

## LASH Risk and Interest Rates

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Disclaimer: The views expressed herein are those of the authors and do not necessarily reflect those of the ECB.

# Motivation

Recent liquidity crises:

- Bank run (SVB)

- Flight to safety (Covid-19)

- Scramble for cash (UK mini budget)

⇒ Better understanding of (distribution of) liquidity risk needed!

## **This paper:**

Post-GFC regulation requires frequent exchange of margins in derivatives markets

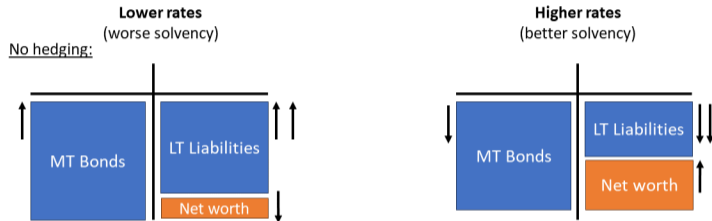
⇒ Liquidity risk, although derivatives hedge solvency risk (“Liquidity After Solvency Hedging”)

## Duration Mismatch

Consider a life insurer/pension fund with (very) long-term liabilities and medium-term bonds

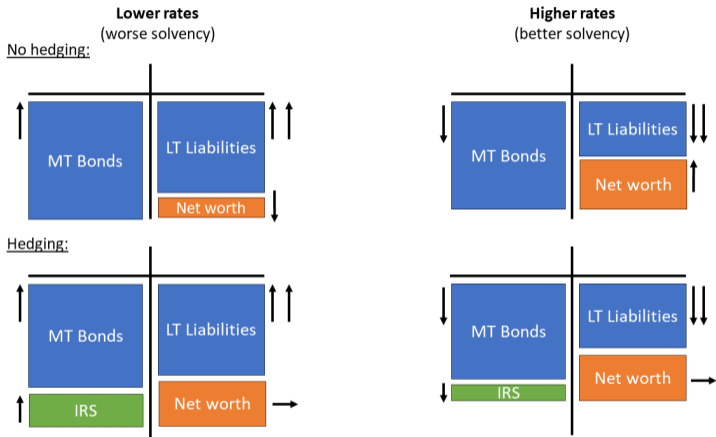
⇒ Negative duration gap

⇒ Net worth decreases with lower rates



# Hedging

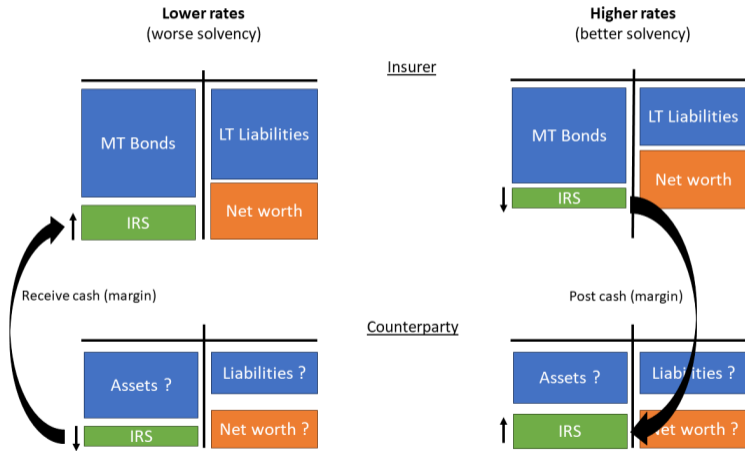
Pay-float interest rate swap (IRS) position hedges solvency risk:



# Margin calls

Pay-float interest rate swap (IRS) position hedges solvency risk

⇒ Higher rates ⇒ Post cash as variation margin



## Summary

- (1) LASH risk  $\approx$  Amount of **hypothetical** margin calls due to interest rate rise
- (2) Lower rates
  - ICPFs more constrained → Larger hedging demand
  - Larger **LASH risk**
- (3) Rate increases
  - LASH risk materializes
  - **Bond fire sales**

**My comments:** Understanding the drivers behind LASH and its importance.

## Comment 1: Risk Management

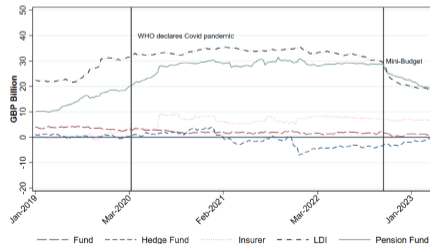
Mechanism: Rates  $\downarrow \Rightarrow$  PV(Equity)  $\downarrow \Rightarrow$  Constraints  $\uparrow \Rightarrow$  Hedging demand  $\uparrow$

Consistent with Froot et al. (1993) but inconsistent with Rampini and Viswanathan (2010).

Do ICPFs have **incentives to hedge PV(Equity)**?

- Insurers: Risk-based capital requirements (Solvency II) incentivize present value hedging ✓
- Pension funds: No risk-based capital requirements!

Yet, LASH concentrated in pension funds. Why?



## Comment 2: ICPFs and their counterparties

Rate  $\downarrow$   $\Rightarrow$  ICPFs constrained  $\Rightarrow$  Hedging demand & LASH risk  $\uparrow$

What about counterparties' constraints & hedging demand?

- If counterparties were **diametrical** (e.g., banks hedge positive duration gap)  
 $\Rightarrow$  Value hedging more exactly when ICPFs value it less  
 $\Rightarrow$  Constant ICPF LASH risk over time  $\neq$  Evidence

- Two possible **explanations**:

(1) *Hedging demand* of counterparties is not diametrical to that of ICPFs,

e.g., counterparties are not very "risk-averse" or have small risk exposure

(2) ICPFs have more *market power*

$\Rightarrow$  Would be great to understand better how  $\frac{\partial \text{LASH}}{\partial r}$  differs within the system, including banks.

$\Rightarrow$  Who drives time-series variation in LASH and why?



### Comment 3: What makes LASH relevant?

Solvency improves with rate increases  $\Rightarrow$  No worries with frictionless money market.

- Liquidity sources: Cash holdings, repo, securities lending, loans/credit lines (Acharya et al. 2024)

Challenge: Immediacy requires infrastructure + fast access

- Why is ICPFs' **liquidity access constrained**?

- UK pension funds are exempted from central clearing  $\rightarrow$  Direct counterparty is typically a dealer  
 $\Rightarrow$  Why do dealers not simply offer repo funding for margins?
- Argument in the paper: Individual bonds with falling value are difficult to pledge. *But*: Funds have plenty of it!
- Alternative explanation: Bond sales individually optimal due to high repo markups (repo markup  $>$  fire sale discount)
- Moreover: Rate increases squeeze liquidity in ICPF core business (Kubitza et al. 2023)

$\Rightarrow$  Relating LASH to cash holdings is a reasonable first step

$\Rightarrow$  Ideally: Scale LASH by the maximum cash available within one day

## Comment 4: Policy

**Existing regulation** focuses almost entirely on solvency risk (e.g., Solvency II)

- Paper contributes to very recent discussion of ICPFs' liquidity risk (EIOPA 2019; Förstemann 2019; NAIC 2021; Ellul et al. 2022; Kubitzka et al. 2023; Jansen et al. 2024)

Useful **policy tools**?

- Central bank liquidity access  
*But:* Problematic for non-regulated entities (funds)  
Plenty liquidity in the financial system  $\Rightarrow$  Fire sales result from allocation problem
- Require counterparties to accept non-cash collateral (envisioned by EMIR)  
*But:* Reallocates liquidity transformation, not necessarily efficient (e.g., CCPs are not banks!)
- Require ICPFs to have (quick) access to cash if subject to LASH risk, e.g., repo or credit lines  
 $\Rightarrow$  Seems most reasonable. Did institutions with repo access sell less bonds?

## Conclusion

Important contribution to understanding the distribution of liquidity risk post-GFC.

Well-written, easy to follow, insightful, **read it!**

Suggestions: Better understand

- (1) hedging behavior of ICPFs and counterparties
- (2) constraints to liquidity access.

Thank you for the opportunity to discuss this paper!

## References I

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