Discussion of
Ghysels, Idier, Manganelli, Vergote
A high frequency assessment of the ECB securities markets programme

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What this paper does

• Estimates the effect of SMP interventions on yields
• Endogeneity problem addressed by using high frequency data
• Finding: SMP interventions reduced yields and volatility
My discussion

1. Endogeneity problem, identification
2. Propagation of the SMP effect within a day – a comment
3. Persistence beyond one day – a question
1. Endogeneity problem

• Question: what is the effect of SMP interventions on yields?

• Problem: SMP interventions are endogenous
  – SMP interventions happen when yields are high
Regression with daily data

\[ \text{yield}(t) = \gamma_0 \text{SMP}(t) + \ldots + \nu(t) \]

- \( \gamma_0 \) captures causal effects both ways, \( \text{SMP} \leftrightarrow \text{yield} \)
  - \( \text{yield} \) responds to \( \text{SMP} \) (-)
  - \( \text{SMP} \) responds to \( \text{yield} \) (+)
What changes when $t$ is 15 minutes?

- Timing restrictions become possible!
  - yield responds to SMP immediately (-)
  - SMP respond to yield WITH A LAG

↑

IDENTIFYING ASSUMPTION
What changes when $t$ is 15 minutes?

• Timing restrictions become possible!
  – yield responds to SMP immediately (-)
    • traders at private institutions are fast:
  – SMP respond to yield WITH A LAG
What changes when $t$ is 15 minutes?

• Timing restrictions become possible!
  – yield responds to SMP immediately (...)  
    • traders at private institutions are fast:
  – SMP respond to yield WITH A LAG
    • traders at ECB are less fast
  
• $\gamma_0$ captures the immediate causal effect SMP $\rightarrow$ yield
2. Propagation of the SMP effects

• My comment: this is the paper’s weak point

• I will use the example of the Italian 10y bond
The regression in the paper

\[ \text{yield}(t) = \alpha \text{yield}(t-1) + \gamma_0 \text{SMP}(t) + \sum_j \gamma_j \text{SMP}(t-j) + \nu(t) \]

Impulse response to SMP intervention

Italian 10y bond
The SVAR equivalent to the regression in the paper

\[ \text{SMP}(t) = u(t) \]

\[ \text{yield}(t) = \alpha \text{yield}(t-1) + \gamma_0 \text{SMP}(t) + \sum_j \gamma_j \text{SMP}(t-j) + v(t) \]

Impulse response to SMP intervention

Italian 10y bond
SMP purchases respond to yields with a lag

\[ \text{SMP}(t) = c + \delta \text{yield}(t-1) + u(t) \]
The SVAR adding the response of SMP to yield

\[ \text{SMP}(t) = \delta \text{yield}(t-1) + u(t) \]

\[ \text{yield}(t) = \alpha \text{yield}(t-1) + \gamma_0 \text{SMP}(t) + \sum_j \gamma_j \text{SMP}(t-j) + v(t) \]

Impulse response to SMP intervention

Italian 10y bond

The long run effect of SMP doubles!
Intuition

• Recognize that SMP interventions happen when yields are on the rise.

• Then the counterfactual (in the absence of intervention) is a continued yield increase.

• → Find even stronger effects of SMP.
Persistence beyond one day?

• The paper focuses on the first minutes / hours after SMP intervention

• The effects after weeks and months are more interesting!

• The paper could do more work on this.

• Literature on long run effects of high-frequency events, incl. Altavila, Giannone, Modugno (ECB)
Summary

• Convincing high frequency identification of the immediate effect of SMP interventions

• A richer model is needed to study propagation – potential to find even stronger effects.

• What about persistence beyond one day?