# Offshore EME Bond Issuance and the Transmission Channels of Global Liquidity

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# Backgrounds

- International transmission of global liquidity has been a contentious issue, especially for emerging markets.
  - global financial crisis
  - new build-up and reversals in recent years
- Possible shifts in transmission channels of global liquidity?
  - Caruana (2013,2014), Shin (2013), Turner (2014), Chui et al (2014), Bruno and Shin (2015)…
  - Composition of liabilities of emerging markets: bank debt → bond issuance, onshore → offshore bond issuance
  - Outstanding USD-denominated debt of non-banks located outside the U.S: 9.2 trillion $ in September 2014. (McCauley et al, 2015), 3.3 trillion $ for EME (BIS, 2015)

# Objective and Methods

- Empirically investigate the transmission channels of global liquidity in emerging countries and how the channels may have changed.
  - issuance of onshore vs. offshore international debt securities
- Empirical Methods: VAR
  - Panel: short time-span
  - Block Exogeniety: US vs. individual emerging countries
  - Effects of US credit shocks on emerging countries: international debt securities (on-shore, off-shore), bond yield…
  - US monetary policy shocks

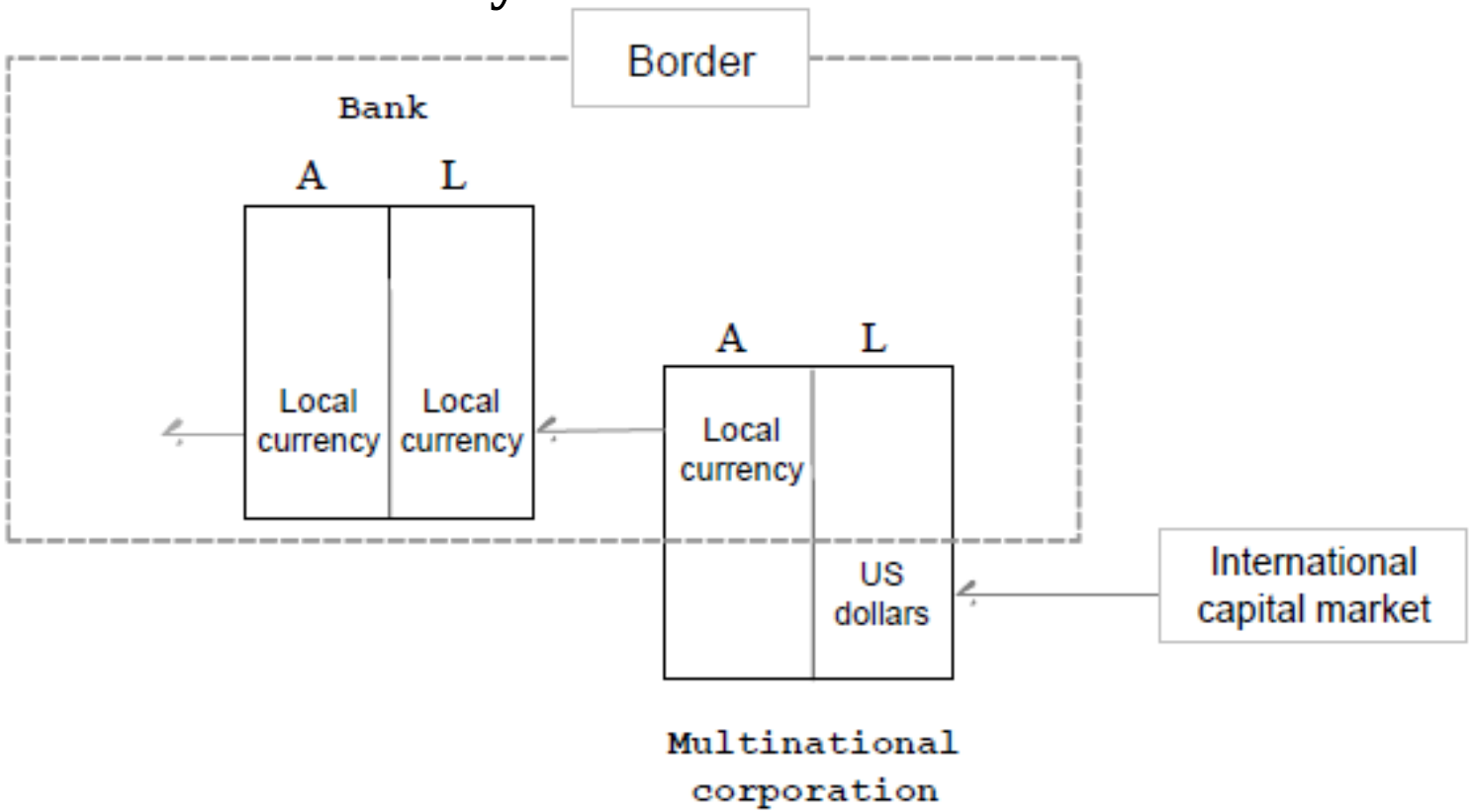
# Past Studies

- Some past studies examined the effects of global liquidity on emerging countries, but none of them examined the detailed transmission channels, such as onshore and offshore debt issuance
  - Choi et al (2014), Chen et al (2012), Moore et al (2014)

# Main Findings

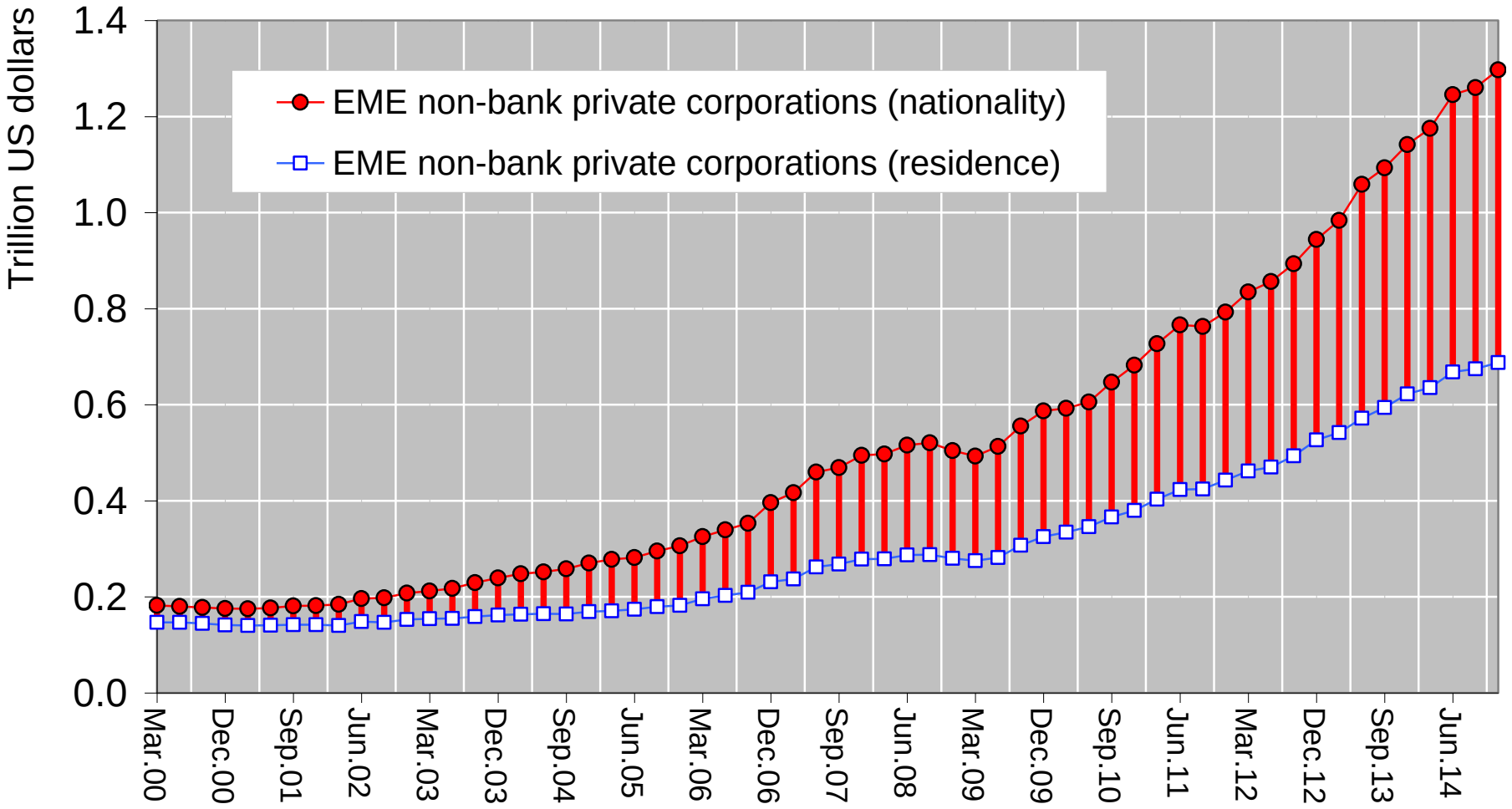
- US credit shocks lead to a strong positive response of the offshore bond issuance activity, for the period after 2010: a formal econometric evidence for Caruana (2013,2014), Shin (2013), and Turner (2014)…
- US credit shocks have a positive effect on emerging countries' GDP and a negative effect on emerging countries' sovereign bond yield: consistent with Chen et al (2012), Choi et al (2014), Moore et al (2012)

# How global liquidity is transmitted to emerging countries by offshore debt issuance: multinational corporation with offshore subsidiary

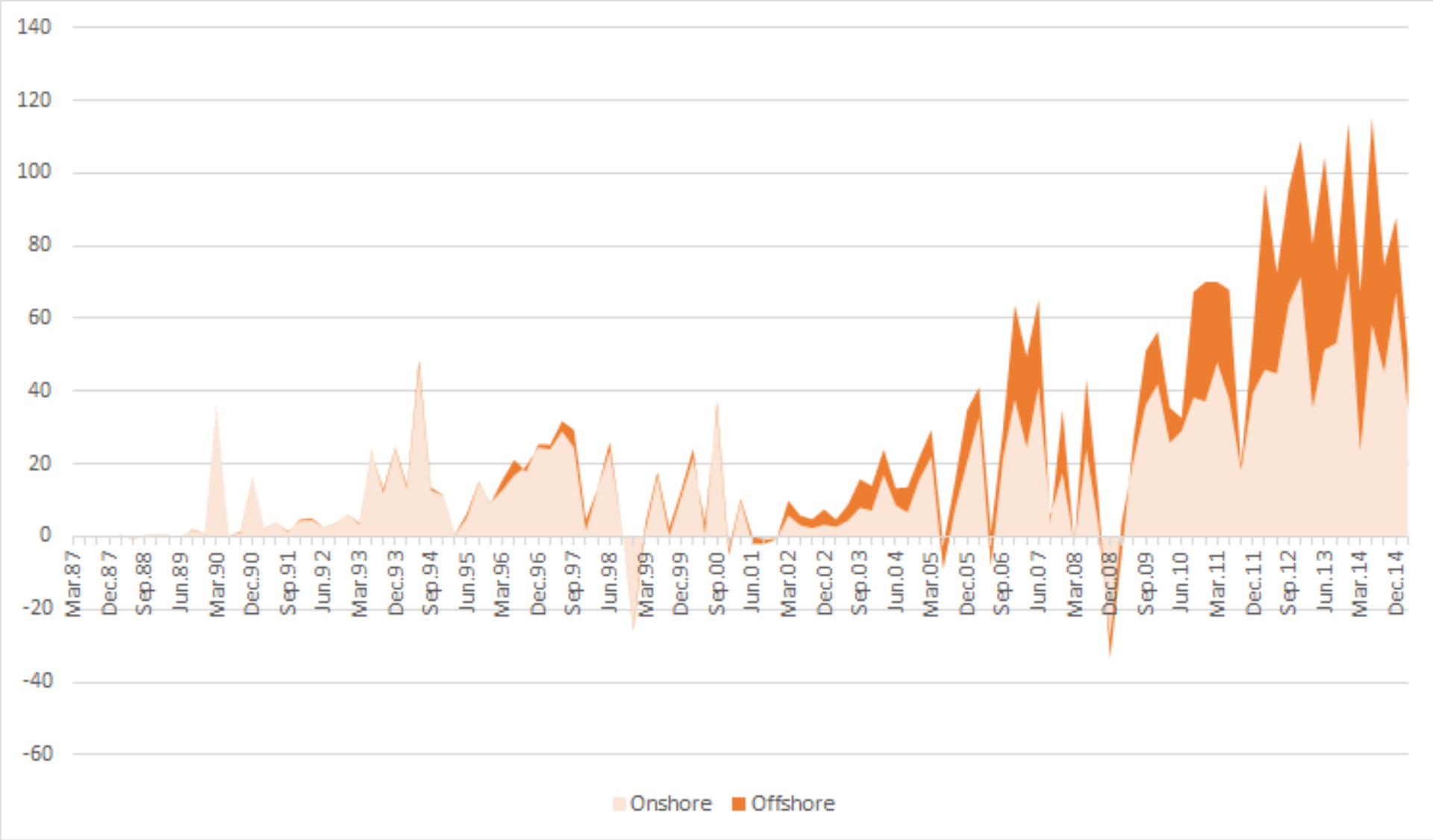



1. This channel is likely to work even if capital market is not liberalized; money is moving across border within a firm
2. BOP and official data on capital flows (compiled on locational basis) would not capture this transaction, if there's no explicit capital account transaction between subsidiary and headquarters.

# Emerging Market Non-Bank Private Sector International Debt Securities Outstanding by Residence and by Nationality



# Onshore and Offshore Net Issues in International Debt Securities of Emerging and Developing Countries



# Empirical Model

- Panel VAR with Block-Exogeneity
- Structural Form Model

$$G(L)\, y^i(t) = d^i + e^i(t),\ \ i = 1, 2, ..., I$$

$$y^i(t) = \begin{bmatrix} y_1(t) \\ y_2^i(t) \end{bmatrix},\ G(L) = \begin{bmatrix} G_{11}(L) & 0 \\ G_{21}(L) & G_{22}(L) \end{bmatrix}$$

- $y_1$: US real GDP, US domestic credit
- $y_2$: each emerging country's real GDP, net issuance of international debt securities, and government bond yield (small open)

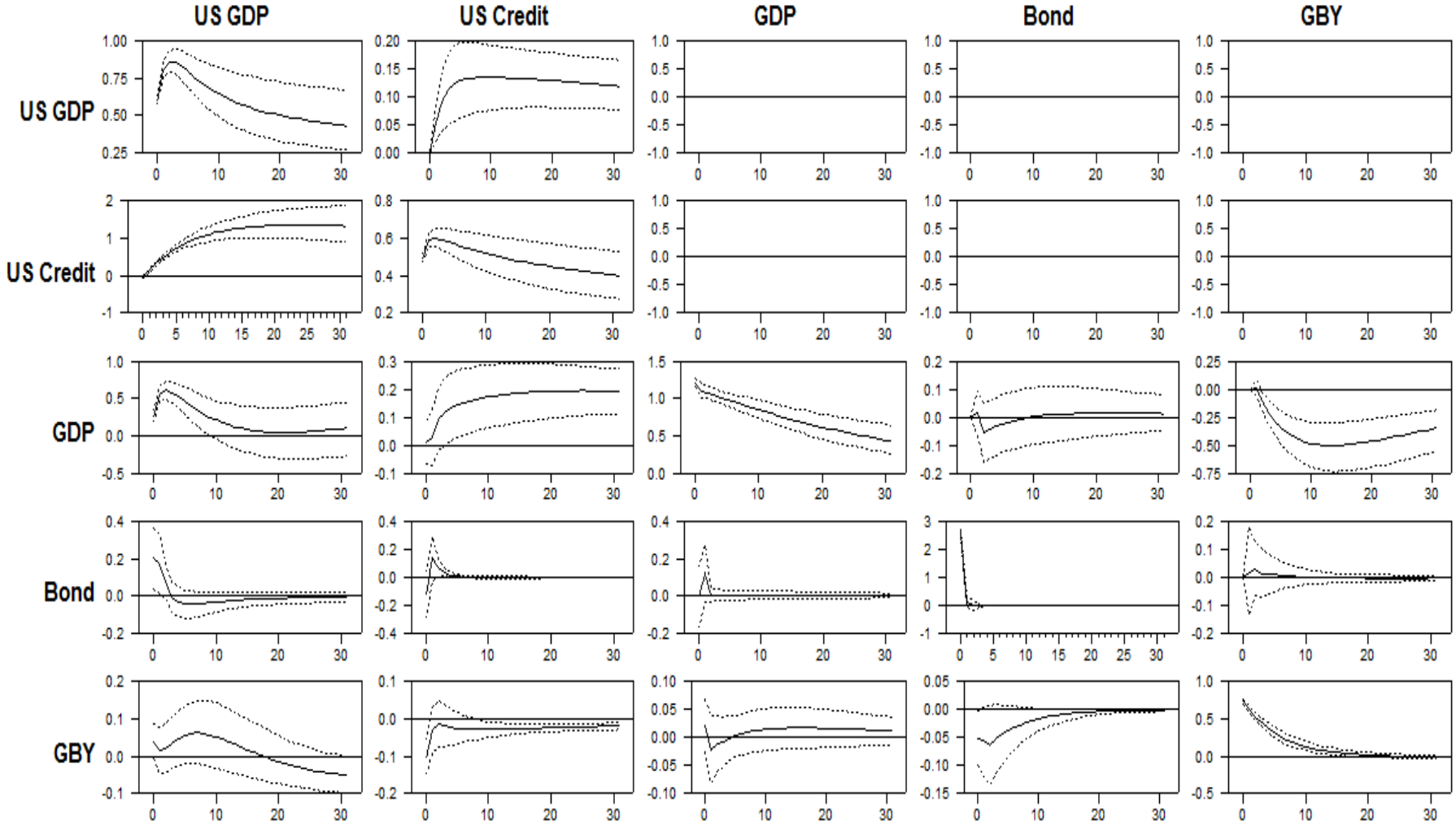
# Empirical Model: Identification

- Reduced form model is estimated by SUR
- For identification, recursive zero restrictions on contemporaneous structural parameters are imposed.
- $y_1$: US real GDP, US domestic credit
  - Identify US domestic credit shocks after controlling real activities. Otherwise, effects of US domestic credit shocks are likely to be mixed with effects of US real GDP shocks. Bekaert et al (2013)…
- $y_2$: each emerging country's real GDP, net issuance of international debt securities, and (long-term) government bond yield
  - sluggish real sector vs. agile financial sector
  - Government bond yield (end of the period data)

# Data

- 22 emerging countries: China, Hong Kong, India, Indonesia, Korea, Malaysia, Thailand, the Philippines, Brazil, Chile, Colombia, Mexico, Peru, Bulgaria, Czech Republic, Hungary, Latvia, Poland, Romania, Russia, Turkey, Ukraine
- Quarterly data, the longest sample is: 2000:1 – 2014:3, varies across countries
- 2 lags, individual fixed effect
- In the baseline model, net issuance of international debt securities based on nationality (which is comprehensive measure) is used.

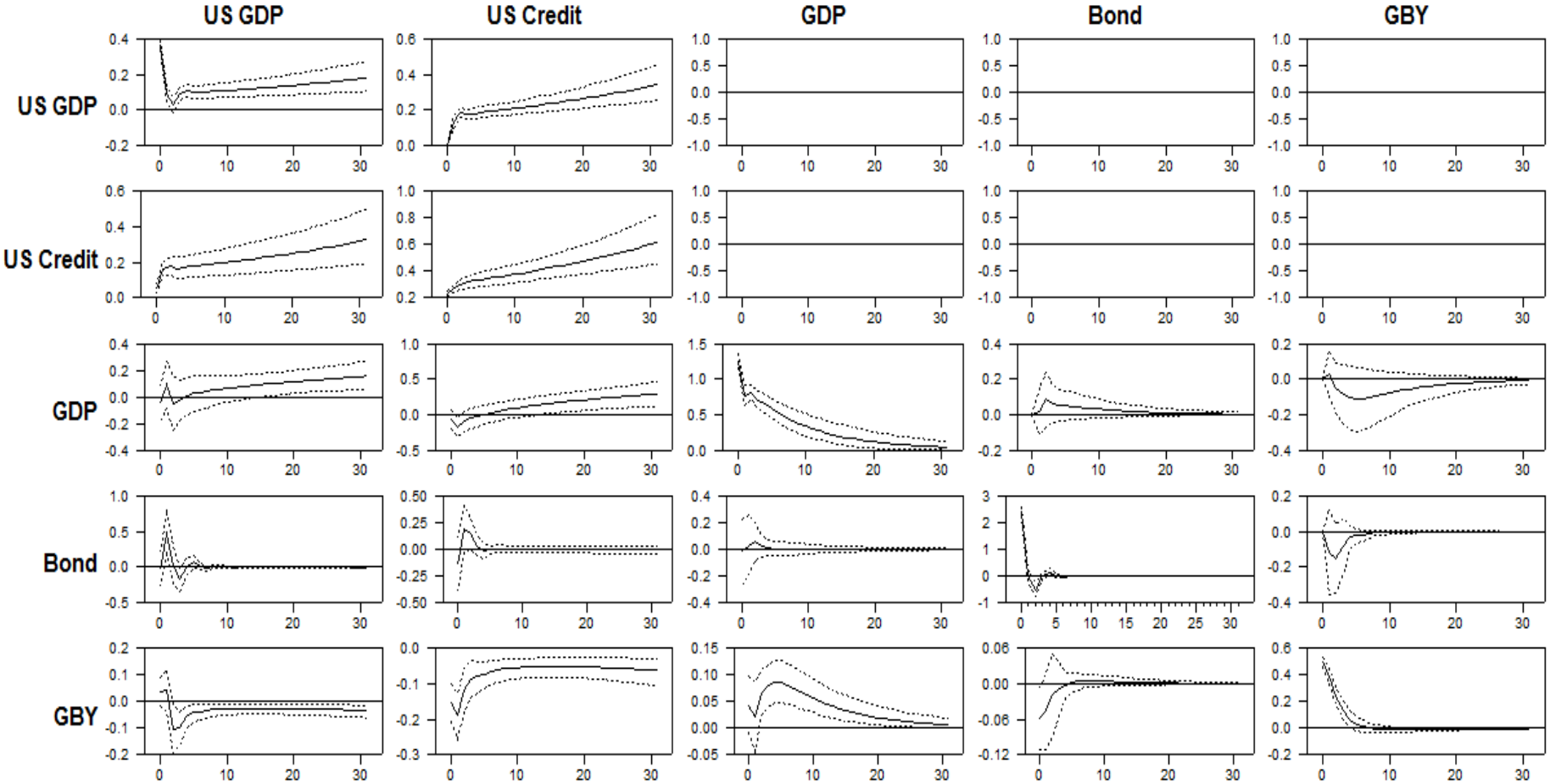
# Impulse Responses (Full Sample Periods, 90%)



# Summary

- US credit shocks have a positive effect on net issuance of international debt securities (nationality or onshore+offshore) and a negative effect on government bond yield
- US credit shocks have a positive effect on real GDP of emerging countries

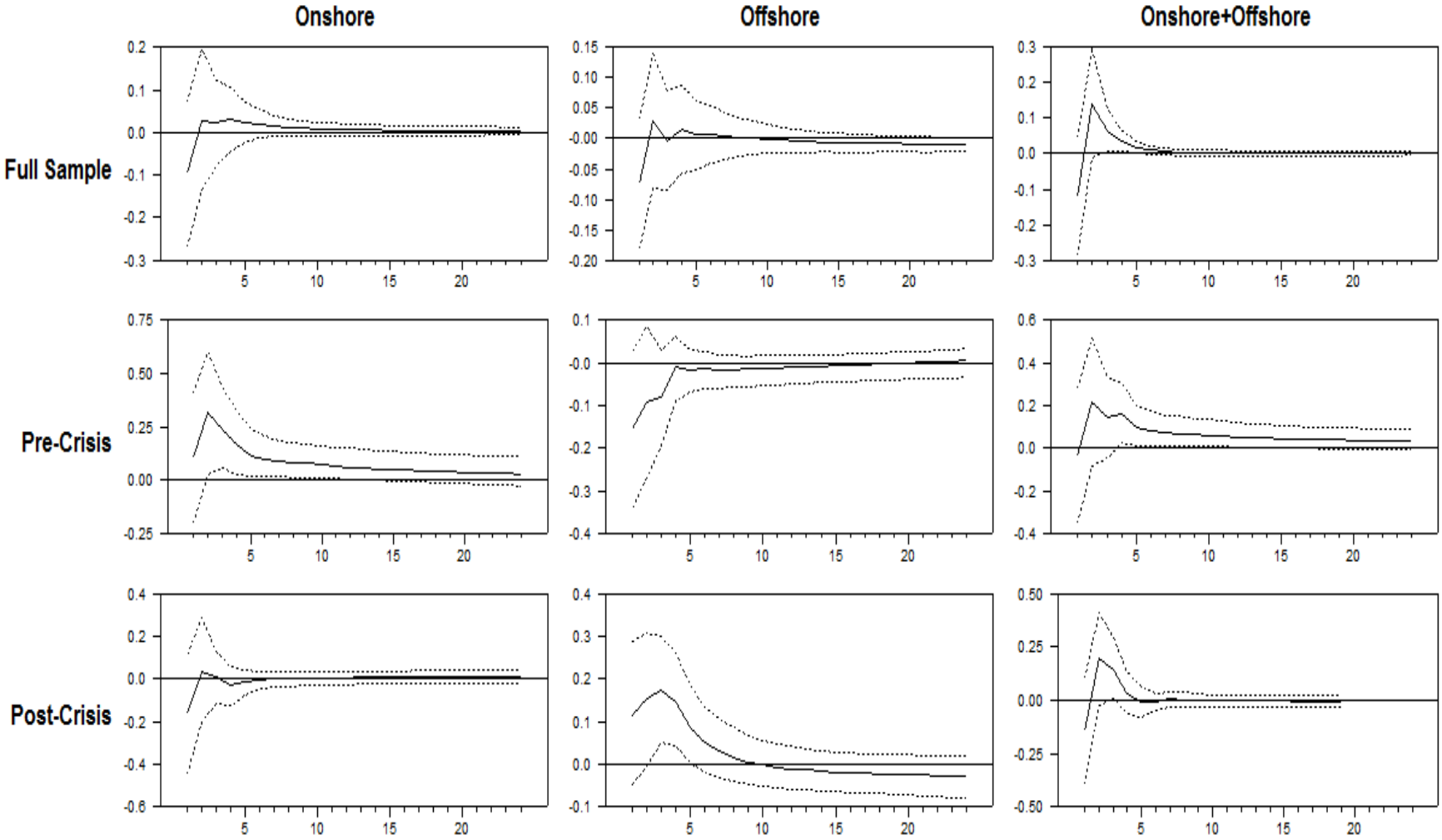
# Impulse Responses (Post-Crisis Periods, 2010-)



# Onshore vs. Offshore

- Replacing nationality-based measure on net debt issuance with onshore measure (residence-based measure) and offshore measure (difference between nationality- and residence-based measures) in the baseline model, for the full sample period, the pre-crisis period (2000-2006), and the post-crisis period (2010-2014:3).
- US credit shocks have a positive effect on net issuance of “onshore” international debt securities for the pre-crisis period and net issuance of “offshore” international debt securities for the post-crisis period.

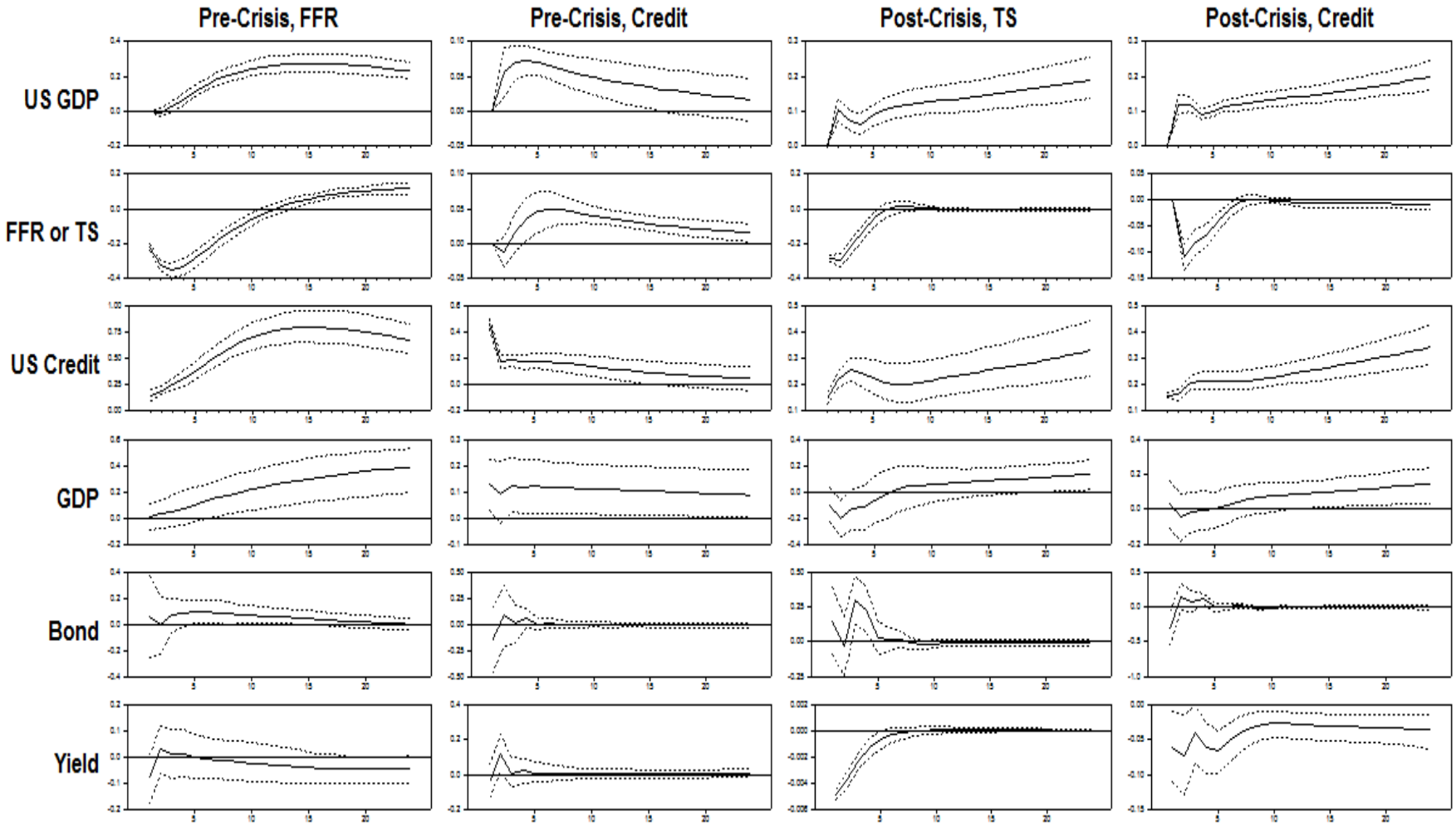
# Impulse Responses to US Credit Shocks



# Model with Monetary Policy Shocks

- Additionally include US monetary policy instruments
- Identify US monetary policy shocks that affect US credit and the other US credit shocks
  - Ordering: US RGDP, Policy instrument, US Credit
- Policy instruments: FFR for pre-crisis period, TS (term spread) for post-crisis period
- Both shocks tend to increase RGDP and net debt issuance and decrease the bond yield.
- Onshore issuance plays a more important role during the pre-crisis period, while offshore issuance plays a more important role during the post-crisis period.

# Impulse Responses to US Monetary Policy and Credit Shocks



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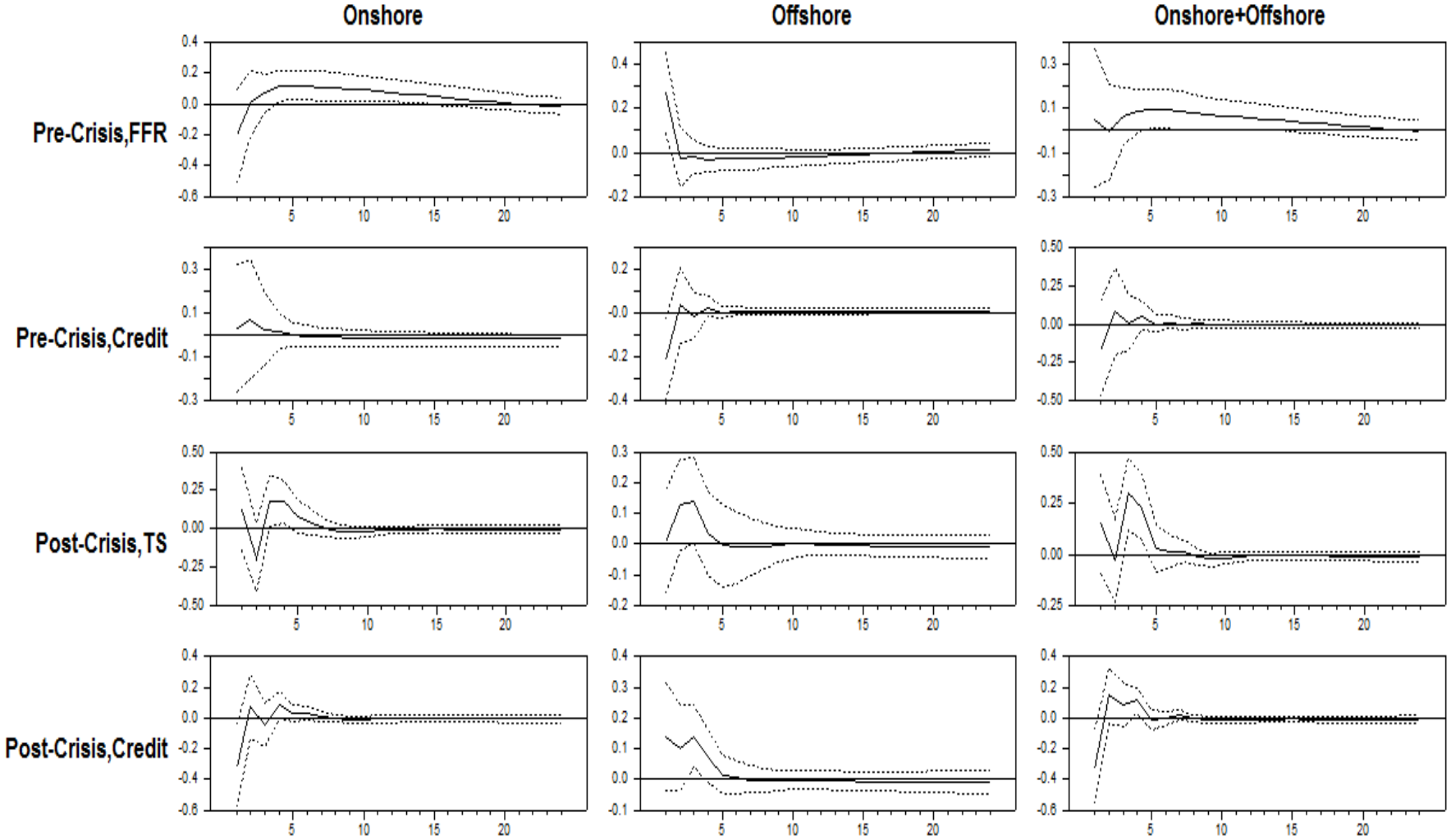
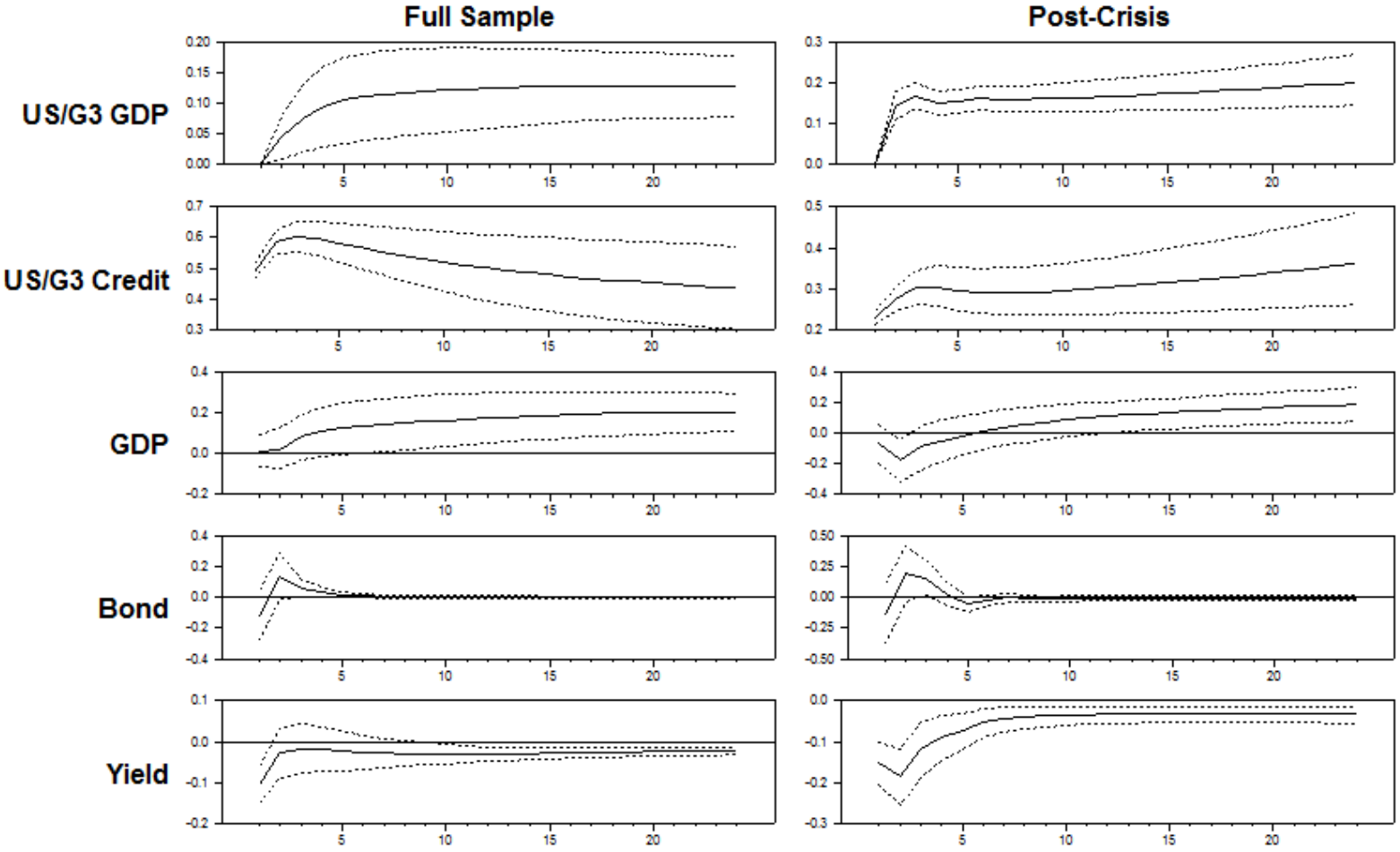


# Dropping Block-Exogeneity



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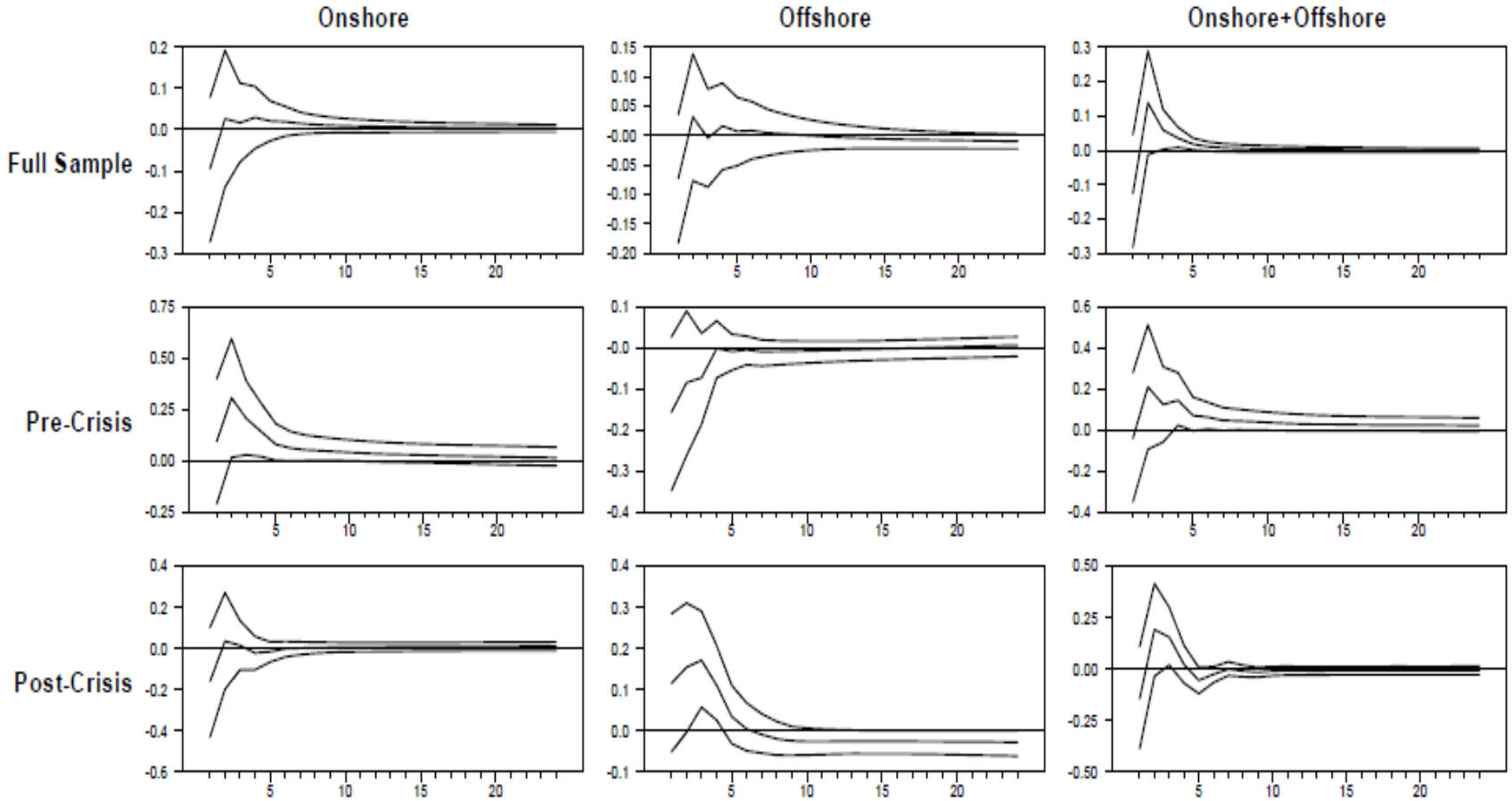

# Conclusion

- This paper empirically examines the transmission channels of global liquidity to emerging countries, by focusing on offshore net issuance of debt securities
- Empirical results suggest that the transmission channel has changed from onshore issuance (during the pre-crisis period) to offshore issuance (during the post-crisis period).
- Our results highlight the importance of keeping track of institutional developments in international banking and capital markets: it is important for emerging markets to be aware of this recent change in transmission channels of global liquidity, to properly prepare against possible future reversals.
- Future studies may need to address what determines the relative incidence of bank and bond financing and onshore and offshore bond financing.