# Financial Heterogeneity and Monetary Union

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October 18-19, 2018

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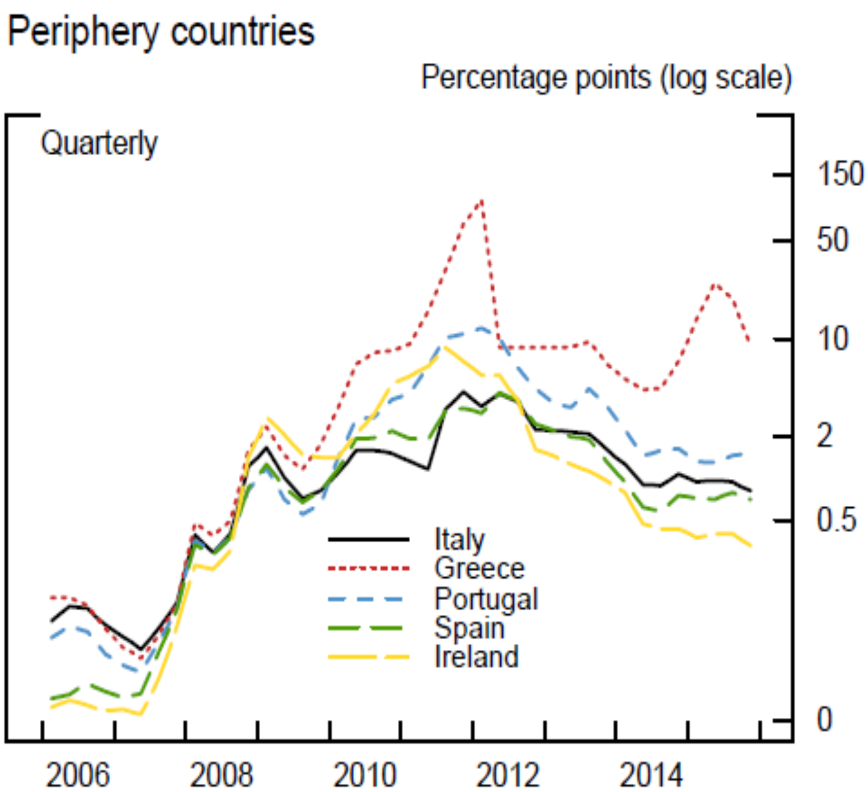
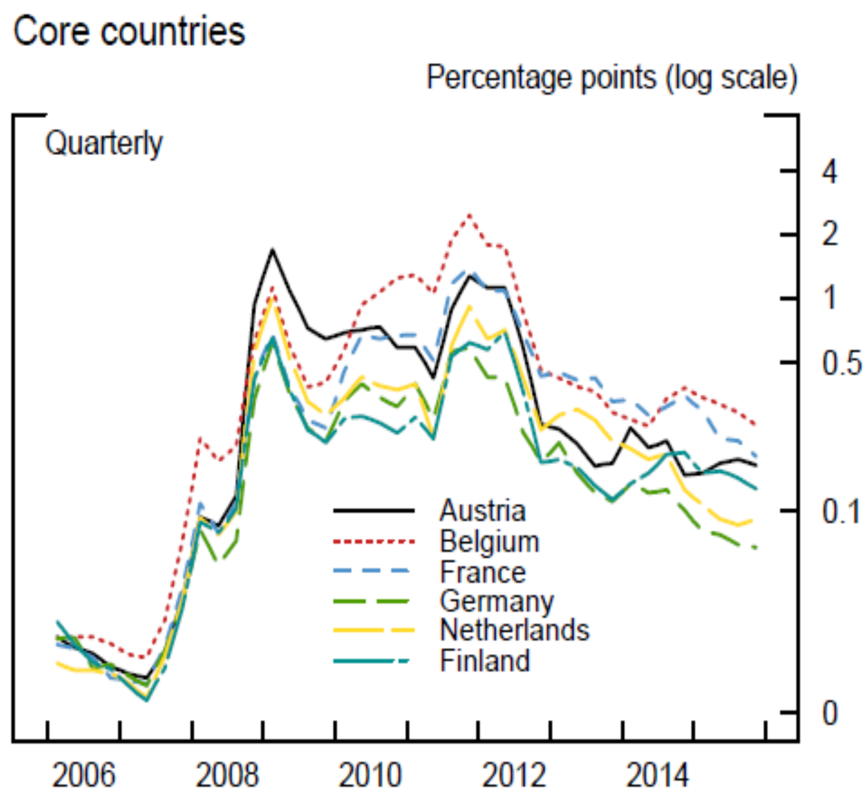
# Why diverging recovery in euro area?

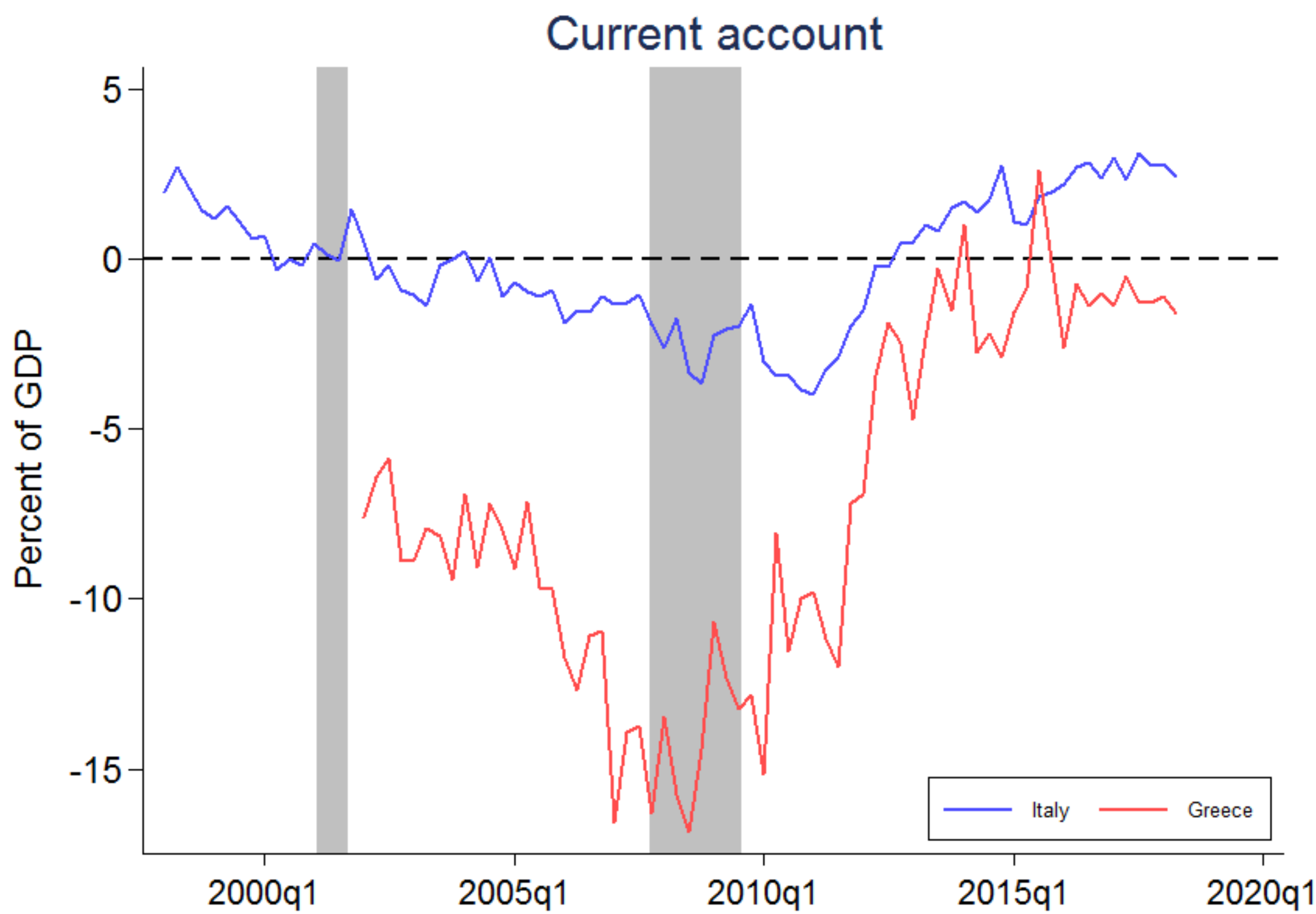
- A common narrative:
  - Excessive borrowing fueled unstainable booms of periphery (PIIGS) before crisis
  - Borrowing cost surged after crisis; capital flows reversed
  - Currency devaluation not an option (downward nominal wage rigidities did not help)

# Periphery borrowing costs surged after crisis

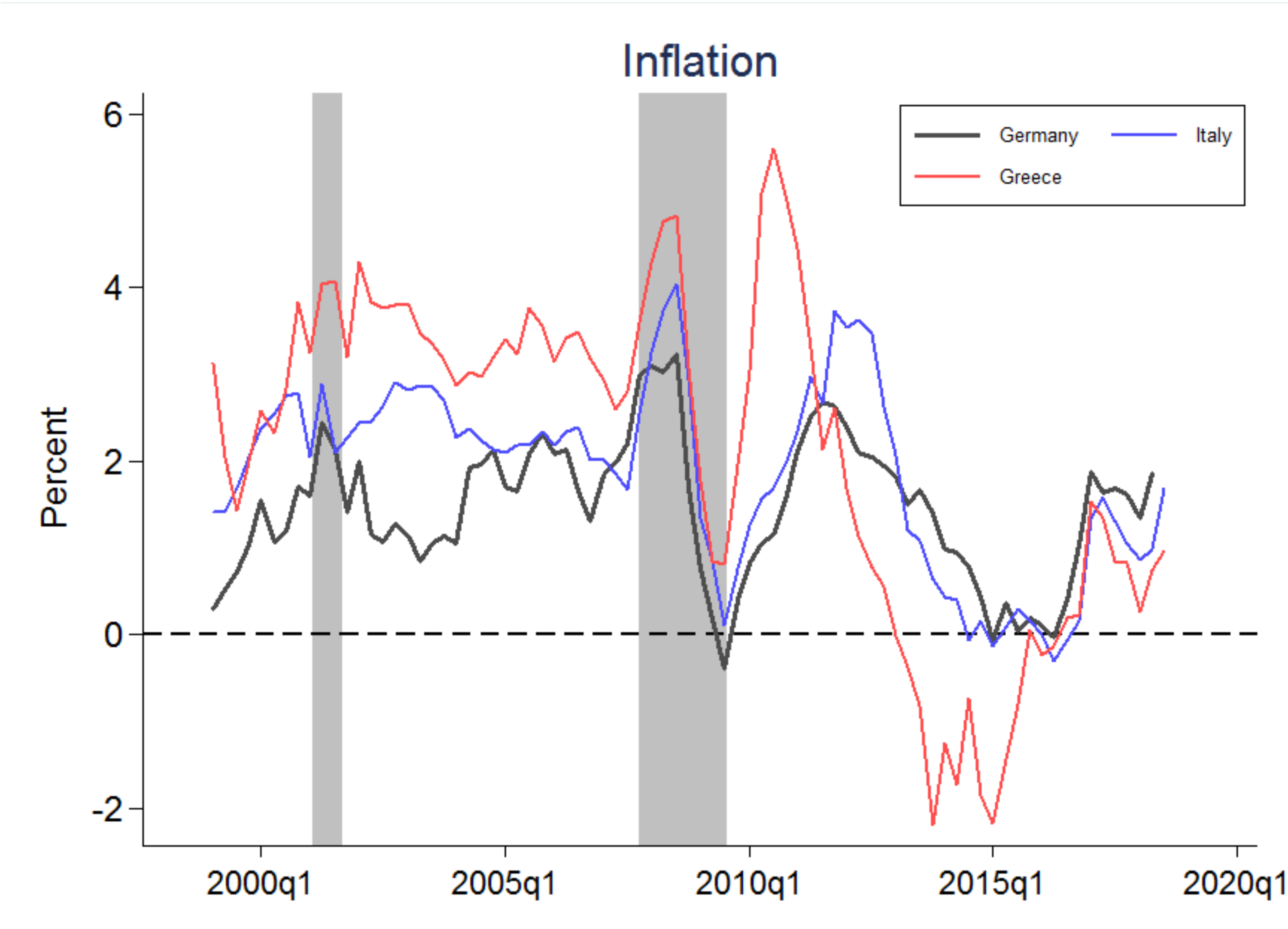


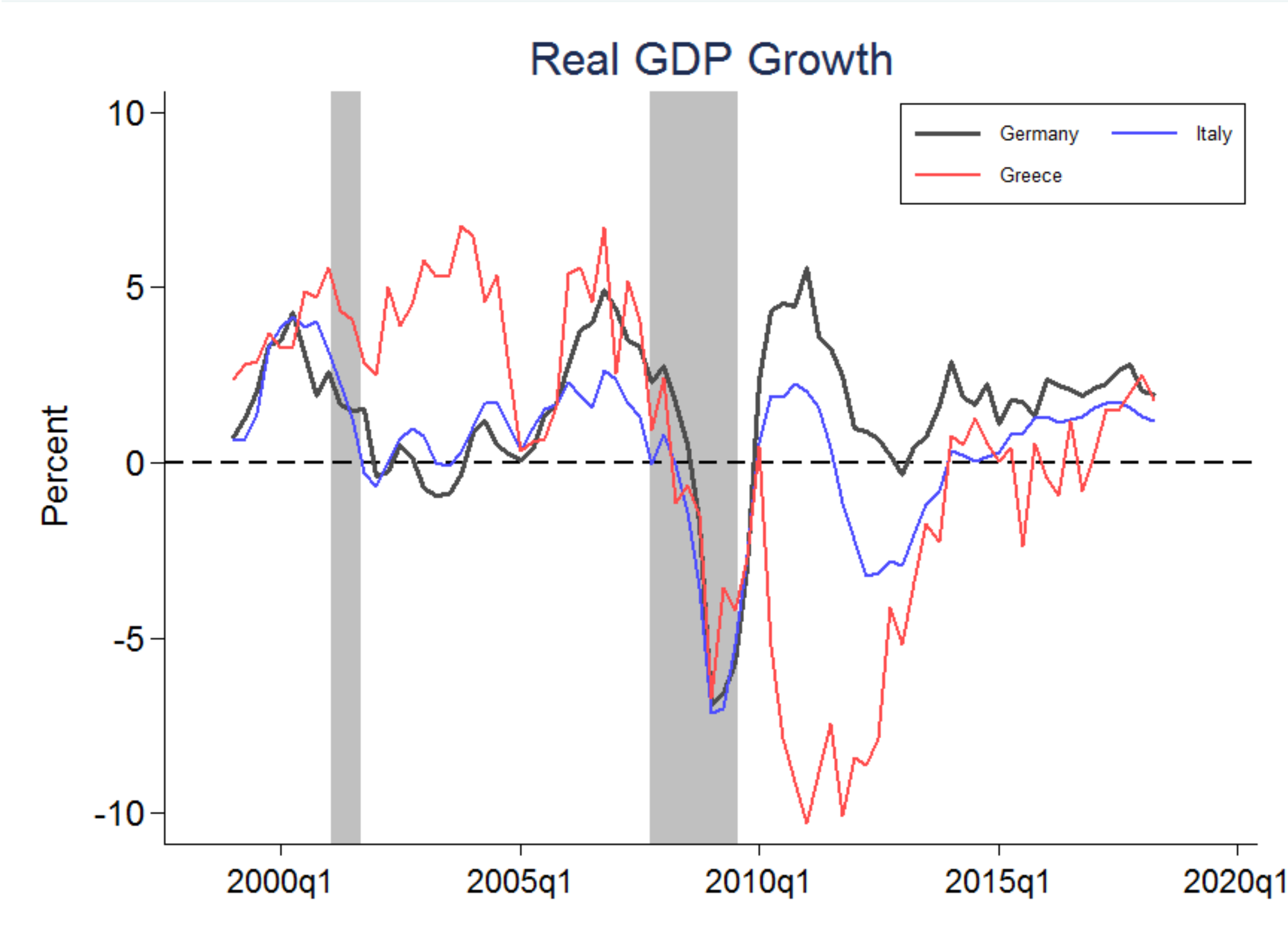
# Capital flows reversed direction since crisis



# Relative prices rose in periphery…



# …contributing to diverging recovery paths



# Puzzle

Why did periphery firms *raise* relative prices after crisis?

# Model mechanism

- Two-country extension of GSSZ (2017)
- Customer base: deep habit (Ravn, et al)
  - Italian espresso, Greek beach, and such
  - Long-term relation → forward-looking pricing decisions
  - Short-run demand elasticity different from long run
- Financial frictions interact with customer base
  - Firms facing tightened financial conditions raise markup to maintain cash flow
  - Tradeoff: current profit vs. future market share
  - Home firms face tighter constraints → home relative price rises → real appreciation → things get worse
  - Home firms lose market share to foreign firms → things get even worse

# Evidence for model mechanism

- GSSZ (2017) provide micro evidence (goods/firm) for interplay b/n customer base and financial friction
- Here, cross-country Phillips curve evidence:
  - CDS spreads correlated with prediction errors of Phillips curve in periphery, but not in core
  - Widening of CDS spreads raises average markups in periphery, but not in core
- Caution: Slope of Phillips curve hard to identify
  - Endogenous policy responses to demand shocks → neg. corr b/n inflation and output gap (McLeay-Tenreyro, 2018)
  - Blanchard, et al. (2015): Phillips curve has flattened since early 1990s
  - Regional variations in an MU may help diff out endog. monetary policy responses (Fitzgerald-Nicolini, 2014)

# Reallocation implications

- Low productivity firms face rely on costly equity finance, high productivity firms unconstrained
- Adverse shock: low productivity firms raise markup and lose market share → reallocation to more productive firms → aggregate TFP improves
- Aggregate TFP countercyclical
  - Mitigate adverse shocks: macro stability and welfare
  - Evidence?

# Alternative form of financial frictions

- Credit constraints:
  - High-productivity firms face binding credit constraints
  - Adverse shock reducing borrowing capacity would hurt productive firms, allow unproductive firms to operate
  - Reallocation reduces aggregate TFP, amplifying initial shocks (Liu and Wang, 2014)
  - With sticky prices, lower TFP pushes up real marginal cost and inflation: cost channel
  - Similar implications to GSSZ, but diff reallocation effects

# Optimal policy and welfare

- Welfare effects of joining MU for periphery not obvious:
  - Firms face adverse financial shocks, but terms of trade improvement benefits consumers
  - Reallocation across domestic firms may improve TFP?
- GSSZ use Taylor rule as benchmark policy. More natural benchmark: optimal independent policy (with flexible FX)
- Paper mentions “pecuniary externality” in intro but no discussion in text
- Other policy regime: optimal policy coordination (with flex FX) vs. indep policy
  - Terms-of-trade externality (Pappa, 2004; Liu-Pappa, 2008)

# Conclusion

- Well written, pleasure to read
- Interplay between financial frictions and customer base a plausible story for diverging recovery paths of periphery vs core
- A good starting point for future studies
  - Quantitative importance of the channel
  - Optimal independent monetary policy, optimal policy coordination, or currency union?