

# GLOBAL LIQUIDITY, DOMESTIC CREDIT, AND CAPITAL FLOWS

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Christian Glocker (Austrian Institute of Economic  
Research)

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Pascal Towbin (Swiss National Bank)

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The views expressed are only those of the authors

# Global Liquidity and Emerging Markets

- Emerging markets face volatile capitals and credit conditions
- What role for global liquidity?
- Views differ
  - What is global liquidity? What aspects matter
  - Is it important at all.

# View I: Global Monetary Policy is Important

- Brazil's Finance Minister Mantega (2012):
  - *“Some economies are paying a high price for the **ultra-loose monetary policies** in advanced economies. The increase in global liquidity very quickly finds its way into emerging market economies[.]”*
- Taylor (2012) in WSJ:
  - monetary policy in advanced economies has important effects on global capital flows
  - contributed to the global financial crisis by encouraging the growth in cross-border lending.

# View II: Swings in risk appetite and domestic policy are more important

Bernanke (2012)

- *"the linkage between advanced-economy monetary policies and international capital flows is looser than is sometimes asserted. [...] **swings in investor sentiment** between "**risk-on**" and "**risk-off**," [...], have led to corresponding swings in capital flows"*
- *"the effects of capital inflows[...] on emerging market economies are not predetermined, but instead **depend greatly on the choices made** [...]in those economies."*

# Contribution

- There are two areas of disagreement
  - **Public** liquidity (monetary policy) vs. **private** liquidity (variations in risk appetite)
  - **Global** liquidity shocks vs. **domestic** liquidity shocks
- Use a structural VAR to applied to Brazil
  - To assesses how private and public global liquidity shocks affect financial and macroeconomic conditions
  - Compare the effects of the global shocks to equivalent domestic shocks.

# Main Results

- Private liquidity shocks are more important than public liquidity shocks for fluctuations in credit and cross-border flows.
- The importance of global shocks and domestic shocks differs across horizons

# Previous Literature

- **Global Liquidity and Price Stability :**  
D'Agostino and Surico (2009), Mojon and Cicarelli (2010).
- **Global Liquidity and Financial Stability :**
  - **Measurement: Credit and Cross-Border Credit**  
CGFS/BIS Report (2011); Landau (2012); Eickmeier et al. (2013).
  - **Distinction: Private and Public Liquidity**
  - **Theory: Banks operate under a VaR Constraint.**  
Bruno and Shin (2012a, b)
- **Literature on international transmission of shocks/  
Effects of risk and uncertainty shocks**  
Canova (2007), Forbes and Warnock (2012), Fratzscher et al. (2012) / Bekaert et al. (2013), Bloom (2009)

# Econometric Methodology - Model

- Block exogenous Bayesian SVAR Model

$$\begin{bmatrix} I_G & 0 \\ A_{C,G}^0 & I_C \end{bmatrix} \begin{bmatrix} y_G(t) \\ y_C(t) \end{bmatrix} = \sum_{k=1}^L \begin{bmatrix} A_{G,G}^k & 0 \\ A_{C,G}^k & A_{C,C}^k \end{bmatrix} \begin{bmatrix} y_G(t-k) \\ y_C(t-k) \end{bmatrix} + \begin{bmatrix} \Xi_G \\ \Xi_C \end{bmatrix} x(t) + \begin{bmatrix} e_G(t) \\ e_C(t) \end{bmatrix}$$

# Econometric Methodology - Data

- Monthly data from 1999:7 until 2012:12
- Global Variables:
  - VIX -Index
  - US Federal Funds rate
  - US CPI inflation rate
  - Global commodity price index

# Econometric Methodology -Data

- Domestic Variables
  - Realized stock market volatility
  - Policy rate
  - domestic inflation
  - net banking inflows over nominal GDP
  - log of nominal domestic credit
  - log of nominal effective exchange rate

# Identification

- Zero restrictions: domestic shocks have no effect on global variables.
- Sign restriction to distinguish private (risk) and public liquidity (monetary) shocks
  - Private liquidity shocks lead to an increase in volatility, a fall in inflation, and a fall in the policy rate
  - Public shocks lead a fall in inflation and an increase in the policy rate.

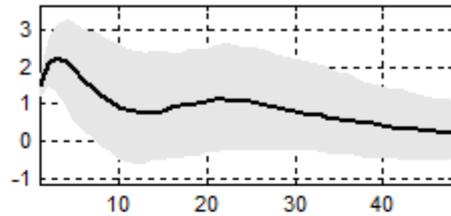
# Econometric Methodology - Identification

TABLE 1. Identification Restrictions

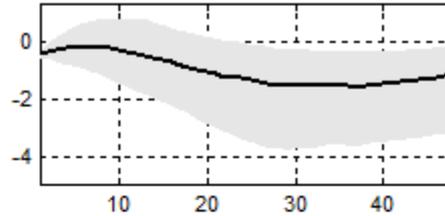
	Global Liquidity		Domestic Liquidity	
	Private (Risk)	Public (Monetary)	Private (Risk)	Public (Monetary)
<b>Country Block</b>				
Stock Market Vol.			$\geq 0$	
Policy Rate			$\leq 0$	$\geq 0$
Inflation			$\leq 0$	$\leq 0$
<b>Global Block</b>				
VIX Index	$\geq 0$			
Policy Rate	$\leq 0$	$\geq 0$		
Inflation	$\leq 0$	$\leq 0$		

# Global Risk Shock (private liquidity)

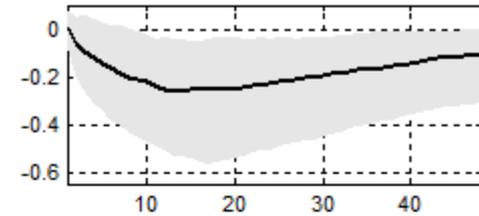
**BR: Bovespa Volatility**



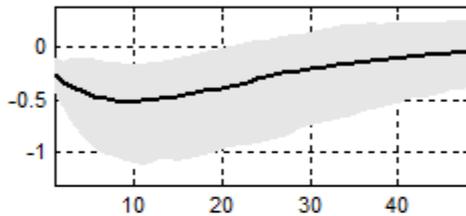
**BR: NEER**



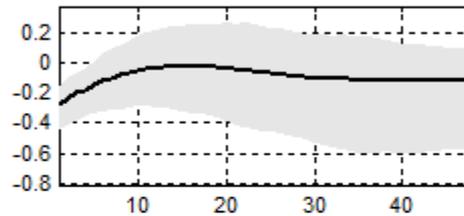
**BR: Net Banking Flows**



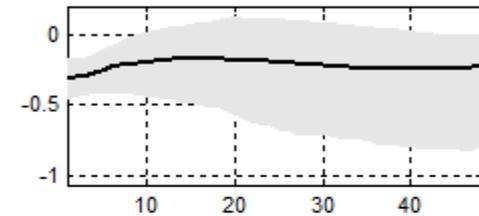
**BR: Loans**



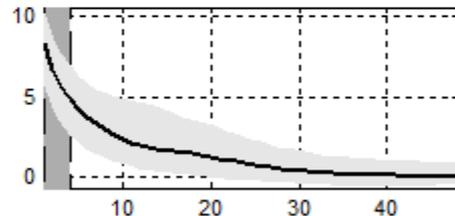
**BR: SELIC rate**



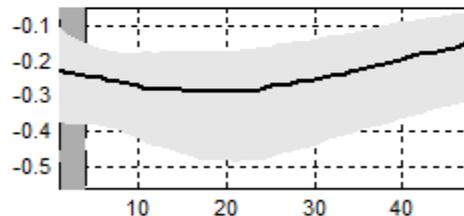
**BR: CPI inflation rate**



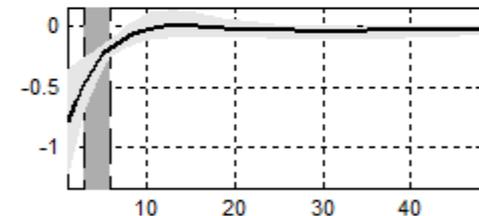
**GL: VIX**



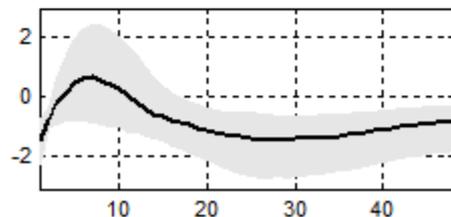
**GL: MP Rate**



**GL: HICP inflation rate**

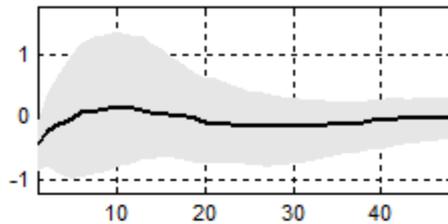


**World Raw Materials Idx**

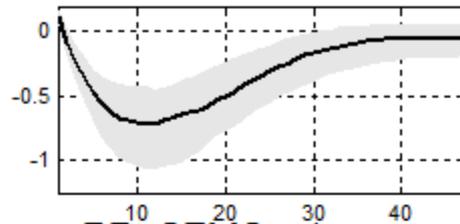


# Global Monetary Shock (public liquidity)

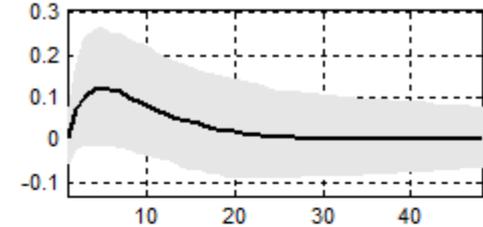
**BR: Bovespa Volatility**



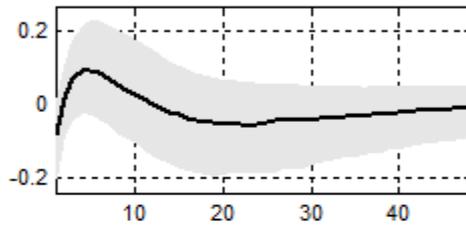
**BR: NEER**



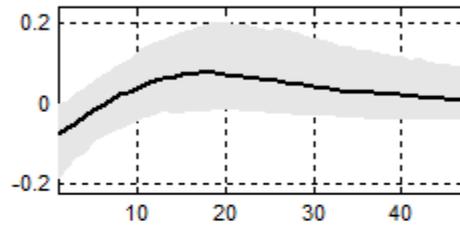
**BR: Net Banking Flows**



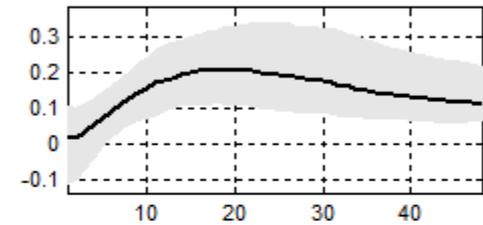
**BR: Loans**



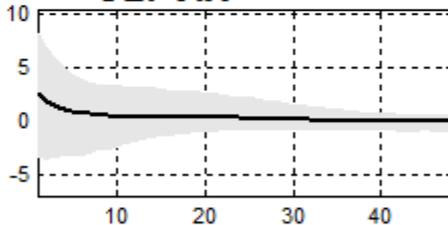
**BR: SELIC rate**



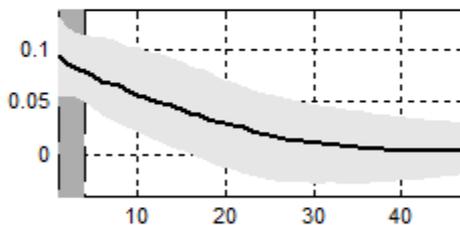
**BR: CPI inflation rate**



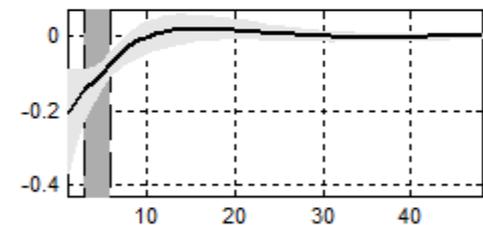
**GL: VIX**



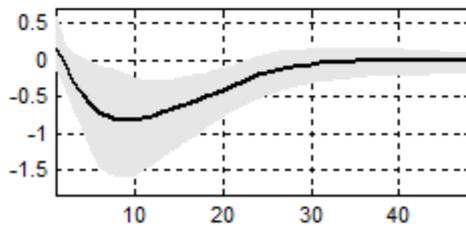
**GL: MP Rate**



**GL: HICP inflation rate**

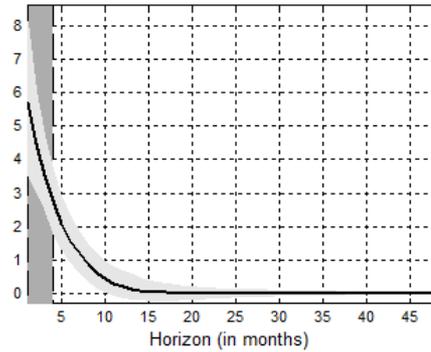


**World Raw Materials Idx**

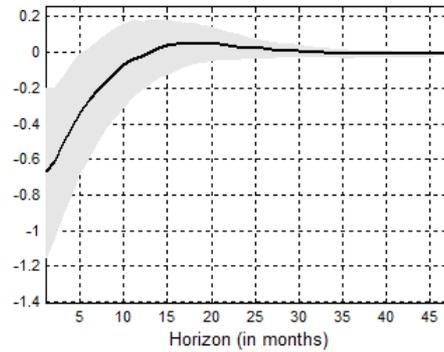


# Domestic Risk Shock (private liquidity)

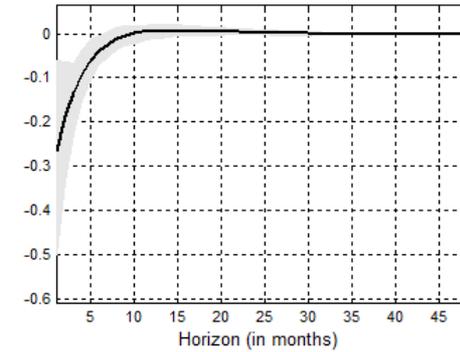
**BR: Bovespa Volatility**



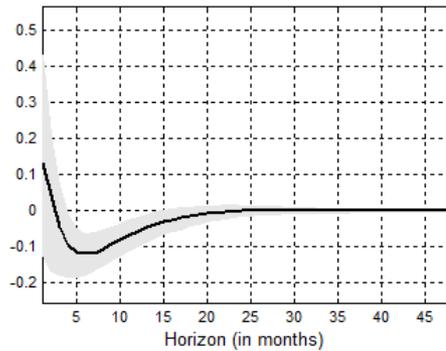
**BR: NEER**



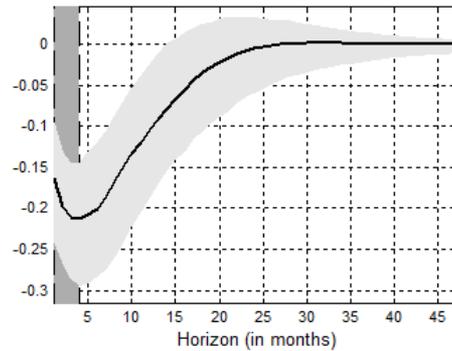
**BR: Net Banking Flows**



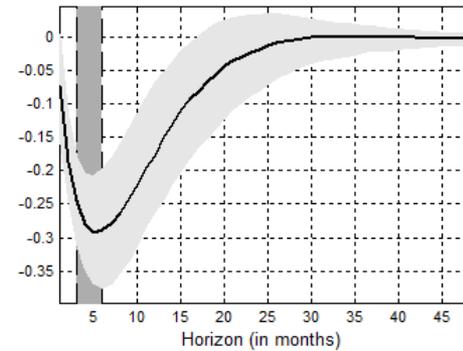
**BR: Loans**



**BR: SELIC rate**

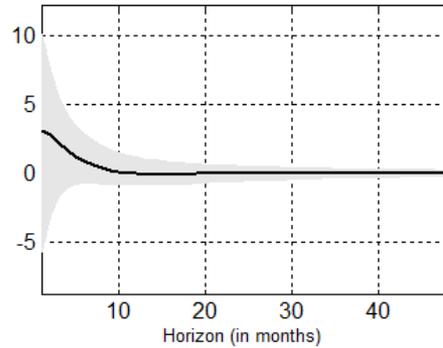


**BR: CPI inflation rate**

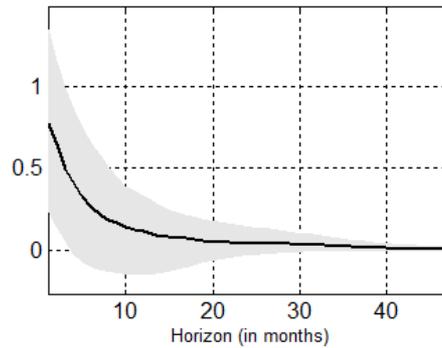


# Domestic Monetary Shock (public liquidity)

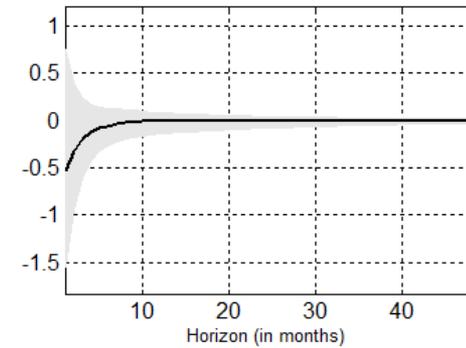
**BR: Stock Market Volatility**



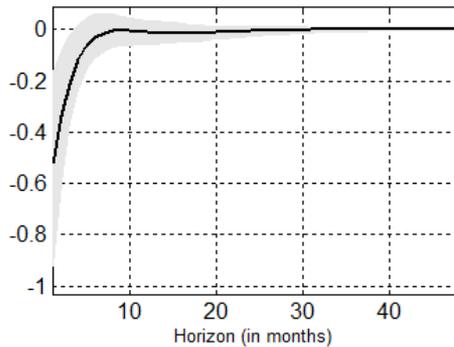
**BR: NEER**



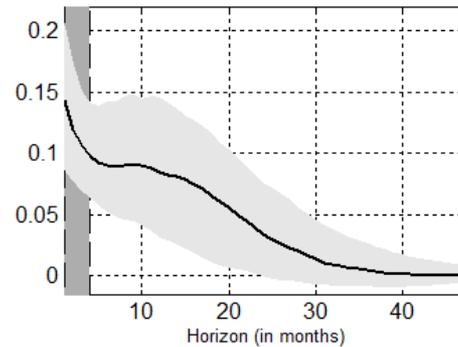
**BR: Banking Flows**



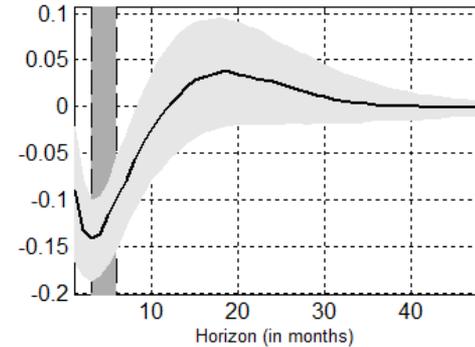
**BR: Loans**



**BR: SELIC rate**



**BR: CPI inflation rate**



# Importance of the Shocks

## Variance Decomposition

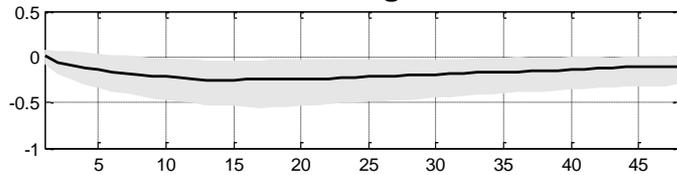
	Type				Origin			
	Private		Public		Global		Domestic	
Horizon	4	24	4	24	4	24	4	24
Exchange rate	21	36*	21	24	18	40*	24*	19
Banking inflows	19	37*	16	9	9	31*	26*	14
Domestic Credit	20*	34*	11	9	15	29*	14	14
Domestic Inflation	26*	33	9	32	15	39*	21*	25

# Extension / Robustness Checks

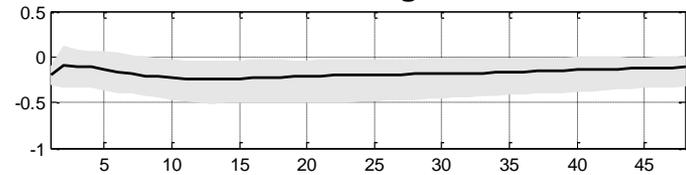
- Different capital flow measures
  - Gross banking flows, portfolio flows
- Unconventional monetary policy
  - Pre-crisis sample, include long term rates
- Other global variables:
  - EU instead of US.
- Different risk measures
  - Realized volatility instead of implied for US
  - Realized exchange rate volatility instead of stock market volatility

# Global Risk Shock (private liquidity)

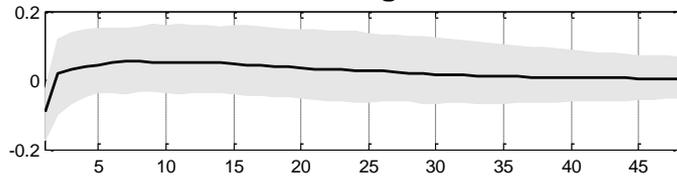
### Net Banking Flows



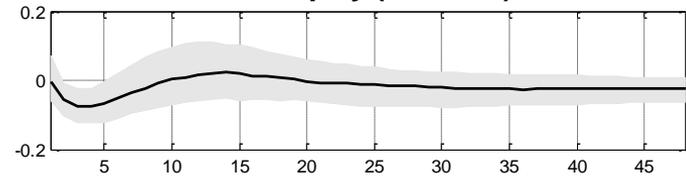
### Gross Banking Inflows



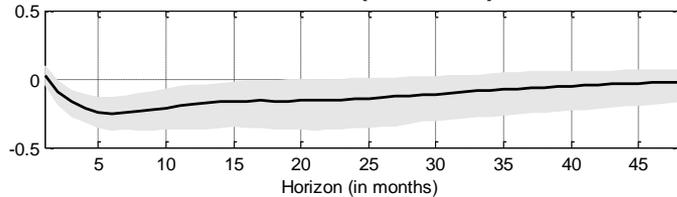
### Gross Banking Outflows



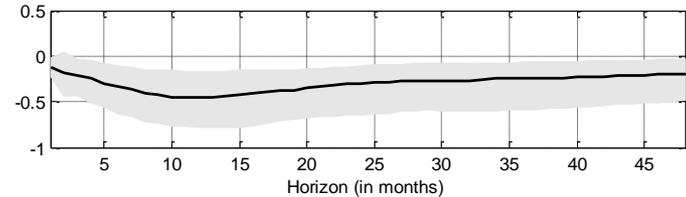
### Net Equity (Portfolio)



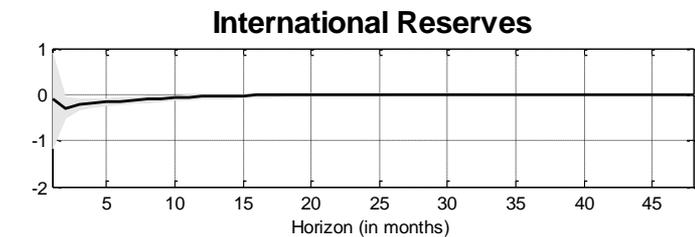
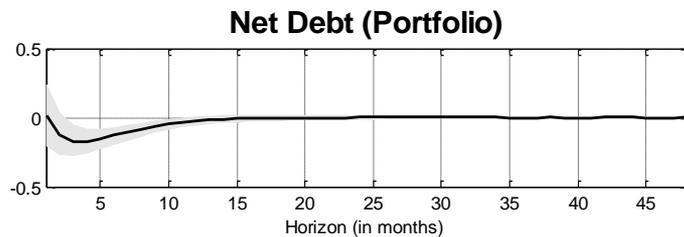
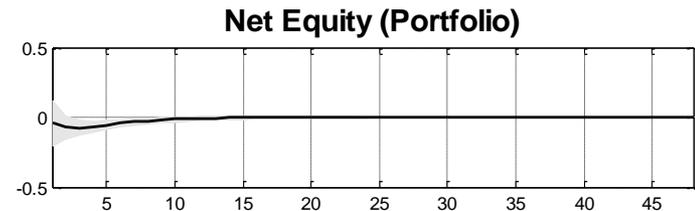
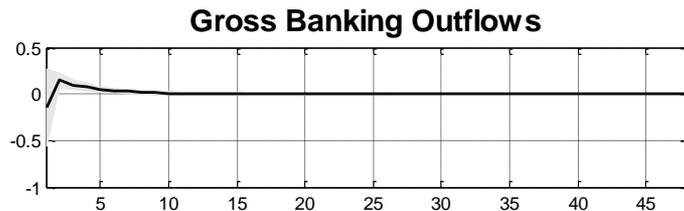
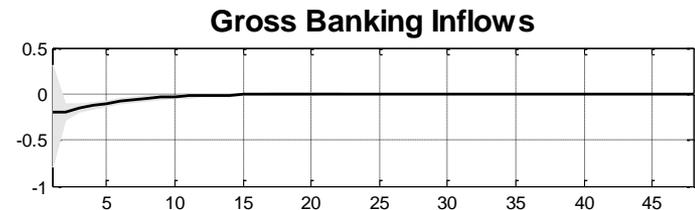
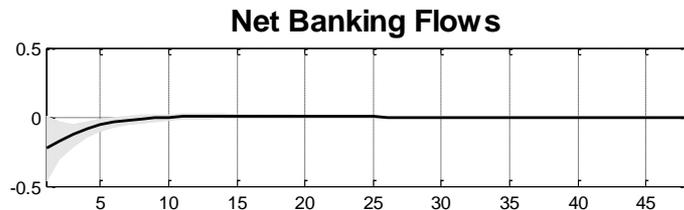
### Net Debt (Portfolio)



### International Reserves

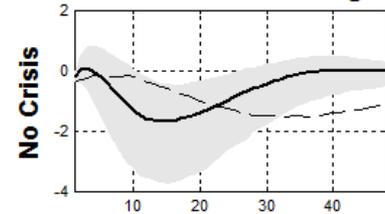


# Domestic Risk Shock (private liquidity)

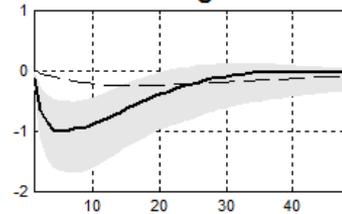


# Unconventional Monetary Policy: Global Risk Shock

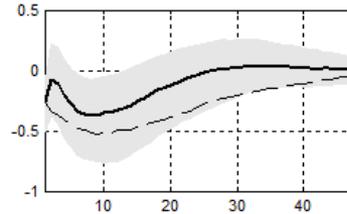
**Nominal Effective Exchange Rate**



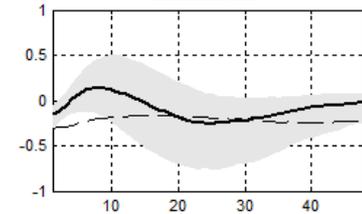
**Net Banking Inflows**



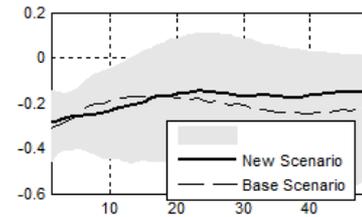
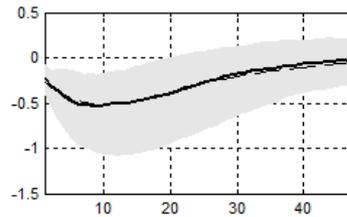
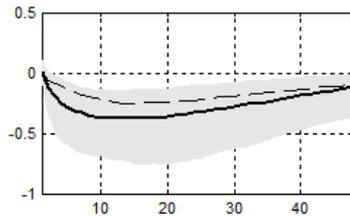
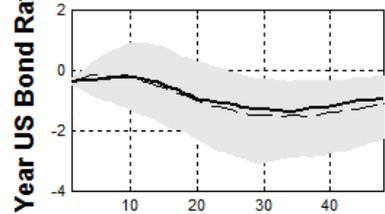
**Loans**



**Inflation**

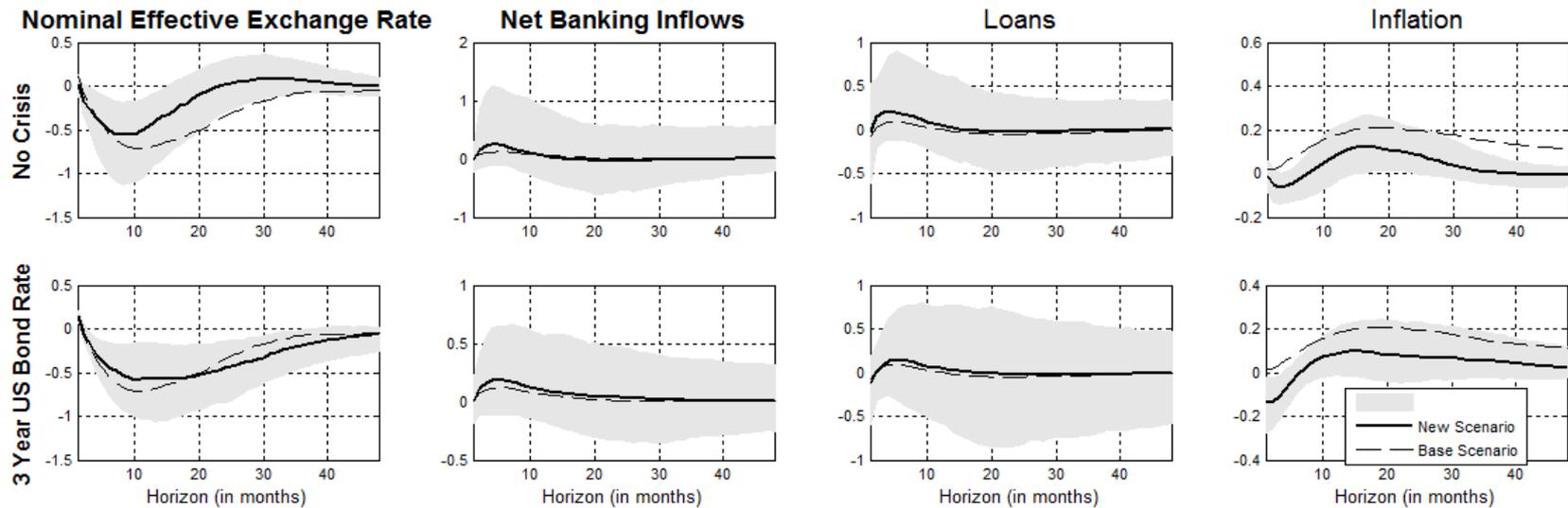


**3 Year US Bond Rate**



— New Scenario  
- - - Base Scenario

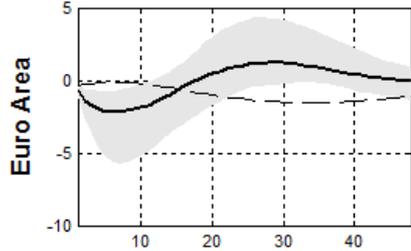
# Unconventional Monetary Policy : Global Monetary Shock



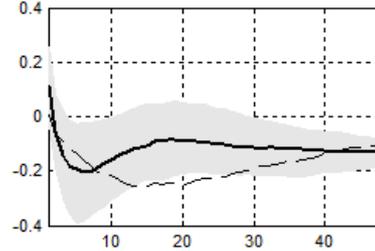
# Euro Area Instead of US

## Risk Shock

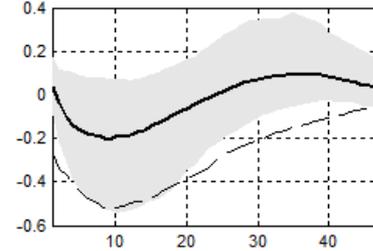
Nominal Effective Exchange Rate



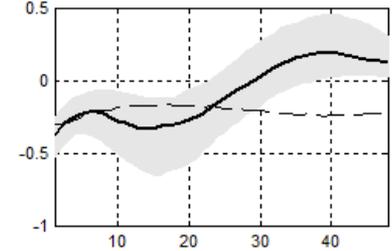
Net Banking InFlows



Loans

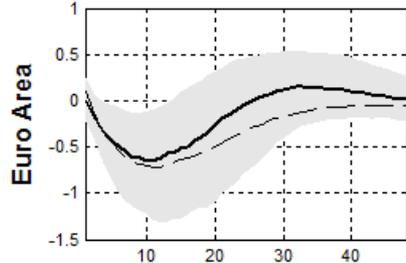


CPI inflation rate

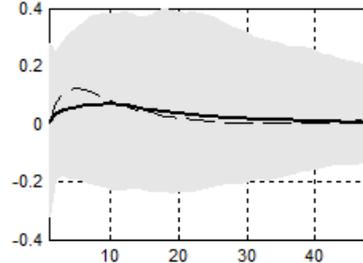


## Monetary Shock

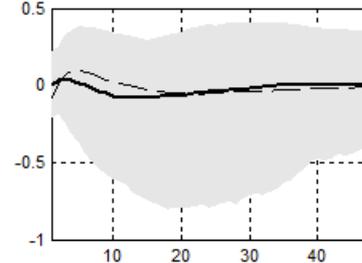
Nominal Effective Exchange Rate



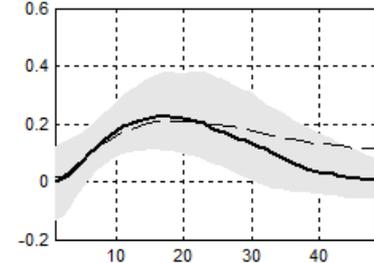
Net Banking InFlows



Loans



Inflation



# Conclusion

- Private liquidity shocks have a substantially larger effect on credit aggregates and cross border lending than public liquidity shocks.
- Both private and public liquidity shocks have significant effects on inflation and the exchange rate. But private shocks explain a substantially larger fraction of the fluctuations
- Overall, global and domestic liquidity shocks are of similar aggregate importance, with important differences across horizons.