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Central Bank-Driven Mispricing

Closing Conference of the Project Quantitative Easing and Financial (In)Stability

The opinions expressed here are those of the discussant and not of the Bank of Canada.

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Can QE lead to market distortions?

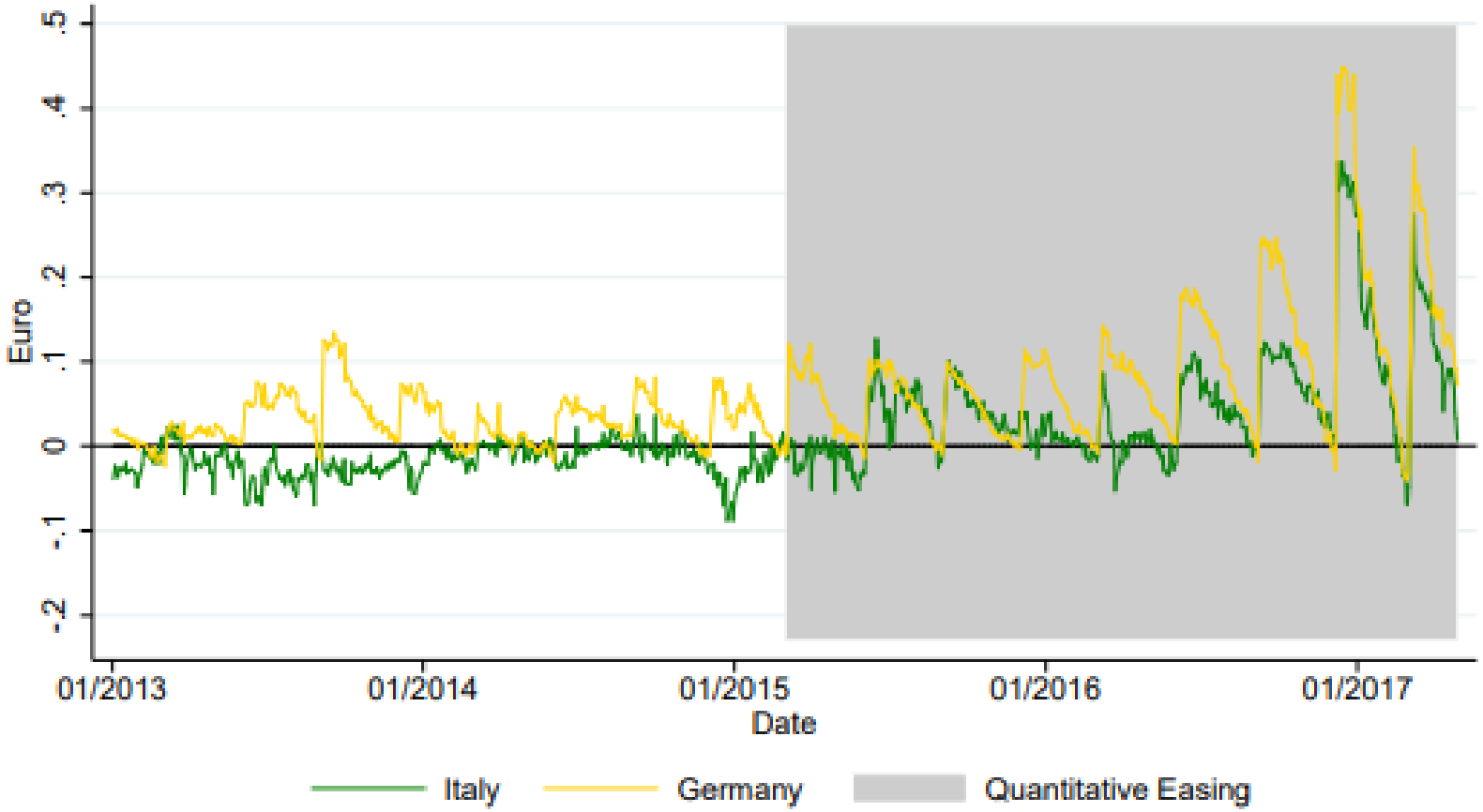
- The authors make a compelling case that ECB bond purchases had a distortionary effect on bonds and fixed-income derivatives markets.
- They carefully document the presence of mispricing (apparent arbitrage opportunities) in the German and Italian futures-bond basis.
- They attribute this mispricing to the cumulative effect of the ECB's Public Securities Purchase Programme (PSPP) which:
  - raised the price and reduced the quantity of sovereign bonds available to arbitrageurs,
  - introduced distortions in the repo market.

Futures-bond basis: 3 key markets

- Positive futures-bond basis: the underlying (CTD) 10Y bond is more expensive than its futures.
- An arbitrageur should profit by constructing a short bond/long futures position using 3 markets:
  1. **Repo:** Acquire CTD bond position using reverse repo,
  2. **Cash bond market:** Sell the bond short,
  3. **Futures:**
     - Using sales proceed: acquire long position,
     - At expiry: receive CTD bond, deliver to close repo.

Mispricing grew after PSPP began

- Carefully documented using high frequency cash bond and futures data.
- Repo rate proxied by EONIA and bond-by-bond special repo rates.
- Data-instensive and difficult: an extremely useful contribution!



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PSPP and the basis

- ECB PSPP holdings as a share of outstanding explain €0.8 cents of futures-bonds mispricing per €100 face value.
- Broken down into:
  - **Repo:** 61% = 57% (lower rates) + 4% (higher volatility)
  - **Cash bond market**: 4% (lower liquidity)
  - Other (direct) effects: 35%

- Repo market distortions dominate, what is going on?

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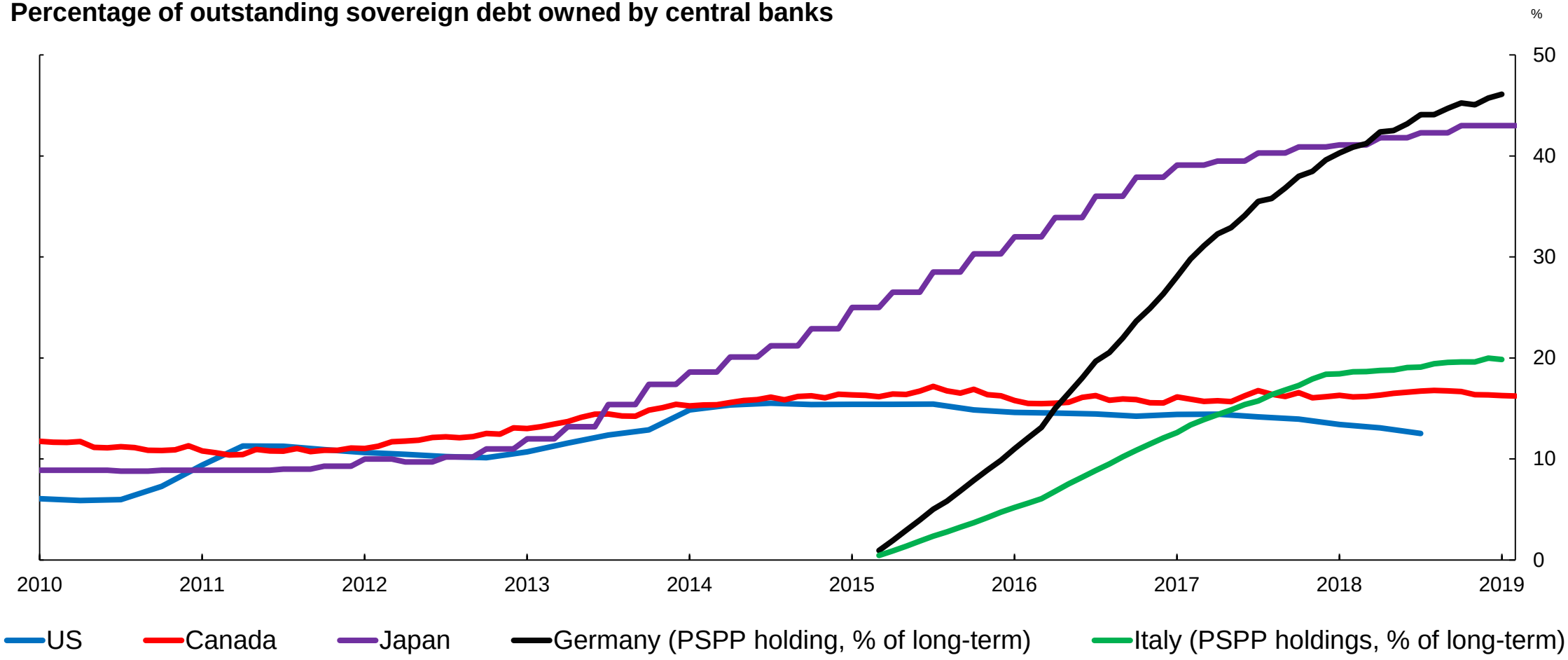
PSPP was large and rapid, but not unprecedented

Percentage of outstanding sovereign debt owned by central banks



Source: U.S. Department of the Treasury. Fiscal Service via FRED, Bloomberg, European Central Bank, Bank of Canada

Last observation: January 2019

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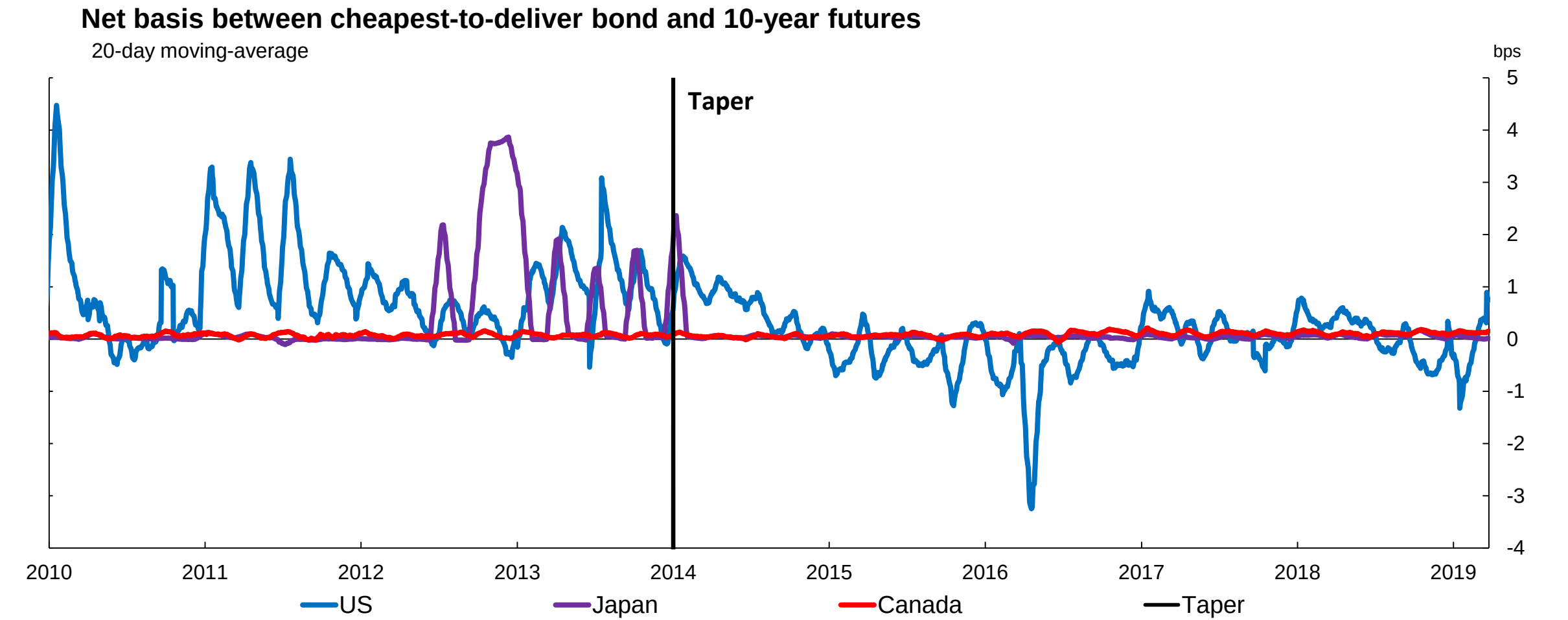
Distortions appear in other markets, but not everywhere



Source: Bloomberg

Last observation: March 2019

What does the international experience tell us?

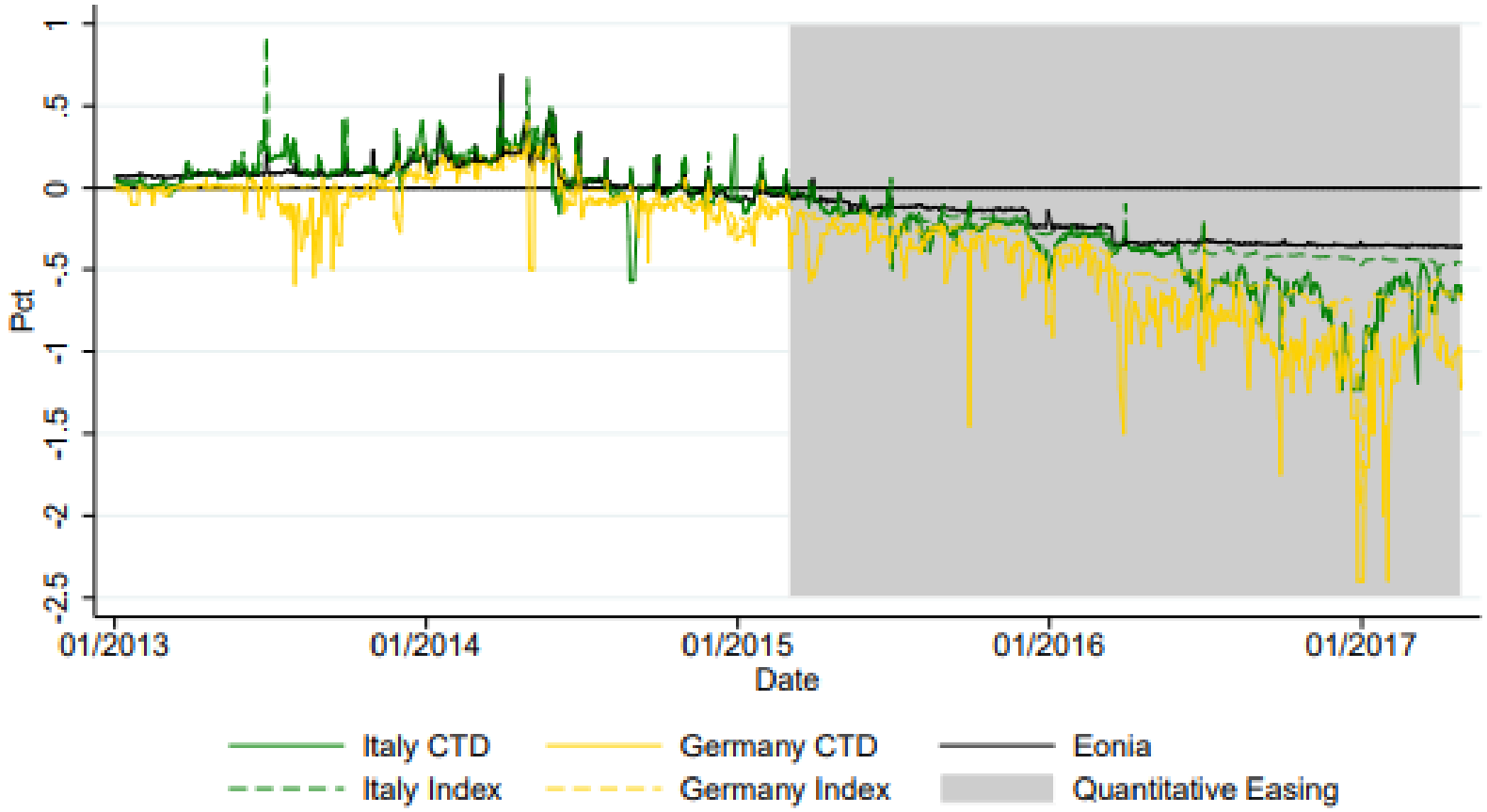
- **Germany** and **Italy** are very different sovereign issuers, but futures-bond basis effects were similar: common factor.

- **U.S.** QE was slower and relatively less important than PSPP. Futures-bond basis declined after taper: consistent with the results!

- **Japan** Futures-basis is generally stable despite massive QE: what is different?

A breakdown of the special repo market?

- Settlement failures could have increased, increasing risk. See Corradin & Maddaloni (2017) for SMP.
- Do negative rates amplify this problem?
- ECB securities lending program inadequate?



Policy implications

- Transfer to financial institutions potentially large (€1.5 billion), but is it material on a €2 trillion programme? Would it alter the policy mix?
  - The results may imply distortions in other markets.

- Second best: can a central bank mitigate the side effects of QE?
  - Authors find potential market interventions in derivatives markets.
  - I would argue that the efforts should concentrate on repo.