The Macro Impact of Paying in Dollars in Emerging Economies

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The problem: income in pesos, big purchases in dollars

Currency mismatch

- Prices for infrequent purchases are often in **dollars**.
- Household income is primarily in **pesos**.
- Dollar deposits hedge the price risk but are imperfectly liquid for groceries.

Uruguay: stable inflation, persistent dollarization

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Core idea

Households face exchange-rate risk on the margin

- where adjustment is lumpy
- self-insurance is hardest.

Dollar assets hedge that risk, but only imperfectly.

Uruguay: stable inflation, persistent dollarization

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- Portfolio choice over currency composition, not separate asset states.
- Lumpy durable adjustment generates state-dependent hedging demand.

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- Portfolio choice over currency composition, not separate asset states.
- Lumpy durable adjustment generates state-dependent hedging demand.

(3) Quantify the welfare impact from the ability to hedge with dollar assets

- **Dollar saving stabilizes consumption** when durables are dollar-priced.
- Welfare losses rise with ER volatility and adjustment frictions.

Currency choice: opportunities & risks

	Saving in pesos	Saving in dollars
Opportunities	Safe for daily non-durables (groceries).	Hedge for durable purchases (savings move with dollar-priced durables).
Risks	Exposure when buying durables (peso depreciation makes car/house more expensive).	Risky for daily consumption (peso appreciation makes dollars buy fewer groceries).

Outline

Data: Uruguayan Household Finance Survey (2012–2017)

- Nationally representative, waves 1–3 (2012–2017), $N \approx 20{,}000$ HHs, from the Universidad de la República, Uruguay.
- **Currency denomination of assets and debt**: peso vs. dollar deposits.
- **Durable holdings value in $** and household characteristics.
- Main drawback: repeated cross-sections $\Rightarrow$ no household panels.

Summary

Three facts from EFHU (2012–2017)

1. **Dollar saving is widespread:** mean dollar share of liquid assets ≈ 0.25; distribution shows mass near 0 and 1.

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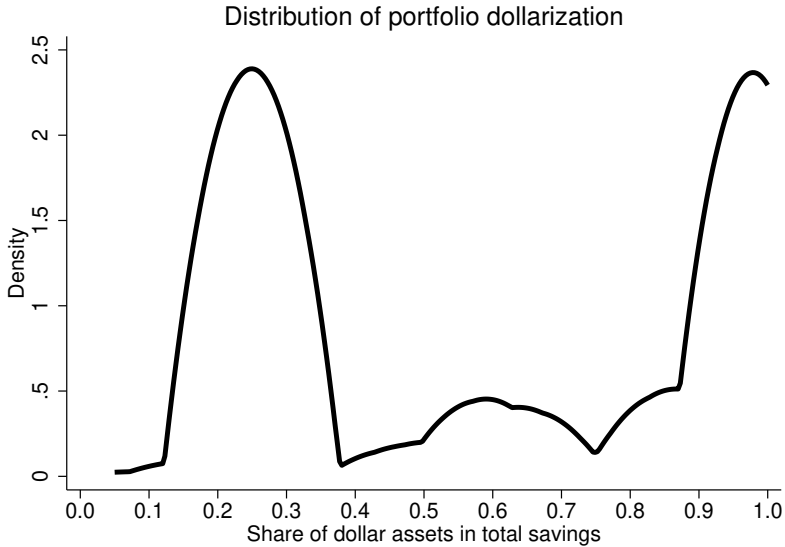
1. **Dollar saving is widespread:** mean dollar share of liquid assets ≈ 0.25; distribution shows mass near 0 and 1.
2. **Durables dominate wealth:** durable/wealth mean ≈ 0.83.
3. **Durable updating is infrequent:** long spells ≈ 25 years per wave.

Implication: households face exchange-rate risk precisely on the lumpy margin where self-insurance is hardest.

Figures

Dollar share is widespread



Mass points at 0 and 1 are consistent with transaction−cost models

Dollar pricing is common even with low inflation

Table: Dollar pricing by good type (%, 2018) and liquid $ deposits (%, 2020)

Country	Non-Durable	Durable		Inflation	Liquid $ Deposit
	Goods	Vehicles	R. Estate	(%)	(2020, %)
Argentina	0	9	76	47.6	32
Bolivia	42	67	83	1.5	—
Paraguay	60	57	33	3.2	45
Peru	4	68	54	2.2	40
Uruguay	35	85	88	7.6	75

Source: MercadoLibre snapshot (pricing shares), World Bank (inflation, 2018), JP Morgan (deposits, 2020). Dollar pricing + dollar deposits persist after stabilization $\Rightarrow$ hedge demand, not only inflation history.

Outline

Household problem

State

$$S_t = (w_t, d_{t-1}, e_t, y_t)$$

- **Liquid wealth (peso units):** $w_t \equiv a_t + e_t a_t^{\$}$
- **Durables:** inherited stock d_{t-1}; adjust discretely or depreciate.
- **Shocks:** e_t (exchange rate), y_t (income), both AR(1).

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Choices each period

- Non-durable consumption c_t
- End-of-period savings w_t'
- Dollar share of savings $s_t \in [0, 1]$
- Durable decision: adjust $(d_t = d^*)$ or no-adjust $(d_t = (1-\delta)d_{t-1})$

Model

Preferences

$$u(c,d) = \frac{\left(c^{\nu} d^{1-\nu}\right)^{1-\gamma}}{1-\gamma}$$

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Liquid wealth transition

$$w_{t+1} = (1+r)(1-s_t)w'_t + (1+r^{\$})s_t w'_t \frac{e_{t+1}}{e_t} - \kappa s_t w'_t$$

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Durable choice

$$V(S_t) = \max\left\{V^{adj}(S_t),\, V^{noadj}(S_t)\right\}$$

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Adjustment cost

$$F(d_t, d_{t-1}) = \begin{cases} fp_d e_t (1-\delta) d_{t-1} & \text{if adjust} \\ 0 & \text{otherwise} \end{cases}$$

Key simplification: currency composition is chosen within period.

Mechanism

Shock / friction	Behavioral margin
$\uparrow f$	larger inaction regions; lumpier durable spending
$\uparrow \sigma_e$ (risk)	hedging through the safest asset
$\uparrow \kappa$	less USD saving; exposure to dollar prices

Takeaway: portfolio choice and lumpy durable adjustment interact because the hedge is most valuable precisely when adjustment is costly and infrequent.

Comp. Stats.

Outline

Quantitative strategy (SMM, aligned with EFHU)

Fix outside the model (standard/data):

- Preferences (β, γ), depreciation δ, interest rate r, ER (ρ_e, σ_e), income (ρ_y, σ_y)

Estimated by SMM (core frictions):

- Durable frictions f, portfolio wedge: κ, utility share: ν.

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Targeted moments:

- Adjustment: durable tenure.
- Portfolio: mean and dispersion of dollar share.
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Why these moments: they separately pin down (i) inaction, (ii) hedging demand, (iii) durable–liquid tradeoff.

Model fit

Moment	Data	Model
Mean years since last adjustment	23.2	24.4
Mean dollar share of liquid assets	0.24	0.23
Var. dollar share	0.24	0.07
Mean durable share of wealth	0.83	0.22
Var. durable share of wealth	0.09	0.04

Parameters

Counterfactuals

1. **Higher adjustment cost:** durables harder to adjust (market frictions).
2. **Higher σ_e (more ER risk):** unstable macro environment.
3. **Fixed Exchange Rate.**
4. **Higher κ (restricted dollar saving):** de-dollarization via higher effective cost of USD deposits.

The hedge channel is first-order in PE

Table: Welfare loss for baseline households (CEV,%)

Counterfactual	**CEV$_{A\to B}$ keep μ^A (%)**
Higher durable adjustment cost	+0.06
Fixed exchange rate	+3.42
High exchange rate volatility	+8.95
Restricted dollar saving	+3.52

Notes: CEV$_{A\to B}$ keep μ^A reports changes in welfare and isolates policy/value changes holding the baseline stationary distribution fixed.

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- When durables are dollar-priced, USD deposits hedge the state where replacement becomes expensive.
- Raising κ removes that hedge: volatility rises and welfare falls.

Outline

Conclusion

- Dollar pricing transforms HH balance sheets into a source of macro risk.
- Dollar saving is not speculation; it is insurance against lumpy adjustment.
- Restricting dollar assets amplifies volatility and lowers welfare even in PE.

Thanks! You can send me any comment or suggestions at
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Main statistics (2012–2017)

Moment (survey–weighted)	Value
Dollar deposit share (mean)	**0.24**
Durable value / wealth (mean)	**0.83**
Durable value / quarterly income (median)	**1.85**
Durable tenure (average years)	**23.2**
Housing value (median)	**$150,000**
Vehicle value (median)	**$8,000**
Quarterly income (median)	**$4,922**

Wealth = durables + liquid savings. Quarterly income = $3\times$ monthly income. All figures survey–weighted; winsorized 1–99 by wave.

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Infrequent adjustments

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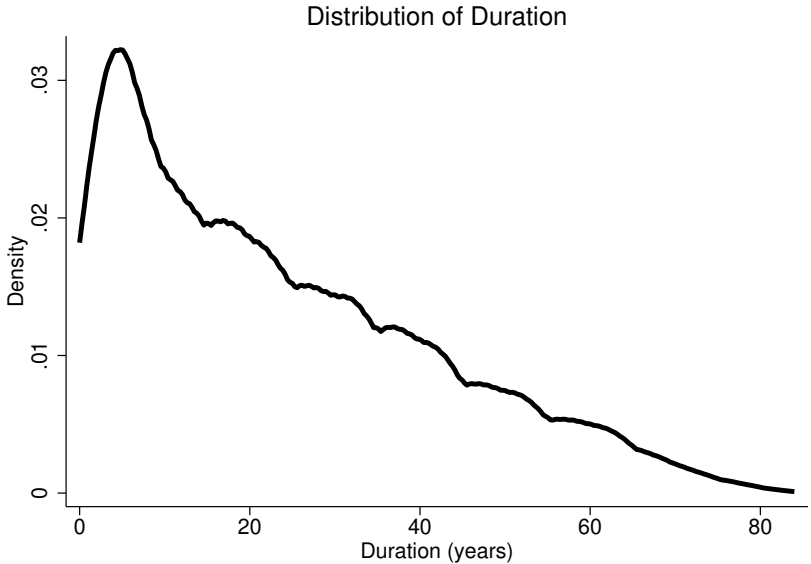

Liquidity trade-offs

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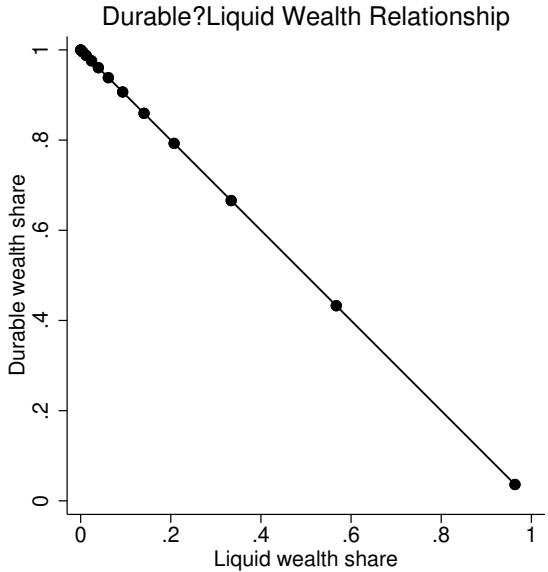

Dollar saving follows income distribution

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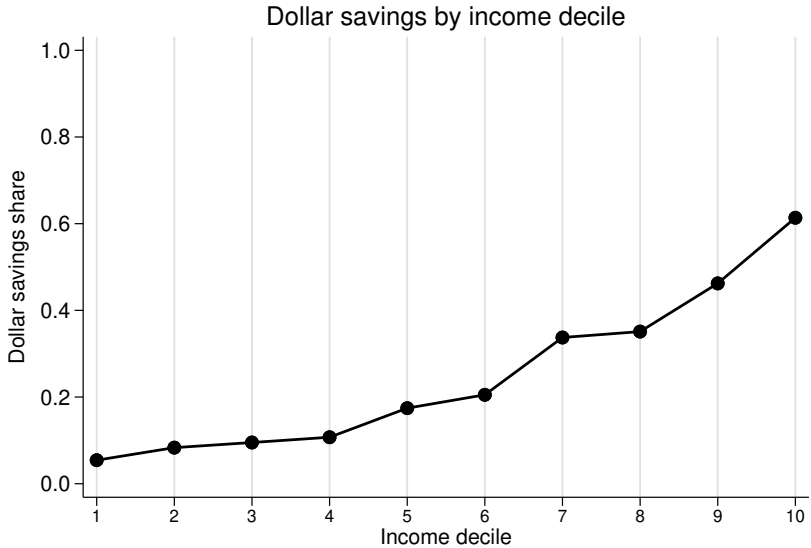
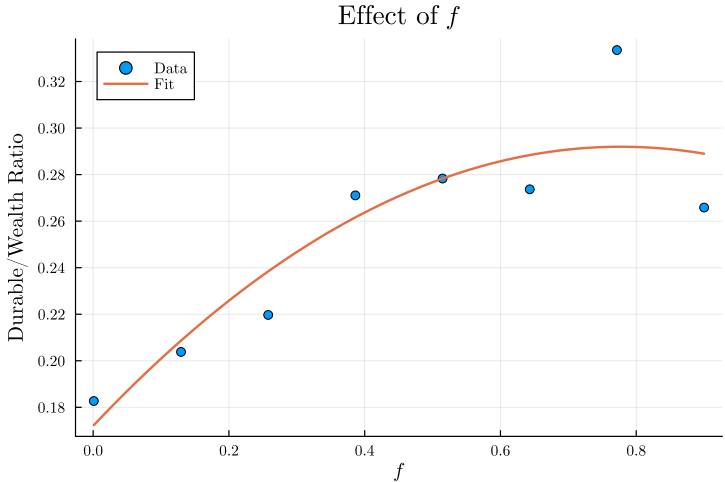


Fixed costs $\Rightarrow$ durables become illiquid



$\uparrow$ adjustment costs $\Rightarrow \downarrow$ adjustment frequency $\Rightarrow$ durables behave like illiquid assets

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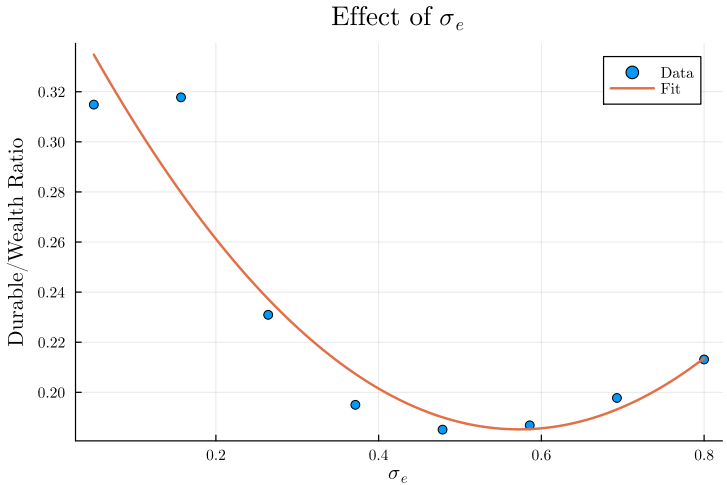
Hedging dominates consumption-smoothing at high ER volatility



$\uparrow \sigma_e \Rightarrow \uparrow$ USD saving $\Rightarrow$ hedge against dollar-priced replacement

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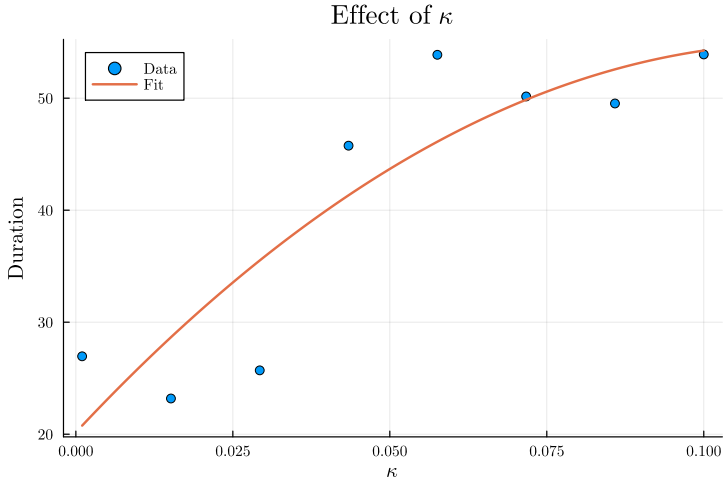
Hedging dominates consumption-smoothing at high transaction cost



$\uparrow \kappa \Rightarrow \uparrow$ duration $\Rightarrow$ dollar substitute

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Model Parameters

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Parameter	Meaning	Value	Discipline
β	Discount factor	0.986	BCU
γ	Risk aversion (CRRA)	2.0	Standard
δ	Durable depreciation	0.05	Standard
$r^{\$}$	Dollar interest rate	0.011	BCU
p_d	Durable price (USD)	5.0	Drenik and Perez (2021)
ρ_y	Income persistence	0.90	EFHU
σ_y	Income volatility	0.20	EFHU
ρ_e	ER persistence	0.66	BCU
σ_e	ER volatility	0.22	BCU
ν	Non-durable utility share	0.540 (0.0537)	Durable share moments
f	Durable resale / fixed cost	0.013 (0.2289)	Durable tenure
κ	USD liquidity wedge	0.0059 (0.0009)	Dollar share moments

References

Drenik, A. and Perez, D. J. (2021). Domestic price dollarization in emerging economies. *Journal of Monetary Economics*, 122:38–55.