Discussion:

International Capital Markets and Wealth Transfers

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Paul Woolley Conference
London, June 9 2023

Overview

- The USD is commonly seen as the "global safe asset"
  - More than 60% of world official reserves in USD
  - Special demand by foreigners for USD safe assets (Coppola et.al. 2021)
- Relatedly, the US has a "leveraged" external investment position – the world's "venture capitalist" (Gourinchas and Rey 2007)
  - The US is long foreign risky assets denominated in foreign currencies, and short US safe assets denominated in USD
- As such, we might expect that there are wealth transfers from the US to the rest of the world in global downturns
- But this leads to the so called "reserve currency paradox" (Maggiori 2017)
  - Wealth transfer away from the US would imply the USD depreciates in global downturns
  - But then USD would be risky for foreign investors, and thus not the preeminent global safe assets

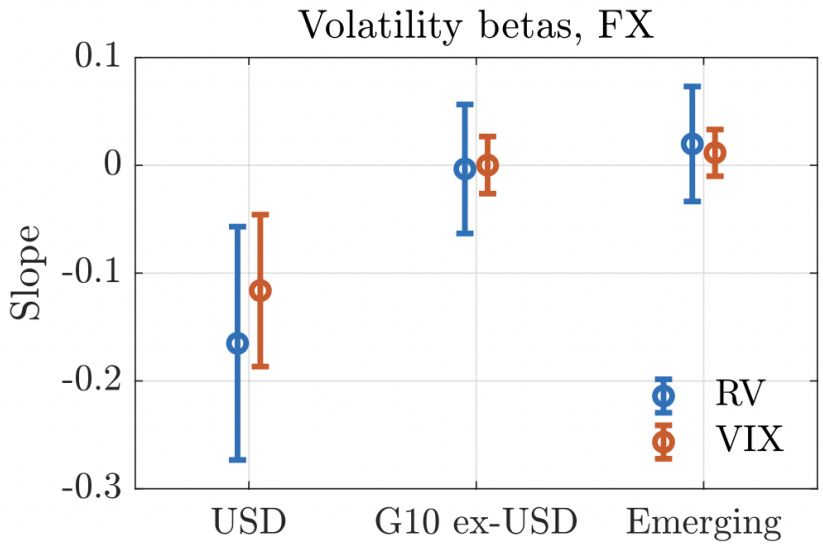
Overview

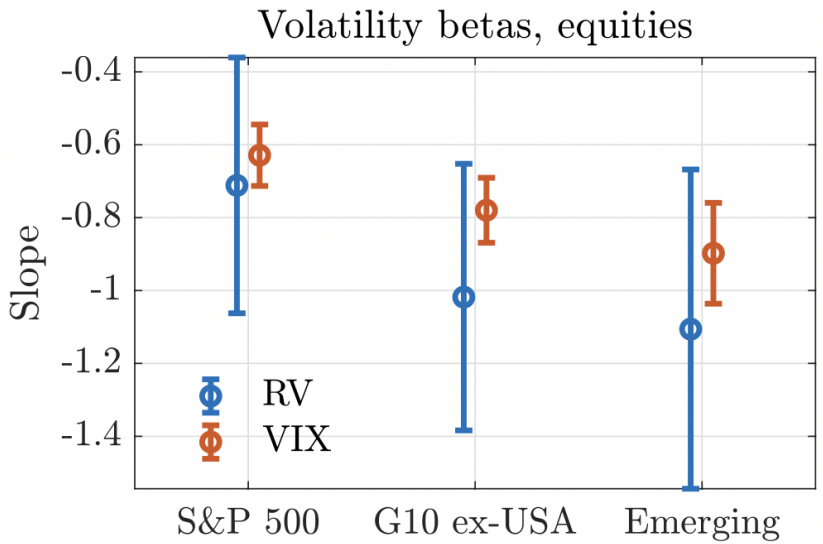
- So what gives? The literature has thought about
  - Liquidity/convenience yields vs safety: Chahrour and Valchev (2021), Jiang et. al. (2020), Kekre and Lenel (2021)
  - Concurrent demand shocks: Maggiori (2017)
- **This paper:** In fact, there is a wealth transfer TO the US, not away
- Key mechanism is a combination of two ideas
  1. Global shocks = US shocks
     - $Y_{US,t} \downarrow \Rightarrow Q_t \downarrow$ (USD Appreciation)
     - $Y_{US,t} \downarrow \Rightarrow PD_{US} \downarrow, PD* \downarrow$ (stock markets in both US and abroad fall)
  2. Total Household Wealth = Domestic Assets + NFA

$$Y_{US,t} \downarrow \Rightarrow \begin{cases} \text{US wealth} & = \underbrace{\text{Domestic Assets}}_{\downarrow(PD_{US}\downarrow)} + \underbrace{\text{NFA}}_{\downarrow(Q_t\downarrow)} \\ \text{Foreign wealth} & = \underbrace{\text{Foreign Assets}}_{\downarrow\downarrow(PD^*\downarrow, Q_t\downarrow)} + \underbrace{\text{NFA}}_{\uparrow(Q_t\downarrow)} \end{cases}$$

Empirical Results: relative asset prices

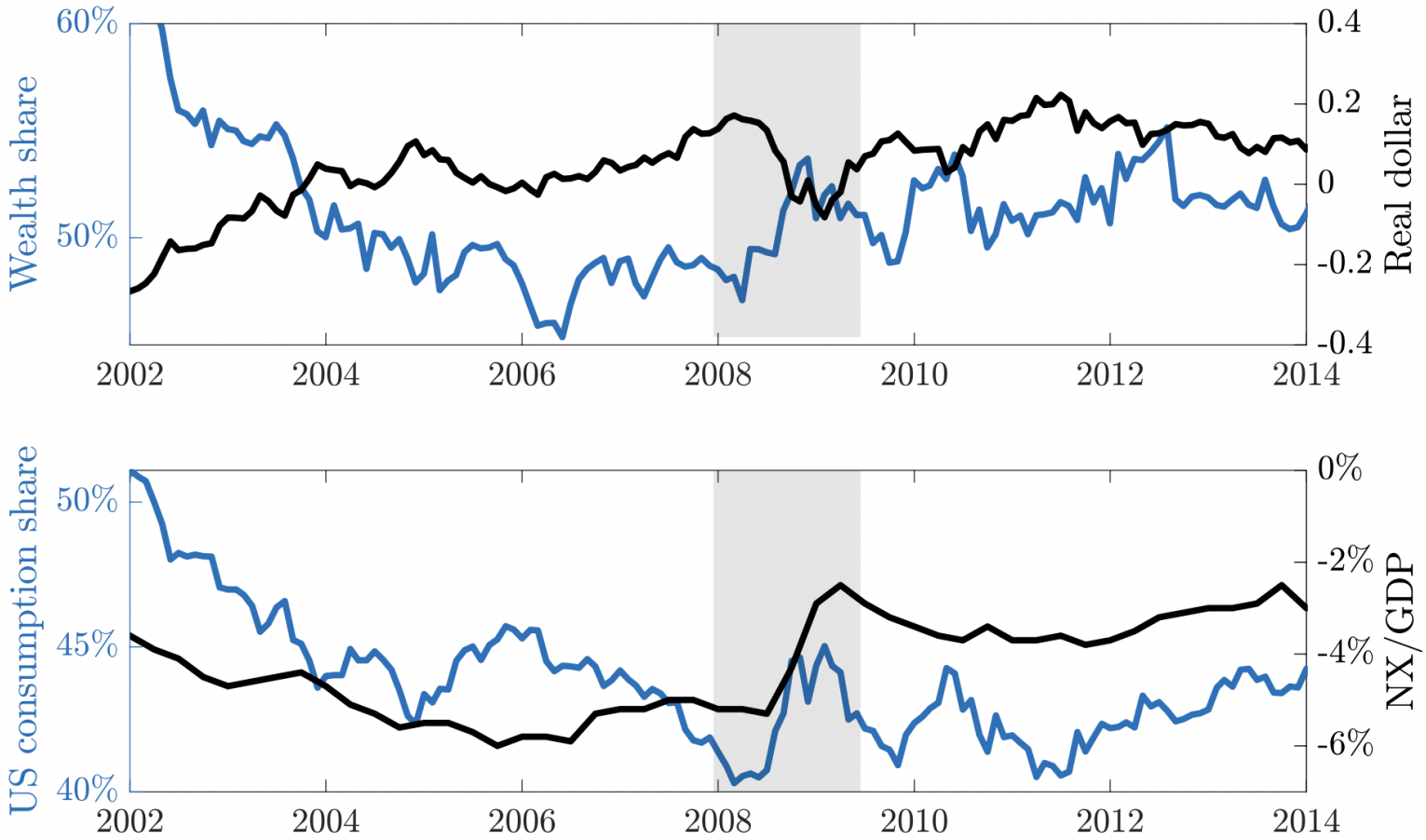
- The mechanism rests on the key idea that US households become relatively richer in global downturns. So there is no net transfer of wealth to ROW





Empirical results: wealth shares

- More directly



Model: Intuition

- Deep habits utility

$$U^j = \mathbb{E}\left[\int_0^\infty e^{-\rho t} \sum_{i=1}^N \ln(C_{i,t}^j - H_{i,t}^j)\right] = \mathbb{E}\left[\int_0^\infty e^{-\rho t} \sum_{i=1}^N \ln(C_{i,t}^j s_{i,t}^j)\right]$$

  where the "surplus consumption" ratio is defined as $s_{i,t}^j = \frac{C_{i,t}^j - H_{i,t}^j}{C_{i,t}^j}$

- Deep habits imply time-varying, good-specific "risk aversion"

$$\gamma_i^j \equiv \frac{C_i u_i'}{u_i''} = \frac{1}{s_{i,t}^j}$$

- Given complete markets, planner equalizes MU good-by-good

$$\frac{a^j}{C_{i,t}^j s_{i,t}^j} = \frac{a^k}{C_{i,t}^k s_{i,t}^k}$$

$\Rightarrow$ Richer countries (high a^j) have lower risk aversion, insure the rest

Model: Intuition

- The real exchange rate is the ratio of MUs as standard:

$$Q_t^j = \frac{M_t^j}{M_t^1} = \frac{\sum_{i=1}^N h_i^j \frac{1}{Y_{i,t} s_{i,t}}}{\sum_{i=1}^N h_i^1 \frac{1}{Y_{i,t} s_{i,t}}}$$

- $Y_{US,t}$ is a global shock, but affects US the most (due to home bias)

$$Y_{US,t} \downarrow \Rightarrow Q_t \downarrow$$

- So we have that
  1. US as a rich country (high a^j) insures others in case of non-US shocks
  2. But is sensitive to US shocks, hence gets insurance itself in that case
  3. So at the end of the day, we have the US acting as insurer on average, but still gets transfers in bad US states

Model: Quantitative Results

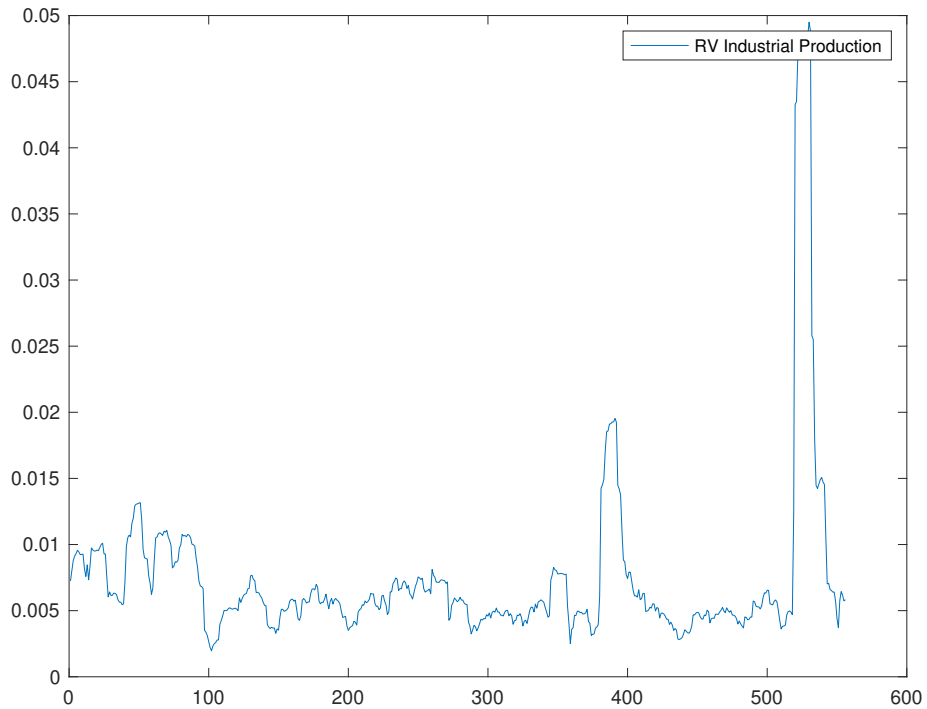
	Unconditional moments		Recessions (relative to unconditional)	
	Data	Model	Data	Model
Mean excess return	6.28	3.05	−15.05	−15.90
Mean excess return (ROW)	5.90	3.65	−26.60	−18.10
Return volatility	14.34	14.46	8.38	9.00
Return volatility (ROW)	18.55	18.82	8.26	14.40
Mean return correlation	0.65	0.84	0.18	0.08
Mean price-dividend ratio	42.62	61.38	−18.47	−25.47
Mean price-dividend ratio (ROW)	33.89	60.54	−18.50	−24.57
Mean real exchange rate	100.00	100.00	−15.81	−2.16
Exchange rate volatility	9.17	12.31	2.73	9.10
NFA/GDP	−9.09	70.00	−11.43	−40.10
NX/GDP	−1.56	−1.60	4.38	0.90
Wealth share	43.65	10.25	7.57	0.61
GDP share	41.23	10.03	1.39	0.95
Consumption share	44.88	10.03	0.29	0.88

Comments: Empirical results

- I find the results on US's relative wealth share shifting up fascinating!
  - I would love to see the analysis of the wealth share over a long time series
  - Both PD ratios and NFA are available since 50/60s
  - Is the shifting wealth share a result specific to the 2008 crisis or is it more general?
    - The fact that NFA falls in bad times seems to be a robust finding over many years and different recessions
  - Is the result statistically significant? Put confidence intervals, report betas in respect to either VIX or USD
- I would also add FDI to the definition of the NFA in the data – when relating to the endowment model with complete markets, there does not seem to be a difference between different types of assets
  - Or does FDI make make the result insignificant?

Comments: From empirical results to model

- In the data, we find an interesting relationship between exchange rates, wealth shares and VIX/volatility
- This is then modeled with AR(1) habits driven by output shocks and subject to stochastic volatility
- I can see two issues with this
- First, the evidence of stochastic volatility in macro variables is not overwhelming



Comments: FX disconnect

- Second, generally $corr(Q_t, Y_t) \approx 0$
  - This is the so called exchange rate disconnect puzzle

- I think the result picked up here is that exchange rates, if anything, are correlated with spikes in financial markets uncertainty
  1. Basic idea of Mukhin-Itskhoki (2021)
  2. We find some related, though more specific result, in the data – exchange rates related to news of future TFP, which also drive fluctuations in risk premia more broadly (Chahrour et. al. (2022))
  3. Ludvigson, Ma and Ng (2021): financial uncertainty leads real volatility

- Tension: on the one hand, we can perhaps just think of the model as a metaphor, basic point is you need fluctuations in risk premia
  - On the other hand, there are countervailing forces and the model tries to hit quantitative targets, so microfoundations can be disciplined

Comments: Calibration

- What is the model-implied GDP volatility in recessions vs expansions?
- Another important feature is the asymmetric calibration of habits – strongest towards home goods.
  - This has implications about levels of home bias in the model, and should be disciplined with observed consumption home bias
  - Is implied home bias in line with the data?
- The US is also calibrated to be much smaller in the model than in the data, is that important quantitatively?

Model: Quantitative quibles

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- Also overstates UIP deviations quite a lot

Comments: Digging deeper into the mechanism

- Model and data focus closely on the NBER definition of recessions
  - What if instead of recessions defined as 11-th percentile of surplus consumption ratio, we look at some more directly computable moments
  - like correlations with GDP or volatility of stock markets?
  - or maybe use a simple definition of "recession" like two consecutive periods of negative growth
- It would also be interesting to look at the model's behavior in non-US recessions, and compare it to the data.
- One unique feature of the model is that the US insures other countries for non-US shocks, but other countries insure the US in case of foreign shocks
  - Can we see the reverse exchange rate and wealth share dynamics in the case of non-US shocks?

Conclusion

- Excellent paper – we should all read it carefully!
- I find it fascinating how they flip the puzzle on its head
- Ideally would add more robustness checks, but if the empirics on the wealth transfer are robust then this is very important!
- The model is very interesting in its own right
  - Further discipline its building blocks with directly observed data
  - consider further implications