

The Dollar and the International Monetary System

Arvind Krishnamurthy

Stanford University GSB, NBER, and SIEPR

Outline

1. The features of the dollar-centric IMS

- Trade
- Finance

2. How does the role of the dollar affect economies?

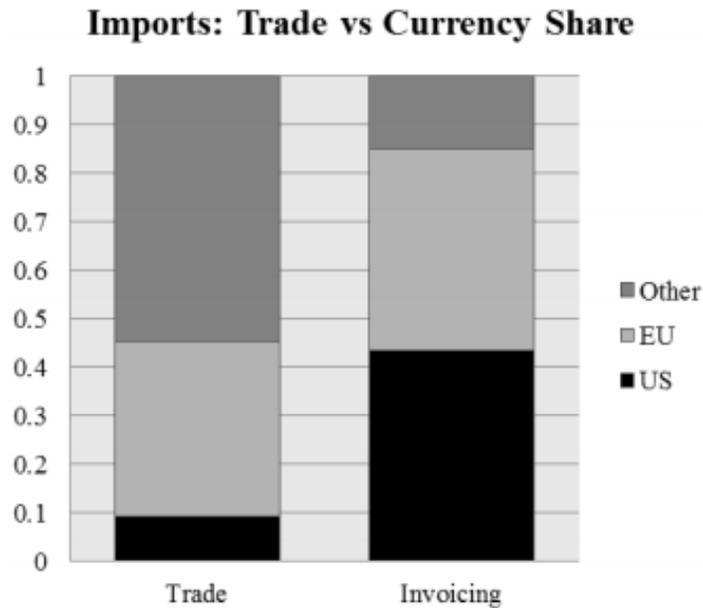
- Implications for US
- Implications for global financial cycle

3. What underlies the dollar equilibrium and will the dollar's centrality be challenged?

- Theory and some history
- Digital currency

Dollar dominance in invoicing of world trade^{(5)*}

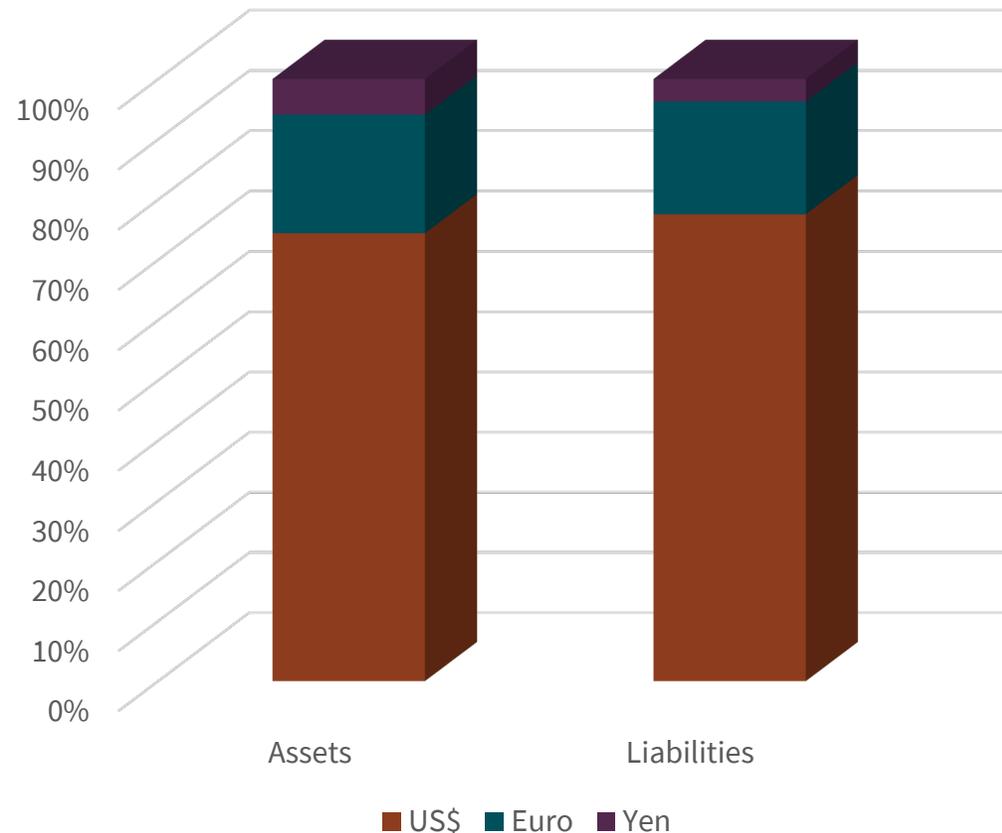
Example: Mexican manufacturer imports a heavy machine from a Japanese firm. What denomination is the contract?



**References are at the end of this slide deck*

Dollar dominance in banking ^(16,19)

Currency Shares in Non-resident Banking



	Assets	Liabilities
US\$	\$13.17 tn	\$11.22 tn
Euro (\$equivalent)	\$3.49 tn	\$2.70 tn
Yen (\$equivalent)	\$1.05 tn	\$0.54 tn

For banks residing **outside** the country of the currency

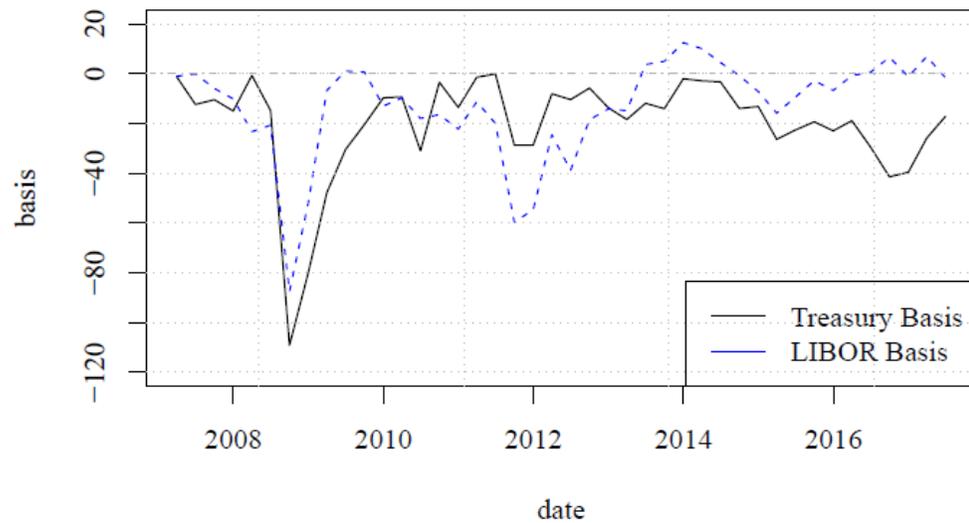
As of Q42020

Dollar financing dominance also carries over to the corporate bond market

Stanford University

Dollar funding advantage for safe assets (4,11,15)

$$\text{Basis} = \text{Yield on \$ bond} - [\text{Yield on Foreign bond} + \text{cost of FX swap hedge}]$$



(a) Treasury and LIBOR basis



(b) Corporate and Treasury basis

Safe asset demand \Rightarrow dollar dominance ⁽¹²⁾

- Investors around the world demand safe dollar bonds (“world money”)
 - › Driving down the yields on safe dollar-denominated bonds
- Banks, firms, governments tap into this demand
 - › Tilt borrowing decisions towards dollars ... less so towards Euro, Yen
- Exporters and importers rely on trade finance from global banks
 - › Ample supply of dollar finance from banks
 - › An exporter invoices in dollars to reduce currency mismatch
 - Revenue stream in dollars to match the currency denomination of borrowing

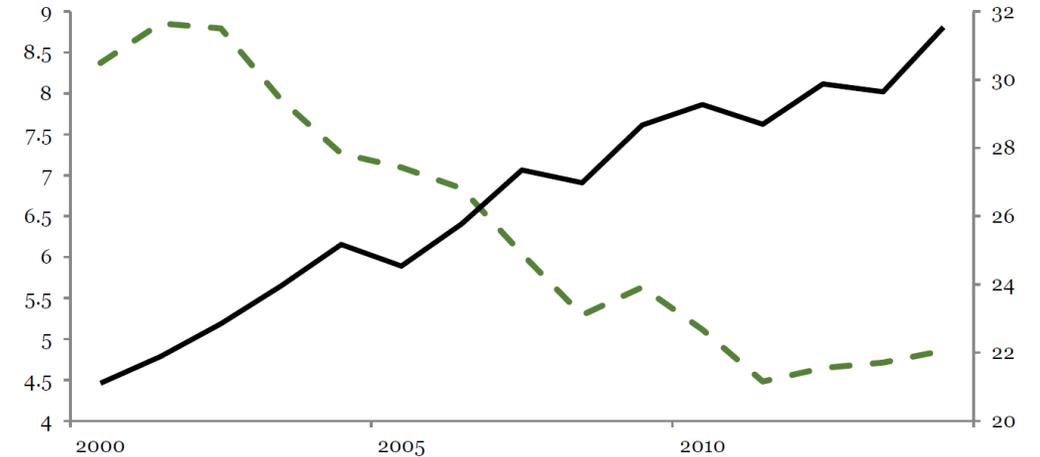
Implications

1. Safe asset demand induces high leverage within the U.S.⁽¹⁾
 - Global imbalances/savings glut arguments
2. In addition ... safe asset demand induces high dollar leverage outside the U.S.^(6,11)
 - Where non-U.S. borrowers are currency mismatched
3. Global financial cycle^(7,17,18,19)
 - Tightening terms on dollar credit spills over to the rest of the world
 - Dollar appreciation hits currency mismatched borrowers
4. Global crises^(11,17)
 - Non-U.S. issuers of dollar debt face difficulties rolling over debt
 - Flight to U.S. govt: increasing U.S. fiscal space; some of this space recycled as LLR to US financial system, and via dollar swap lines to rest-of-world

Past trends and future...

- These patterns have strengthened over the last two decades
 - World “money demand” grows in proportion to world GDP
 - And US GDP as share of world GDP is falling

- What about the next decades?



Foreign official positions (black) and US GDP (green), as % of World GDP⁽¹⁰⁾

Money and the Reserve Currency Phenomenon

- Coordination/complementarity/externality have to be central
 - The adoption of the dollar as the international currency is a natural phenomenon (*de-facto* not *de-jure*)
 - Always one (or maybe two) ... \$, GBP
 - Finance portfolio theory pushes towards a basket for diversification purposes

- Roles of money
 - Medium of exchange
 - Store of value
 - Unit of account

Economic factors and policy decisions

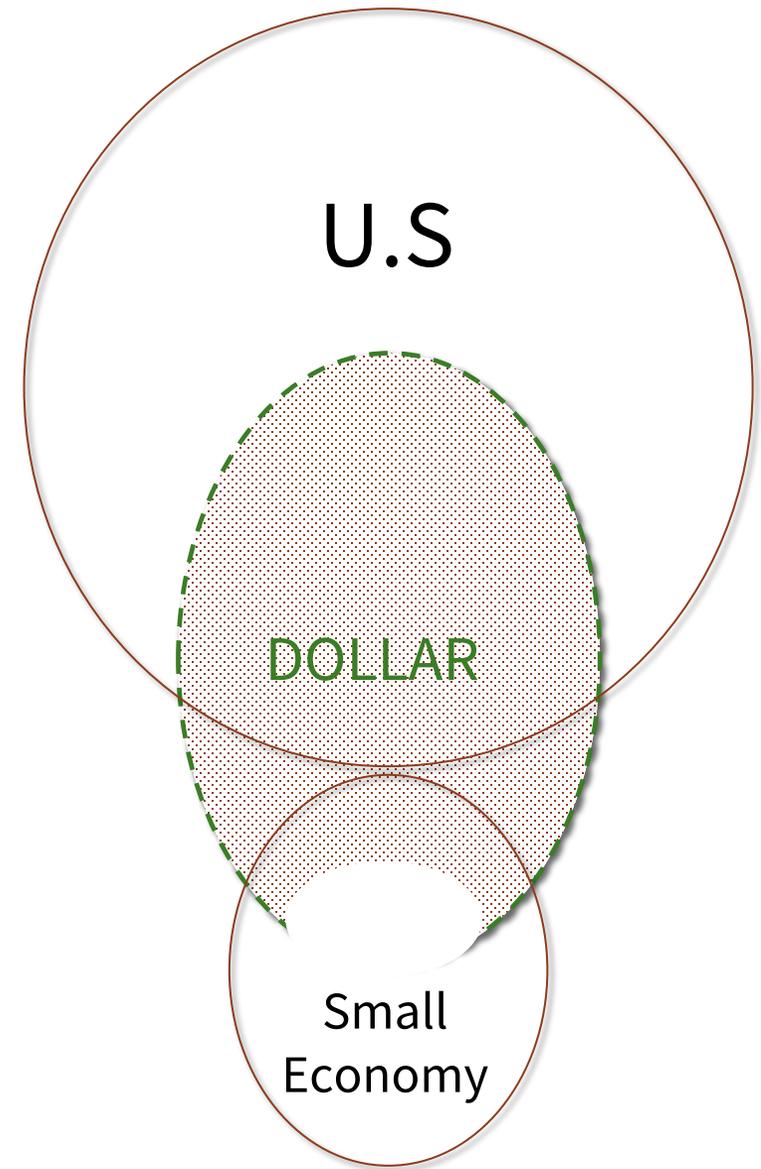
- “Fundamental” factor: Absolute size of the U.S. economy supports large quantity of private and public safe assets ⁽⁸⁾
 - *Drawing in buyers and sellers and enhancing the liquidity of safe dollar claims*
- Then equilibrium outcomes re-enforce the dollar equilibrium
 - Financial market development enhances liquidity (repo, securitization, etc.)
 - \$ is a hedge: appreciates in times of a global crisis
 - Firms invoice in dollars because financing in dollars is cheap...input/output chains^(3,6)
- Deliberate policy choices that enhance the dollar equilibrium
 - Openness to capital flows
 - Fed swap lines
 - *Private dollar bonds are easier to roll-over given Fed’s LLR capacity and swap lines*

Dethroning the U.S. dollar needs a challenger^(2,8,9)

- Requires an income (GDP) base to back a substantial quantity of safe bonds
 - e.g. Canada is too small
 - As is any current crypto model
- Needs to be relatively safer than the challengers
 - Two World Wars left UK finances in shambles
 - But US budgetary forecasts ...
- Needs to be investable
 - U.S. financial system and open capital market
 - In comparison, China is not (much) investable

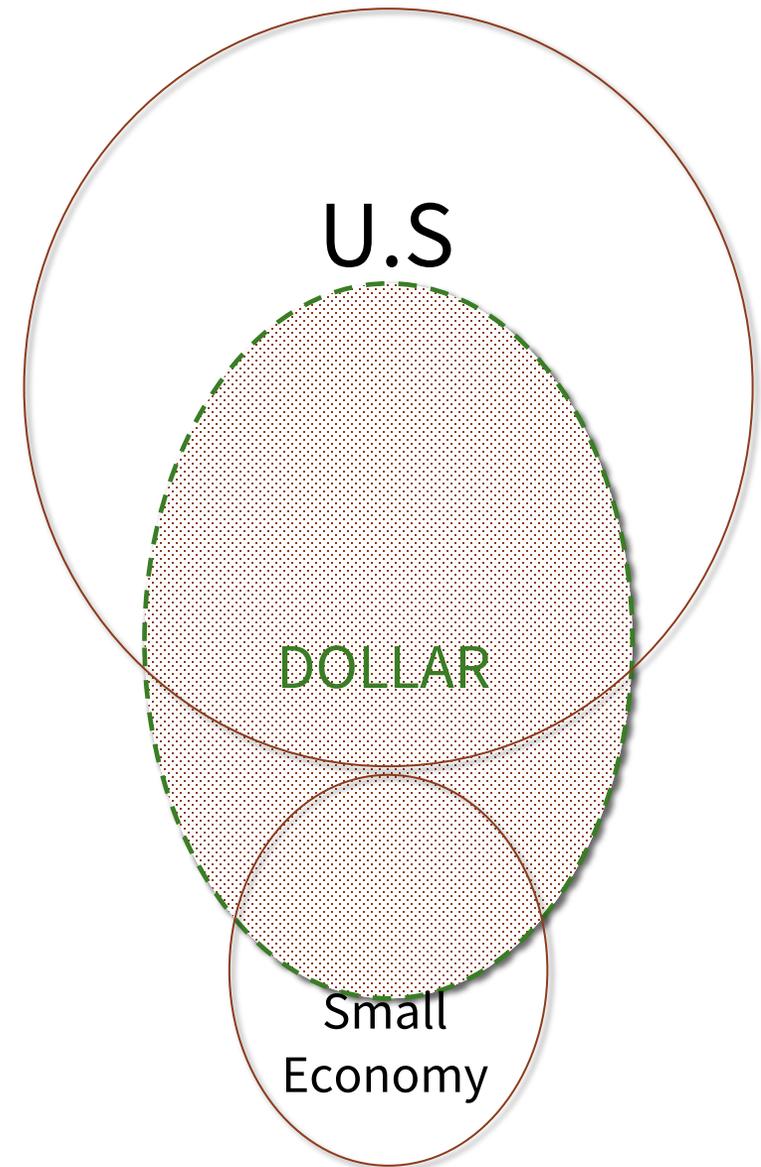
Policy choice: digital currency

- Policy intent for non-US is often defensive
 - Emerging market creates local digital currency to keep the dollar at bay⁽¹⁴⁾



Policy choice: digital currency

- Policy intent for non-US is often defensive
 - Emerging market creates local digital currency to keep the dollar at bay⁽¹⁴⁾
- But can also enhance the hegemony
 - If the U.S. were to introduce a digital currency



References with links

1. Caballero and Krishnamurthy, "[Global Imbalances and Financial Fragility](#)." American Economic Review
2. Farhi and Maggiori, "[A Model of the International Monetary System](#)," Quarterly Journal of Economics
3. Doepke and Schneider, "[Money as a Unit of Account](#)," Econometrica
4. Du, Tepper, and Verdelhan, "[Deviations from Covered Interest Parity](#)," Journal of Finance
5. Gopinath, "[The International Price System](#)", Proceedings of the Federal Reserve Bank of Kansas City Jackson Hole Symposium
6. Gopinath and Stein, "[Banking, Trade and the Making of a Dominant Currency](#)," Quarterly Journal of Economics
7. Gourinchas and Rey, "[From World Banker to World Venture Capitalist](#)," NBER Volume
8. He, Krishnamurthy and Milbradt, "[What Makes US Government Bonds Safe Assets?](#)", American Economic Review
9. He and Krishnamurthy, "[Are US Treasury Bonds still a Safe Haven?](#)" NBER Digest
10. Ilzetzi, Reinhart and Rogoff, "[Exchange Arrangements Entering the Twenty-First Century](#)," Quarterly Journal of Economics
11. Jiang, Krishnamurthy and Lustig, "[Foreign Safe Asset Demand and the Dollar Exchange Rate](#)," Journal of Finance
12. Jiang, Krishnamurthy and Lustig, "[Dollar Safety and the Global Financial Cycle](#)," NBER Working Paper
13. Krishnamurthy and Lustig, "[Mind the Gap in Sovereign Debt Markets](#)," Proceedings of the Federal Reserve Bank of Kansas City Jackson Hole Symposium
14. Landau, International Currency Competition: The Digital Dimension, Princeton BCF [Lecture](#)
15. Liao, "[Credit Migration and Covered Interest Parity](#)," Journal of Financial Economics
16. Maggiori, Neiman, and Schreger, "[International Currencies and Capital Allocation](#)," Journal of Political Economy
17. Miranda-Agrippino and Rey, "[U.S. Monetary Policy and the Global Financial Cycle](#)", The Review of Economic Studies
18. Rey, "[Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence](#)", Proceedings of the Federal Reserve Bank of Kansas City Jackson Hole Symposium
19. Shin, "[Global Banking Glut](#)," IMF Economic Review