Discussion of "A Model of Interacting Banks and Money Market Funds"

by Martin Farias and Javier Suarez

Lin Shen
INSEAD

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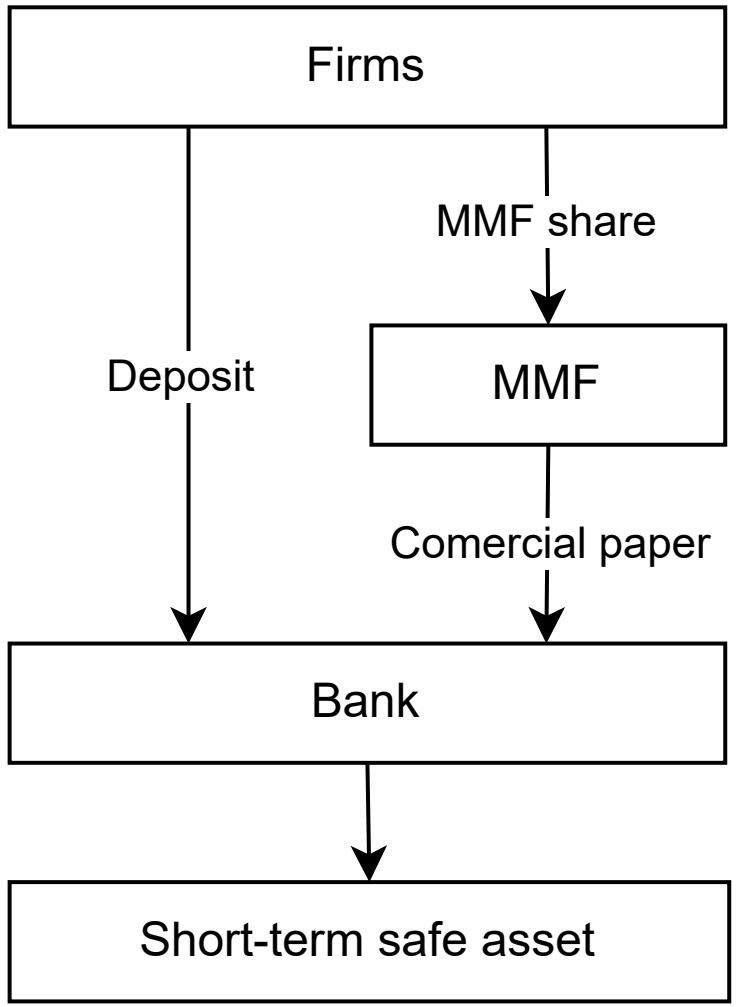
Research Question

- Liquidity provision (Ma, Xiao and Yao 2022)
  - Bank deposit: demandable debt
  - Money Market Fund (MMF): redeemable equity
- Interactions between banks and MMFs
  - Primary market: MMFs purchase CDs and CPs issued by banks
  - Secondary market: banks purchase assets liquidated by MMFs during market turmoils such as March 2020
- This paper: incorporate these interactions and explore implications on firms' liquidity portfolio choices

Key Model Features

t = 0: initial investment, primary markets



Key Model Features

t = 1: liquidity shocks, secondary markets

Firm-specific liquidity shock	Aggregate liquidity shock: Yes Shadow price of liquidity > 0	Aggregate liquidity shock: No Shadow price of liquidity = 0
Yes	**Deposit ? MMF** • ε fraction of deposit NOT demandable • MMF shares redeemable at an endogenous discount λ	**MMF > Deposit** • ε fraction of deposit NOT demandable
No	**Deposit > MMF** • $1-\varepsilon$ fraction of deposit can be used to profit from under-valued MMF shares	**MMF = Deposit**

- Bank deposit: $1-\epsilon$ fraction demandable, at a fixed rate
- MMF shares: redeemable, at a discount if aggregate shock
  - Banks purchase CPs from MMFs at a cost
  - Fire-sale discount λ increases in the amount of redemption

t = 2: all payoffs are settled

Main Result

- Pecuniary externality
  - Fire-sale discount increases in the amount of redemption
  - The redemption by a firm depresses the redemption value for all other firms
- Firms over-invest in MMFs
  - Deadweight loss associated with banks' asset acquisition
  - Reduction in productive investment by firms
- Policy implication
  - Pigouvian tax on MMF investment

Comments

Modeling

- A nice framework with interactions of banks and MMFs on both primary and secondary market
  - Risk-neutrality + constant return to scale investment $\rightarrow$ prices straightforwardly tied to exogenous risk-free rates
  - MMFs (and banks) are rather passive
- Approach 1: streamline the model to highlight the main result
  - Focus on firms' portfolio choice problem given exogenous prices
- Approach 2: enrich the model to investigate other issues
  - Liquidity management and liquidity regulation
  - Bank lending to firms and bond mutual fund
  - ...

Liquidity Risk

- Banks conduct reverse liquidity transformation in the model
  - Asset: liquid short-term safe asset
  - Liability: $(1-\epsilon)$-fraction demandable deposit + potentially illiquid long-term commercial papers
- Micro-found liquidity risk
  - Banks invest in long-term illiquid asset
  - Deposit withdrawal leads to costly liquidation of bank assets
  - Spillover to MMFs: liquidation cost leads to drop in value of bank CPs and MMF shares

Liquidity Risk Management

- Banks
  - Banks hold liquidity buffer to deal with (panic or fundamental-based) bank runs
- Money Market Funds
  - MMFs hold liquidity buffer to deal with redemption and maintain a stable net asset value
- Externalities in liquidity management (Kara and Ozsoy 2020)
  - Liquidity buffer reduces fire-sale cost
  - Banks and MMFs under-invest in liquidity reserve
  - Potential new perspective: spillover between banks and MMFs

Liquidity Regulations

- Ex ante liquidity requirements
  - Banks: liquidity coverage ratio, net stable funding ratio
  - MMFs: daily liquid asset $> 10\%$, weekly liquid asset $> 30\%$
- Ex post liquidity injection
  - Lending facilities such as Money Market Mutual Fund Liquidity Facility (MMLF)
  - Broad-based asset purchases
- Regulators should factor in the interactions and potential regulatory spillovers between banks and MMFs

Conclusion

- A nice framework that incorporate interactions between banks and MMFs on both primary and secondary markets
- Enrich the model to investigate other issues such as liquidity management and regulations
- I enjoyed reading it!