Derivative Margin Calls:
A new driver of MMF flows?

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Motivation

Large volatility in MMF flows during the March 2020 market turmoil
- Between 13 and 20 March 2020, euro area MMFs experienced outflows of nearly 8% of AUM
- Responses by central banks helped stabilise outflows

➔ Important consequences for financial stability and funding of real economy

➔ What reasons underly these flows?

Cumulative net flows into euro area MMFs (% of total assets, 20/02/2020-17/05/2020)

Motivation, cont’d

• We find a strong correlation (over 80%) between flows in/out of euro-denominated MMFs and variation margin (VM) faced by some ICPF holds holding these MMFs

Co-movement of ICPF VM and euro-denominated MMF flows
(€ bn; 18/02 – 31/03 2020)

Co-movement of interest- and FX-rates with VM paid/received by ICPF holds
(lhs: € bn; rhs: %; 18/02 – 31/03 2020)

ICPFs’ VMs correlate with interest- and FX-rates

Source: Box 8 in ECB’s Financial Stability Review, November 2020.
Main hypothesis

Our hypothesis: VM payments drive MMF flows

Other hypotheses in the literature:
- Flight-to-safety considerations (Boucinha et al., FSR Box May 2020)
- Characteristics of MMFs, e.g. LVNAV structure, MMF liquidity requirements (Capota et al., 2021)

In addition to these reasons/considerations, we aim to demonstrate that:
- VM payments are a new source of liquidity needs for institutional investors during crisis times
- Institutional (non-bank) investors use MMFs for liquidity management
- therefore, they pass through the liquidity shock coming from VMs to MMFs flows
We combine three highly granular and unique datasets:

- Fund-by-fund Refinitiv Lipper to obtain daily MMF flows at fund level
- Securities Holdings Statistics by Sector (SHSS) to identify holdings in individual MMFs by investors (at country-sector level)
- Transaction-by-transaction trade repository (EMIR data) to compute VM payments

Since SHSS data provide investor information only at a country-sector level, we aggregate variation margin at a country-sector level

We focus on EUR-denominated VM payments and MMF funds in LU, IE, and FR around March 2020 market turmoil (Feb-Apr 2020)
Baseline model specification

\[ \text{Outflows}_{i,t} = \alpha + \sum_g \beta_g \cdot \text{held}_{g,i} \cdot \text{VM posted}_{g,t} + I_i + T_t + \varepsilon_{i,t} \]

\[ \text{Inflows}_{i,t} = \alpha + \sum_g \beta_g \cdot \text{held}_{g,i} \cdot \text{VM received}_{g,t} + I_i + T_t + \varepsilon_{i,t} \]

- \( \text{Outflows}_{i,t} \) equals to MMF outflows when they are positive, and to zero when they are negative.
- \( \text{VM posted}_{g,t} \) and \( \text{VM received}_{g,t} \) refer to VM posted and received (simultaneous effects but also lags/leads).
- \( \text{held}_{g,i} \) is a dummy equal to one if the investor group \( g \) holds MMF \( i \).

→ Model run separately for each MMF domicile (different MMF flow dynamics, MMF type, investor type).

→ Model focuses on the most important investor groups with large VM payments (always non-banks: IF, PF, IC).

→ In both models, we expect \( \beta_g > 0 \) for at least some (not necessarily all) investor groups.
Results for MMF outflows and margin posted

- Some investors withdrew funds from MMFs to post margins

- The effects are not only statistically but also economically important:

  - Interpretation: When Dutch PFs post EUR 1 bn in VM, Irish MMFs held by Dutch PFs are estimated to face outflows of around EUR 11 mn
Results and conclusions

• VM payments faced by some non-bank investors holding MMFs were an important driver of the MMF flows
  ➢ Margin posted tends to increase MMF outflows (some MMF investors quickly redeemed MMF shares to meet the margin payments)
  ➢ Margin received increases MMF inflows in some cases

• Non-banks used MMFs to manage liquidity related to margin calls in the March 2020 market turmoil

• Non-banks passed the liquidity shock to MMFs and thus to funding of banks and NFCs
Policy implications

- **Enhance liquidity preparedness of non-banks to meet margin calls:**
  - Risks of reliance on the cash-like properties of MMF shares as a reliable source of liquidity under stress
- **Enhance MMFs’ resiliency** to significant outflows
- **Enhance monitoring and understanding of interconnectedness**, incl. in view of regulatory reforms and by new/enhanced data collections (where data not available)
- **OTC derivative reform**
  - Stricter margining reduces counterparty credit risk, but creates liquidity risk spillovers
  - Trade repository data enabled our analysis (jointly with other datasets)
Thank you for your attention!
Any questions?