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Global Trends in Finance



## Financial Integration of the European Transition Economies

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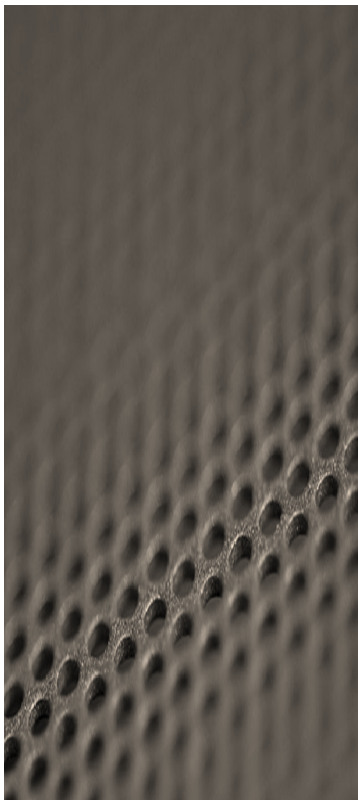
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**Abstract:** Economic crisis affected economic activity in the European transition economies (ETE) with an unprecedented extent that may be compared to an initial shock ETE experienced at the beginning of the transition process in the early 1990s. Deterioration of the overall macroeconomic performance was followed by the various spurious effects leading to the slowdown in the process of convergence toward Western European countries. One of the key aspects of this long-term trend - participation of the ETE in the process of international capital flows became affected by the economic crisis too. While the overall benefits from the cross-border capital movements significantly contributed to the high rates of real output growth in the ETE (most of the countries from this group became large net debtors in the last two decades) during pre-crisis period, sudden shift in a direction as well as a size of a foreign capital inflows may markedly affect the speed of the recovery process from the economic crisis.

In the paper we observe main trends in the process of an international financial integration in ten ETE since 1995. To estimate effects of foreign capital inflows on the performance of ETE we analyze effects of foreign direct investments, portfolio investments and other investments on the real output development. To meet this objective we estimate vector error correction (VEC) model. We estimate two models (one with data sets for pre-crisis period only and second for the whole period). To identify structural shocks we implement a Cholesky decomposition of innovations. Impulse-response functions are computed to estimate short-run effects of foreign capital inflows on real output. Comparing results for both models should help to assess the effects of economic crisis. Long-run effects of foreign capital inflows on the real output are estimated using linear Granger causality test.

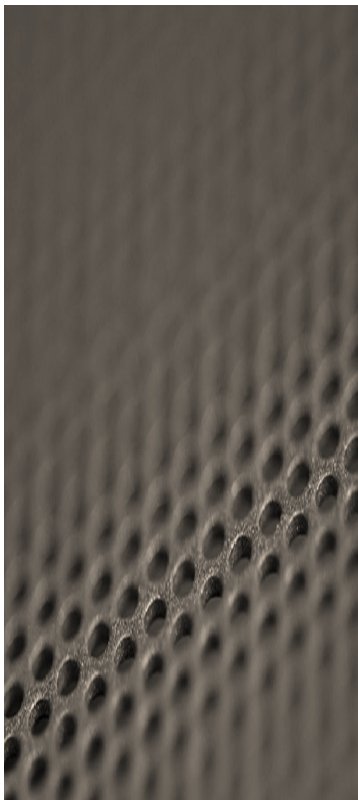
**Key-words:** financial integration, international capital flows, economic growth, vector autoregression, Cholesky decomposition, impulse-response function, granger causality

**JEL Classification:** F43, G14, G15, O16



## 1. Aims and scope of the paper

- analysis of main trends in the process of international financial integration of the European transition economies
- estimation of real output responses to capital inflows shocks
- estimate long-run causality between real output and capital inflows



## 2. Review of the Literature

- financial liberalization (Obstfeld, 1998)
- international capital flows (Lane - Milesi-Ferretti, 2006; Stulz, 1999)
- FDI inflows to European transition economies (Stiglitz, 2000)
- financial deepening (Buiter - Taci, 2003)
- structure of international capital flows (Pradhan, 2010)

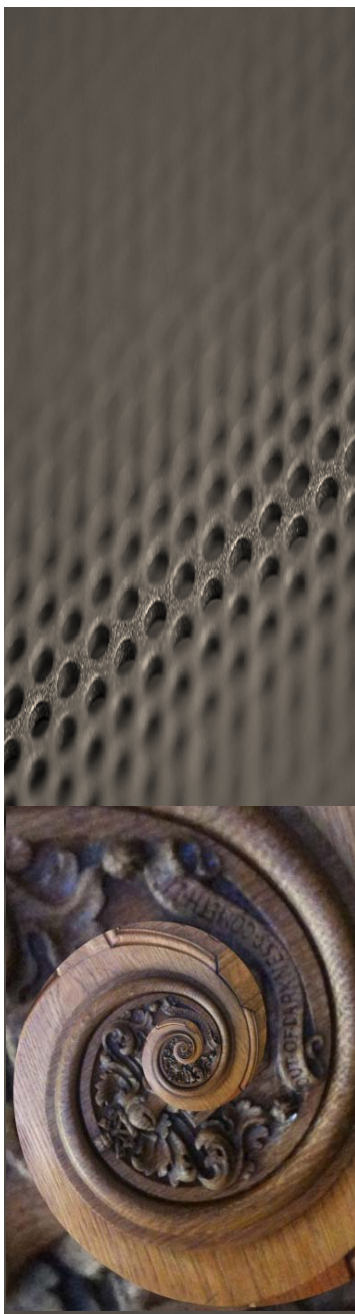
### 3. Methodology of research/ approach

Vector error correction model:

$$\Delta Y_t = \mu + \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta Y_{t-i} + \varepsilon_t \quad (1)$$

Granger causality:

$$E\left(y_{t+p} | \Omega_t\right) = E\left(y_{t+p} | \Omega_t - x_t\right) \quad (\forall p > 0) \quad (2)$$

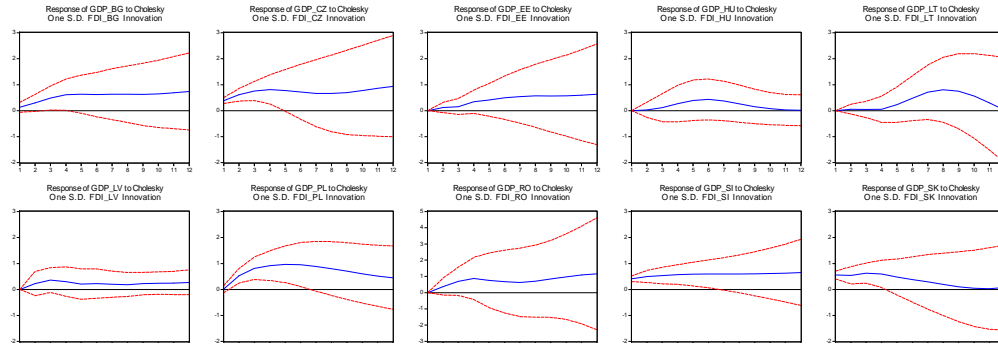


## 4. Findings and data

### Model A1

(2000-2007)

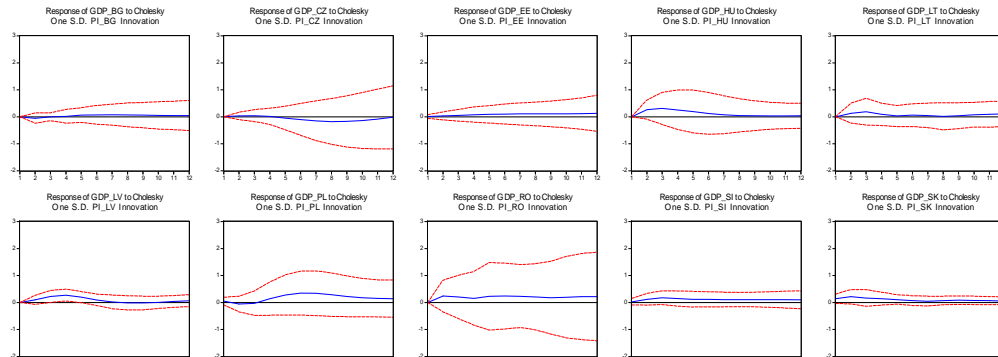
$$(Y_t = [fdi_t, y_t, p_t, i_t, er_{n,t}])$$



### Model A2

(2000-2007)

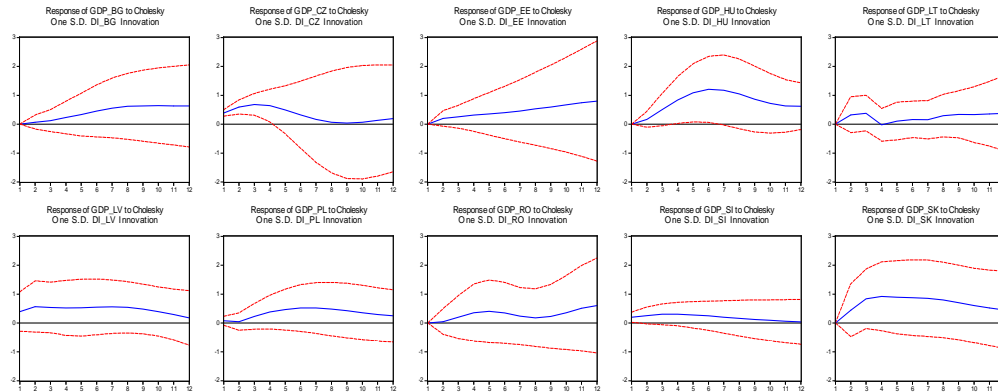
$$(Y_t = [pi_t, y_t, p_t, i_t, er_{n,t}])$$



### Model A2

(2000-2007)

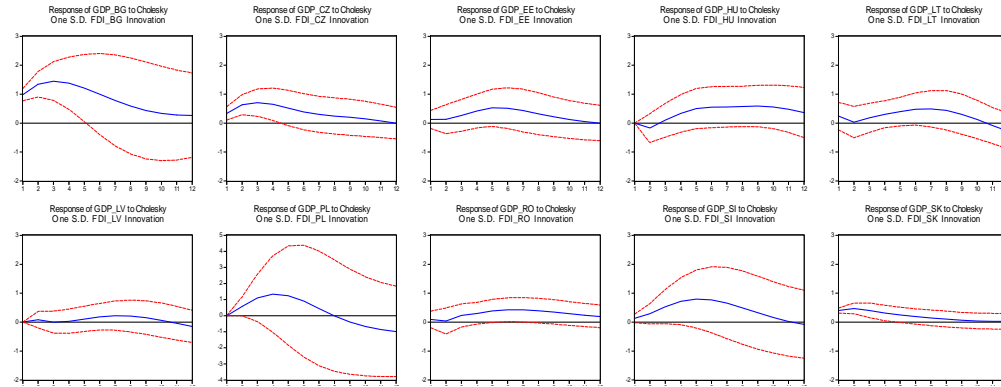
$$(Y_t = [di_t, y_t, p_t, i_t, er_{n,t}])$$



## 4. Findings and data

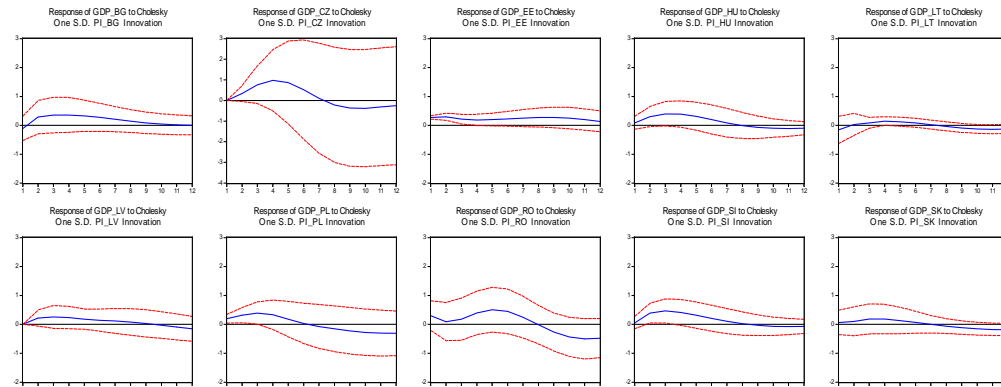
### Model B1 (2000-2010)

$$(Y_t = [fdi_t, y_t, p_t, i_t, er_{n,t}])$$



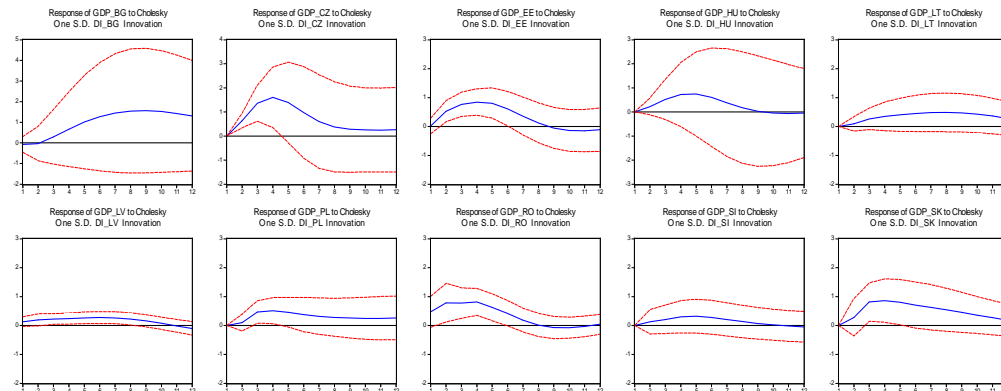
### Model B2 (2000-2010)

$$(Y_t = [pi_t, y_t, p_t, i_t, er_{n,t}])$$



### Model B2 (2000-2010)

$$(Y_t = [di_t, y_t, p_t, i_t, er_{n,t}])$$



## 5. Results and Discussions

- Models with data from pre-crisis period clearly reflect overall positive effects of FDI and DI on economies of all ten ETE. While we observed certain differences in length of lag needed for a shock to start determine a real GDP as well as a durability of positive effects of FDI and DI shocks, effects of PI shocks on the real GDP seem to be just negligible even in the short-run.
- Models with data from extended period reflect (similarly to result from pre-crisis period) overall positive effects of FDI and DI on economies of all ten ETE. Moreover real GDP in most countries rose even after positive PI shock. In general years of economic crisis reduced a durability of positive effects of all three shocks while in most countries responses of real GDP in short period slightly rose.
- Granger causality test confirmed an existence of long-run causality between FDI and DI (with exception of Slovenia) and real GDP in all ten countries only. On the other hand it seems a long-run causality endured even in the extended period in five countries only. We also found evidence about long-run causality in opposite direction in some countries because it seems that real GDP granger cause FD

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