

DISCUSSION:
STOCKS FOR THE LONG RUN OR LIQUIDITY?
TAX DATA EVIDENCE AND PORTFOLIO CHOICE IMPLICATIONS
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WHAT WE KNOW: A SIMPLE CONSUMPTION–SAVINGS MODEL

A household chooses consumption to maximize lifetime utility:

$$\max_{\{C_t\}_{t=0}^{\infty}} E_0 \sum_{t=0}^{\infty} \beta^t u(C_t)$$

subject to the intertemporal budget constraint:

$$A_{t+1} = (1 + r)A_t + Y_t - C_t,$$

where

$C_t \equiv$ consumption,

$Y_t \equiv$ nonfinancial income,

$A_t \equiv$ financial assets at the beginning of period t ,

$r \equiv$ risk-free return.

Define the household's net savings flow as

$$S_t \equiv Y_t - C_t.$$

Hence,

$$A_{t+1} = (1 + r)A_t + S_t.$$

WHAT WE KNOW: HOUSEHOLDS RESPOND TO AN INCOME SHOCK

Suppose income unexpectedly falls:

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Use financial assets to smooth
consumption:

$$S_t \downarrow, \quad A_{t+1} \downarrow$$

while

ΔC_t is relatively small.

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Temporary income shock

vs.

Persistent income shock

$Y_t \downarrow$ but $E_t Y_{t+k}$ recovers

$Y_t \downarrow$ and $E_t Y_{t+k}$ remains low

Use financial assets to smooth consumption:

$$S_t \downarrow, \quad A_{t+1} \downarrow$$

while

ΔC_t is relatively small.

Lifetime resources have fallen:

$$\Delta W_t = \sum_{k=0}^{\infty} \frac{E_t[\Delta Y_{t+k}]}{(1+r)^k} < 0.$$

Consumption must therefore adjust:

$$C_t \downarrow.$$

Borrow from your future self.

Less future income to borrow against.

A PERSISTENT INCOME SHOCK: BENCHMARK VS. DATA

- **Benchmark prediction**

Persistent income loss $\implies$

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- **But according to the detailed tax data (this paper) :**

Persistent income loss $\Rightarrow$

Asset drawdown, Savings $\downarrow$ substantially

Estimated savings response $\approx$ \$0.50–\$0.85 per \$1 of lost after-tax income.

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THE EMPIRICAL PUZZLE

Why do households absorb so much of a persistent income loss through their **balance sheets** rather than through consumption?

EMPIRICAL DESIGN

1. Data and measurement

- **2000–2022 reference years**, ages 30–59, top nonfinancial-income quintile within age
- Taxable saving: dividend and interest changes, adjusted for payouts and yields
- Retirement flows: 1099-R withdrawals and W-2 contributions

Related capitalization methods: Saez and Zucman (2016), Smith, Zidar and Zwick (2023), Martínez-Toledano (2023).

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2. Households save less and draw down assets in bad times

$$\frac{S_{j,t,t+h}^A}{\bar{Y}_{j,t-2:t}} = \beta_h^A \frac{\bar{Y}_{j,t+1:t+3} - \bar{Y}_{j,t-2:t}}{\bar{Y}_{j,t-2:t}} + \gamma_h' Z_{j,t+h} + \varepsilon_{j,t+h}.$$

- S^A : cumulative net saving, $h = 1, 2, 3$ years
- $\bar{Y}$: three-year average pre-tax nonfinancial income
- β_h^A : saving response per \$1 annual income change
- **IV**: negative residualized ZIP-code income growth
- **Controls**: year-interacted household groups, lagged income and financial variables

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3. Other interesting empirical facts

- High-income households are wealthy, but their liquidity is surprisingly limited
- The drawdown includes both **stocks** and fixed-income assets. (Again, the stock part – with a higher anticipated return – is a bit unexpected!)

MECHANISM: CONSUMPTION ADJUSTMENT COSTS

1. Assumption: Suppose expenditures are difficult to adjust quickly

$$\underbrace{\Phi_C(C_t, C_{t-1})}_{\text{cost of cutting consumption}} = \frac{\phi_C}{2} \left[\min \left(\frac{C_t}{C_{t-1}} - 1, 0 \right) \right]^2 C_{t-1}.$$

C_t : consumption ϕ_C : adjustment-cost parameter

$\phi_C = 10$: a 10% cut costs an additional 5% of prior consumption

2. Portfolio mechanism

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- Important model implication: Optimal choice w/ a lower stock share

MAIN INSIGHT:

Such an endogenous liquidation risk is a source of stock risk to HH.

COMMENT 1: THE ROLE OF CREDIT AND BORROWING

Starting point

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Question: Why is borrowing not the marginal source of liquidity?

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Question: Why is borrowing not the marginal source of liquidity?

- High borrowing costs?
- Limited or state-dependent credit access?
- Reluctance to borrow?

COMMENT 1: WHAT WOULD CREDIT DO TO THE MECHANISM?

Allow households to borrow against future income:

$$B_{t+1} \leq \bar{B}_t, \quad \text{at borrowing rate } r_t^B.$$

Stable, inexpensive credit

Income loss $\rightarrow B \uparrow \rightarrow$ less asset liquidation $\rightarrow$ less forced stock selling

Better credit access $\Rightarrow$ higher ex ante optimal stock share

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Credit supply may be procyclical when liquidity is most valuable.

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Suggested exercise: Compare optimal portfolios under

no credit vs. stable credit vs. credit tightening in bad times.

COMMENT 2: WHICH MARKET SHOCKS MATTER?

Starting point

The model decomposes unexpected stock returns into

$$r_{t+1} - E_t[r_{t+1}] = N_{t+1}^{CF} - N_{t+1}^{DR}.$$

The calibration assumes that a return decline driven by cash-flow news has the same effect on the earnings distribution as an equally sized return decline driven by discount-rate news. In the model, i.e., $-1 \text{ NCF} \Leftrightarrow +1 \text{ NDR}$.

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- **Cash-flow news:** Expected future corporate cash flows $\downarrow$
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- **Cash-flow news:** Expected future corporate cash flows $\downarrow$
- **Discount-rate news:** Required returns rise $E_t[R_{future}^{stock}] \uparrow$

For the paper's mechanism, the second case creates a particularly important tension:

$$Y_t \downarrow + C_t \text{ difficult to cut} + E_t[R_{future}^{stock}] \uparrow$$

$\Downarrow$

Liquidation is particularly costly; explaining households choosing a lower stock share.

COMMENT 2: HETEROGENEOUS EXPOSURES

Suggested empirical exercise

Estimate exposure of earnings growth to each return-news component:

$$\Delta Y_{i,t} = \alpha_i + \beta_i^{CF} N_t^{CF} + \beta_i^{DR} N_t^{DR} + \varepsilon_{i,t},$$

potentially allowing exposures to differ across [industries](#) or [occupations](#). For instance, one would expect finance industry workers are more sensitive to NDR compared to manufactory-strong industries.

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Compare households with similar earnings volatility but different exposure to discount-rate news:

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The model predicts:

$$\text{greater income losses when } N^{DR} \uparrow \Rightarrow \text{greater liquidation risk} \Rightarrow \theta^* \downarrow$$

Economic implication: Portfolio choice depends not only on *how risky* labor income is, but also on *when* that income risk materializes.

CONCLUSION

Summary

- Large persistent income losses generate large drawdowns from liquid assets, including stocks, due to consumption adjustment cost.
- In this world, households change portfolio choice to hold a lower stock share at the equilibrium.
- The mechanism is especially relevant when stocks are temporarily depressed: households may need to sell precisely when expected future stock returns are high.

Further questions

- 1 **Comoving channel – Borrowing:**
Can access to credit attenuate the need to sell stocks?
- 2 **Heterogeneity – Income risk:**
Can we find cross-sectional evidence using variation in exposure to NDR?

Thank you!
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