

# The Transmission of Global Monetary and Credit Shocks on Exchange Market Pressure in Emerging Markets and Developing Economies

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## Abstract

This research considers how shocks in global monetary and credit conditions impact the exchange market pressure index (EMPI) in forty emerging markets and developing economies. It assesses the impact based on the degree of trade openness and capital account openness in these economies using a panel vector autoregression (PVAR) analysis from 1998 to 2016. Countries that are more open in trade and finance are less susceptible to shocks in global monetary liquidity and global credit conditions.

## Research Motivation and Findings

Understanding the transmission of shocks from advanced economies to emerging and developing economies has recently been of great interest in the literature. However, there has not been enough consideration about the effects of shocks on exchange market conditions, which are important for EME and developing economies. This research finds:

- Spikes in global monetary liquidity or increases in credit globally correspond to greater appreciation pressure in emerging markets and developing economies.
- Highly open group of countries experience smaller or non-significant effects on their EMPI from global monetary shocks. The results are mixed for global credit shocks.
- In general, economies that are less open experience a more sizeable build-up of exchange market pressure in response to global shocks.

From a policy perspective, this is critical in supporting greater international integration, since countries that are more open in trade and capital accounts are less susceptible to global shocks.

## Data and Methodology

The study estimates the *the effect of shocks in global monetary liquidity* as well as *the effect of shocks in global credit liquidity* on EMPI using Panel VAR technique following Love and Zicchino (2006) and Abrigo and Love (2015):

$$z_{i,t} = \rho_0 + \rho_1 z_{i,t-1} + \mu_{i,t} + e_{i,t} \quad (1)$$

where  $z_{i,t}$  represents one of two vectors: (1)  $EMPI, \Delta M1, \Delta M3$  for assessing shocks in global monetary liquidity; (2)  $EMPI, \Delta CBC, \Delta LCC$  for assessing shocks in global credit conditions.  $\mu_{i,t}$  and  $e_{i,t}$  are vectors of dependent variable-specific fixed effects and idiosyncratic errors, respectively.

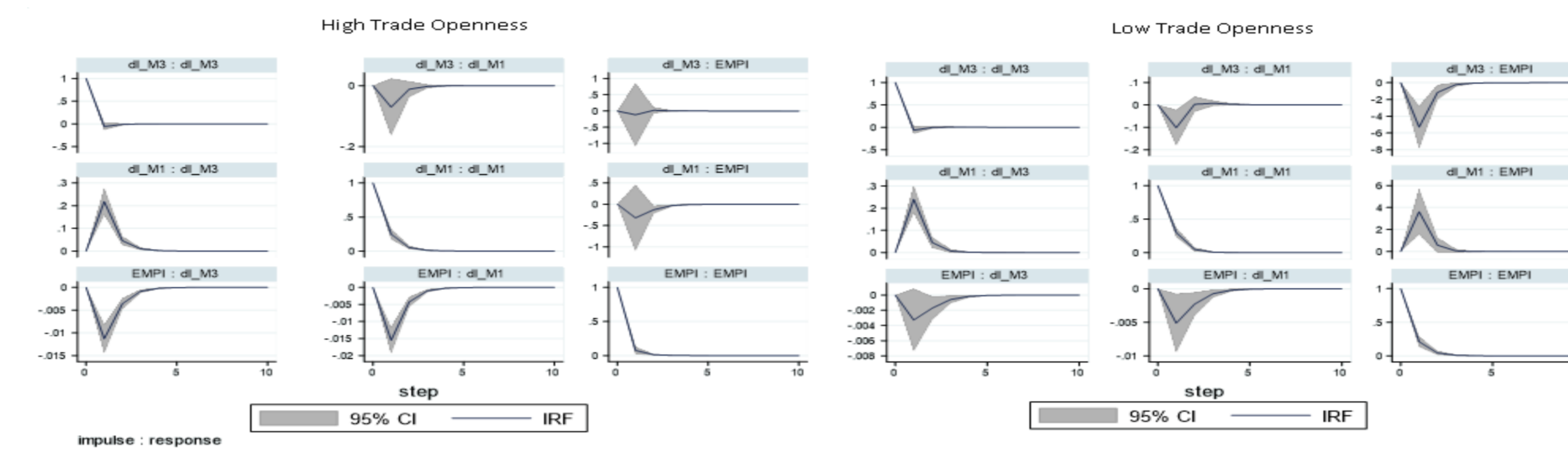
Data:

- Balanced panel of 40 emerging market and developing economies: 1998-2016
- Exchange Market Pressure Index: Patnaik, Felman and Shah (2017)
- Segment panel based on degree of openness: Trade Openness: Exports + Imports (%GDP); Capital Account Openness: IMF Wang-Jahan Index
- Global Monetary Liquidity Shocks:
  - $\Delta M1$ : monthly log difference in the sum of M1 in the United States, Japan and UK in USD billion (IMF)
  - $\Delta M3$ : monthly log difference in the sum of M3 in the United States, Japan and UK in USD billion (IMF)
- Global Credit Liquidity Shocks:
  - $\Delta CBC$ : the quarterly log difference of total cross-border claims (BIS)
  - $\Delta LCC$ : the quarterly log difference of local claims (BIS)

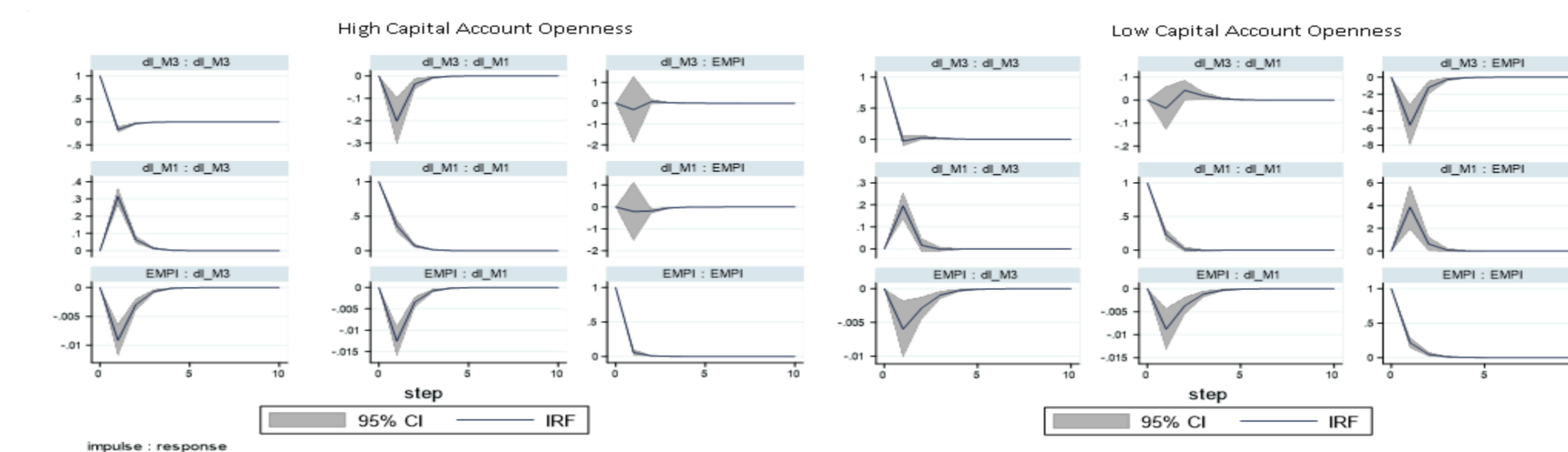
Results for the post-2009 era, which reflect the transmission of global shocks after the Global Financial Crisis, can be found in the presentation slides. The variance decomposition for each panel VAR estimation is also reported there.

## Empirical Findings

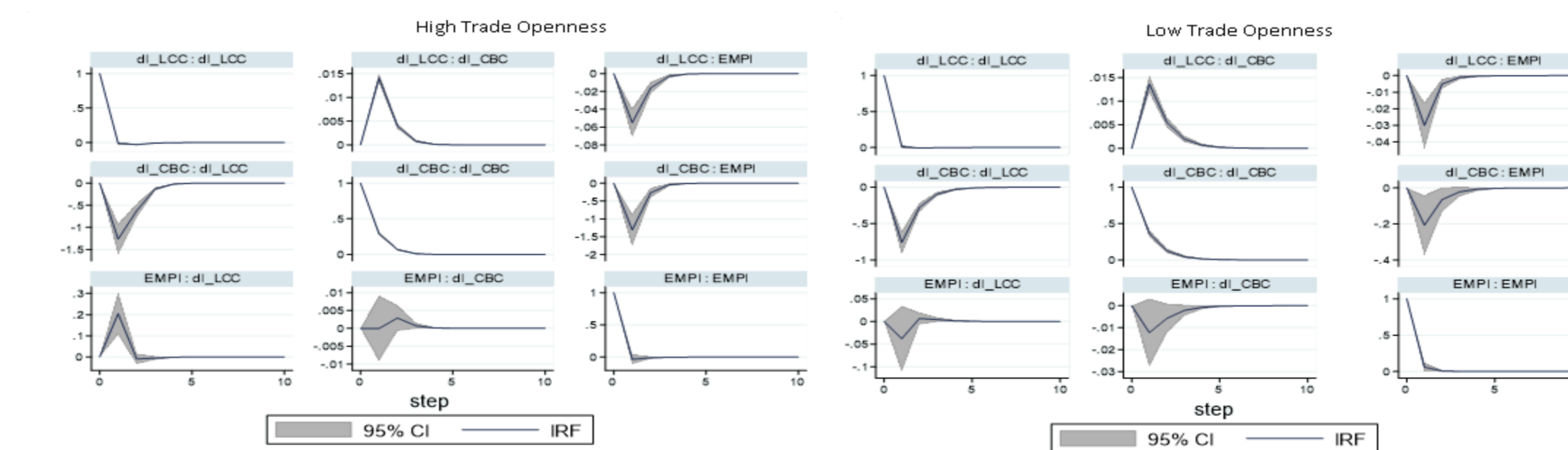
Global Monetary Shocks and Trade Openness 1998-2016



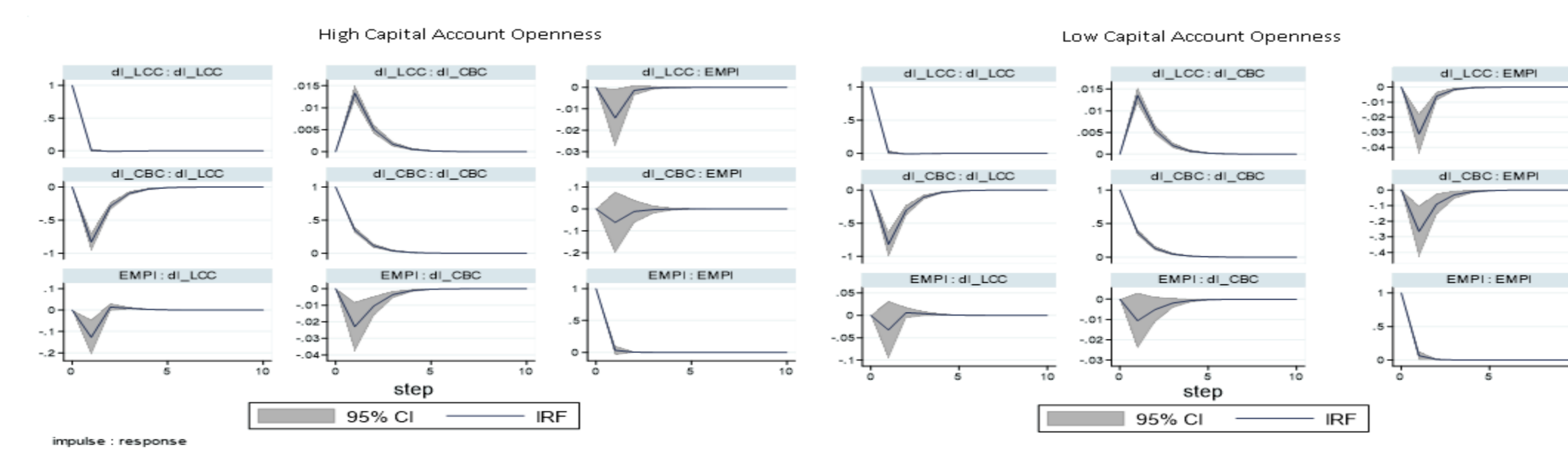
Global Monetary Shocks and Capital Account Openness 1998-2016



Global Credit Shocks and Trade Openness 1998-2016



Global Credit Shocks and Capital Account Openness 1998-2016



## Empirical Findings

### Variance Decomposition for Global Monetary Shocks

Explained by shock in:

Variance of:		$EMPI$	$\Delta M1$	$\Delta M3$	$EMPI$	$\Delta M1$	$\Delta M3$
<b>High Open</b>	$EMPI$	0.996	0.003	0	0.995	0.004	0
	$\Delta M1$	0.039	0.96	0	0.02	0.976	0.003
	$\Delta M3$	0.032	0.859	0.108	0.016	0.874	0.111
<b>Less Open</b>	$EMPI$	0.966	0.004	0.029	0.965	0.003	0.031
	$\Delta M1$	0.002	0.996	0	0.012	0.987	0
	$\Delta M3$	0.001	0.891	0.107	0.007	0.884	0.108
<i>Based on openness in</i>		<i>Trade</i>			<i>Capital Account</i>		

### Variance Decomposition for Global Credit Shocks

Explained by shock in:

Variance of:		$EMPI$	$dCBC_t$	$dLCC_t$	$EMPI$	$dCBC_t$	$dLCC_t$
<b>High Open</b>	$EMPI$	0.997	0.001	0.002	0.998	0.002	0.001
	$dCBC_t$	0.056	0.93	0.012	0.032	0.954	0.013
	$dLCC_t$	0.003	0.031	0.966	0.004	0.028	0.967
<b>Less Open</b>	$EMPI$	0.991	0.002	0.005	0.991	0.004	0.005
	$dCBC_t$	0.034	0.951	0.014	0.061	0.925	0.013
	$dLCC_t$	0.004	0.027	0.968	0.002	0.029	0.967
<i>Based on openness in</i>		<i>Trade</i>			<i>Capital Account</i>		

## Conclusion

This research aims to bridge a gap in the literature on the transmission of global shocks by analyzing the effects of global monetary and credit shocks on the exchange market pressure index using the panel VAR method, an extension of previous work by Hossfeld and Pramor (2018). This provides a novel approach to estimating the size and significances of these shocks. It is clear that although spikes in monetary liquidity and global credit conditions correspond to a build up of appreciation pressure in these economies, the size of the impact depends on the degree of openness. Specifically, economies with greater degrees of trade openness and capital account openness are less susceptible to the transmission of global economic shocks. In the current political environment, where protectionist rhetoric is on the rise across many economies, this research provides evidence in favor of greater openness and integration. Countries that are more integrated in the global economy are better able to absorb the shocks, perhaps due to more liquid currency markets, more flexibility in their exchange rates, or better institutional quality.

## References

- Abrigo, M., Love, I., 2015. Estimation of Panel Vector Autoregression in Stata. *The Stata Journal* 16, 778–804.
- Hossfeld, O., Pramor, M., 2018. Global Liquidity and Exchange Market Pressure in Emerging Market Economies. *Deutsche Bundesbank Discussion Paper*.
- Love, I., Zicchino, L., 2006. Financial Development and Dynamic Investment Behavior: Evidence from Panel VAR. *Quarterly Review of Economics and Finance* 46, 190–210.
- Patnaik, I., Felman, J., Shah, A., 2017. An Exchange Market Pressure Measure for Cross Country Analysis. *Journal of International Money and Finance* 73, 62–77.