Demand and Supply: Discussion of Brunnermeier “Coexistence of Private Digital and Central Bank Currencies”

ABFER-MAS-NUS Business School

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Discussant’s outline

1. Brunnermeier’s comprehensive account. The deep economics of money, both classical and forward-looking.

2. Demand and supply
   a. Disruption. Digital. AI (Deep learning)
   b. Global order

3. Conclusions
The Demand Side

\[
\begin{align*}
\text{max } U \text{ (Dynamic)} \\
\text{s.t. } B = 0 \text{ (Budget)} \\
\mathcal{L} \leq 0 \text{ (Liquidity)}
\end{align*}
\]

\[\Rightarrow \text{Demand curve}\]

\[
E_t[MU_{t+1} \times R_{t+1}] + \frac{\partial \mathcal{L}}{\partial a} \mu = 1
\]

with

\[
E_t[MU_{t+1} \times R_{t+1}] = \text{cov}(MU_{t+1}, R_{t+1}) + E_t[MU_{t+1}]E_t[R_{t+1}]
\]

\[\Rightarrow \text{Price } p_t = \nu_t + l_t + b_t, \text{ functions of } \{MU\}, \{R\}, \{\mathcal{L}\}\]
The Supply Side

1. Inelastic?
The Supply Side (2) – Competition?

1. Controls (governments vs libertarian fringe?)
2. Blockchain trust. Mining constraints on supply
3. Rogoff government capacity; Eichengreen’s uniform national circulation; Yermack’s states in emerging markets
   • Not all states alike. Shifting global distribution of power
   • World’s reserve currency
The Supply Side (3) – Competition?

3. Intermediate intermediaries
   • Not private providers vs states but private providers vs a fractional reserve banking system
   • Money multiplier; money supply mechanism
The Supply Side (4) – Bundling?

Information management, not just medium of exchange or store of value

- Can digital currency providers whether central banks or private suppliers offer (as a consequence, intended or unintended, in equilibrium):
  - Security and privacy; anonymity?
  - Financial inclusivity (the poor, rural; India)?
  - Bundling and integration with smartphone apps; personal information aggregation dashboard?
  - Lowered transaction costs and AI-driven improved matching of buyers and sellers?
  - Building trust in societies where Delivery vs Payment challenges remain, where rule of law is tenuous?

- Not competition but private-public partnerships on digital currency provision to alleviate concerns
Conclusions

1. Brunnermeier’s comprehensive account. The deep economics of money

2. Demand and supply
   a. Different hierarchies and multiple levels

3. Where do we think the disruption to be most powerful, if at all; where do we model that disruption?
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