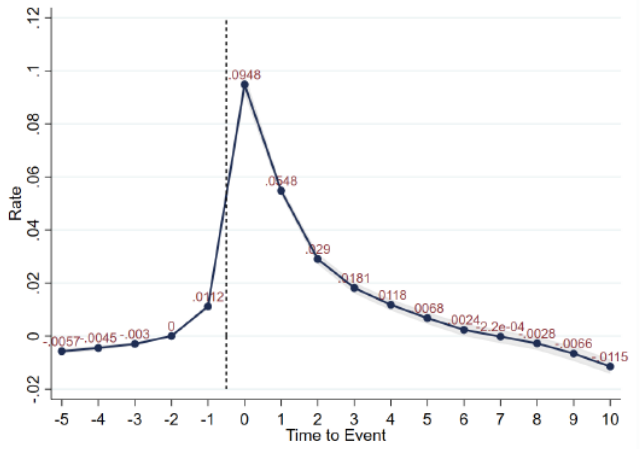
- **Cross-section:** early withdrawals ↗ following life events (separation, income shock, divorce, etc.) Amromin and Smith '03 ; Argento, Bryant and Sabelhaus '15 ; Goodman, Mackie, Mortenson, Schramm '21
- **Time series:** early withdrawals ↗ aggregate shocks (great recession)
  Argento, Bryant and Sabelhaus '15

Suggestion: acknowledge the leakage literature/discuss what drive (small) differences

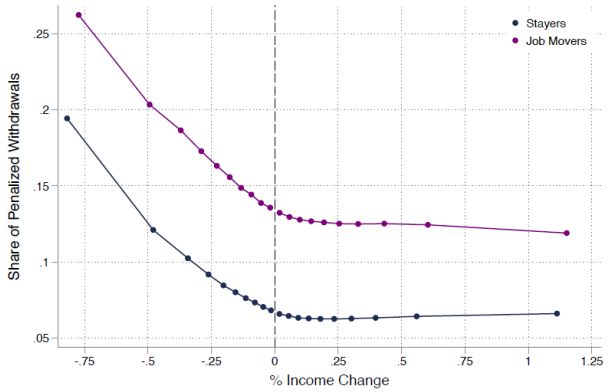
Context & Connection to Literature

This paper

(a) Unemployment



Job separation/ unemployment



Income changes

Goodman, Mackie, Mortenson and Schramm (*forthcoming*)

Figure 7: Change in leakage probability around job separation

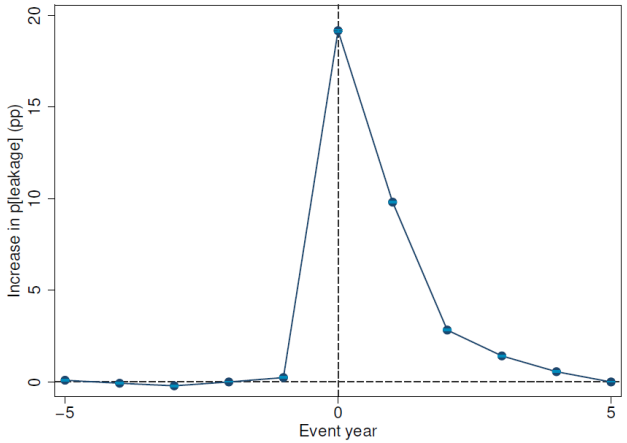
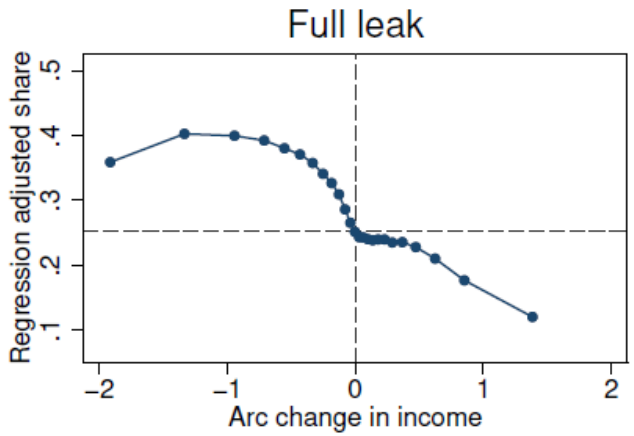


Figure 9: Job separation:



Results & Connection to Literature

2 sets of results:

1. **Hhs use penalized withdrawals for self-insurance**

2. **Wide spatial variation in liquidity needs**

- Spatial distribution broadly similar to Keys, Mahoney and Yang '21 (more liquidity needs and financial distress in South vs Upper Midwest)

BUT ≠ population: tax-filers w/ ret. sav.

Place effect explain more of the variation in penalized withdrawals (30%) than debt-in-collection or CC non-payment (~10%)

Theoretical Framework

$$\Pr\left(\frac{u'(c_{i,z,t+1})}{u'(c_{i,z,t})} > 1+\tau\right) = \Pr\left(penalized\ withdrawal_{i,z,t}\right) = \alpha_i + \Gamma_{z(i,t)} + x_{i,t} + \varepsilon_{i,t}$$

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1. **Measurement:** of penalized withdrawal includes other (penalty-free) distributions

Measurement: many non-penalized withdrawals are included!

Data: 1099-R form distributions w/ codes 1, J and S :

Includes: penalized withdrawals from a DC plan (what the authors want to measure)

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+ Indirect rollovers: withdraw money but rollover within 60 days into an IRA

+ Several types hardship withdrawals are included:

Distribution Codes	Explanations
1—Early distribution, no known exception.	Use Code 1 only if the participant has not reached age 59½, and you do not know if any of the exceptions under Code 2, 3, or 4 apply. However, use Code 1 even if the distribution is made for medical expenses, health insurance premiums, qualified higher education expenses, a first-time home purchase, a qualified reservist distribution, or a qualified birth or adoption distribution under section 72(t)(2)(B), (D), (E), (F), (G), or (H). Code 1 must also be used even if a taxpayer

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Good news! Can fix this w/ the data available to authors. (Bee and Mitchell '17 and Goodman et al '21) identify DC from DB, can use form 5329 for hardship exception

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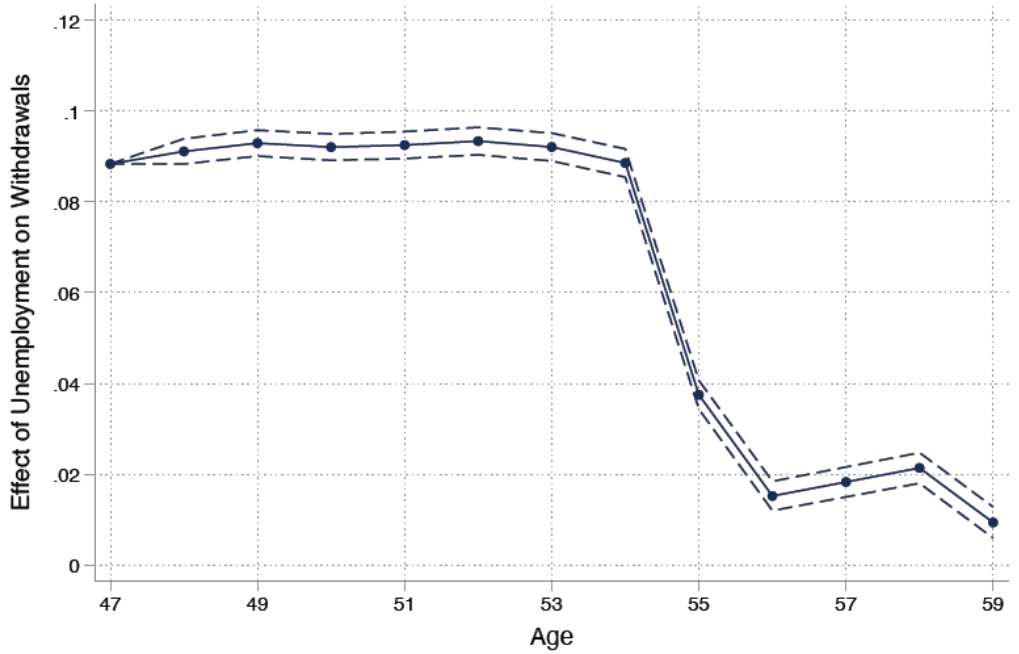
“Price” of Liquidity I: Hardship Withdrawals

Hardship withdrawals => availability of exception to the 10% penalty
varies across hhs, time and space

- Ex 1. cross section:



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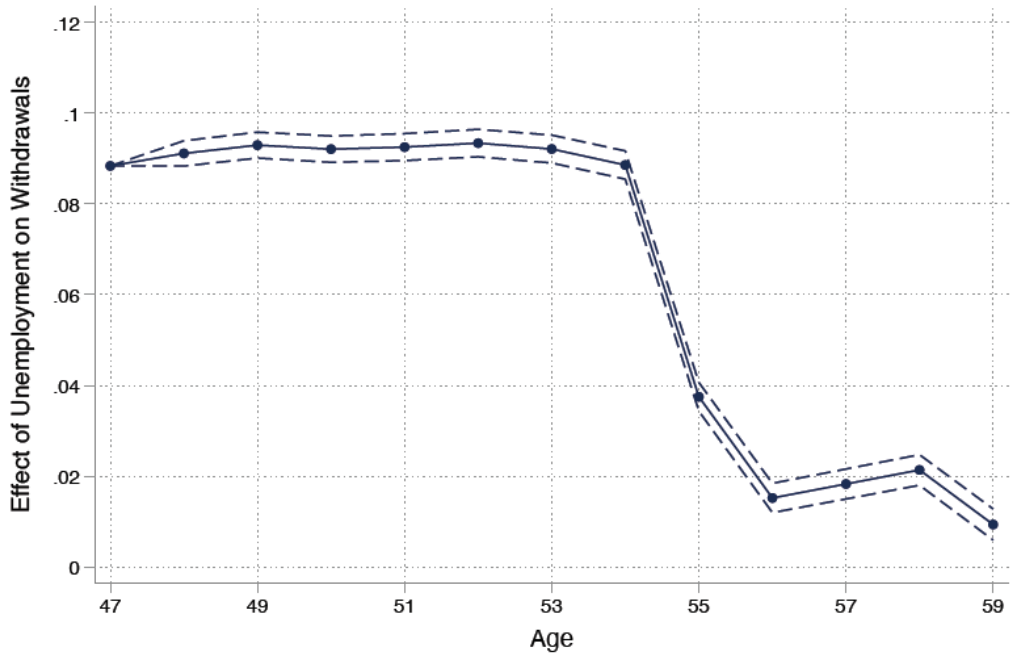

No penalty for withdrawal after separation if older than 55y

- Ex 2. movers design:

=> “Empty nesters” move to new place after kid goes the college

=> Access an alternative to penalized withdrawals (hardship for higher educ. expenses)

↘ price to access retirement liquidity correlated with move (Δ_i in place effect)

“Price” of Liquidity II: 401(k) Loans

~86% of participants in 401(k) 403(b) plans have a loans option:
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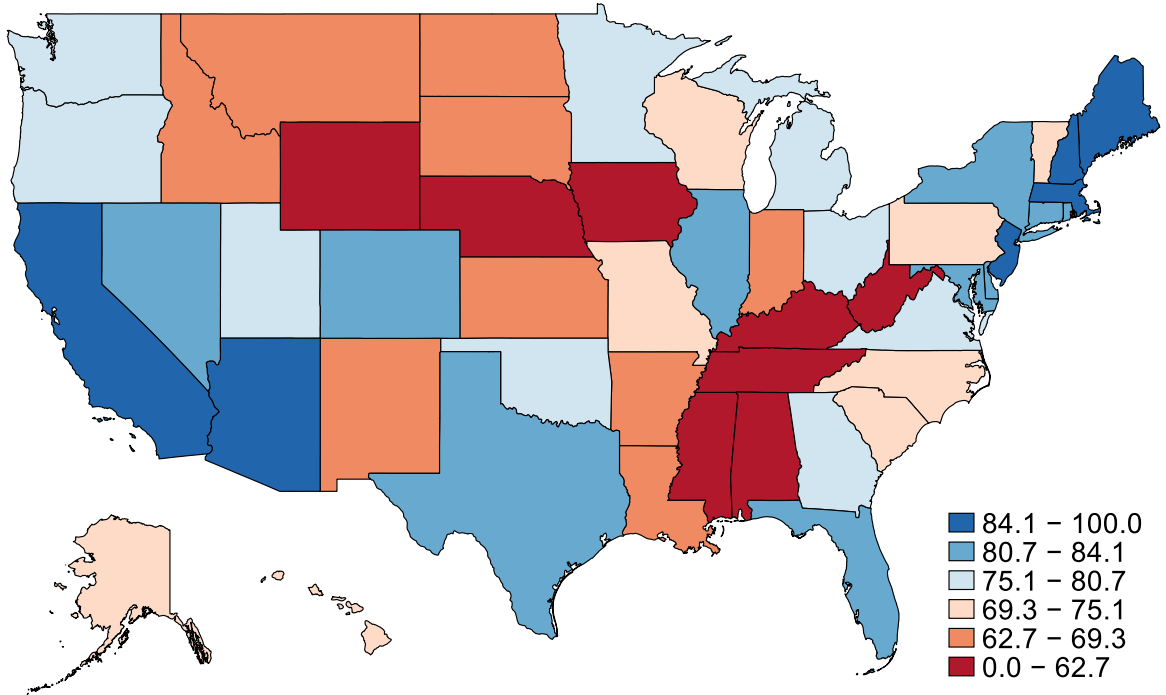
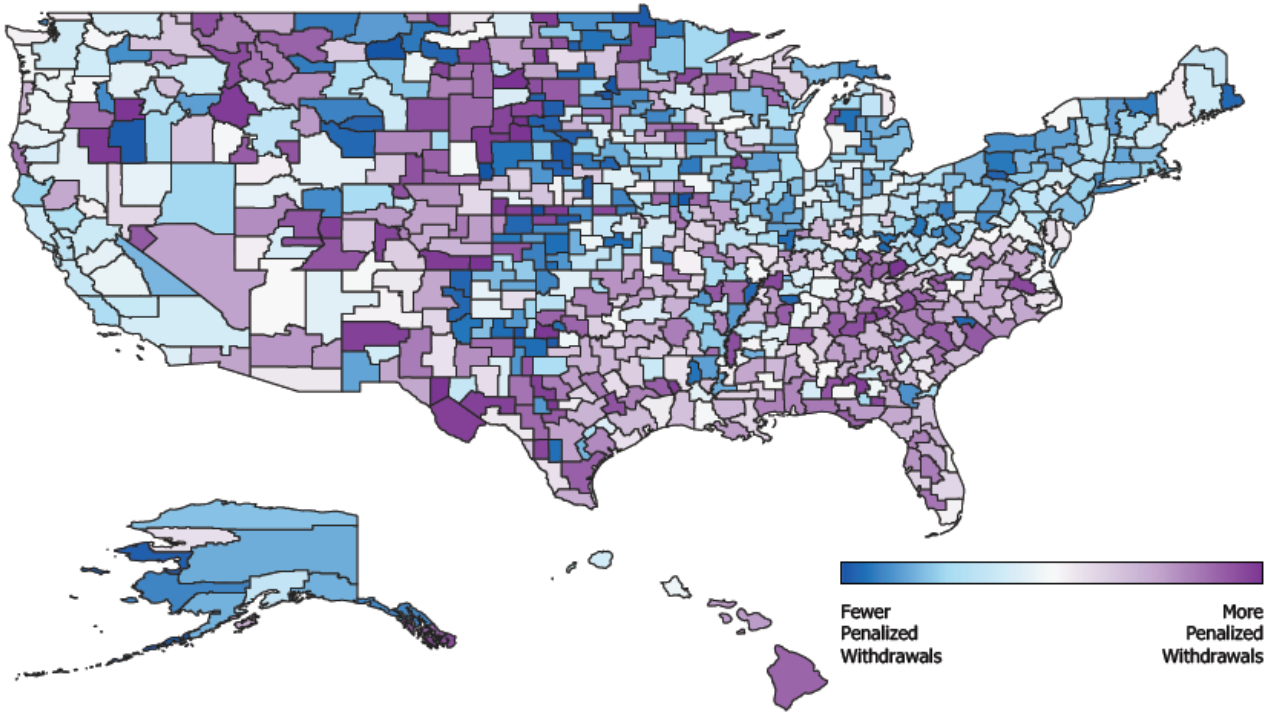
% of plans w/ evidence of loan activity in 2012



(b) Location Fixed Effects



Data: Form 5500 filings for 2012 (4001(k) and 403(b) plans w/ more than 100 participants.
Geography based on the mailing address of the plan sponsor.

“Price” of Liquidity III: Taxes

Federal Income Tax

Income shocks + Financial crisis

↘ marginal tax rate (↘ τ) => ↗ withdrawals

Paper: rule out tax concern b/c withdrawal do not ↘ following positive income shocks.

BUT positive income shock ≠ Δ marginal tax rate

If withdrawal don’t respond to prices (tax) => raises questions about framework validity!

Suggestion: zoom in hhs who change tax brackets (marginal tax rate is endogenous too). Compare Roth vs traditional withdrawals.

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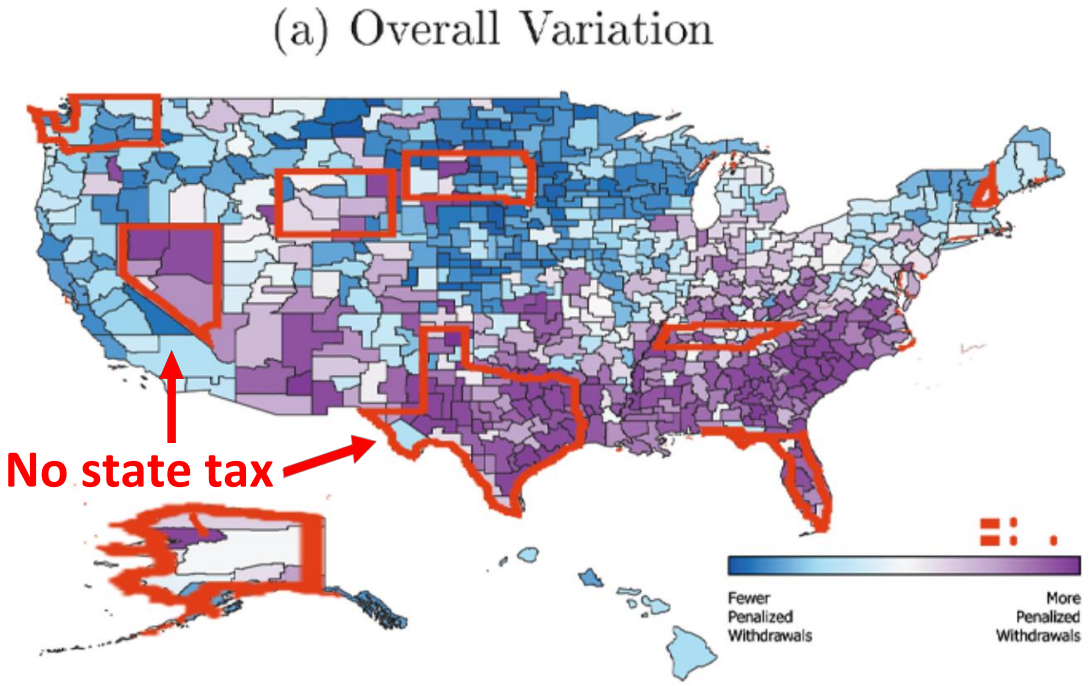
State Income Tax

Paper: controlling for top marginal state income tax has a small (but non-negligible) effect.



Suggestion: top rate is too coarse. Look at hh level marginal rate + check for anticipation effects

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1. Measurement: of penalized withdrawal includes other (penalty-free) distributions
2. "Price" of liquidity: varies across households, time, employers and space
3. **Revealed preferences:** may fail b/c of default rules and inertia at separation

Inertia & Default Behavior I: Auto-cash-out

Fist issue: automatic cash-out at termination

- Employers are allowed to send a cash distribution for separating employees with small balances (unless employee makes an active decision).

- Asset thresholds for automatic cash-out during sample:

  Pre-2005: automatic cash-out <$5,000

  => post-2005: lowered to <$1,000 and rollover into an IRA <$5,000

- Potentially large effect: 20% of penalized withdrawal in the sample are <$1,000 and 50% are <$5,000

Inertia & Default Behavior II: Loan defaults

Fist issue: automatic cash-out at termination

Second issue: 401k loan defaults at termination

Balloon payment at termination => path of least resistance: default!

=> creates a penalized distribution at separation.

Potentially a large effect. From Lu, Mitchell, Utkus and Young '17:

- 20% of 401k employees have outstanding loan
- 86% of employees w/ outstanding 401k loan default

=> back-of the envelope calculation: 17% of terminating default

Inertia & Default Behavior

Challenge for the revealed preference approach:

A significant share of withdrawals at separation could be driven by **default options** rather than **changes in hh liquidity pref**.

Matters for both (i) effect of job loss in the cross-section & (ii) elasticity to unemployment in the great recession

Suggestion: restrict to penalized withdrawals which reflect an active decision!

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1. Measurement: of penalized withdrawal includes other (penalty-free) distributions
2. "Price" of liquidity: varies across households, time, employers and space
3. Revealed preferences: may fail b/c of default rules and inertia at separation
4. **Person & place FE:** additive separability is a strong assumption

Person vs Place Effects

Key assumption: person and place effects are additively separable.

$\Rightarrow$ **Person effect may capture past place effect:**

- Authors preferred interpretation of place effects: Δ in credit supply
- Prob: can keep credit access after moving from high to low credit supply place

  => person effect will capture origin place effect!

Suggestion: check for asymmetric effect. Prediction of supply model: stronger effect for negative moves (from low to high place FE). Keys, Mahoney and Yang ‘21

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⇒Interaction between person and place:

- Additive separability => anything about place that ↗ withdrawals ↗ them by constant proportion ∀ hhs
- Ex. Black and white hhs may have different effect to moving into/out of high % black locations
- Relatedly: check for pre-trend interacted w/ hhs characteristics

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⇒Endogenous selection into who can take penalized withdrawals:

$$\Pr\left(penalized\ withdrawal_{i,z,t}\right) = \left(\alpha_i + \Gamma_{z(i,t)} + x_{i,t} + \varepsilon_{i,t}\right) \times \mathbb{I}(ret.\ savings > 0)$$

- 1/3 of withdrawals ≥100% IRA balance => limits ability to withdraw in future
- Person and place effect interact (non-linearly) with history of past contributions and withdrawals (and past place and person effects)

Conclusion

- Great paper: clever use of revealed preferences to study liquidity needs across hhs, space and time
- Current measurement challenges can be addressed w/ data available to authors
- Encourage the authors to decompose variation coming from liquidity preferences vs prices vs inertia