Cross-Border Spillovers from Monetary Policy

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Global Macro Economy and Governance Under Monetary Policy Divergence

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- Excellent research assistance by Alex Mechanick and Andrew Rys

Disclaimer

This presentation represents my own views and not necessarily those of the Federal Reserve Board of Governors or its staff.

Plan of Talk

- Simple framework for understanding spillovers from monetary policy.
- Estimate of the effects of U.S. monetary policy on foreign economic activity.
- Are monetary policy spillovers stabilizing or destabilizing for the global economy?
- Challenges posed by monetary policy spillovers.

Key Spillover Channels from Monetary Policy

- Exchange rates (expenditure shifting)

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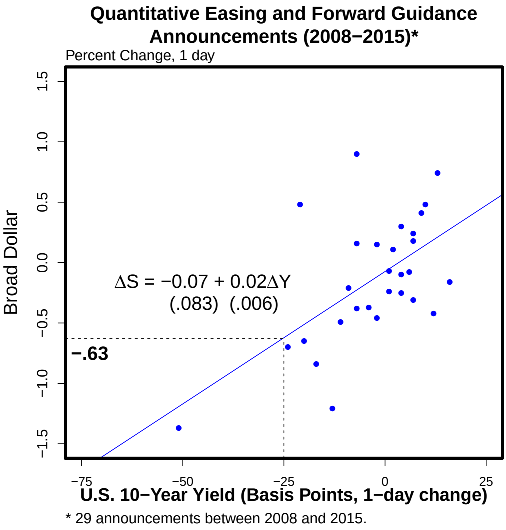
- Exchange rates (expenditure shifting)
- Domestic demand (expenditure increasing)
- Financial spillovers abroad (expenditure increasing)

Back-of-the-Envelope Estimates of U.S. Monetary Policy Spillovers

- Assume monetary easing sufficient to lower U.S. Treasury yields by 25 basis points.
- Exchange rate channel:
  - Lowers dollar about 1 percent

Empirical Relationships: U.S. 10 Year and Broad Dollar



Back-of-the-Envelope Estimates of U.S. Monetary Policy Spillovers

- Assume monetary easing sufficient to lower U.S. Treasury yields by 25 basis points.
- Exchange rate channel:
  - Lowers dollar about 1 percent
  - Boosts U.S. net exports by .15 percent of GDP
  - Lowers foreign GDP about .05 percent

Back-of-the-Envelope Estimates of U.S. Monetary Policy Spillovers

- Assume monetary easing sufficient to lower U.S. Treasury yields by 25 basis points.
- Domestic demand channel:
  - Raises domestic demand by .5 percent
  - Raises U.S. imports by .15 percent of GDP
  - Raises foreign GDP about .05 percent

Back-of-the-Envelope Estimates of U.S. Monetary Policy Spillovers

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- Financial spillovers channel:
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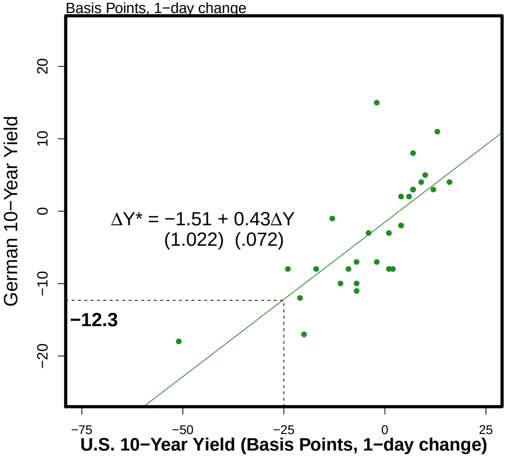
Empirical Relationships: U.S. and German Yields

Quantitative Easing and Forward Guidance Announcements (2008−2015)*



* 29 announcements between 2008 and 2015.

Response of EME Yields to U.S. Yields

Average Observed Response of EME Sovereign Yields to U.S. Treasury Yields*

Country	Response (Basis points)
Brazil	-67
Poland	-20
South Africa	-18
Korea	-15
Mexico	-14
Average	-13
Singapore	-13
Thailand	-12
Hungary	-11
Taiwan	-10
Indonesia	-8
Czech Republic	-8
Malaysia	-7
Hong Kong	-7
India	-6
China	-5
Turkey	-2
Philippines	0

**For two-day windows around 23 QE announcements, scaled to a -25 bp change in 10-year U.S. Treasury yield.

David Bowman, Juan M. Londono, and Horacio Sapriza. **"U.S. Unconventional Monetary Policy and Transmission to Emerging Market Economies."** *Federal Reserve Board International Finance Discussion Papers,*

Back-of-the-Envelope Estimates of U.S. Monetary Policy Spillovers

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- Financial spillovers channel:
  - Lowers foreign yields by 10 basis points
  - Raises foreign GDP about .25 percent

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Back-of-the-Envelope Estimates of U.S. Monetary Policy Spillovers

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- Exchange rate channel:
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- Domestic demand channel:
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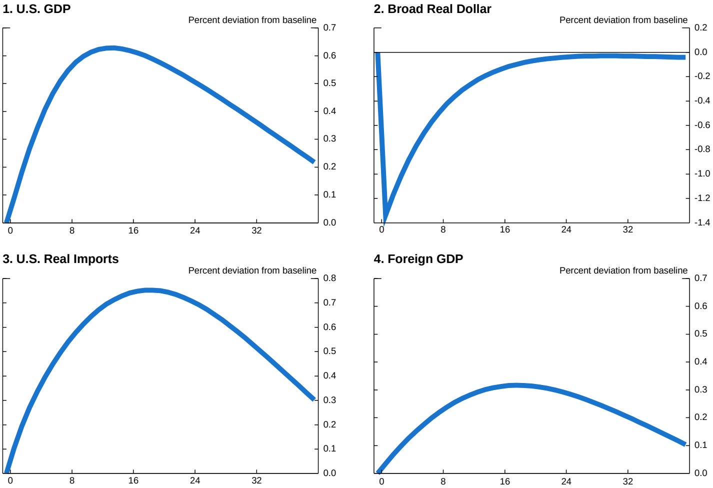
- Financial spillovers channel:
  - Raises foreign GDP about .25 percent
- First two channels offset, leaving financial spillovers to dominate.
- But overall effect not very large.

SIGMA Results: 25 basis point reduction in 10-Year U.S. Treasury Yields



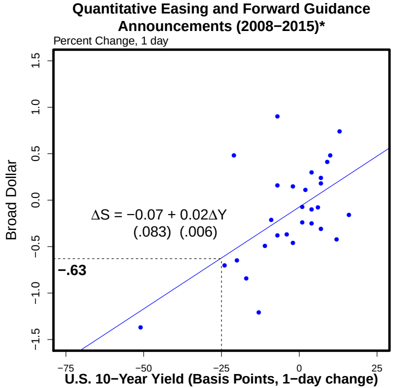
Size and Direction of Monetary Policy Spillovers Cannot Be Boiled Down to A Single Coefficient

- Depends on relative strength of the three channels.
- May differ by country receiving spillovers.
- May differ over time - especially financial spillovers.
- May differ depending on whether conventional or unconventional monetary policy.

Unconventional versus Conventional Policy Effects on Asset Prices

- Rogers, Scotti, and Wright (2014) – similar QE announcement effects on AFE asset prices (for given impact on U.S. Treasury yields) as in prior event studies on policy rates.
- Glick and Leduc – report similar effects on AFE dollar exchange rates (2013) but acting through different parts of the term structure (2015).
- Bowman, Londono, and Sapriza (2014) – similar EME asset price responses to changes in Treasury yields.
- Takáts and Vela (2014) – weaker post-2007 relation between EME and U.S. policy rates but stronger in five-year yields.
- Chen, Mancini-Griffoli, and Sahay (2014) – stronger spillovers from unconventional policy.

Unconventional versus Conventional Policy: U.S. 10 Year and Broad Dollar



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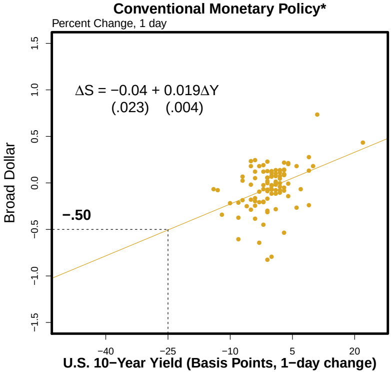
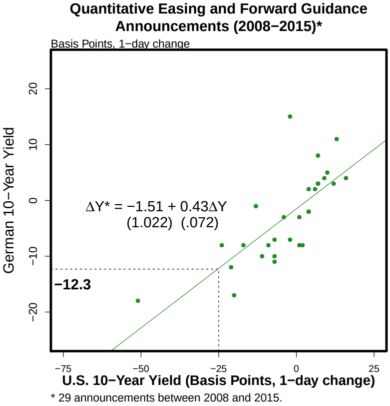
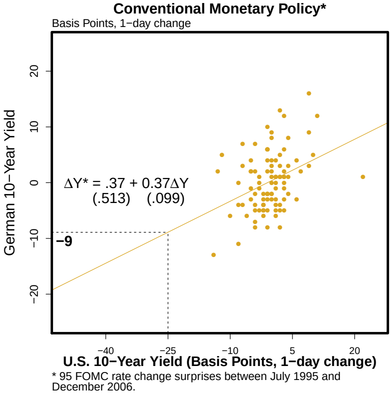


* 95 FOMC rate change surprises between July 1995 and December 2006.

Unconventional versus Conventional Policy: U.S. and German Yields





Are Monetary Policy Spillovers Stabilizing or Destabilizing for the Global Economy?

- Based on estimates for United States, monetary policy spillovers do not seem very large.
- But still worth asking: do they move economic conditions in ROW toward or away from their equilibrium levels?

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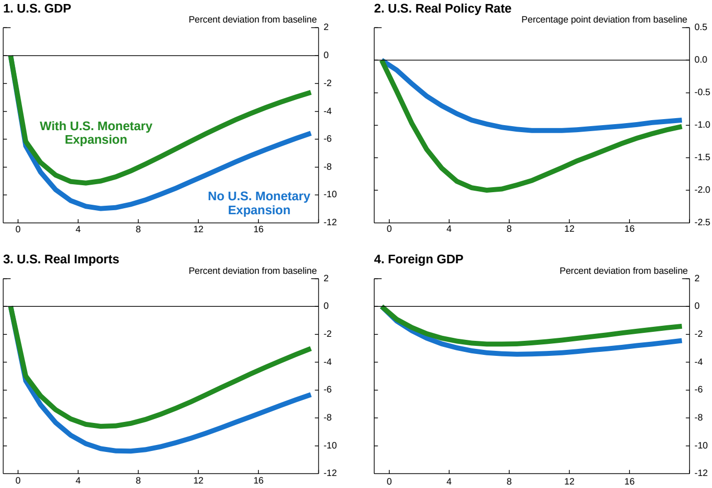
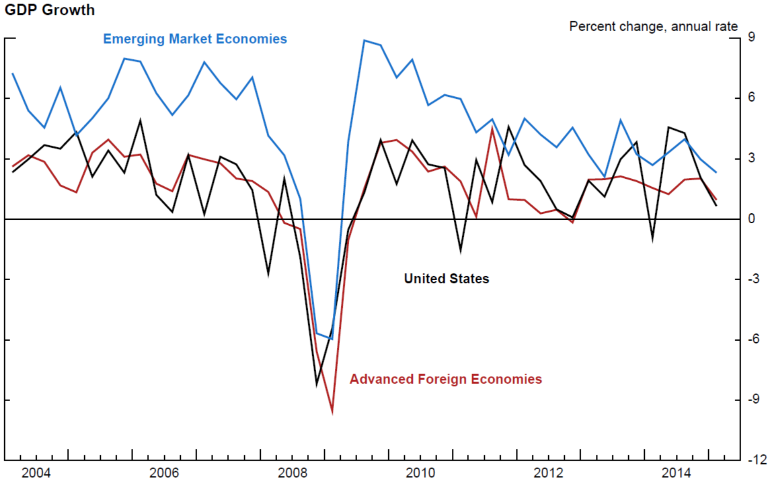
- Based on estimates for United States, monetary policy spillovers do not seem very large.
- But still worth asking: do they move economic conditions in ROW toward or away from their equilibrium levels?
- It depends...
  - Direction of monetary policy spillovers: positive or negative?
  - Nature of the shock to which monetary policy is responding?

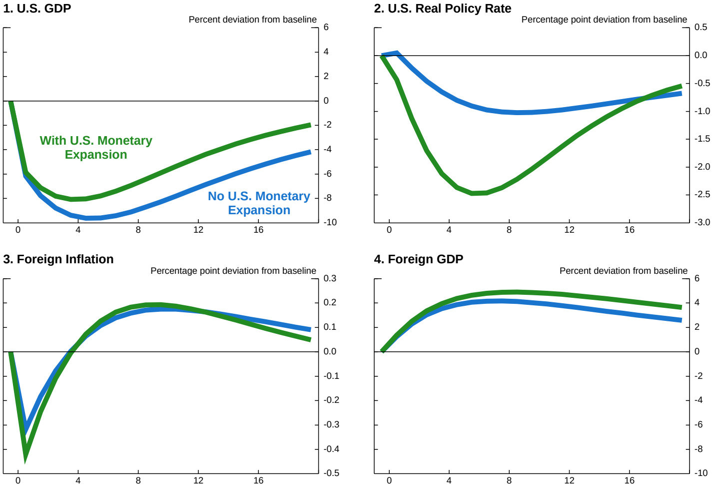
U.S. Recession, Foreign Monetary Policy on Hold: With and without U.S. Monetary Expansion



World GDP Growth



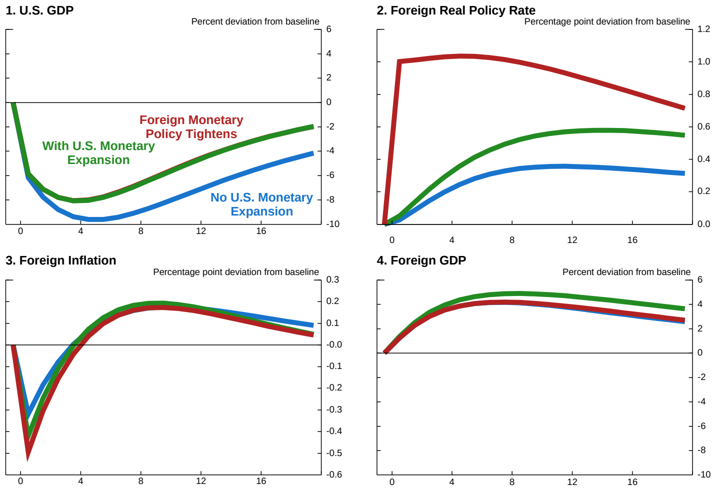
U.S. Recession, Foreign Strength, Foreign Monetary Policy on Hold: With and without U.S. Monetary Expansion



Monetary Policy As An Equilibrating Mechanism

- Even if monetary policy spillovers push an economy away from equilibrium,
- independent monetary policy in a floating exchange rate regime can push the economy back toward equilibrium.
- Applies to all shocks, not just monetary policy spillovers.

U.S. Recession, Foreign Strength Offset by Policy Tightening



Policy Divergences

- Concerns have been expressed about spillovers from a future normalization of U.S. monetary policy. But considerations discussed before still apply:
  - Estimated effects of spillovers not particularly large.
  - Foreign central banks already loosening.
  - Normalization of U.S. policy predicated on continued strength in U.S. economy, which supports foreign activity.
    - U.S. net exports already subtracting more than 1/2 percentage point from U.S. GDP growth in 2015.

Monetary Policy As An Equilibrating Mechanism

- Limits to ability of monetary policy to offset external shocks.
  - Lags
  - Zero lower bound
  - With high inflation, may be difficult to pursue countercyclical policy

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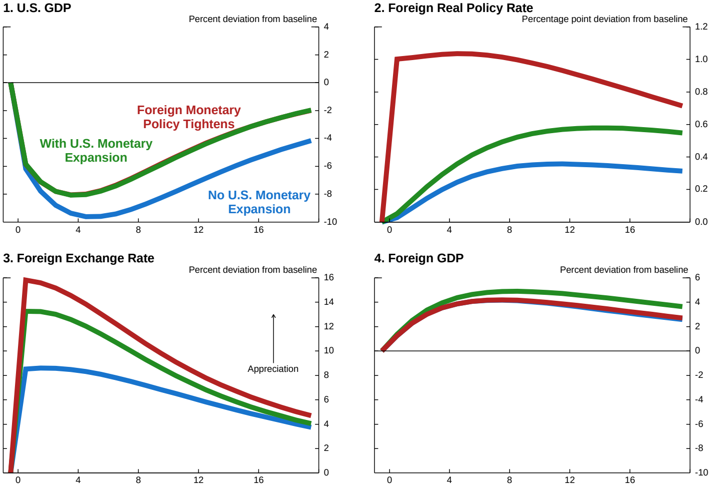
  - Lags
  - Zero lower bound
  - With high inflation, may be difficult to pursue countercyclical policy
  - Multiple objectives: e.g., export-led development strategy, financial stability

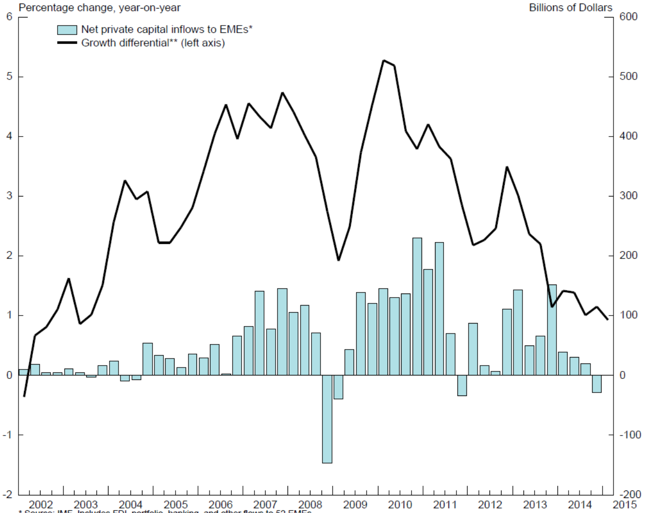
U.S. Recession, Foreign Strength Offset by Policy Tightening



Monetary Policy As An Equilibrating Mechanism

- Policy easing in advanced economies not the only factor contributing to loose financial conditions in EMEs.

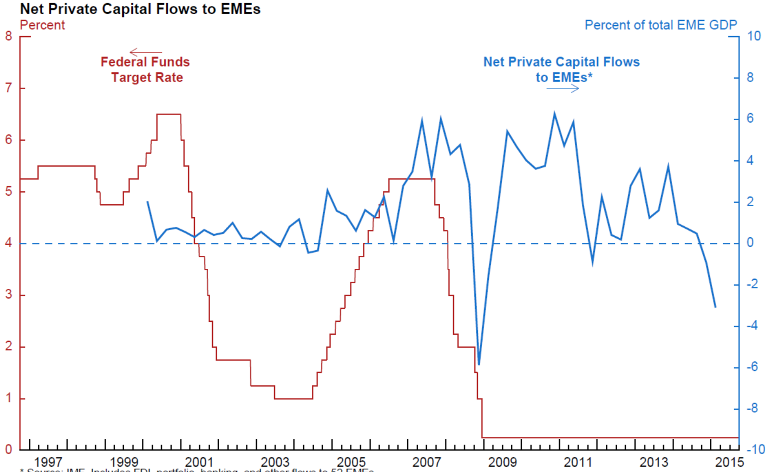
Real GDP Growth and Net Private Capital Inflows to EMEs



* Source: IMF. Includes FDI, portfolio, banking, and other flows to 52 EMEs.
** Growth differential is defined as emerging market economy growth less advanced economy growth, at a quarterly annualized frequency.

Shaghil Ahmed and Andrei Zlate. **"Capital Flows to Emerging Market Economies: A Brave New World."** *Journal of International Money and Finance*, vol. 48 (November 2014). 221-228.

Net Private Capital Inflows to EMEs



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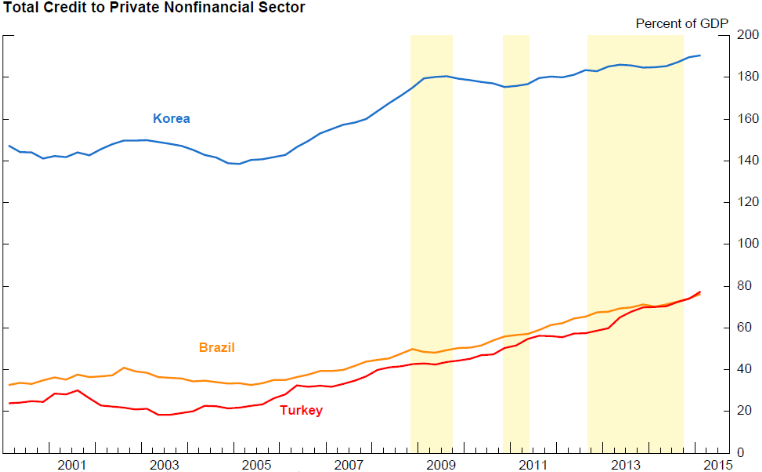
Total Credit to Private Nonfinancial Sector



Source: BIS. Note: Shading indicates a Federal Reserve asset purchase program

Thank you!