FEDERAL RESERVE BANK of NEW YORK

The Federal Reserve in the 21st Century

Global Perspectives on Monetary Policy

Paolo Pesenti, SVP – Office of the Director, Research and Statistics Group

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The views expressed in this presentation are those of the presenter and not necessarily those of the Federal Reserve Bank of New York or the Federal Reserve System

Outline

- Monetary policy links between U.S. and Rest of the World (ROW) in the context of global interdependence

- U.S. monetary policy affects ROW developments
  - What are the effects of U.S. monetary policy on foreign economic activity?
  - Do U.S. monetary policy spillovers stabilize or destabilize the global economy?

- ROW affects U.S. outlook
  - What are the implications for U.S. monetary policy?

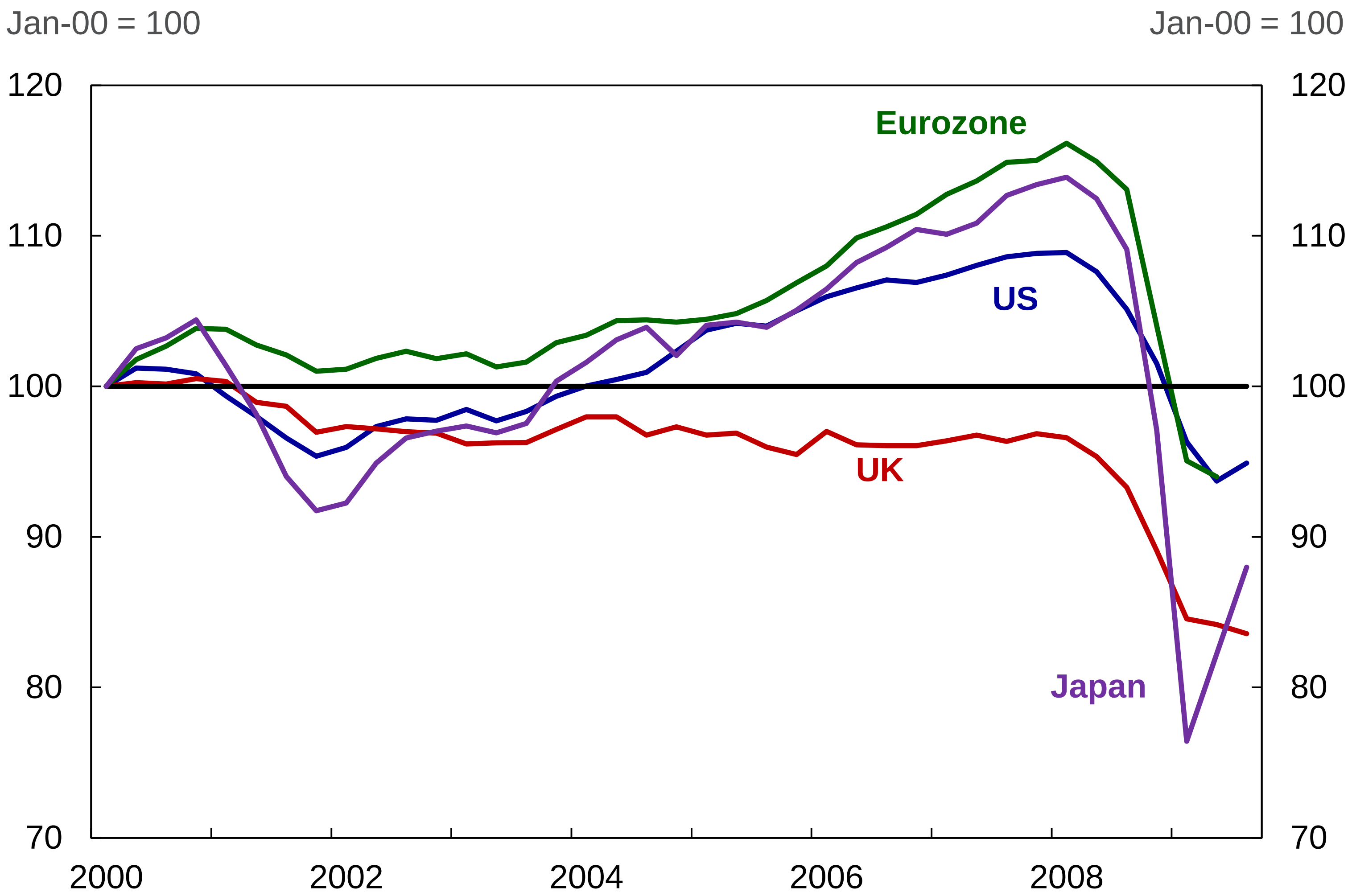
Open economies are linked and interdependent

- "Macroeconomics" is international given greater interdependence across economies

- Linkages between U.S. and ROW via a range of channels including:
  - **Trade** in goods and services
  - **Capital flows** (sales and purchases of bonds, stocks, currencies, derivative instruments, foreign direct investment…)

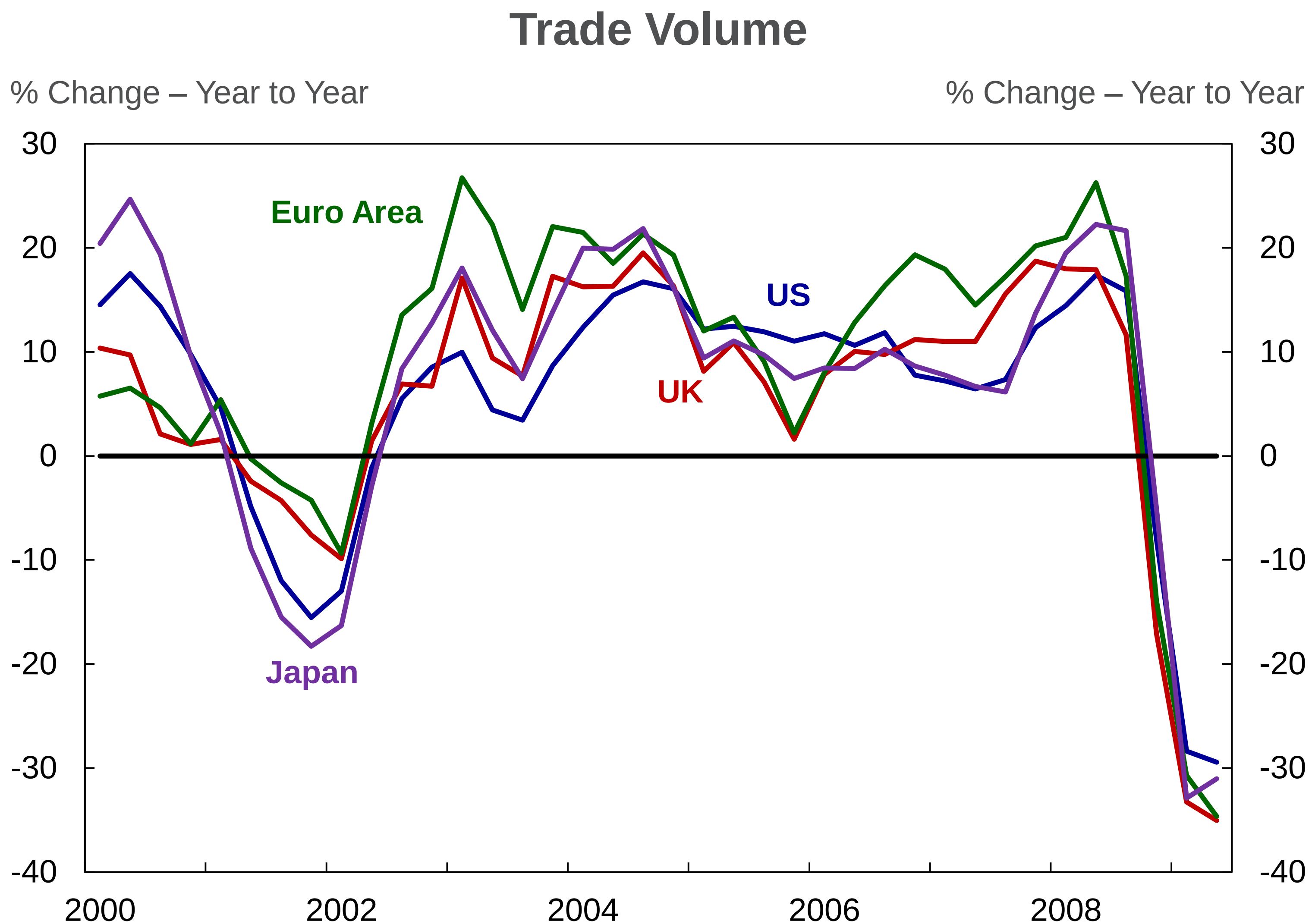
- Macroeconomic transmission:
  - demand/supply shocks in one country affect decisions by consumers/firms abroad
  - asset price declines in one region quickly affect cross-border valuations (contagion)
  - policy spillovers: domestic monetary/fiscal decisions affect foreign outcomes (core of today's presentation)

Interdependence at work: The synchronized plunge in global industrial production in 2008…



Source: OECD

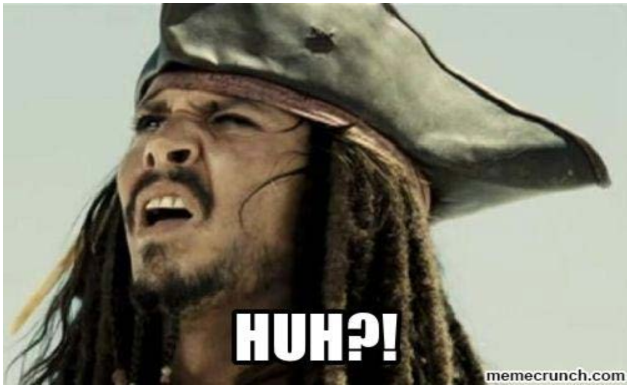
… and the collapse of international trade



Source: IMF Direction of Trade Statistics

The debate on monetary spillovers

- Starting in 2008 U.S. engaged in large-scale monetary stimulus involving conventional and unconventional policy
  - Only recently (Dec. 2015) U.S. began re-normalization of monetary stance
- In stimulus period, concerns of U.S. accommodative policy hurting ROW
  - Quite confusingly, concerns that move toward normalization is hurting ROW (some people are never happy…)
- What's going on?



Key spillover channels from monetary policy: Part 1

Consider the effects of a U.S. monetary expansion

- Exchange rates abroad appreciate (expenditure shifting):
  - Exports to U.S. become more expensive
  - Imports from U.S. become cheaper

  → Global demand reallocated toward U.S. goods

Key spillover channels from monetary policy: Part 2

Consider the effects of a U.S. monetary expansion

- Domestic demand increases (expenditure increasing):
  - U.S. monetary policy raises nominal incomes and expenditures

  → Higher domestic demand for domestic goods **and** imports

Key spillover channels from monetary policy: Part 3

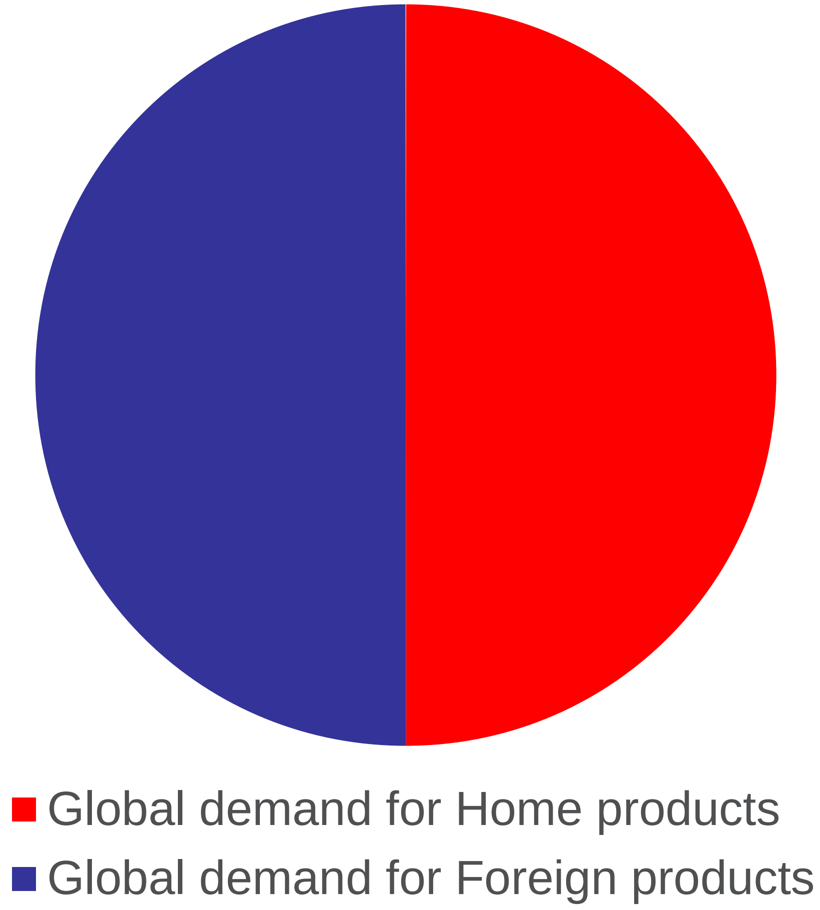
Consider the effects of a U.S. monetary expansion

- Financial spillovers abroad (likely expenditure increasing):
  - U.S. stimulus lowers domestic longer-term yields
  - Capital flows out of the U.S. into financially interconnected economies
  - Abroad:
    - Credit expands, lowering yields and borrowing costs and raising other asset prices such as equity
    - Local exchange rate appreciation may improve corporate and financial balance sheets, but may reduce equity prices

In case you need to explain monetary spillovers to a 2-yr old daughter…

… you may want to think of
global demand
as a pie

Something like this



You can cut the pie into slices!

- Each slice is global demand for a country's goods and services

- Monetary policy in one country can affect the size of the whole pie, as well as the way the pie is split into slices

- A country cares about its slice being not too small (underemployment, low growth) but not too big (overheating, inflation…).

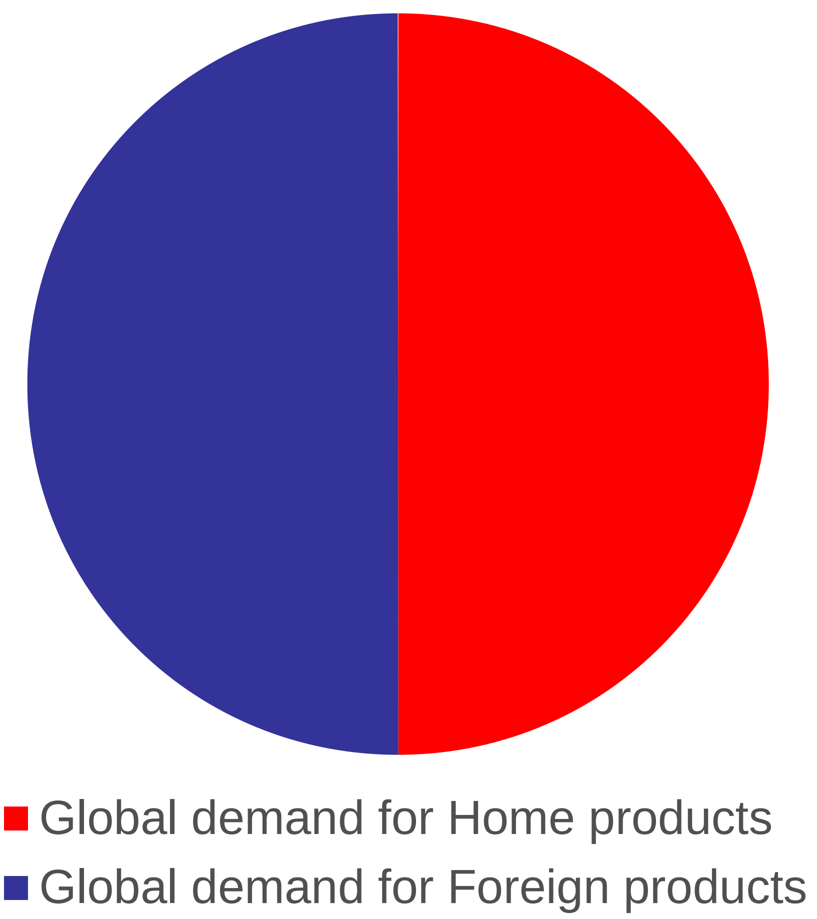
- Let's say there is a Goldilocks equilibrium slice…

Ok, I get the slice stuff. And what has this to do with U.S. monetary policy?

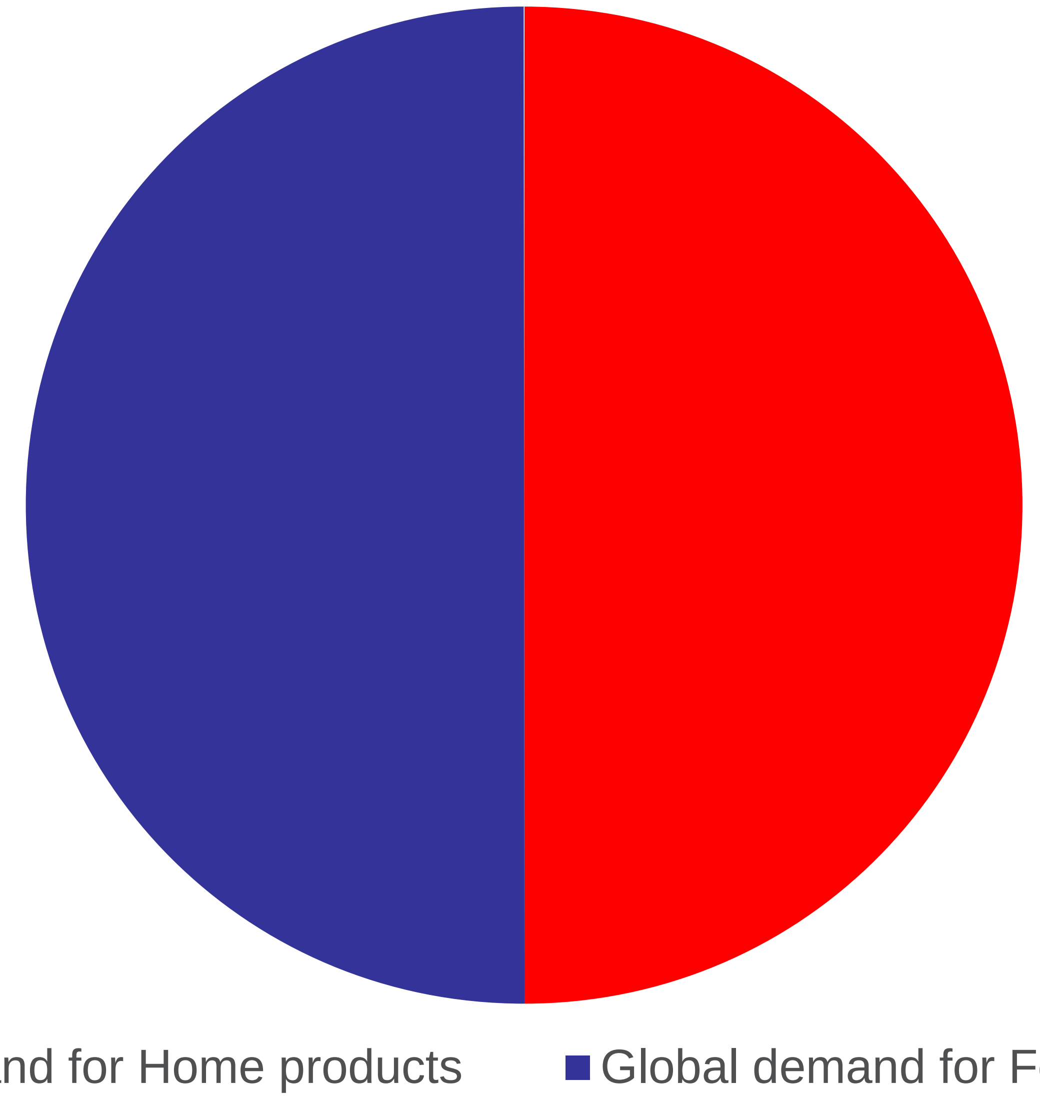
- Well, consider the effects of a U.S. monetary expansion:
  - Expenditure increasing
  - Expenditure shifting

- Let's visualize each of them separately

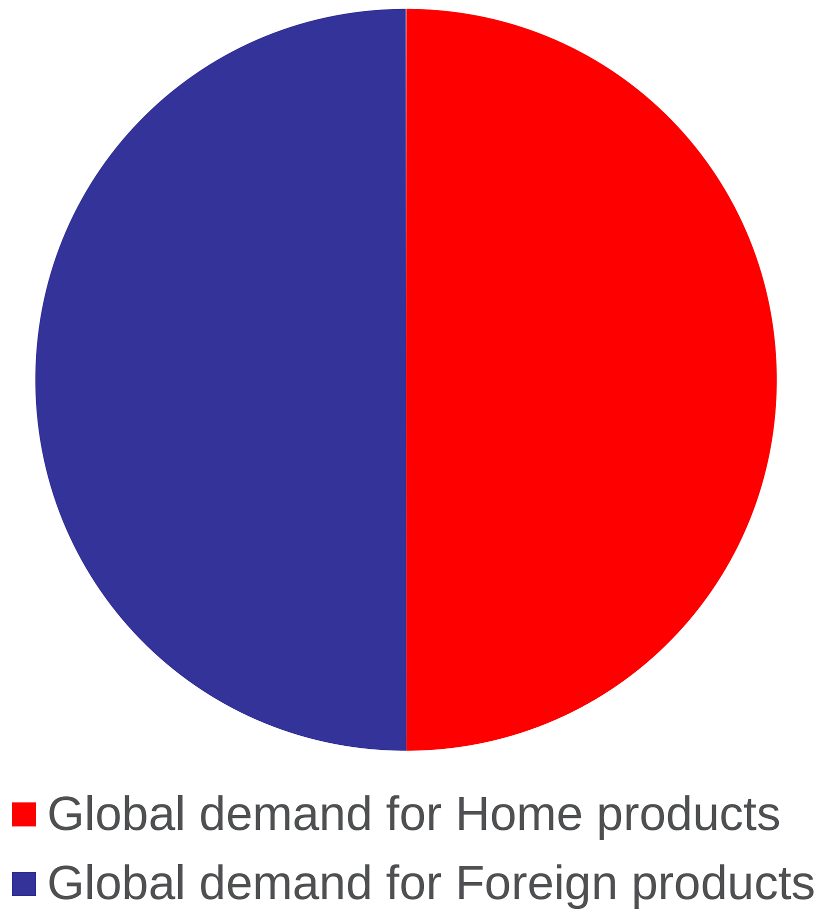
Before U.S. policy: the pie and the slices



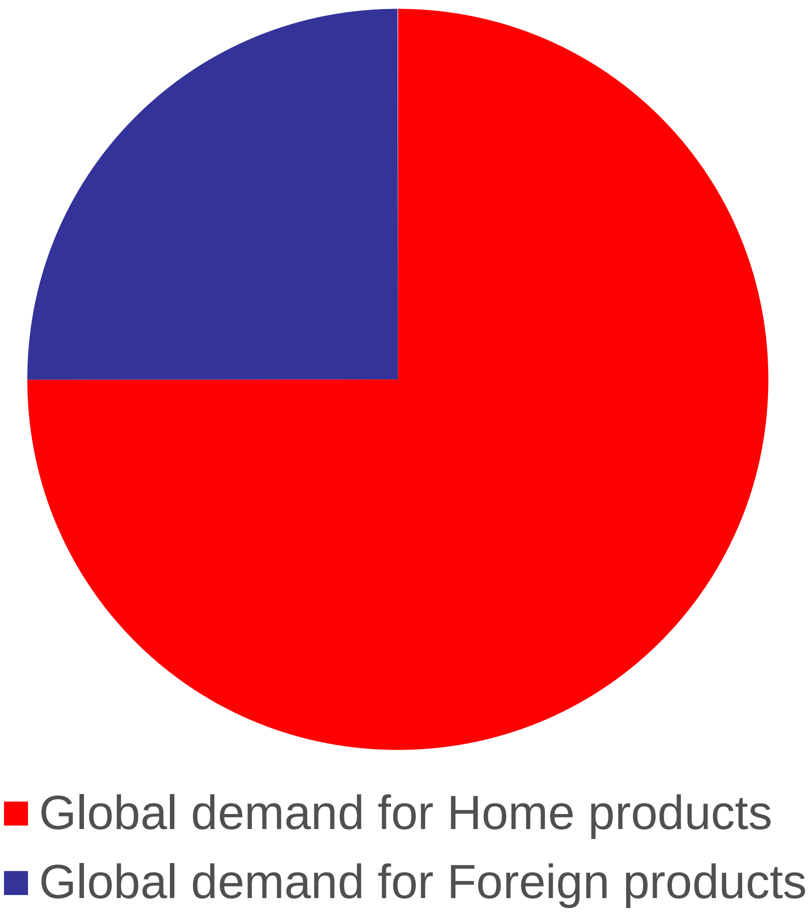
U.S. monetary expansion has an expenditure increasing effect



Back to the initial pie



U.S. monetary expansion has an expenditure shifting effect



Two effects: Spillovers of U.S. monetary stimulus

- Rest of the world gets a smaller slice of a bigger pie

- If new slice **smaller** than initial slice: **negative spillovers** to ROW

- If new slice **bigger** than initial slice: **positive spillovers** to ROW

- Needless to say, sign of these effects flips in case of U.S. monetary tightening

Back-of-the-envelope estimates of policy spillovers

- Assume monetary easing sufficient to lower 10-year U.S. Treasury yields by 25 basis points
- Exchange rate channel
  - Lowers dollar about 1 percent
  - Boosts U.S. net exports by 0.15 percent of GDP
  - Lowers foreign GDP about 0.05 percent
- Domestic demand channel
  - Raises domestic demand by 0.5 percent
  - Raises U.S. imports by 0.15 percent of GDP
  - Raises foreign GDP about 0.05 percent
- Financial spillovers channel
  - Lowers foreign yields by 10 basis points
  - Raises foreign GDP about 0.25 percent

Positive or negative transmission?

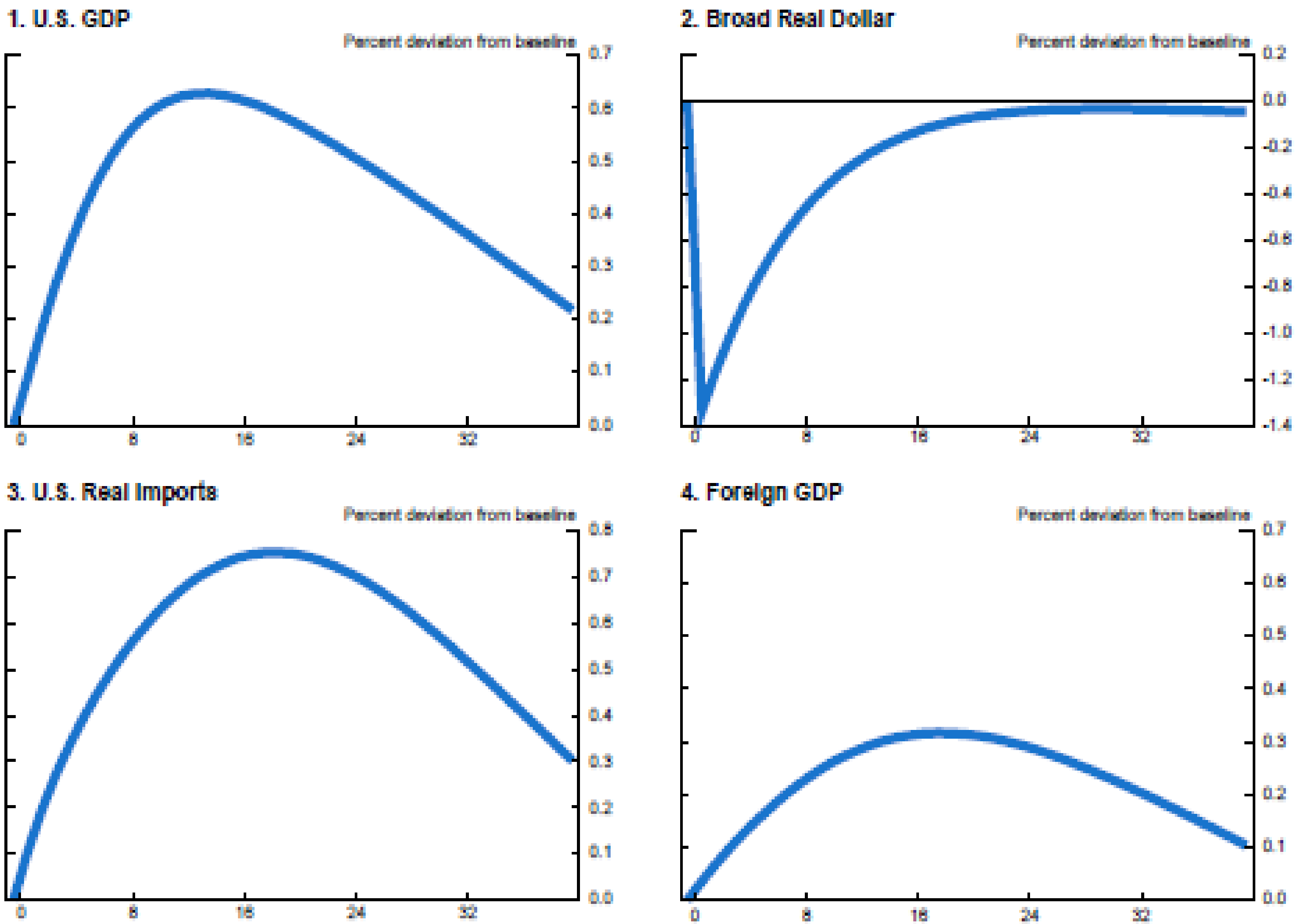
- Exchange rate channel:
  - Lowers foreign GDP about 0.05 percent
- Domestic demand channel:
  - Raises foreign GDP about 0.05 percent
- Financial spillovers channel:
  - Raises foreign GDP about 0.25 percent

- First two channels offset, so financial spillovers dominate.
- But overall effect not very large

Adding detail

- Rules of thumb can be incorporated into a model of the global economy (here, Board of Governors' SIGMA model)
- Consider an easing of U.S. monetary policy that reduces the nominal 10-year U.S. Treasury yield by 25 basis points
- Assume (for now) that foreign monetary policy does not respond
    - Foreign long-term yields 10 basis points lower due to favorable financial spillovers
    - U.S. GDP about 0.6 percent above its baseline value
    - Dollar falls, but higher domestic demand raises U.S. imports
    - Foreign GDP rises by roughly half of U.S. output rise

Model-based simulations (SIGMA): 25 basis point reduction in 10-Year U.S. Treasury yields



Caveat: Things do not always go as expected…

From the WSJ, March 17 2016

MARKETS

Global Currencies Soar, Defying Central Bankers

From Japan to Norway, currencies are rising despite policies aimed at weakening them

Despite the Bank of Japan's efforts to push down its currency and jump-start the economy with negative interest rates, the yen is up 8% this year and is at its strongest level against the dollar since October 2014. European central bankers are having similar problems containing the strength of the euro and other currencies.

Size and direction of monetary policy spillovers cannot be boiled down to a single coefficient

- Previous estimates suggest U.S. monetary policy spillovers are positive but not very large
- Estimates are in line with a number of studies, but other studies have found negative spillovers
- In particular, the spillover effects
  - are likely to differ across recipient countries depending on various country-specific features
  - may vary through time
  - may differ depending on whether domestic monetary stimulus involves conventional or unconventional monetary policy

This was fun. Now, do I get my Goldilocks slice or what?

- Good question. The fact that monetary spillovers are likely positive does not say much about whether they stabilize or destabilize the global economy

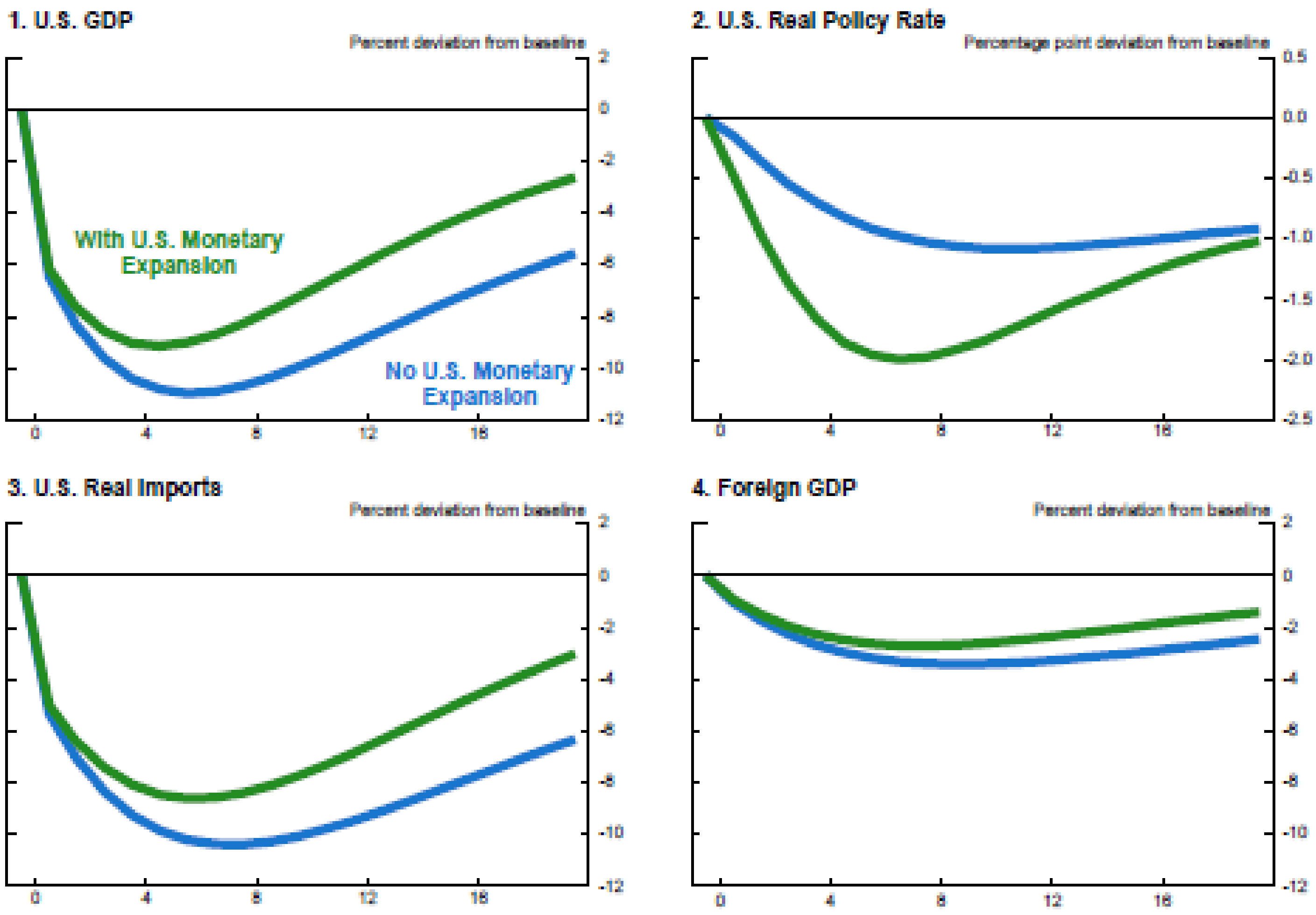
- Maybe the ROW slice is too small and U.S. monetary stimulus brings the ROW closer to equilibrium

- Maybe U.S. monetary stimulus makes the foreign slice of the pie too big

The case where monetary policy spillovers stabilize the global economy

- Consider case where the U.S. experiences a negative shock (such as Great Recession) while ROW is doing fine
  - Blue lines: U.S. monetary policy does not respond strongly to shock and foreign monetary policy stays on hold.
    - Contraction in U.S. domestic demand lowers U.S. imports, so foreign GDP falls as well:
    - ROW is hit by U.S. recession
  - Green lines: U.S. monetary policy responds aggressively to shock
    - U.S. GDP falls by less, U.S. imports fall by less
    - Foreign GDP falls by less as well

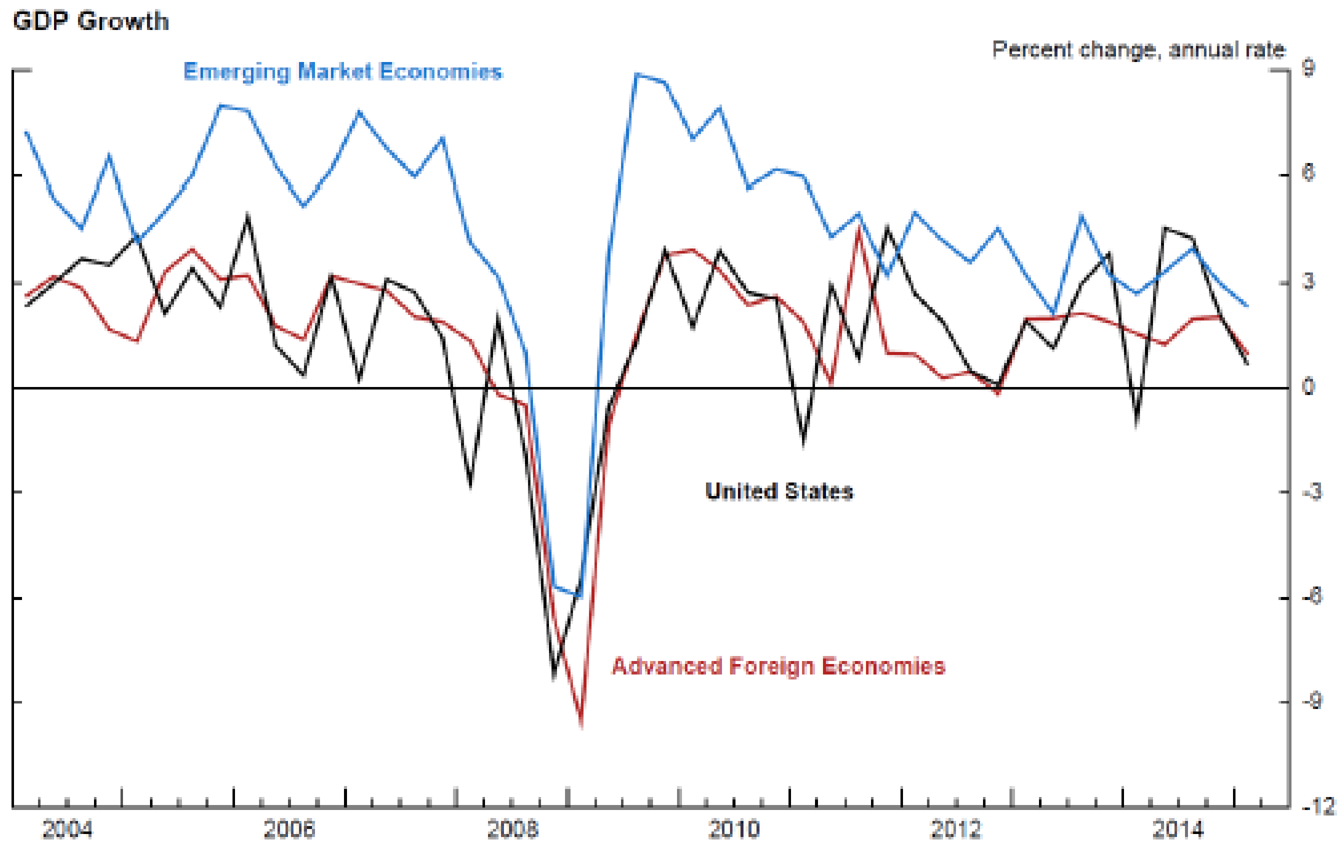
U.S. recession, Foreign monetary policy on hold: With and without U.S. monetary expansion



In this case, Fed policy benefits world economy

- Here, spillovers from U.S. monetary policy are stabilizing for global economy
- The same would hold true for a common shock that adversely affected many of the world's economies
  - In 2008 and 2009 the easing actions by Federal Reserve triggered beneficial spillovers that helped to stabilize the global economy
  - Positive spillovers were magnified by easing actions by other central banks

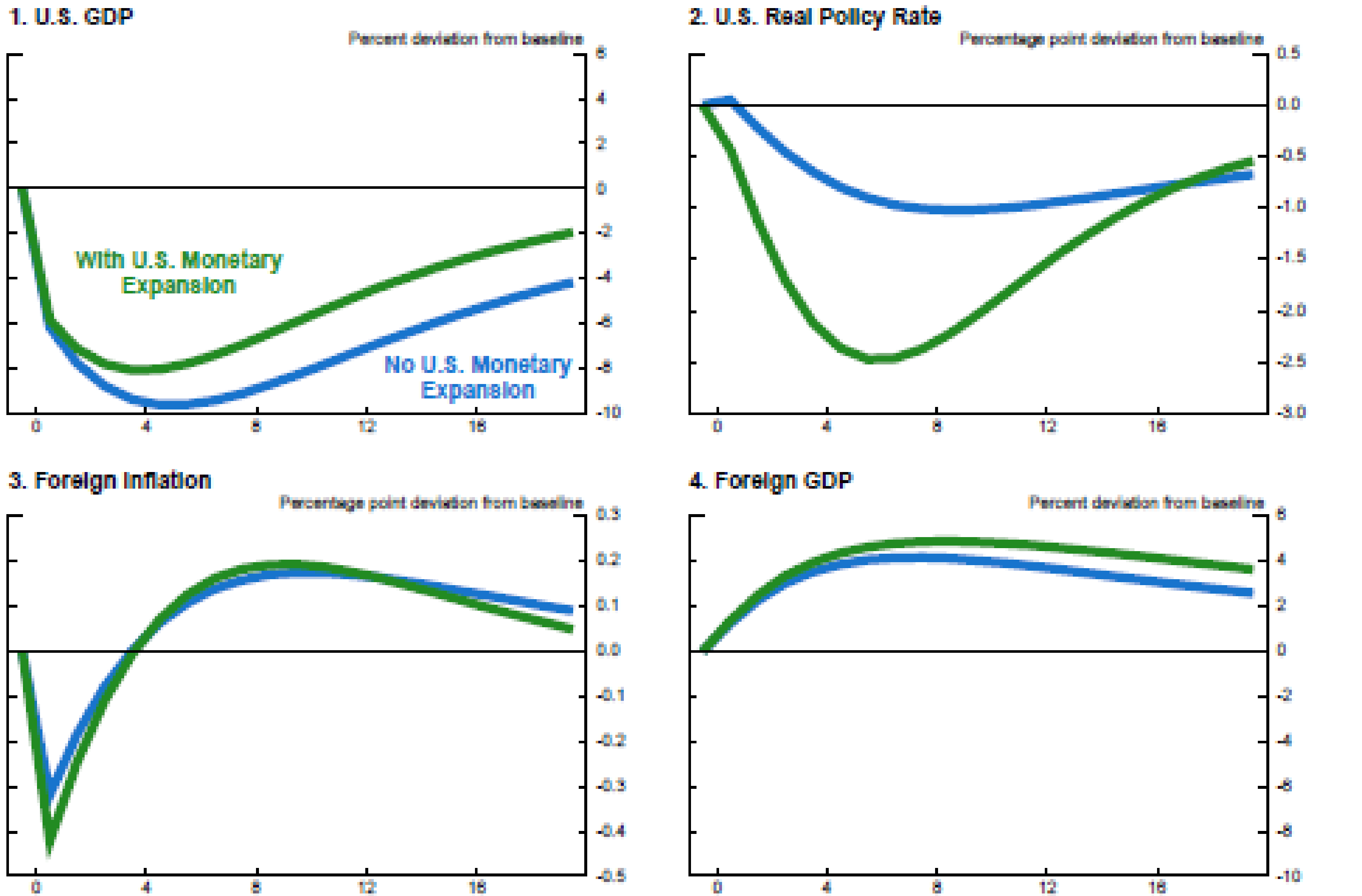
The Great Recession and world GDP growth



Resolved(?): Fed policy is always good for ROW

- Not so fast
- When different economies are at different points in their business cycles, policy spillovers may not be stabilizing
- Example: 2010
  - Weak recovery in U.S. and other advanced economies
  - Solid rebound in Emerging Market Economies (EMEs)
  - EMEs may not have needed additional stimulus
- Next slide
  - Blue lines: Scenario where U.S. in recession while foreign economy experiencing a mild boom
  - Green lines: U.S. interest rates lowered in response to recession, pushing foreign output and inflation higher above equilibrium

U.S. recession, Foreign boom:
With and without U.S. monetary expansion



The verdict on monetary policy spillovers as an equilibrating mechanism

- As many times in economics, it's a "on the one hand, on the other hand" story…
- Depending on the business-cycle positions, monetary policy spillovers may prove either stabilizing or destabilizing for the global economy
- Foreign central banks in floating exchange rate regimes can adjust policy to keep output and inflation near their targets

Hey, did you forget my Goldilocks slice?

- Let’s just say this:
- 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
- And happy birthday

Back to 2016: Normalization and policy divergence

- 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
  - Normalization of U.S. policy predicated on continued strength in U.S. economy, which supports foreign activity
  - Foreign central banks concerned with tighter financial conditions can loosen their monetary stance
  - On the contrary, foreign central banks concerned with a depreciating local currency can tighten their stance

The other side of the coin: “Global developments” and U.S. monetary policy

From the latest (March 2016) FOMC statement:

FEDERAL RESERVE press release

Release Date: March 16, 2016

For release at 2:00 p.m. EDT

Information received since the Federal Open Market Committee met in January suggests that economic activity has been expanding at a moderate pace despite the global economic and financial developments of recent months. Household spending has been increasing at a moderate rate, and the housing sector has improved further; however, business fixed investment and net exports have been soft. A range of recent indicators, including strong job gains, points to additional strengthening of the labor market. Inflation picked up in recent months; however, it continued to run below the Committee's 2 percent longer-run objective, partly reflecting declines in energy prices and in prices of non-energy imports. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance, in recent months.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee currently expects that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace and labor market indicators will continue to strengthen. However, global economic and financial developments continue to pose risks. Inflation is expected to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of declines in energy and import prices dissipate and the labor market strengthens further. The Committee continues to monitor inflation developments closely.

Against this backdrop, the Committee decided to maintain the target range for the federal funds rate at 1/4 to 1/2 percent. The stance of monetary policy remains accommodative, thereby supporting

Acknowledgements

- Thanks to Steven B. Kamin, Director of the International Finance Division at the Board of Governors, and Richard Crump, Jonathan McCarthy, and Argia Sbordone at FRBNY for many useful comments and suggestions

- Further readings:

  - John Ammer, Chris Erceg, Steven Kamin and Michiel De Pooter, “International Spillovers of Monetary Policy”, http://www.federalreserve.gov/econresdata/notes/ifdp-notes/2016/international-spillovers-of-monetary-policy-20160208.html
  - Giancarlo Corsetti and Paolo Pesenti, "The Simple Geometry of Transmission and Stabilization in Closed and Open Economies", in R. Clarida and F. Giavazzi (eds.), *NBER International Macroeconomic Annual 2007*, Chicago, IL: University of Chicago Press, 2008, pp.65-116.