

International Spillovers of China's Monetary Policy

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January 14, 2016, Hong Kong Institute for Monetary Research

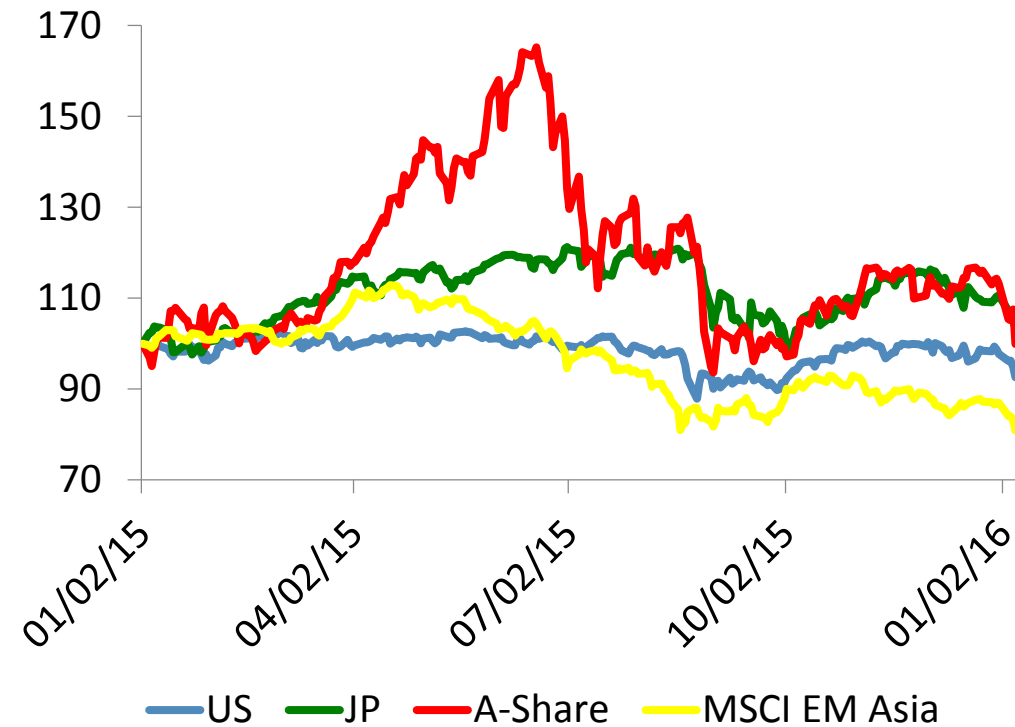


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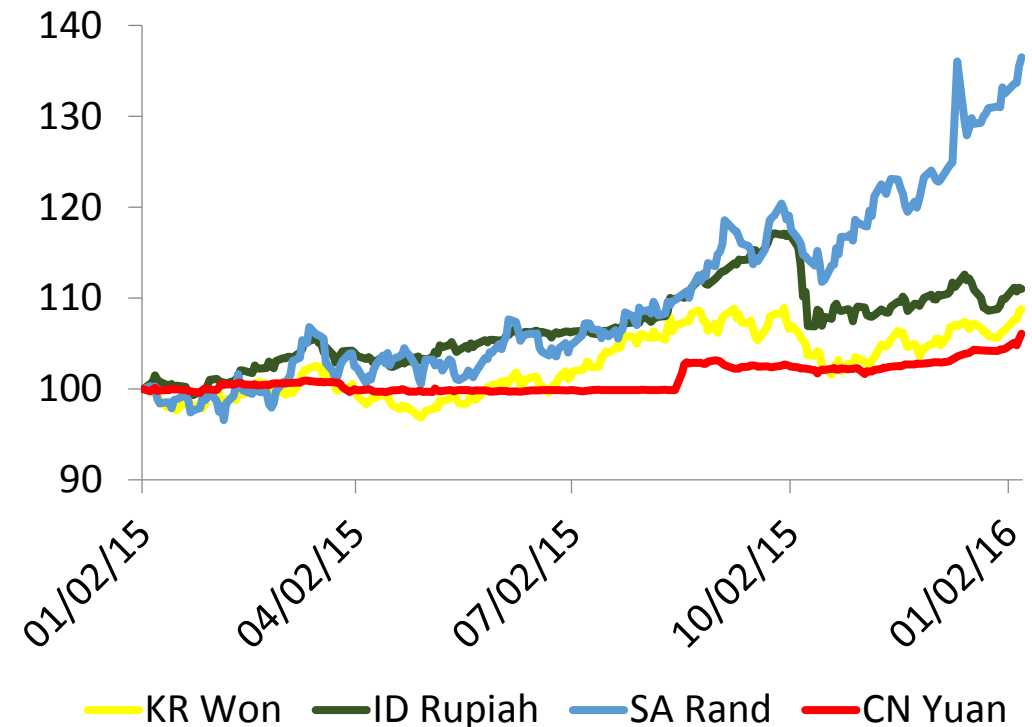
The “China surprise” to international financial markets?

Former Fed Vice Chairman Donald Kohn said at a conference in Beijing in 2015 that the United States was also subject to policy spillovers from other countries (China).

Stock prices (2015/1/2=100)



Exchange rates (2015/1/2=100)



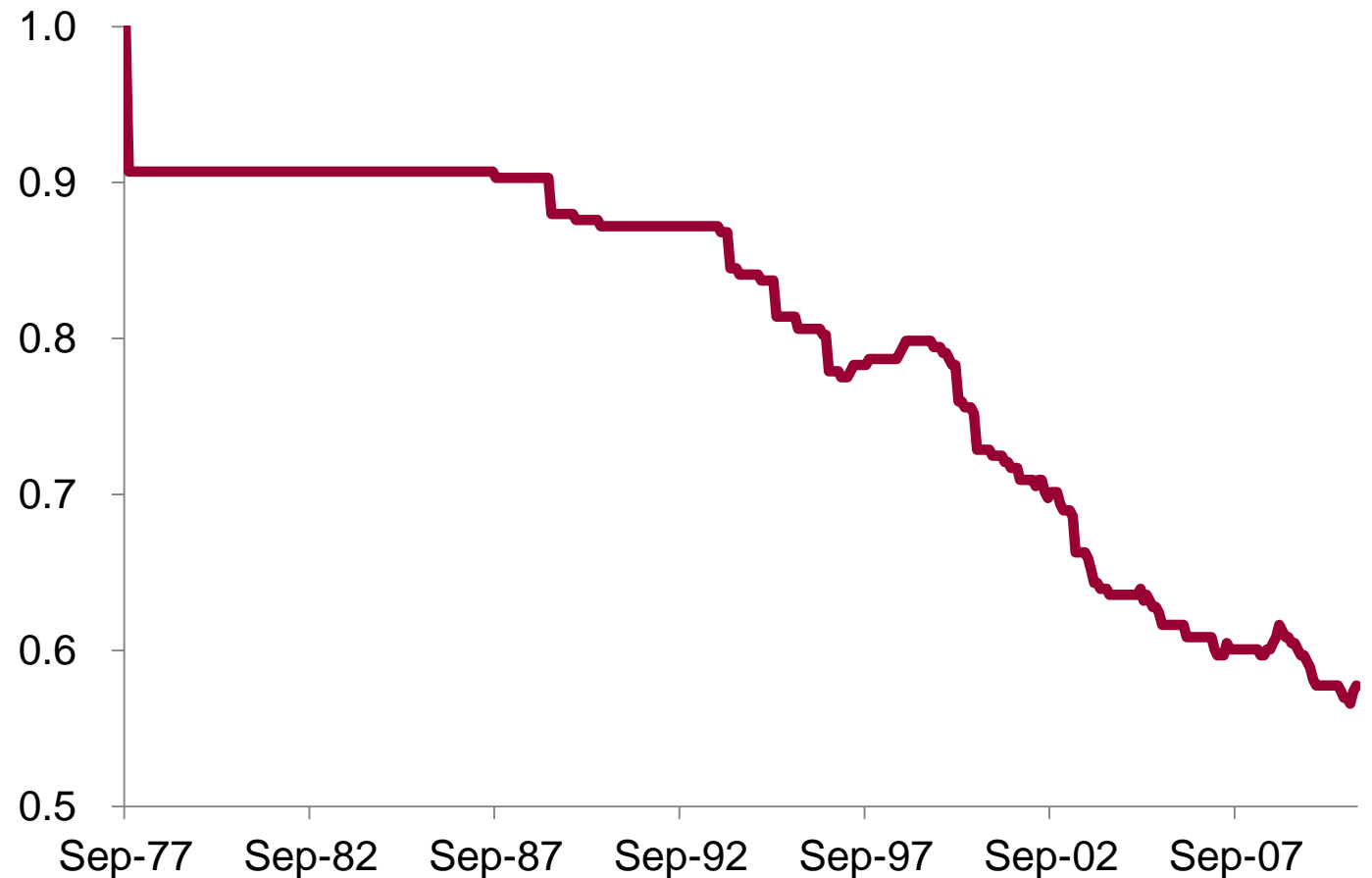
An interesting issue

- China has long been a major player in global markets for labor-intensive manufacturing goods and commodities. Has it also become an important force in international financial markets?
- Are financial market impacts mainly through good market channel or financial market channel?
 - For example, Huang, Xie and Wang (2014)
- Which monetary policy instruments are more influential on global markets, interest rates (base deposit and lending rates, repo rate) or liquidity measures (reserve requirement ratio, base money, money supply M2)?
- All these factors could be changing over time

Integration with the international financial markets

- Gradual liberalization of the capital account
- Exchange rate policy reforms in 2005, 2010 and 2015
- Internationalization of RMB: already 2nd in trade finance, 5th in payment, 6th in currency trading and international interbank currency
- RMB joining SDR

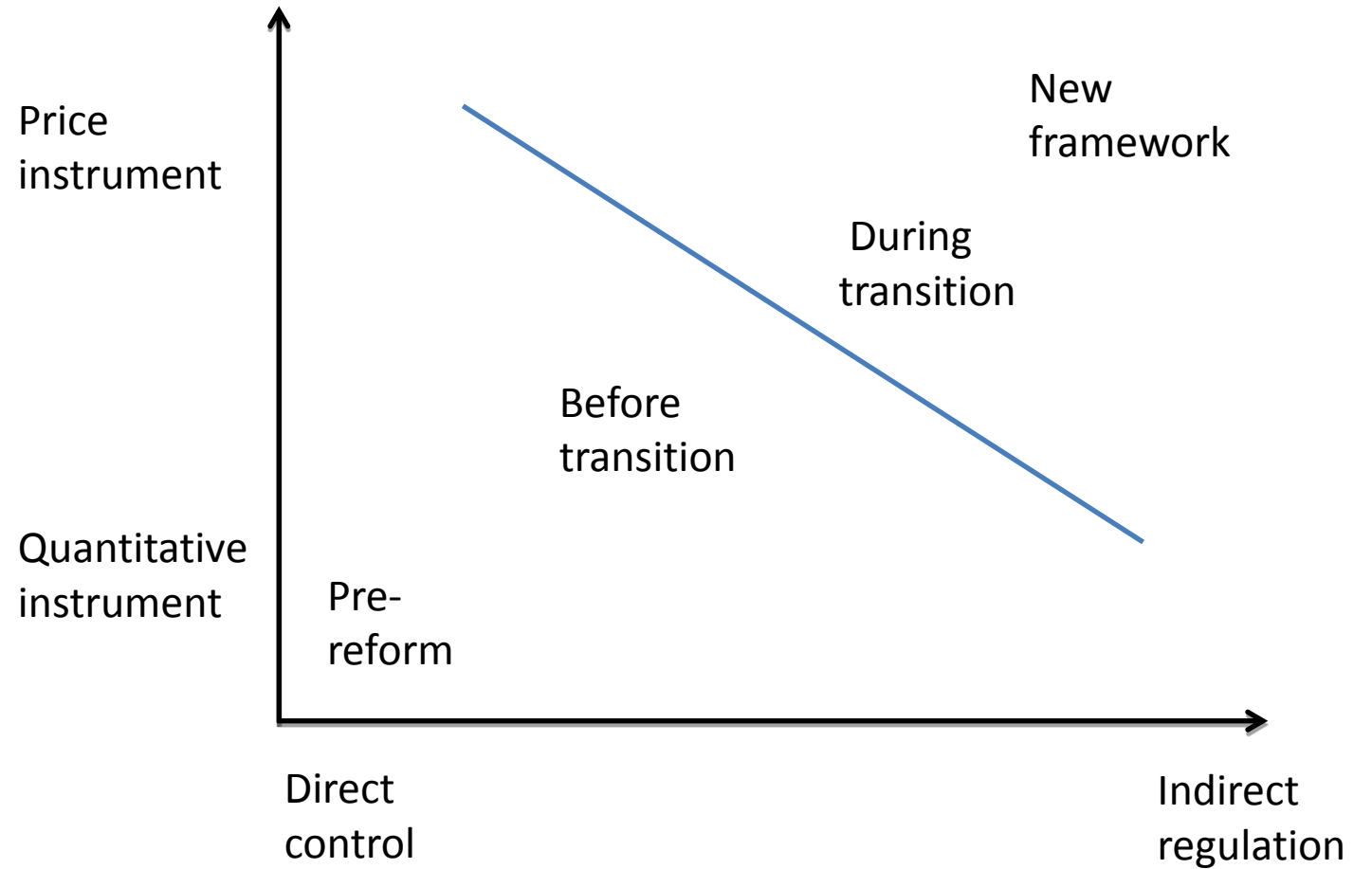
Capital account Control Index for China (1.0 means closed)



Huang, Wang, Gou and Wang (2012). Achieving capital account convertibility in China, *China Economic Journal*.

Toward a new monetary policy framework

- Transition in two dimensions, from direct to indirect regulation, and from quantitative to price instrument



Some previous studies

- Does PBoC's monetary policy assert significant impact on international financial markets?
 - Koluk and Mehrotra (2009): Temporary impact of China's base money shock on real GDP of Hong Kong and permanent impact on CPI of on Hong Kong, Korea, Malaysia, the Philippines, Singapore and Taiwan
 - Johansson (2012): Short-lived but significant impacts of M2 shock on equity markets of Indonesia, Malaysia, Singapore, the Philippines and Thailand
 - Huang, Xie and Wang (2014): Impacts are greater on developing countries than on developed countries, and are mainly through the trade channels, rather than finance channels

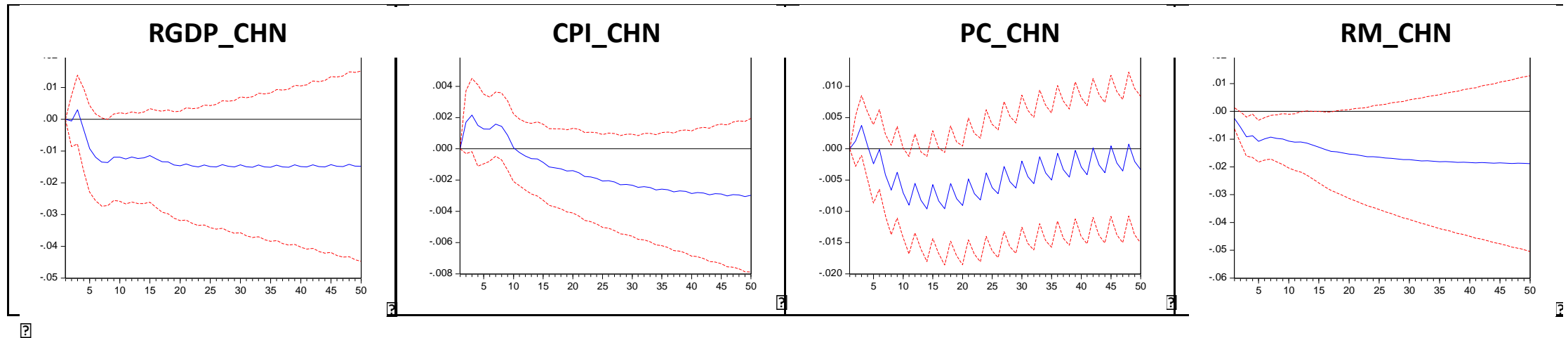
Koluk, T. and Mehrotra, A., 2009. "The impact of Chinese monetary policy shocks on East and South-East Asia". *Economics of Transition*, 17(1), pp.121-145. Johansson, A.C., 2012. "China's growing influence in Southeast Asia—Monetary policy and equity markets". *The World Economy*, 35(7), pp.816-837. Huang, Yiping, Xie, P., and Wang, J., 2014. "International transmission of the People's Bank of China's balance sheet expansion". *Asian Economic Policy Review*, 9(2), pp. 276-296

Methodology

- VAR origins and methodology:
 - Sims (1980); Sims and Zha (1999); Sims and Zha (2006)
- Identifying monetary policy shocks
 - Christiano, Eichenbaum and Evans (1996, 1999)
- Applying VAR models to the U.S. case
 - Kim and Roubini (2000), Non-recursive identification scheme, followed by Koluk and Mehrotra (2009) and Johansson (2012)
 - Kim (2001), Mostly recursive identification scheme, followed by Huang, Xie and Wang (2014) and this study
- Most existing studies only look at base money or money supply, in this study we look at base money, RRR, base lending rate and repo rate

Baseline model

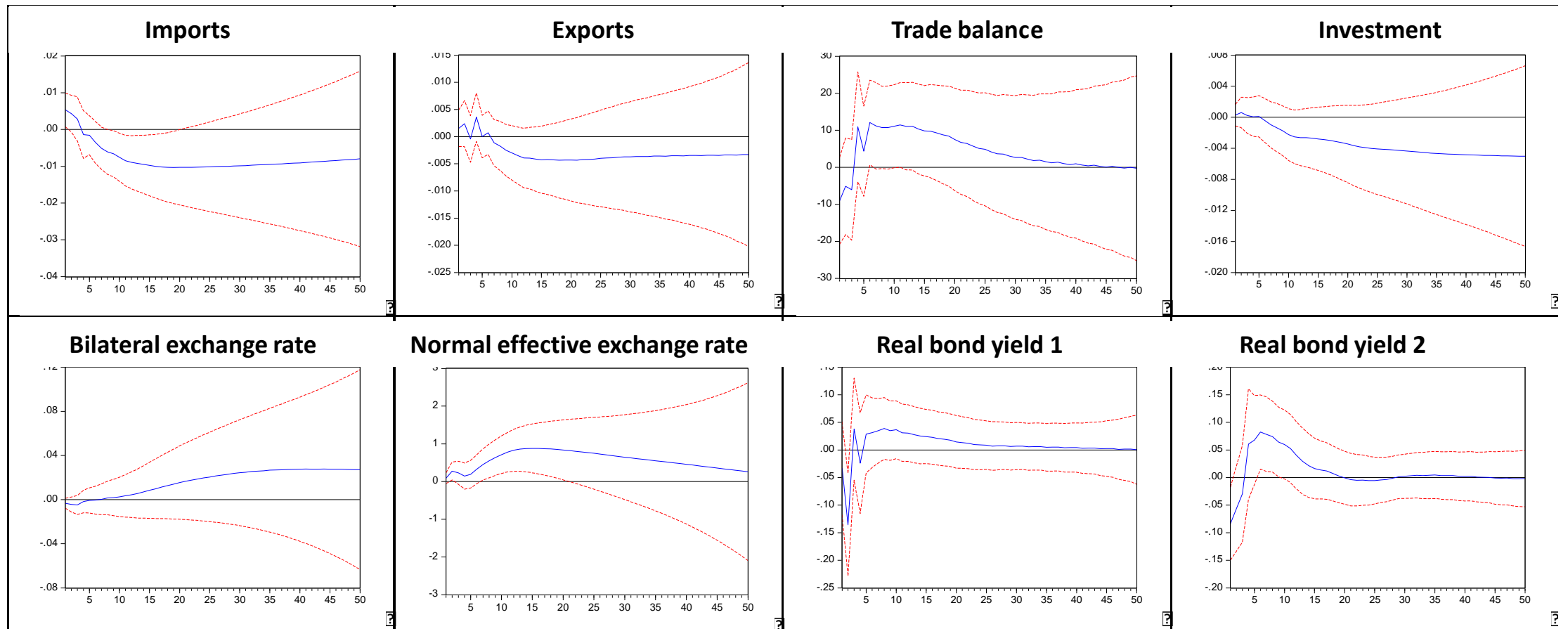
- Results for RRR and repo rate are not significant. We only report results for **tightening lending rate** by one standard deviation, results for base money are similar
- {RGDP_CHN, CPI_CHN, PC_CHN, LR_CHN, RM_CHN}
- RGDP real GDP, CPI, PC raw material price, LR lending rate, RM base money
- Monthly data between January 2000 and September 2015



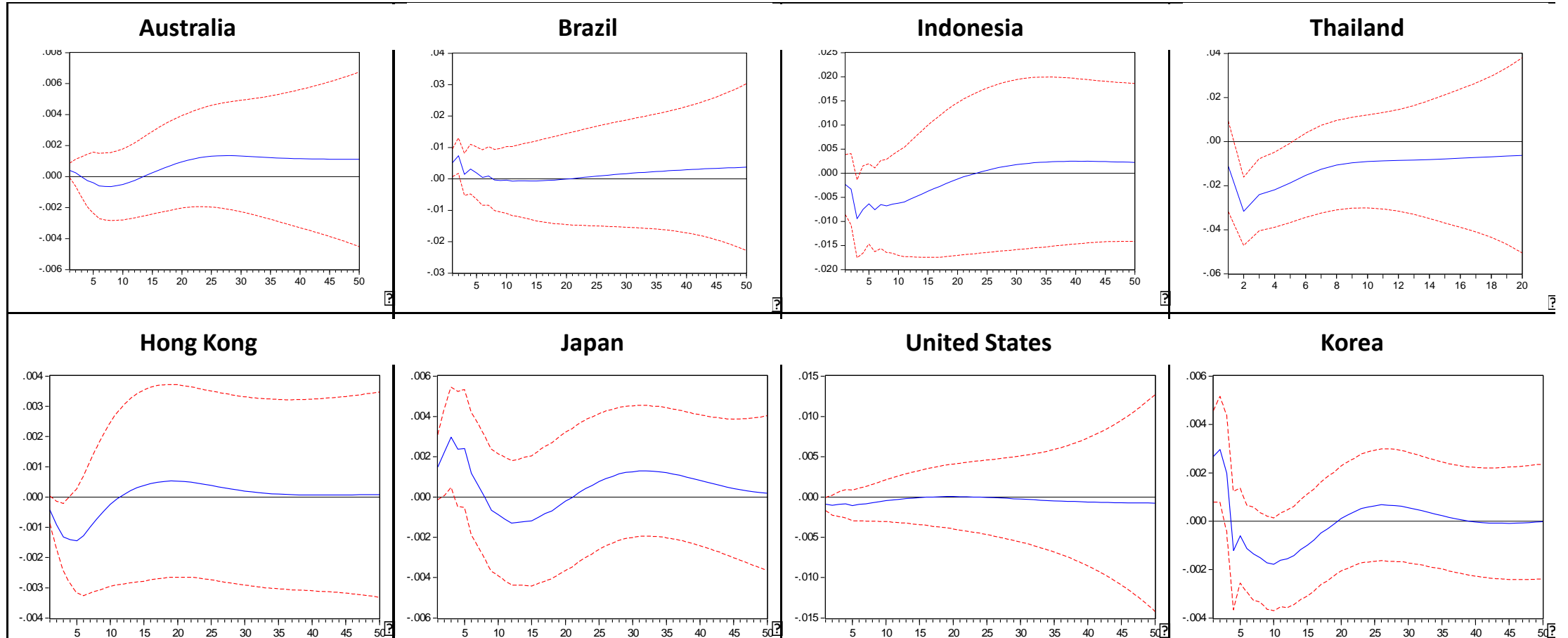
Domestic effects: Impulse response

Results are in line with *Mundell-Flemming-Dornbusch* (MFD) model prediction of monetary contraction:

- terms of trade improvement, trade balance deterioration (the expenditure-switching effect)
- Lower domestic income, less imports, trade balance improvement (the income-absorption effect).

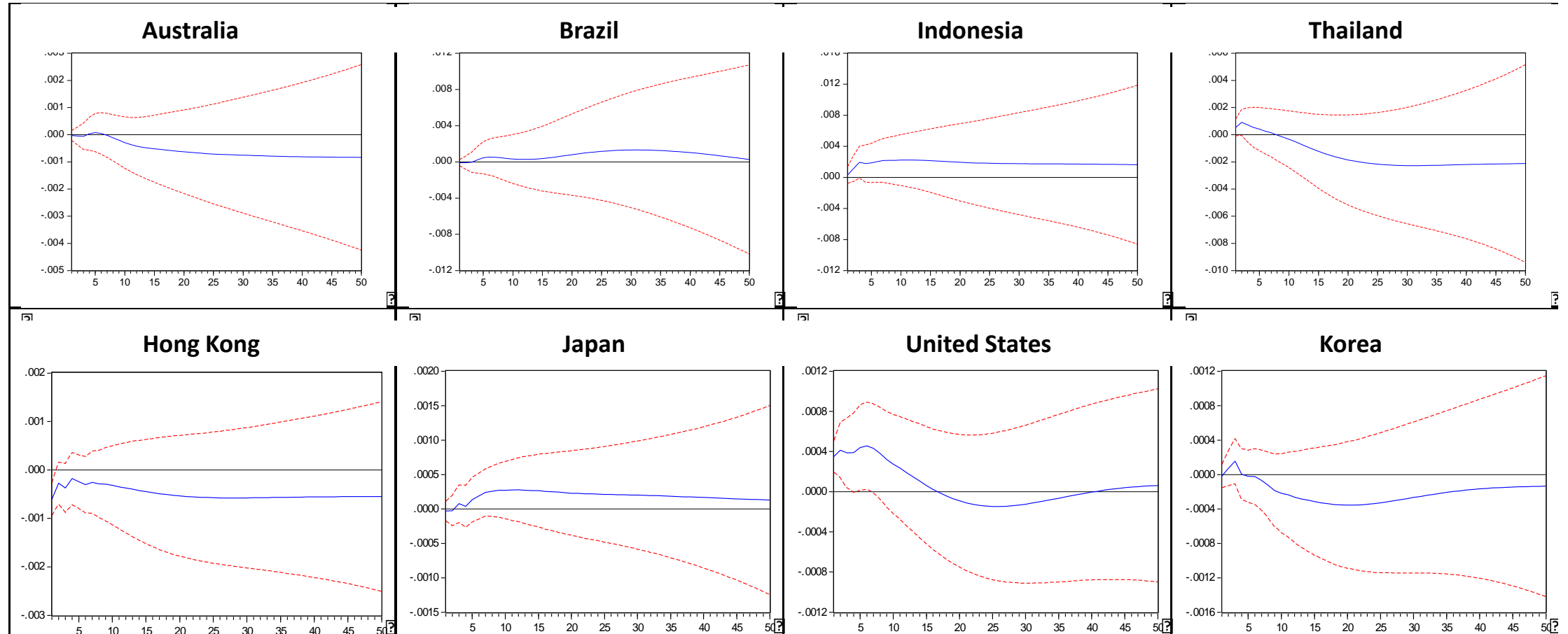


Impulse response of real GDP



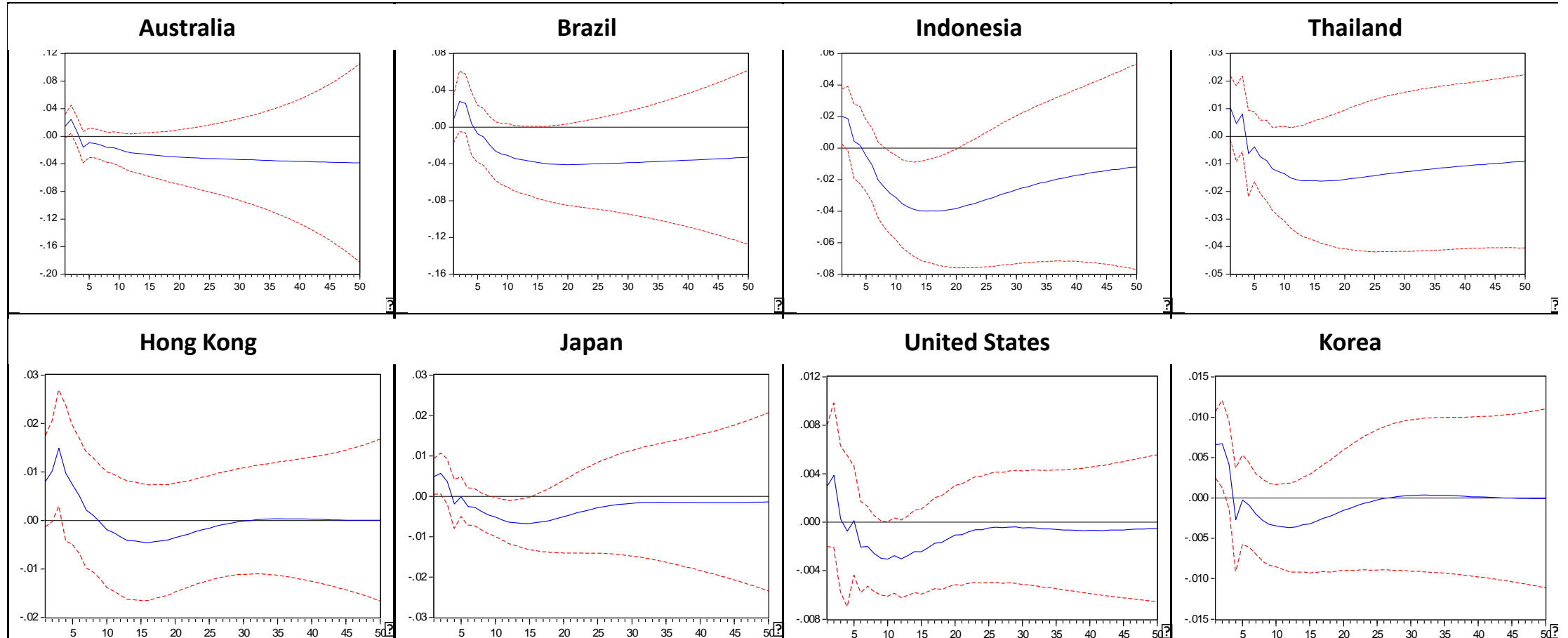
* The shock is tightening of the base lending rate by one standard deviation.

Impulse responses of CPI



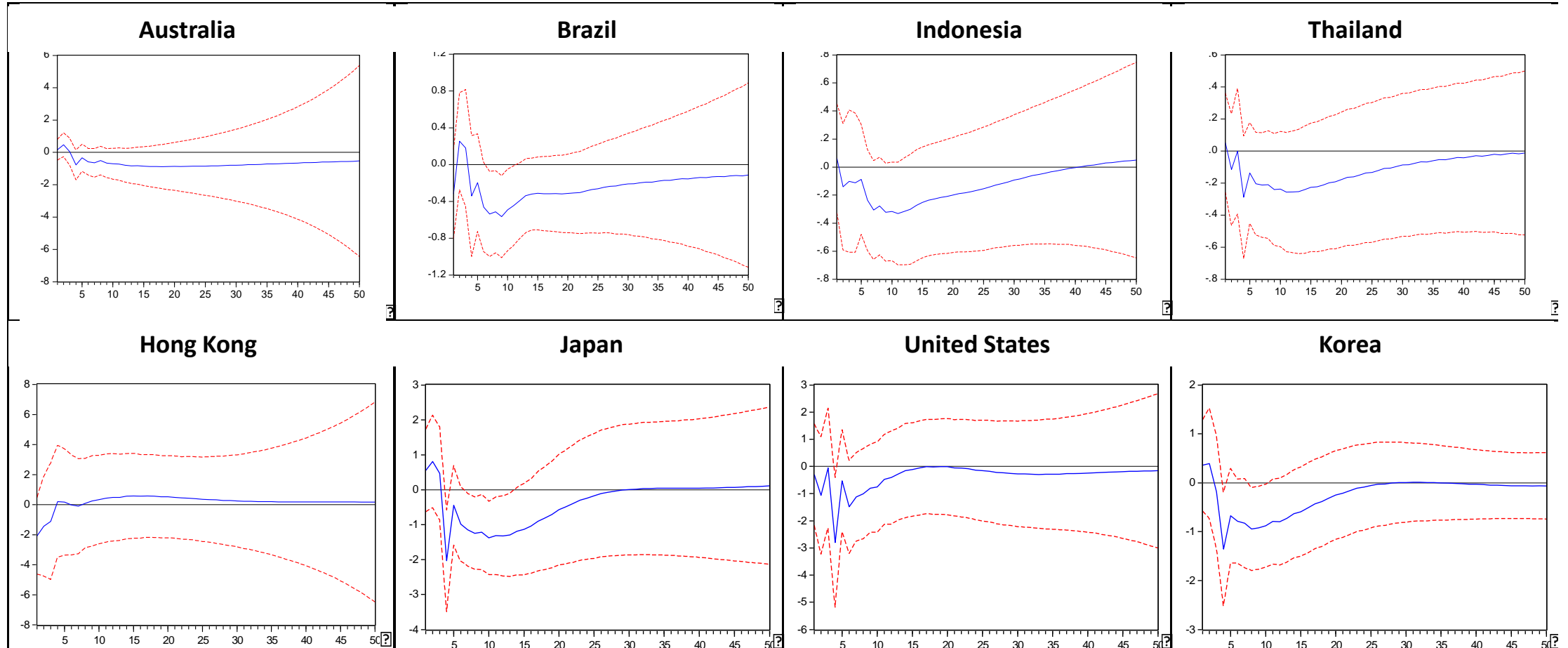
* The shock is tightening of the base lending rate by one standard deviation.

Impulse response of export



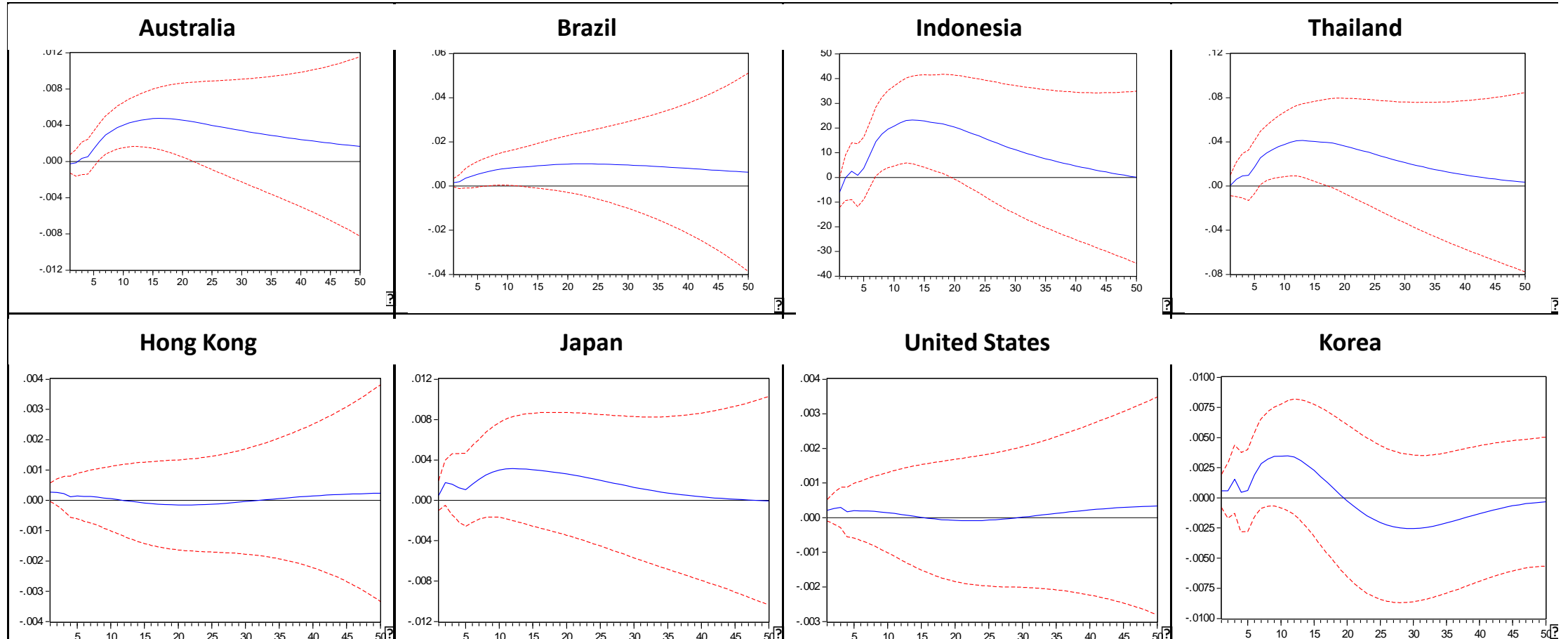
* The shock is tightening of the base lending rate by one standard deviation.

Impulse response of trade balance



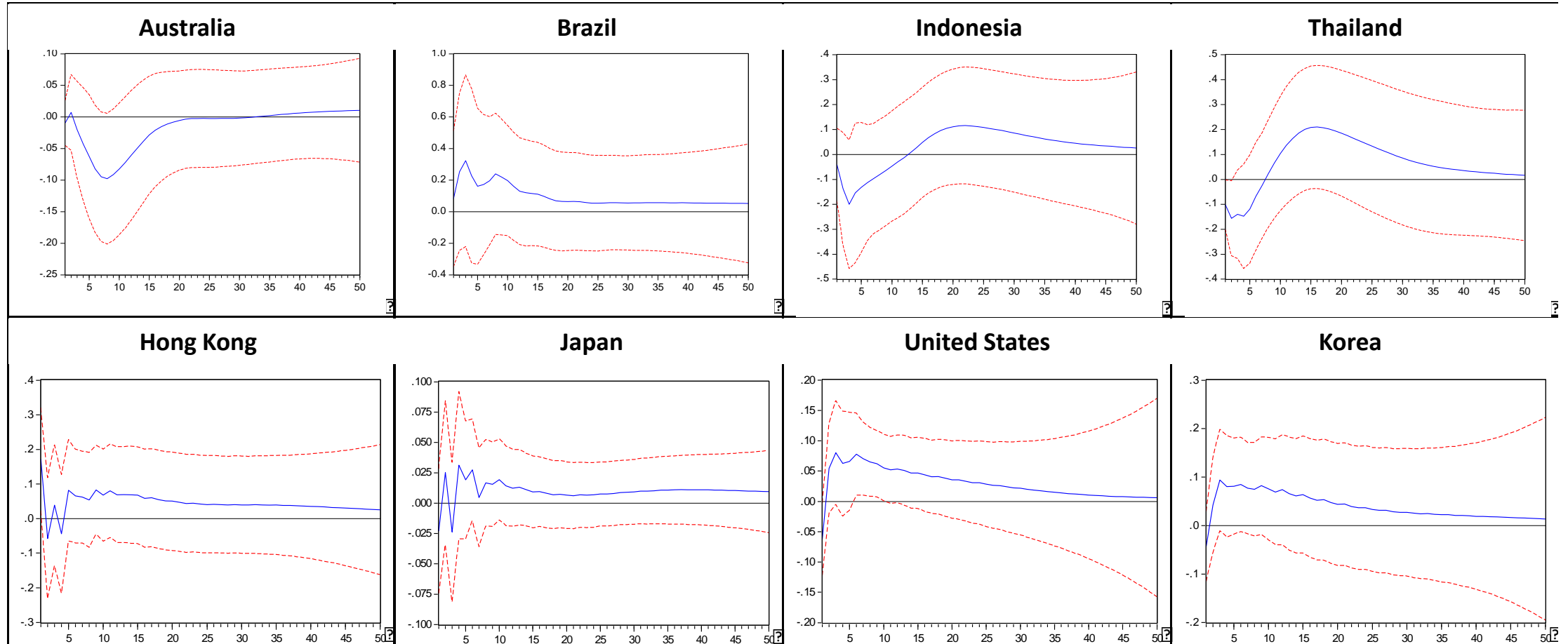
* The shock is tightening of the base lending rate by one standard deviation. Trade balance is defined as export minus imports.

Impulse response of bilateral exchange rate



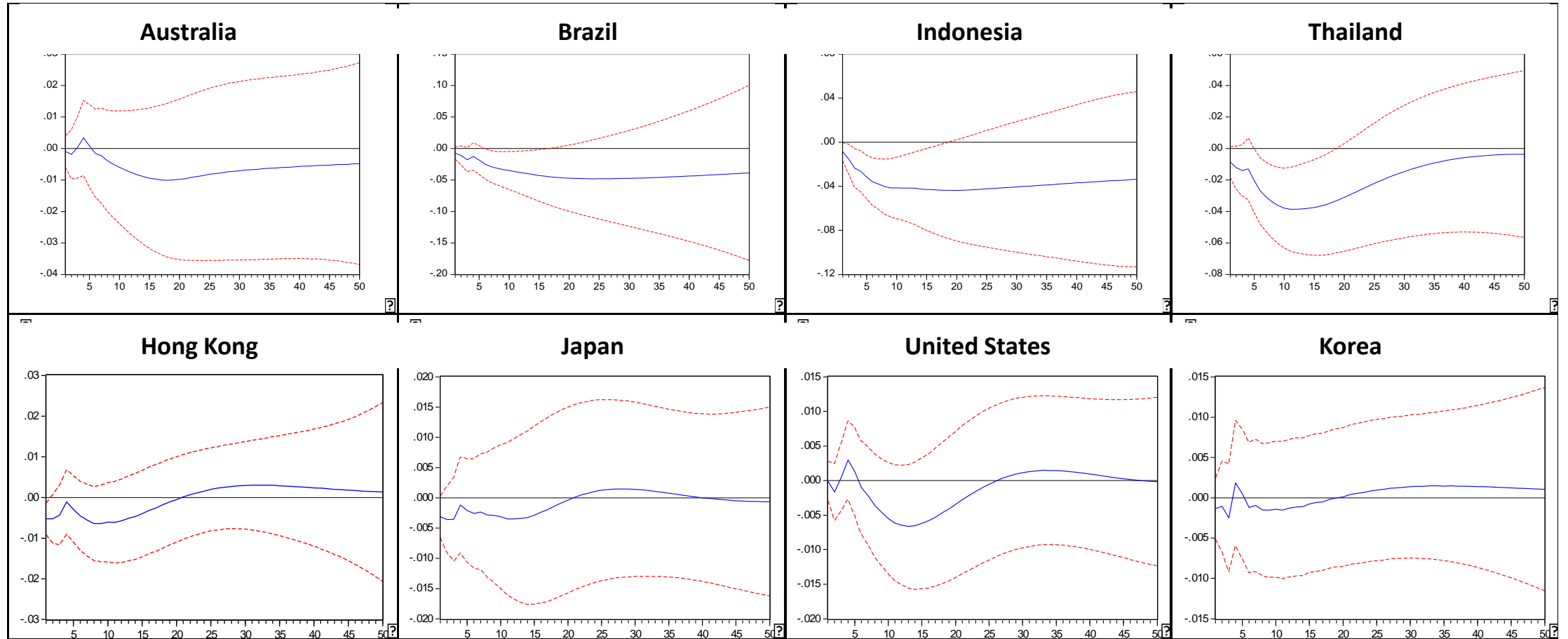
* The shock is tightening of the base lending rate by one standard deviation. Bilateral exchange rate is defined as local currency value per unit of RMB.

Impulse response of real bond yields



* The shock is tightening of the base lending rate by one standard deviation.

Impulse response of stock prices



* The shock is tightening of the base lending rate by one standard deviation.

Summary findings

	What do structural VAR results tell us?
Domestic effects	Lowers GDP and CPI (after the initial spike), lowers imports and exports but improves trade balance, lowers investment, strengthens effective exchange rate and raises real government bond yield
Real GDP	Negative for IDN, THA and HKG, initially positive for JPN and KOR
CPI	Negative for AUS, HKG, KOR, but positive for IDN, JPN and USA
Export	Negative for everybody after initial periods of positive
Trade balance	Deteriorates everybody's trade balance, with exception of HKG
Local currency/CNY	Weakens everybody's currency, with exception of HKG and USA
NEER	Same as above
Government bond yield	Raises real yields in most countries, initially negative in AUS, IDN and THA
Stock prices	Lowers everybody's share prices with exception of KOR

Challenges for China's monetary policy

- China's monetary policy framework is not yet ready for handling external the international spillover problems
- There is a need for faster transition toward a more transparent and independent monetary policy framework
 - New policy interest rate, the repo rate?
 - Interest rate corridor: SLF rate and extra reserve rate?
 - More simplified policy objectives?
 - More accountable policymaking?
 - Relationship with macro-prudential regulation?
- There is an important communication issue. But, in a way, this is beyond the central bank's full control

A case for international cooperation?

- Externalities necessitate the need for cooperation
- The literature recognizes welfare-improving benefit of cooperation as it internalizes externalities of domestic policy on other countries (Obstfeld and Rogoff 1995, Corsetti and Pesenti 2001 & 2005, Clarida, Gali and Gertler 2002). But quantitative assessment of welfare gain is far from satisfying (Obstfeld and Rogoff 2002, Corsetti 2008, Fujiwara and Wang 2015)
- So as long as central banks can well identify cross-country spillovers of shocks and policy impacts, "keeping one's house in order" is a good-enough policy prescription, in other words, gains from cooperation are relatively small
- But such conclusions might change if we alter the assumptions in such studies, such as complete asset market, Nash equilibrium no global imbalance