Chinese impact on output and inflation in industrial countries

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Economic integration of China

- In three decades China transformed to 2nd largest economy in the world
  - Significant part of global recovery attributed to Chinese growth
  - China absorbs 40 (16 and 8) percent of export increase in Japan (US and EA) over last 5 years
- Implications for industrialized countries
  - Benefits from lower production costs and new market potential
  - Intensified competition in product markets

Impact on business cycles

- Chinese integration can make world economy more stable
  - Impact of shocks arising from industrial countries declines, lower risk of protectionism
  - Catching up provides source for global growth
- Decoupling not pronounced in financial crisis
  - EMs remain highly vulnerable to evolution in advanced countries
  - Growth divergencies: High growth in many EMs, modest growth in industrial states

Impact on business cycle (II)

- Stronger divergence of business cycles in pre-crisis period
  - Kose, Otrok, Prasad (2008): Convergence within ICs and EMs, but not between groups
  - Fidrmuc, Korhonen, Bátorová (2008): Growth in ICs and China negatively correlated at business cycle frequencies, highly correlated in short run
- Vertical integration: Fragmented production patterns dominate

Contribution of the paper

- Previous findings rely on correlation analysis or common factors
  - Cyclical components of output
  - Direction of causality neglected
- Investigate macro effects of Chinese demand shock on industrial countries
  - Impact of Chinese fiscal stimulus program on Japan, US and euro area
  - Evidence based on structural econometric and time series models

Chinese stimulus program

- Fear of slowdown in major export markets
  - Low Chinese growth can lead to social unrest
- Fiscal stimulus of 3 percentage points of GDP per annum for two years
  - Short (medium) run multiplier 0.8 (1.1): Cova, Pisani and Rebucci (2010)
- Infrastructure in rural areas and large projects
- Measures to improve livelihood of people
  - Social safety net, public healthcare, low rent housing
  - Support consumption by reducing saving rates

Chinese stimulus program (II)

- No reversal of export and investment oriented growth strategy
  - Export industries supported in new 5-year plan
  - Output growth better traced to domestic sources
  - Fall in consumption ratio should be reverted
- Advanced countries benefit from higher Chinese import demand
- Increasing demand generates higher inflation in China due to rise in capacity utilization
  - Increase in production and import costs
  - Lower purchasing power in industrial countries

Global VAR model

- International shock transmission investigated in multiple time series framework
  - Dees, Di Mauro, Pesaran and Smith (2009)
- Country specific VARs with international spillovers
  - Eqs contain foreign and/or global variables
  - Shocks contemporaneously correlated across eqs for specific country and across countries
- Foreign variables obtained by weighting scheme relevant for specific country
  - Time varying weights due to bilateral trade flows

Global VAR model (II)

- Estimation of country individual VARs
  - Real GDP, inflation, real equity prices, real exchange rate, short and long run interest rates
  - Contemporaneus foreign and global variables treated as weakly exogenous
  - No immediate feedbacks
- Stacked model solved for domestic variables by replacing foreign variables
- Generalized impulse response analysis
  - Invariant against order of variables and countries

Structural macromodels

- Large multicountry models for forecasting and policy simulation (NiGEM and OEF)
- No explicit microfoundation
  - Empirical fit drives the specification of eqs
  - ECMs estimated separately, forward simulation of whole model
- Supply and demand, input factors, wages and prices, government and monetary policy
- Output determined by demand components in the short run, coincides with supply in long run

Effects on output

	GVAR	NiGEM	OEF
China	3.4 | 3.7	3.0 | 2.7	3.1 | 2.9
Japan	0.6 | 0.7	0.9 | 0.4	0.0 | 0.0
US	0.4 | 0.7	0.2 | -0.3	0.0 | 0.0
Euro area	0.3 | 0.5	0.3 | 0.2	0.0 | 0.0

Cumulated response to Chinese GDP shock: +3.1 | +2.7 of GDP

Effects on inflation

	GVAR	NiGEM	OEF
China	0.5 | 0.8	1.3 | 2.7	0.2 | 0.8
Japan	0.3 | 0.5	0.1 | 0.4	0.0 | 0.0
US	0.0 | 0.2	0.2 | 0.6	0.0 | 0.0
Euro area	0.0 | 0.1	0.2 | 0.5	0.0 | 0.0

Cumulated response to Chinese GDP shock: +3.1 | +2.7 of GDP

Interpretation

- Results of models similar for Chinese response In particular for output reaction
  - NiGEM points to huge acceleration in inflation
- Results on spillovers very different
  - OEF does not indicate business cycle spillovers
  - GVAR and NiGEM point to a significant impact on output, particularly strong in Asia
- Risk of increasing global inflation because of higher production and import costs (NiGEM)

Euro area debt crisis

- China still vulnerable against shocks arising in industrial countries
  - EA most important export market
- EA debt crisis imply output losses in China
  - GDP growth falls by 1 percentage point, in response to 2 percentage points in euro area
- China highly vulnerable to shocks in industrial countries
  - No independent pillar for global growth

Conclusions

- Impact of Chinese fiscal stimulus program on output and inflation in advanced countries
  - Structural econometric and time series models
- Effects on output and inflation for advanced economies
  - Strong effects in Asia. Lower effects in US and EA as trade relationships are less intensive
  - Termination of measures unlikely to cause global recession
  - Positive impact limited by increase in inflation