# Liquidity and tail-risk interdependencies in the euro area sovereign bond market

Daragh Clancy[†] Peter G. Dunne[‡] Pasquale Filiani[‡]

[†] European Stabilty Mechanism (ESM) [‡] Central Bank of Ireland (CBI)

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# Disclaimer and acknowledgments

- These are our own views and not necessarily those of the Central Bank of Ireland or the European Stability Mechanism
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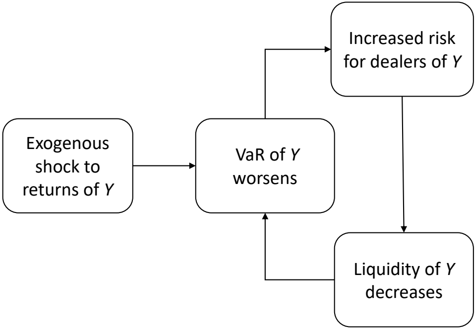
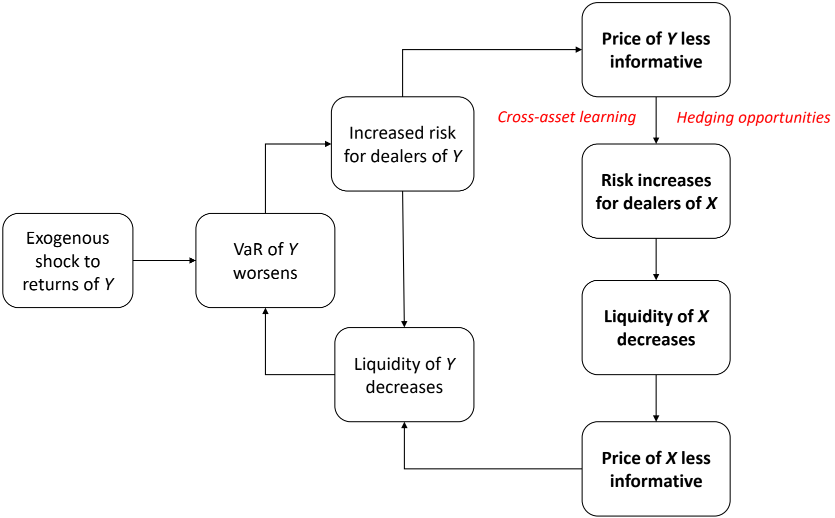
# Motivation

- Abrupt crisis-time repricing of some euro area sovereign bonds, **larger than implied by economic fundamentals?**
  - Redenomination risk, flight-to-liquidity/safety, contagion/spillovers
- **Lack of direct empirical evidence of non-fundamental transmission channel**
  - Could liquidity linkages amplify bond market tensions?

# Mechanism: own-market effects



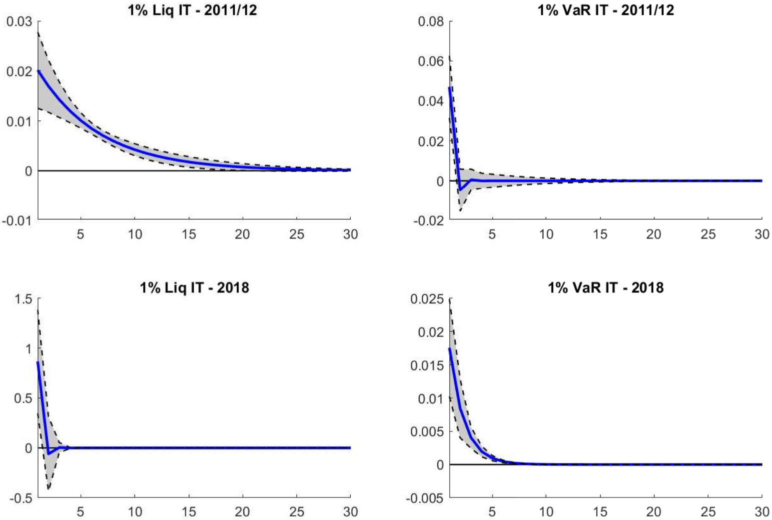
# Mechanism: cross-market effects



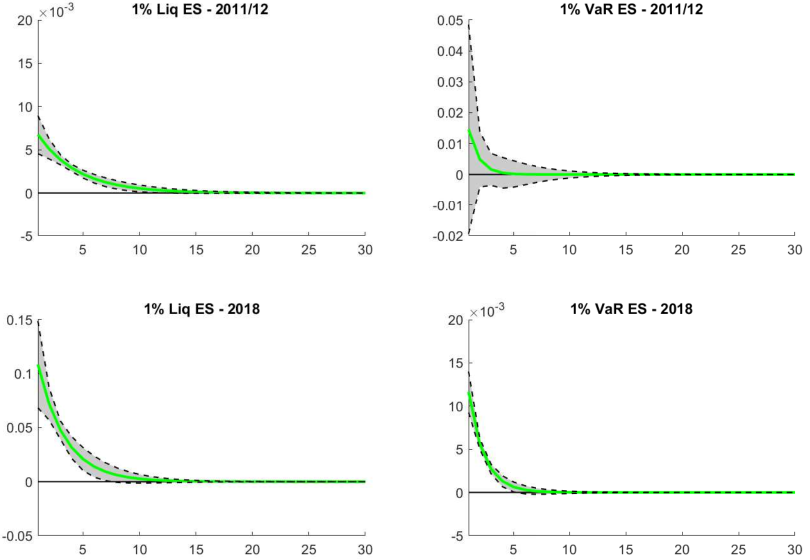
# Effect of tail risks on liquidity

| | 2011-12 | | 2018 | |
|---|---|---|---|---|
| | $Liq_t$ **ES** | $Liq_t$ **IT** | $Liq_t$ **ES** | $Liq_t$ **IT** |
| **1%VaR**$_t^{ES}$ | 0.027*** | | 0.135* | |
| | (0.006) | | (0.077) | |
| **1%VaR**$_t^{IT}$ | | 0.292*** | | 0.327** |
| | | (0.027) | | (0.159) |
| **99%VaR**$_t^{DE}$ | −0.283*** | −0.834*** | −3.138*** | −2.367*** |
| | (0.020) | (0.096) | (0.617) | (1.112) |
| R-squared (%) | 45.3 | 53.9 | 39.6 | 76.5 |
| F-test | YES | YES | YES | YES |
| Obs. | 14215 | 14215 | 7153 | 7153 |

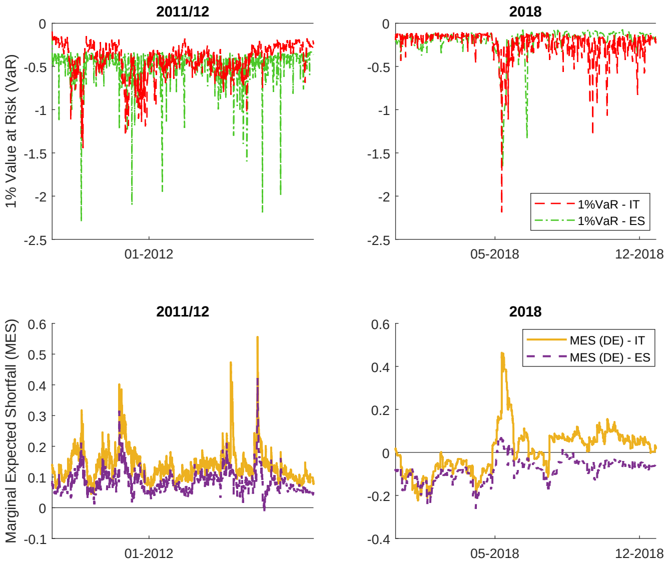
# Effect of liquidity on tail risks: Italy

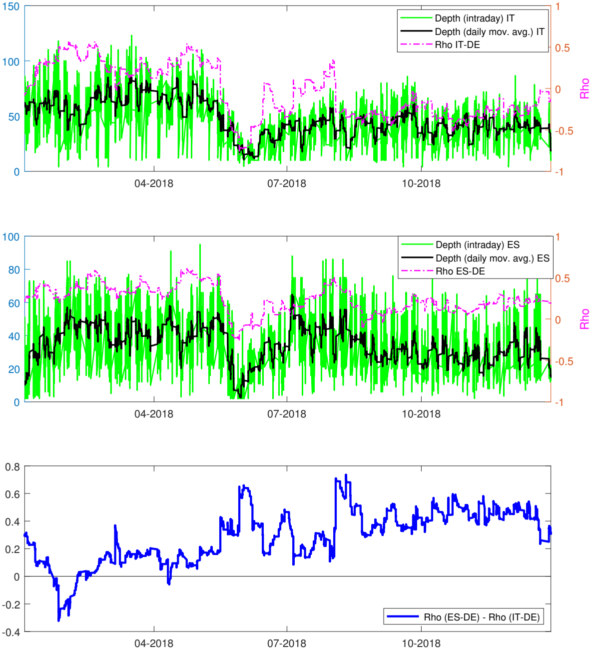


# Effect of liquidity on tail risks: Spain

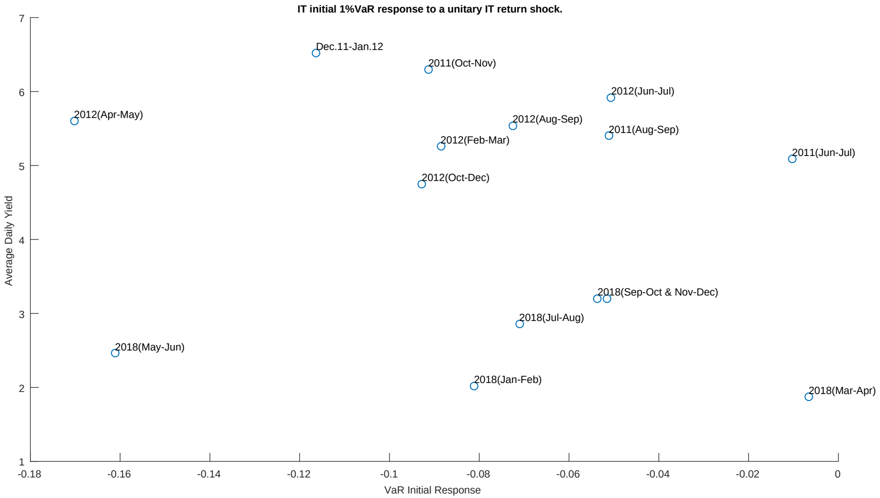


# Effect of safe havens




Depth (intraday) IT
Depth (daily mov. avg.) IT
Rho IT-DE
Rho
04-2018
07-2018
10-2018
Depth (intraday) ES
Depth (daily mov. avg.) ES
Rho ES-DE
Rho
04-2018
07-2018
10-2018
Rho (ES-DE) - Rho (IT-DE)
04-2018
07-2018
10-2018

# VaR responses across different yield levels



# Lessons learned

- Shocks that break high cross-market correlations are harmful
- Safe havens can exacerbate these negative effects, if subject to liquidity contractions
- Post-crisis dampening of cross-market effects
- Low-yield environment likely prevented bigger fallout from 2018 rise in political uncertainty
- Sovereign bond market "flights" primarily an inter-dealer market phenomenon, due to high-frequency trading

# Policy implications

- Euro area national sovereign bond market remain susceptible to non-fundamental factors that amplify fundamental shocks
- Solid fiscal/macro fundamentals and sustained commitment to the euro could help mitigate these effects
- Crucial to establish at what point liquidity contractions / market fragmentation contribute to solvency concerns
- Liquid safe asset serving as benchmark for euro area could aid in price discovery and reduce likelihood of widespread liquidity contractions and excessive price sensitivity to shocks