Global Spillovers and Domestic Monetary Policy
The Impacts on Exchange Rates and Other Asset Prices

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"Navigating the great recession: What role for monetary policy?"

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What do we know now that we didn't five years ago?

- Unconventional monetary policy (quantitative/credit easing and forward guidance) seems to have macro effects on asset yields and economic activity

- Empirically, these measures seem to have international spillover effects

- But the effects are imprecisely estimated, and

- Theory provides little guidance on what is expected

Outline

- Unconventional measures interpreted in conventional monetary models

- Portfolio balance models

- Empirics

- Spillovers, rebalancing and policy implications

Is there a simple relationship between balance sheets and exchange rates?
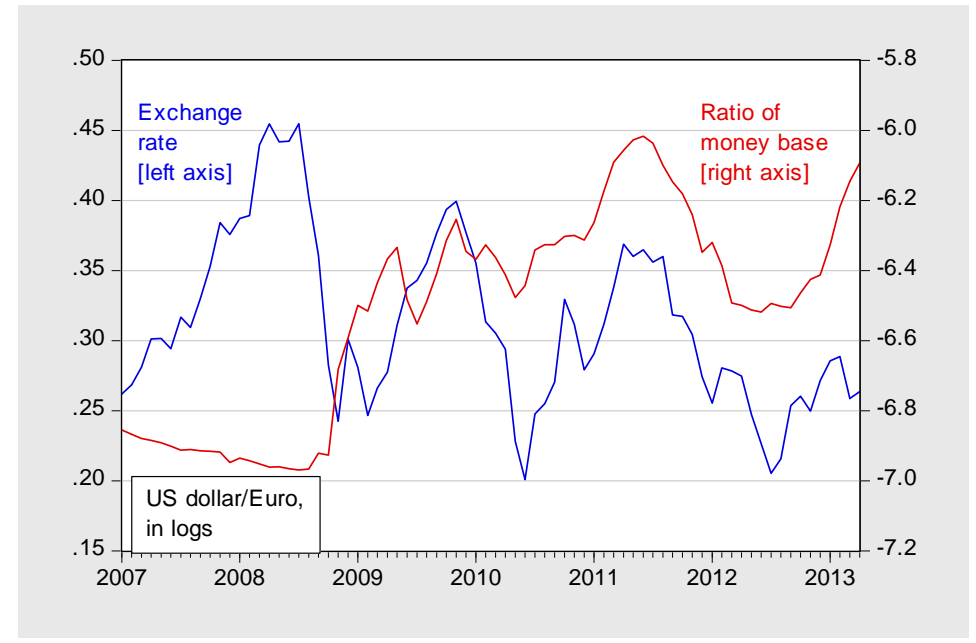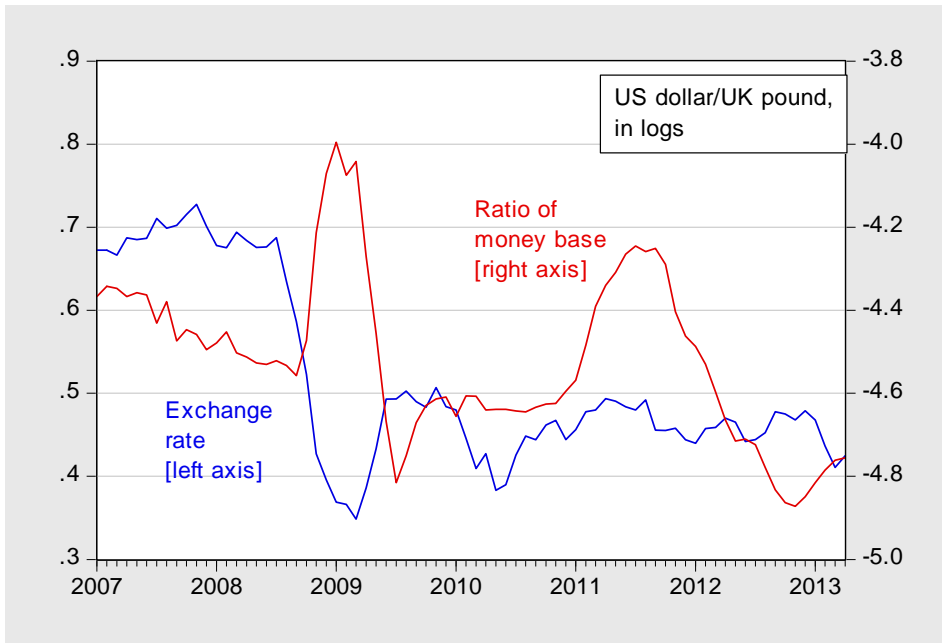
Is there a simple relationship between balance sheets and exchange rates?
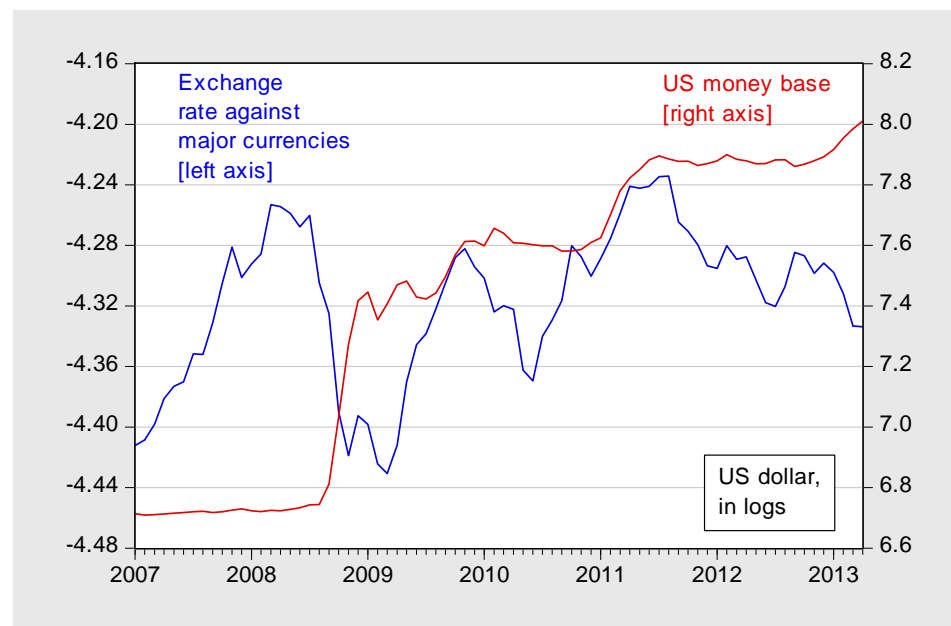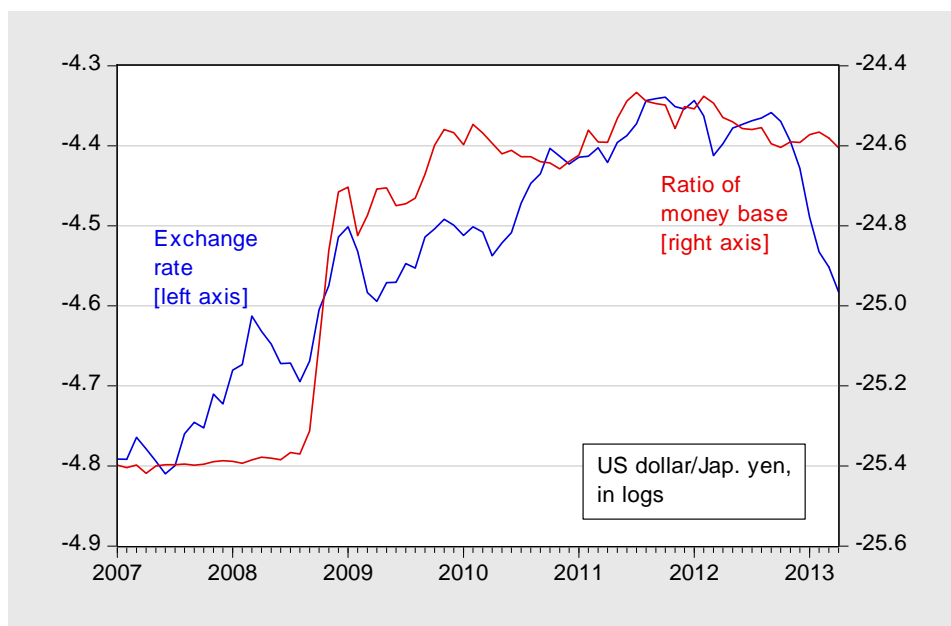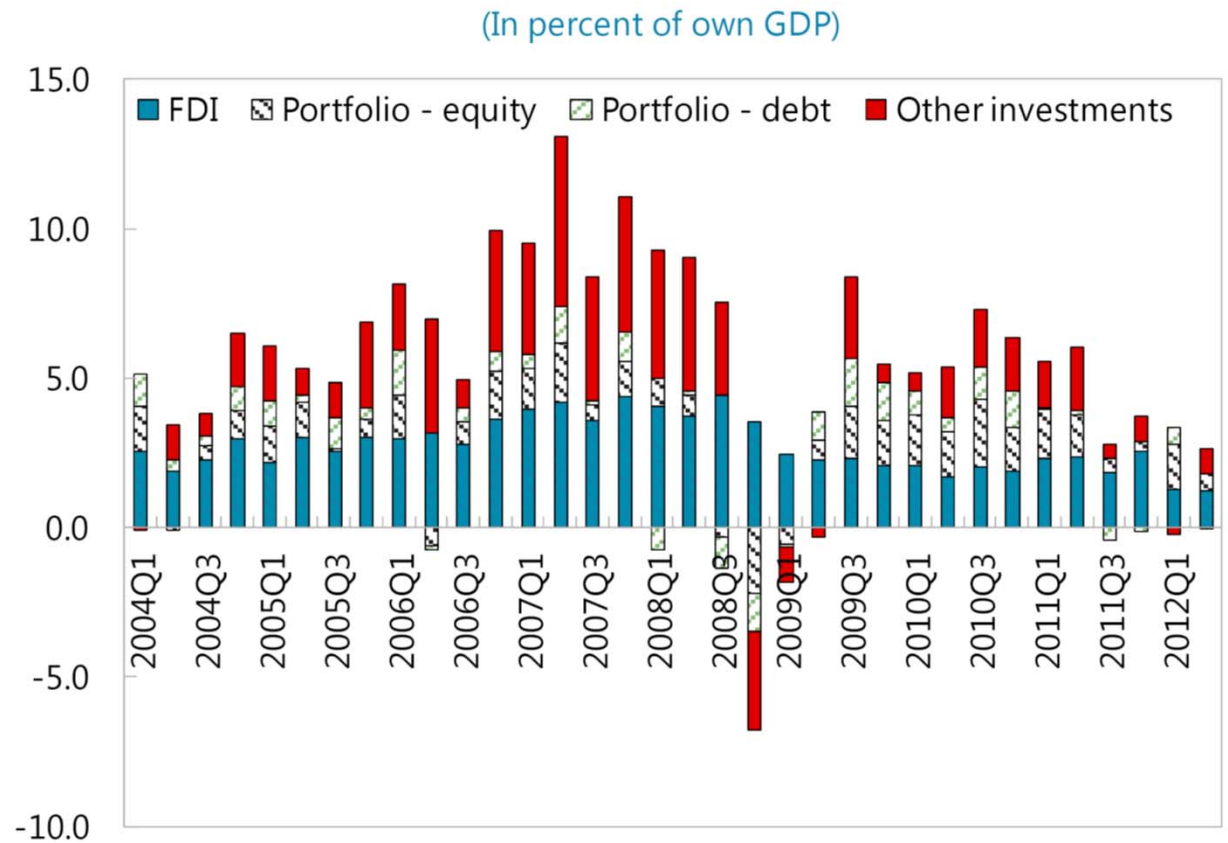
Ways to resurrect the monetary approach

$$s_t \equiv (m_t - m_t^*) - \varphi(y_t - y_t^*) - \frac{1}{\theta}(i_t - i_t^*) + (\lambda + \frac{1}{\theta})(\pi_t - \pi_t^*)$$

$$s_t = \left(\frac{1}{1+\lambda}\right)\sum_{\tau=0}^{\infty}\left(\frac{\lambda}{(1+\lambda)}\right)^{\tau} E_t \tilde{M}_{t+\tau}$$

$$\tilde{M}_t \equiv (m_t - m_t^*) - \varphi(y_t - y_t^*)$$
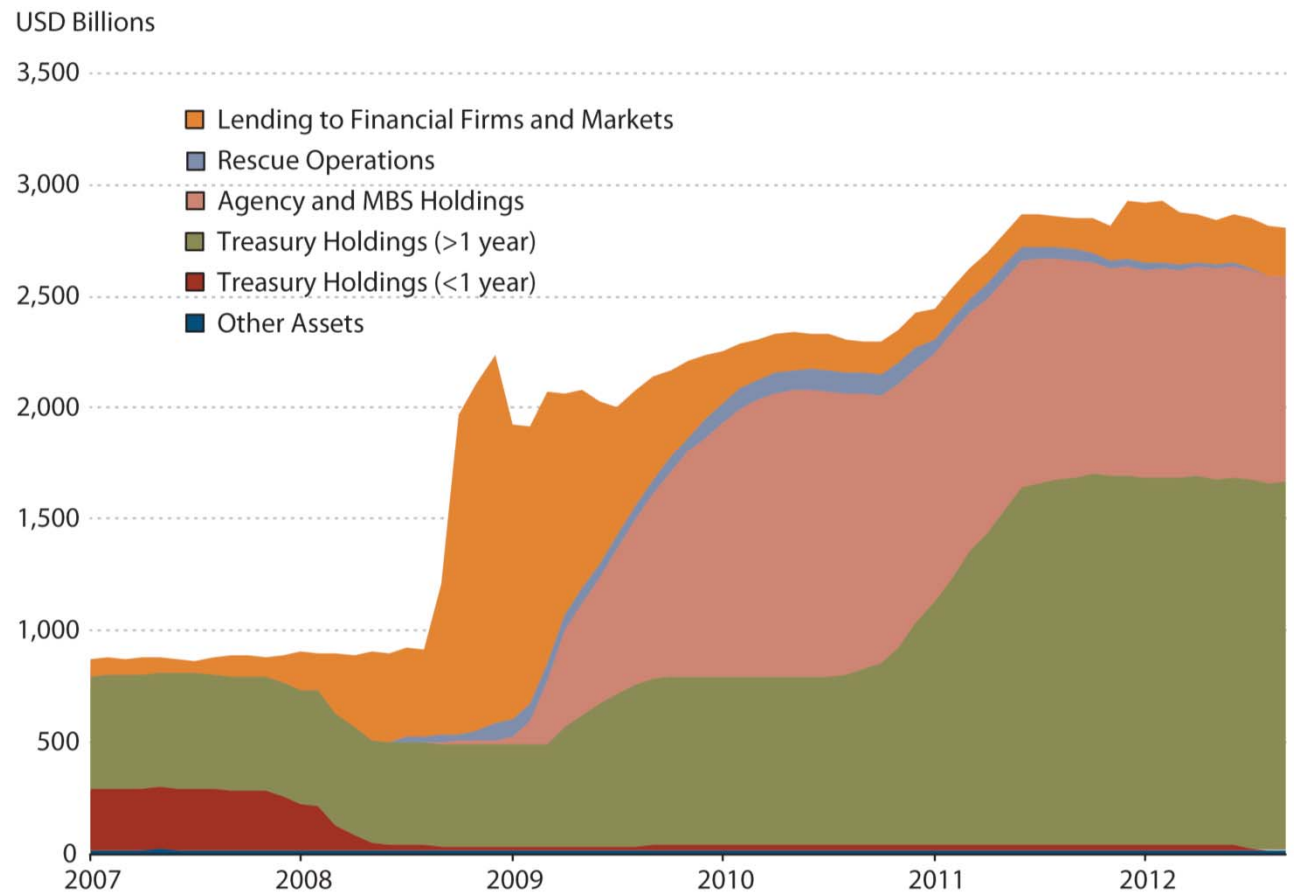
Forward guidance, yields, capital flows to EM's

(In percent of own GDP)

Sources: IMF IFS.

Source: IMF (2013).

A portfolio balance interpretation

$$\left. B_t \middle/ S_t B_t^* \right. = \gamma(i_t - i_t^* - E_t \Delta s_{t+1})$$

$$s_t = \gamma_0 + \gamma_1(i_t - i_t^* - E_t \Delta s_{t+1}) + b_t - b_t^*$$

# Credit easing: composition vs. size

USD Billions

Legend:
- Lending to Financial Firms and Markets
- Rescue Operations
- Agency and MBS Holdings
- Treasury Holdings (>1 year)
- Treasury Holdings (<1 year)
- Other Assets

Source: Fawley and Neely (2013).

Announcement effects

Neely (2010, rev. 2012) found substantial effects on exchange rates in LSAP1

Also found effects on bond yields

Robust to window size
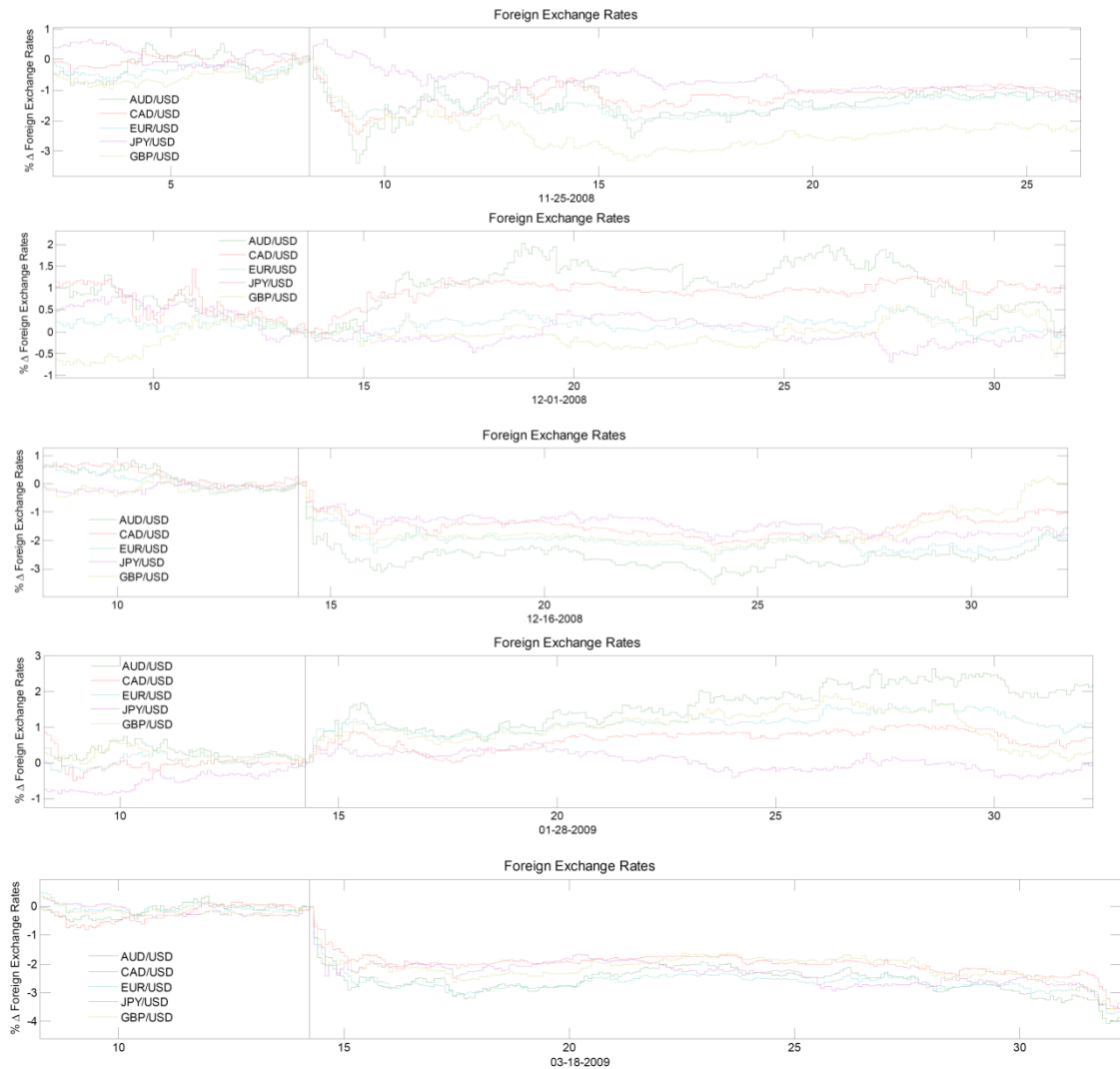
# Cumulative impact of announce-ments & purchases

- Purchases have a larger impact than announcements, suggests that announcement-based analyses understate impact

- Impact differs between groups, episodes

- Dollar depreciates more against advanced economies than emerging

- Monetary policy has relatively small impact on emerging markets

Source: Fratzscher et al. (2012)

E — Exchange rate
(Returns in %)

United States

Emerging markets

Advanced Economies
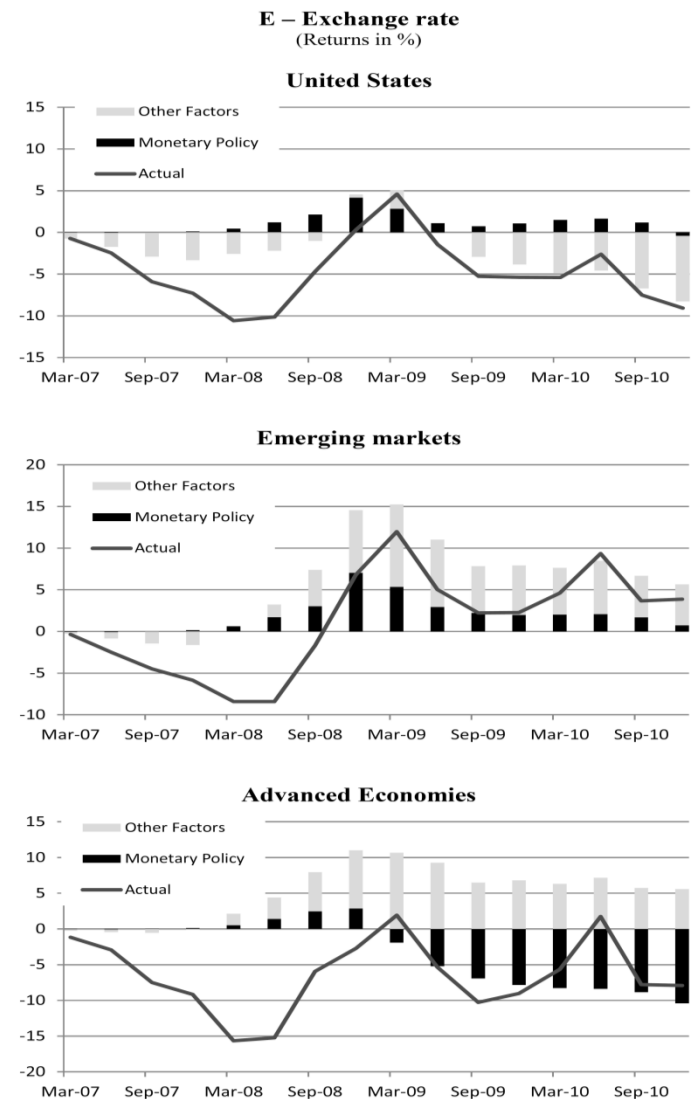
A Quasi-structural approach

- Estimate a VAR over 1995-2012

- Assume the Fed can control can the 10 yr-3 mo term spread

- An approach which can identify dynamic effects along many dimensions

- But must assume pre- and post-crisis propagation is the same

Impulse response functions (median estimates) of emerging Asia
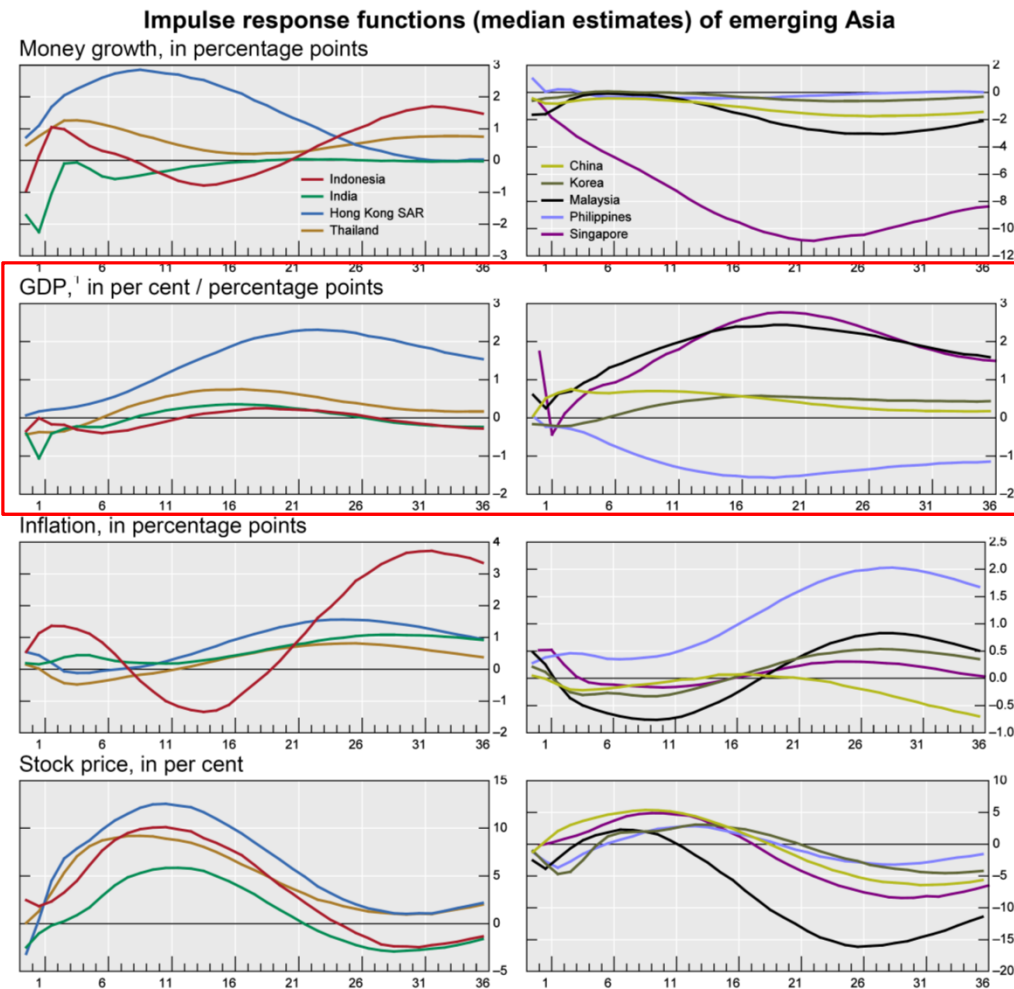
A Quasi-structural approach

- Mexican impact surprisingly small
- All effects vary across countries
- Must depend on policy response, including exchange rate and reserve accumulation/decumulation

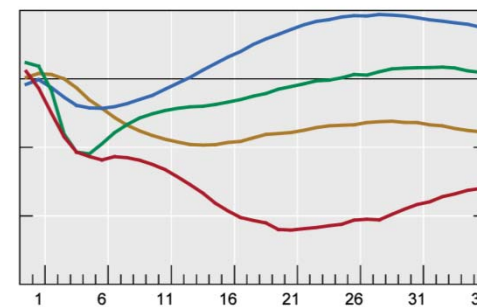**Impulse response functions (median estimates) of Latin America**
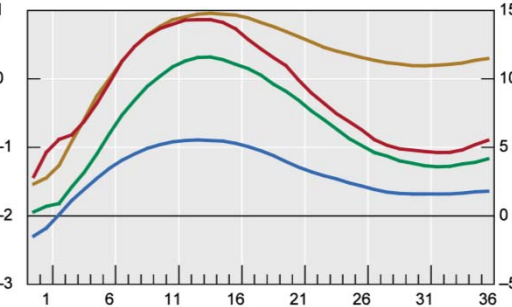
Money growth, in percentage points

Legend: Agentina, Chile, Brazil, Mexico
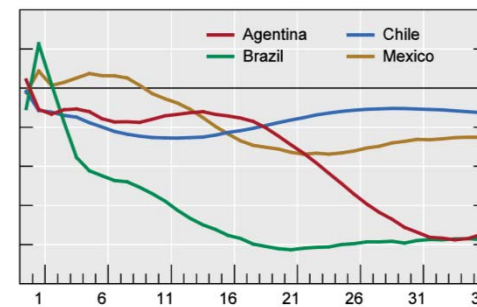
GDP,[1] in per cent / percentage points
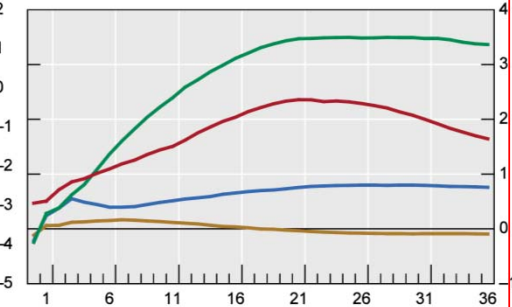
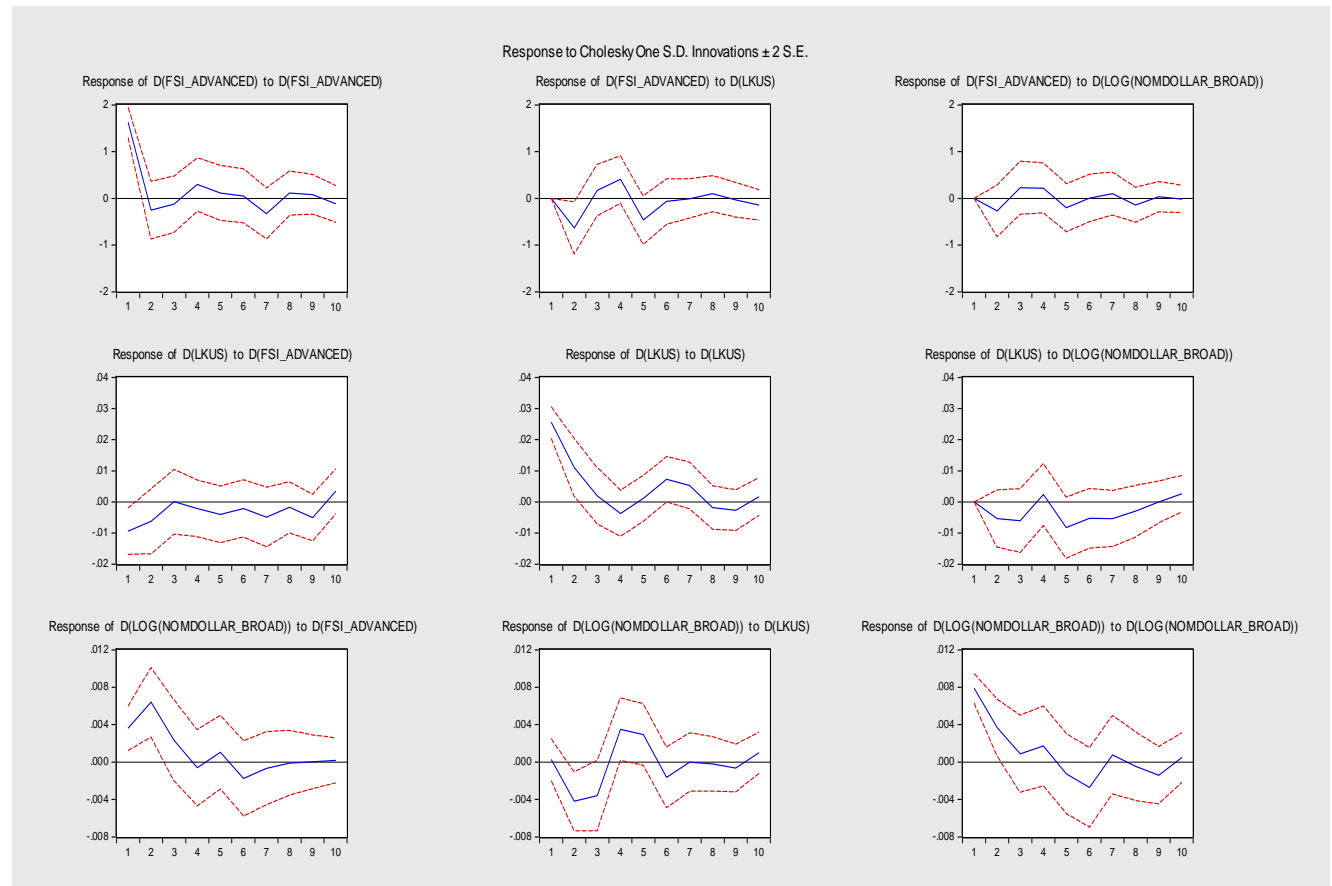Inflation, in percentage points

Stock price, in per cent

An alternative approach

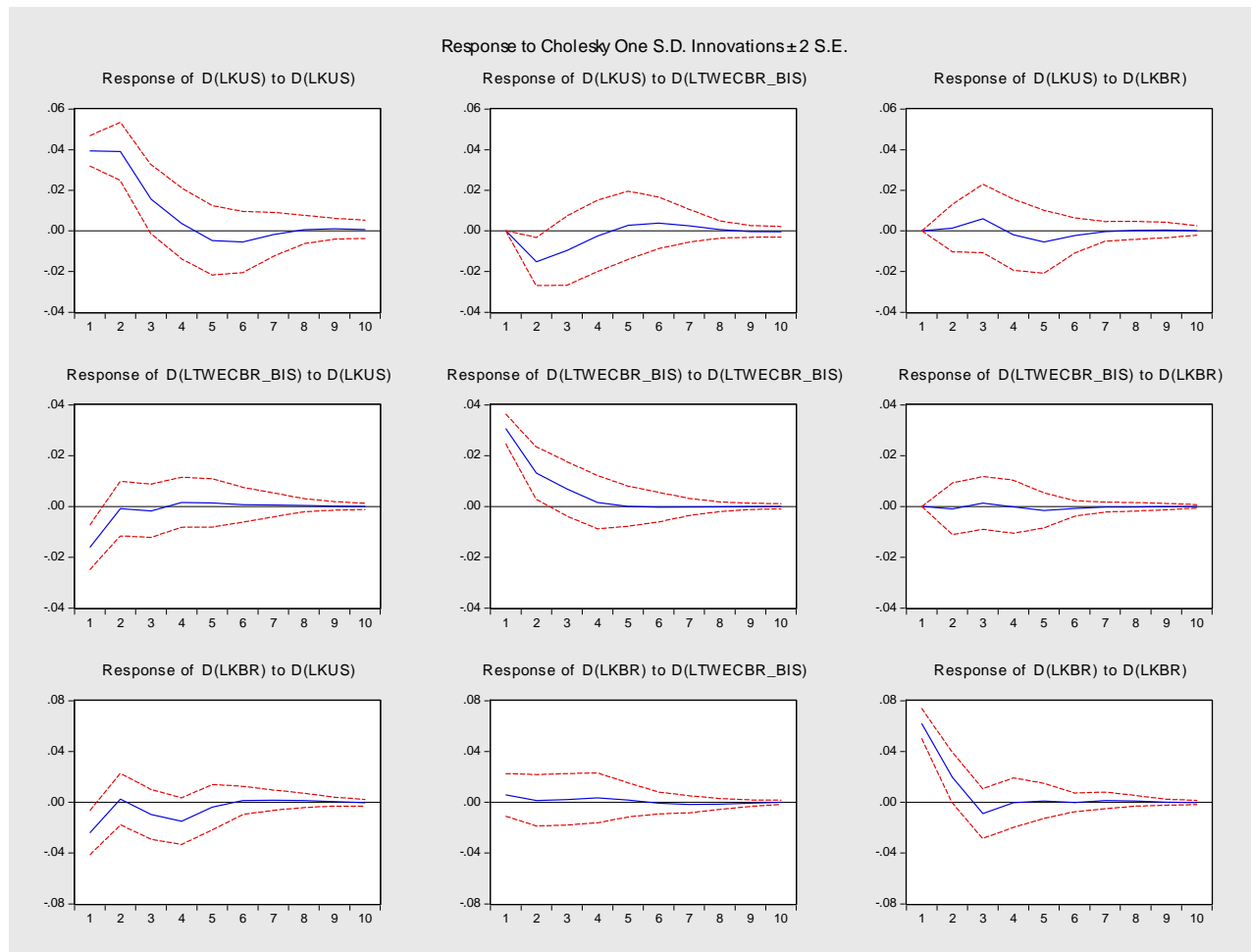- Rely on trilemma
- Shocks must manifest in either changes in exchange rate, money base, or capital openness
- Focus on crisis and post-crisis period
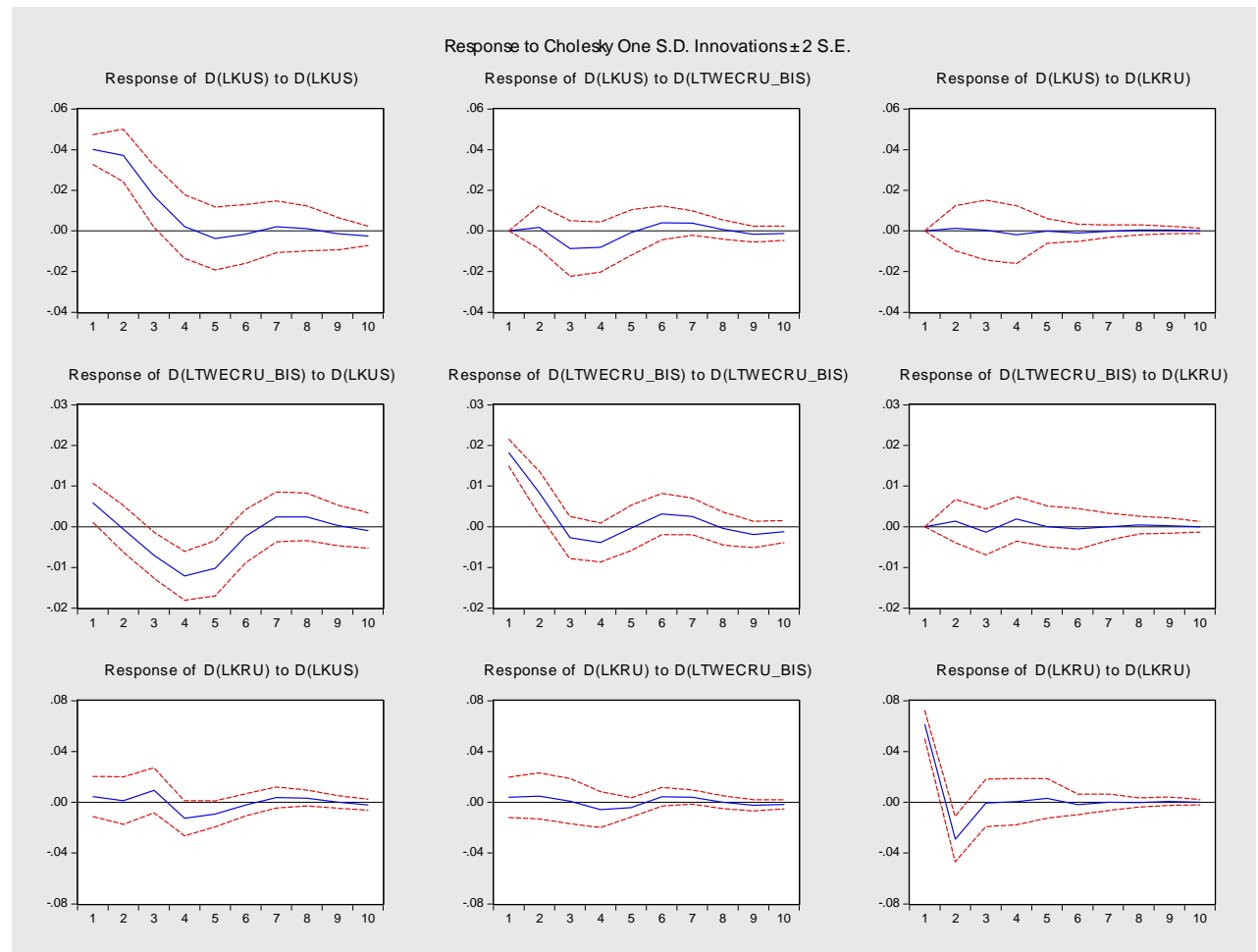- Restricts number of variables that can be examined

Financial stress, US balance sheet, and US dollar

Response to Cholesky One S.D. Innovations ± 2 S.E.

Money base and exchange rates (Brazil)

Response to Cholesky One S.D. Innovations ± 2 S.E.

Money base and exchange rates (Russia)

Response to Cholesky One S.D. Innovations ± 2 S.E.

Response of D(LKUS) to D(LKUS)	Response of D(LKUS) to D(LTWECRU_BIS)	Response of D(LKUS) to D(LKRU)
Response of D(LTWECRU_BIS) to D(LKUS)	Response of D(LTWECRU_BIS) to D(LTWECRU_BIS)	Response of D(LTWECRU_BIS) to D(LKRU)
Response of D(LKRU) to D(LKUS)	Response of D(LKRU) to D(LTWECRU_BIS)	Response of D(LKRU) to D(LKRU)

Money base and exchange rates (India)

Response to Cholesky One S.D. Innovations ± 2 S.E.

Response of D(LKUS) to D(LKUS)	Response of D(LKUS) to D(LTWECIN_BIS)	Response of D(LKUS) to D(LKIN)
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Money base and exchange rates (China)

Response to Cholesky One S.D. Innovations±2 S.E.

Policy implications

- Increases in the US balance sheet put downward pressure on dollar, even after controlling for financial stress
- Increases in the US balance sheet possibly put upward pressure on emerging market economy currencies, balances sheets
- But evidence is sketchy
- *If* the effect is there, then it might be a good thing
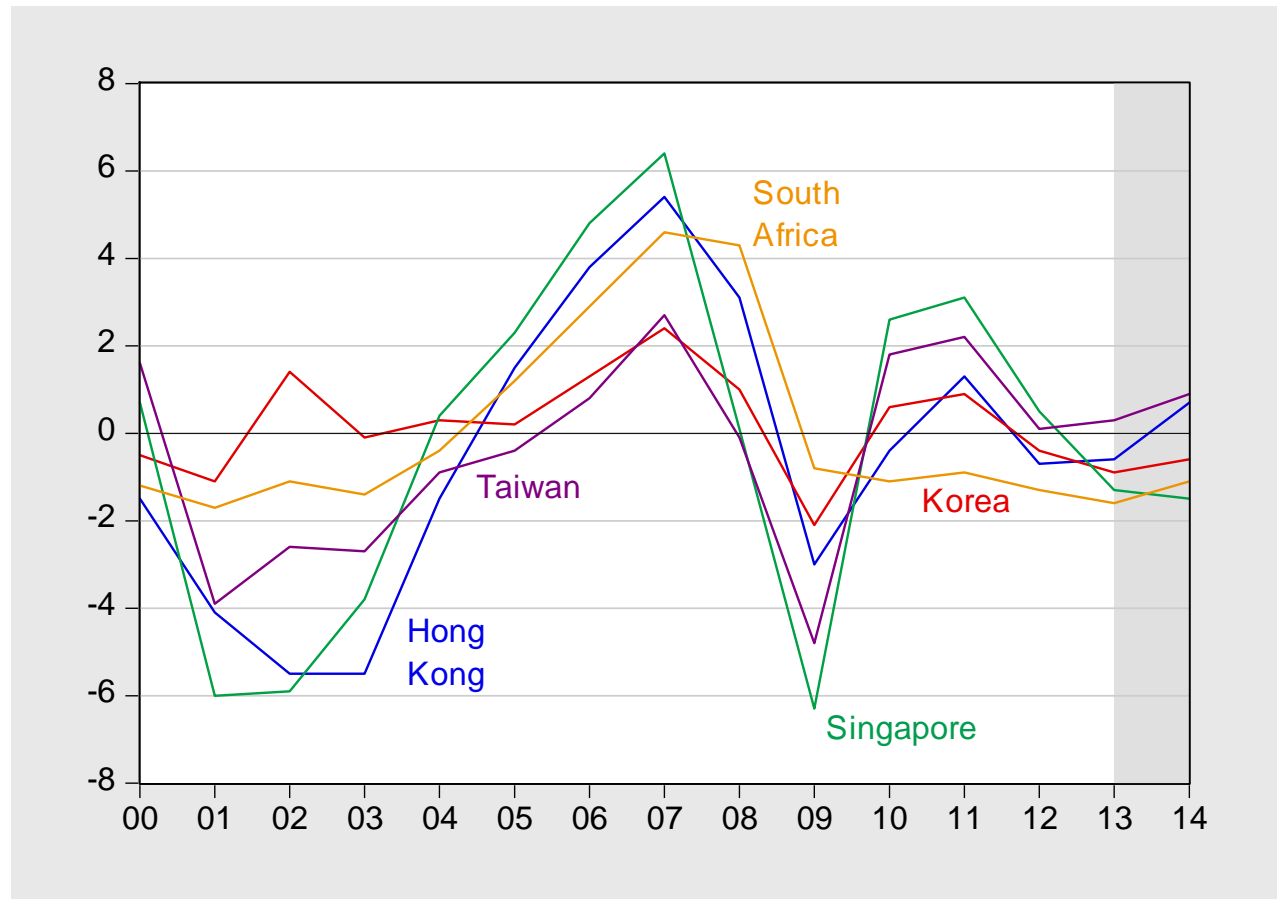
Global rebalancing: Advanced economies
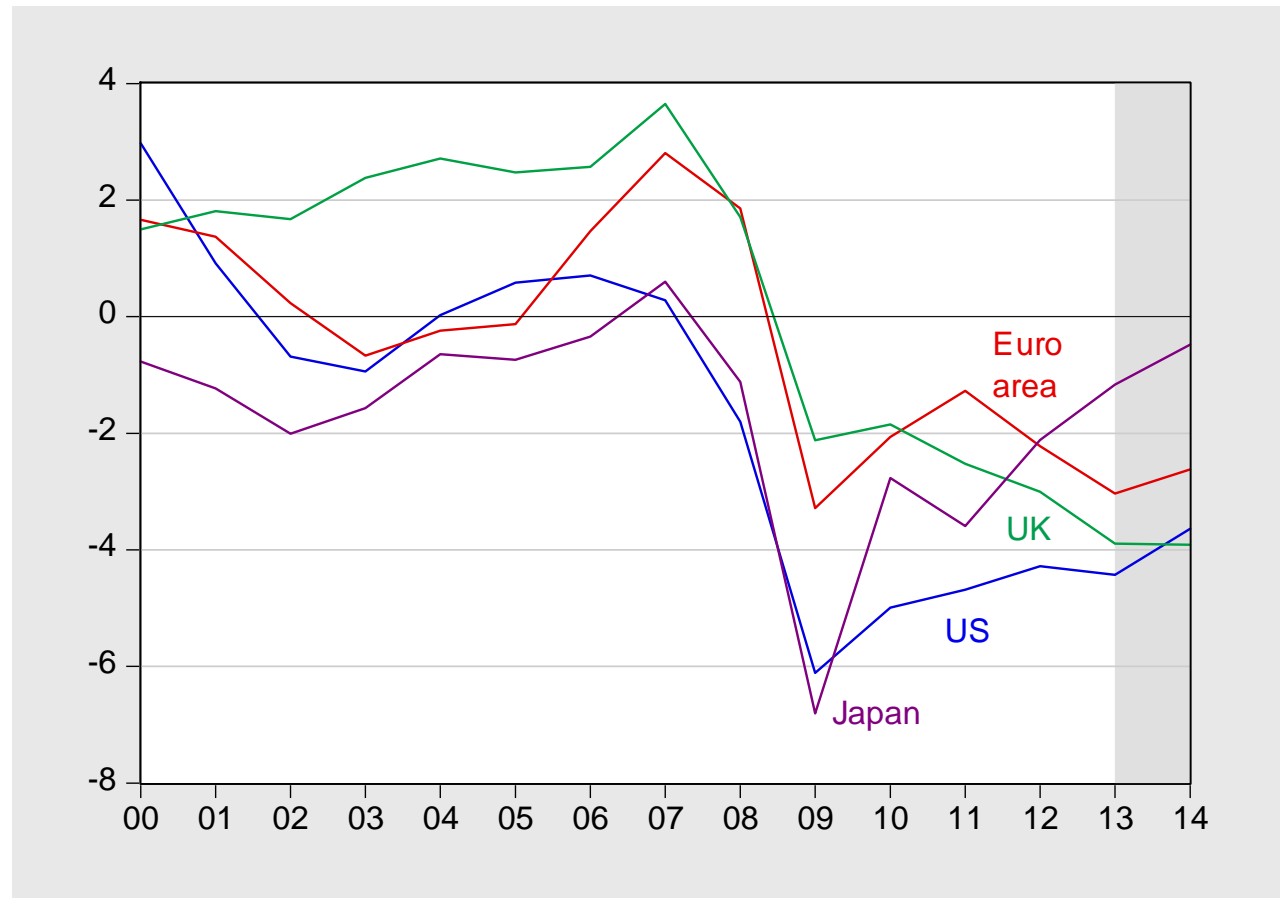
Source: IMF, *WEO*.

Global rebalancing: BRICs
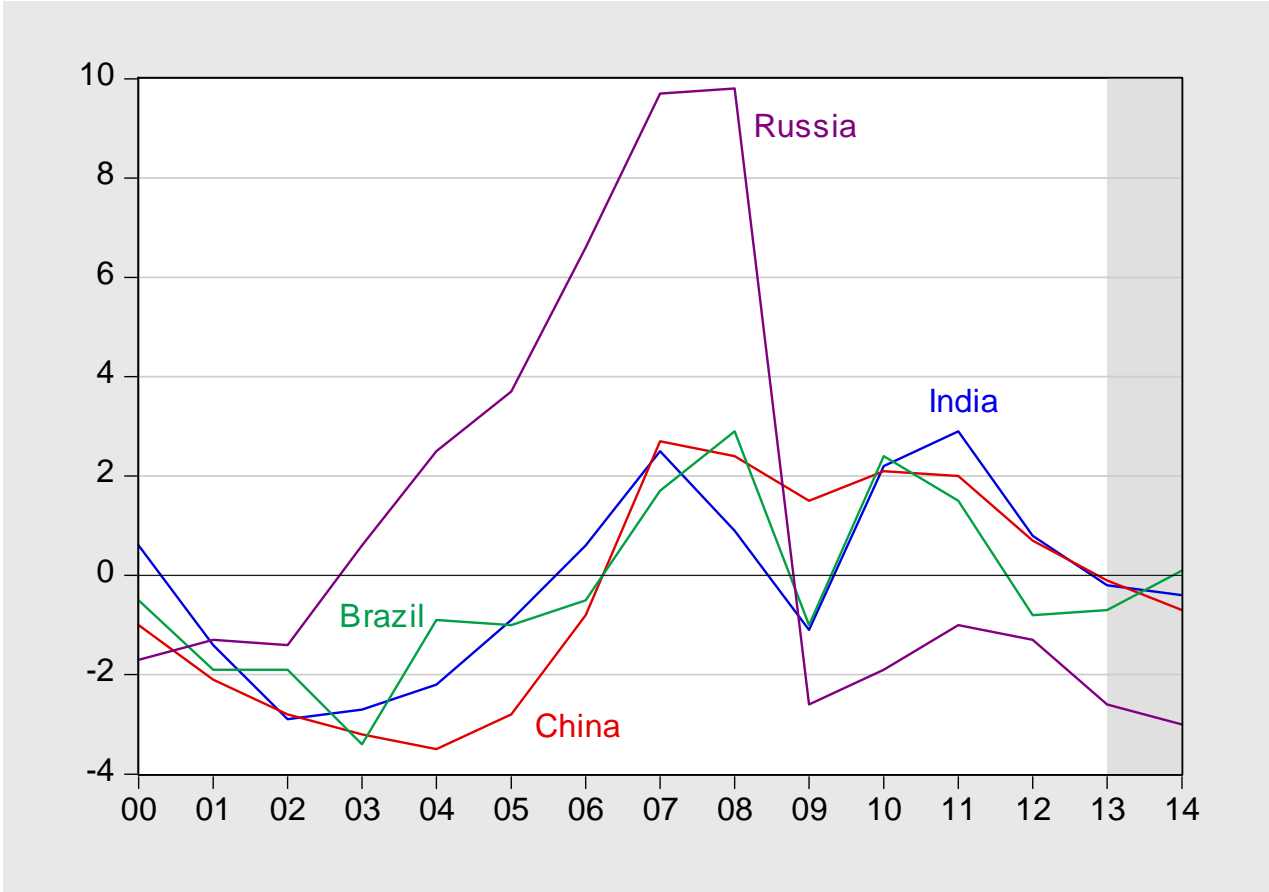
Source: World Bank, *GEP*

Global rebalancing: Other emerging market

Source: World Bank, *GEP*

Conclusions

- Conventional models of the exchange rate are ill suited to understanding impacts
- Portfolio balance approaches are more relevant, but more difficult to estimate
- Empirical estimates on cross-border effects vary across studies and events
- Estimates based on only announcements might understate total effects
- But unconventional monetary policies seem to have some spillover effects
- Uncoordinated expansionary monetary policy might be better than no expansionary policy