Opportunities and Challanges
Impact of Chineese competition on Hungarian Manufacturing

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Outline

- Multifold channels of the Chinese influence on Hungarian manufacturing:
  - Competitive threat on domestic and foreign markets
  - Providing the best growth opportunities outside the stagnating domestic and traditional export market
  - Influencing commodity prices and the terms of trade
- Competitiveness issues:
  - Micro data: response of firms to import competition

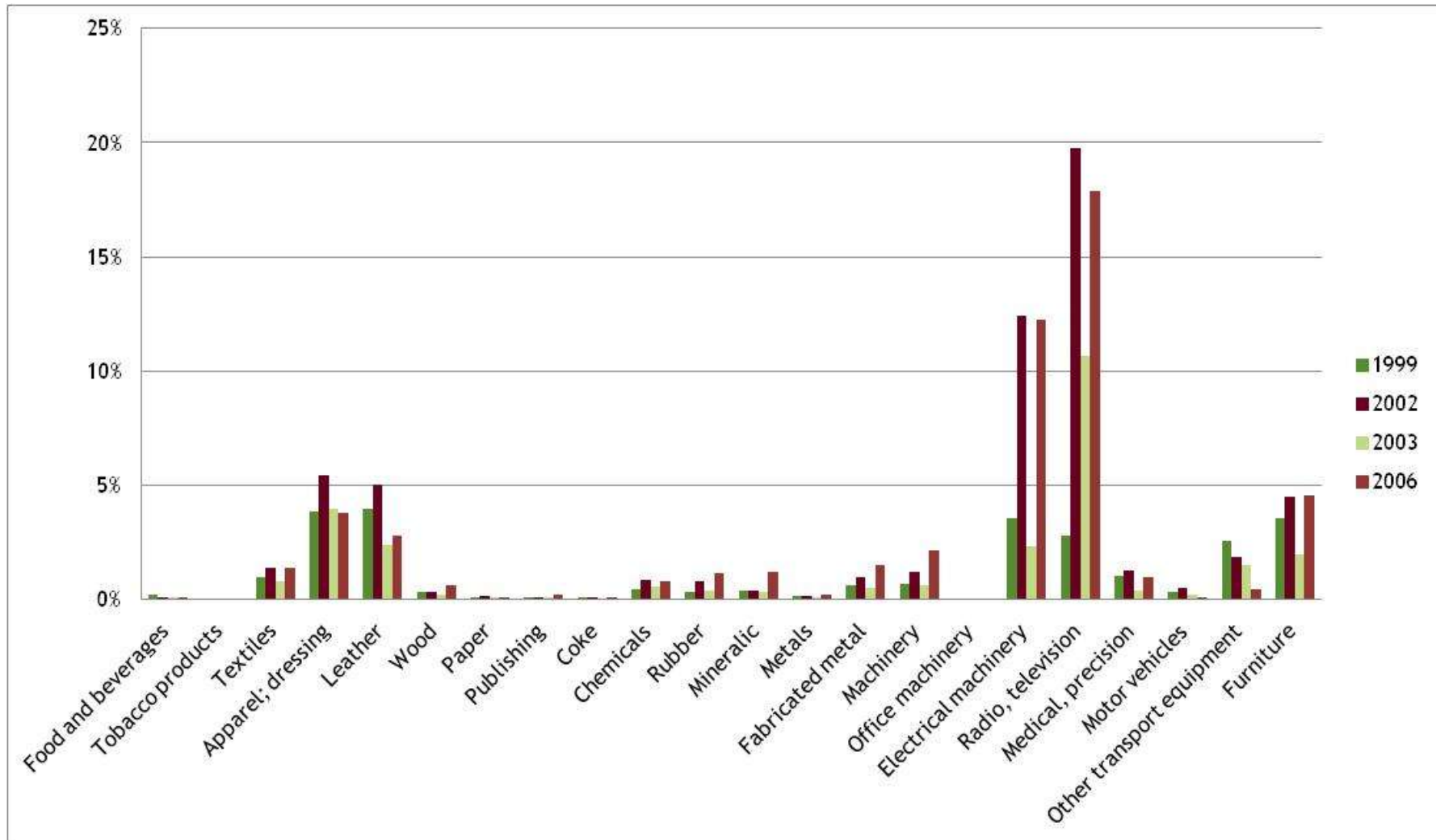- GVAR simulations

- Future challanges

Measuring the impact of the competitive threat from China

- **Bernard,** Andrew B. & **Jense**n, J. Bradford & **Schott**, Peter K., 2006. "**Survival of the best fit: Exposure to low-wage countries and the (uneven) growth of U.S. manufacturing plants**," Journal of International Economics

- Applied to many manufacturing exporter countries: Chile, Mexico, South East Asean countries

- Plant survival as well as output and employment growth are negatively associated with the share of industry imports sourced from the world 's lowest-wage countries.

- Within industries activity is reallocated towards capital-intensive plants.

- Data:
  - Plant level data 1999-2008
  - Trade data by product and by importing firms
  - Two periods: 1999-2002, 2003-2008 proxy for Chinese trade

Methodological change makes it difficult to compare imports from China trade before and after EU entry
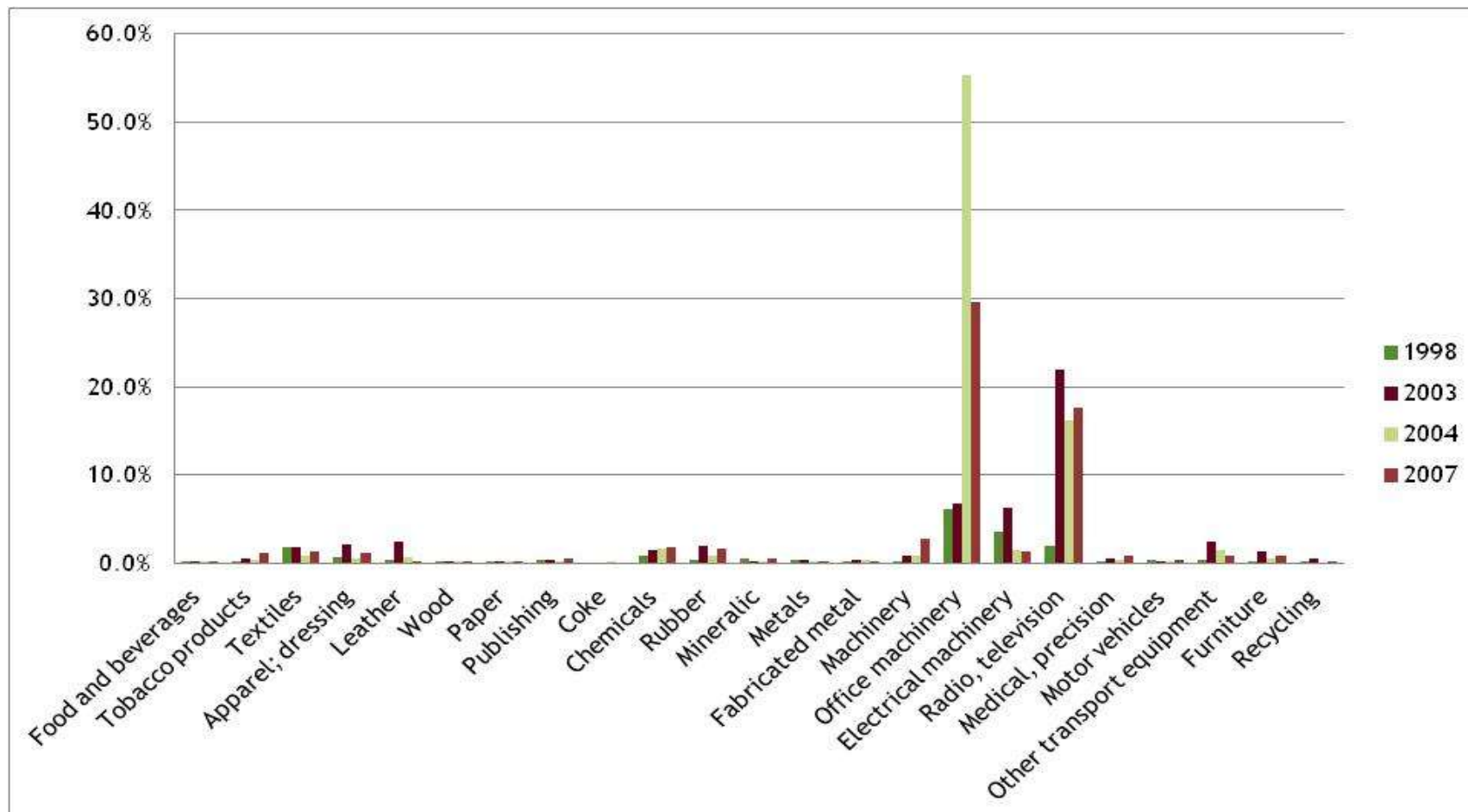
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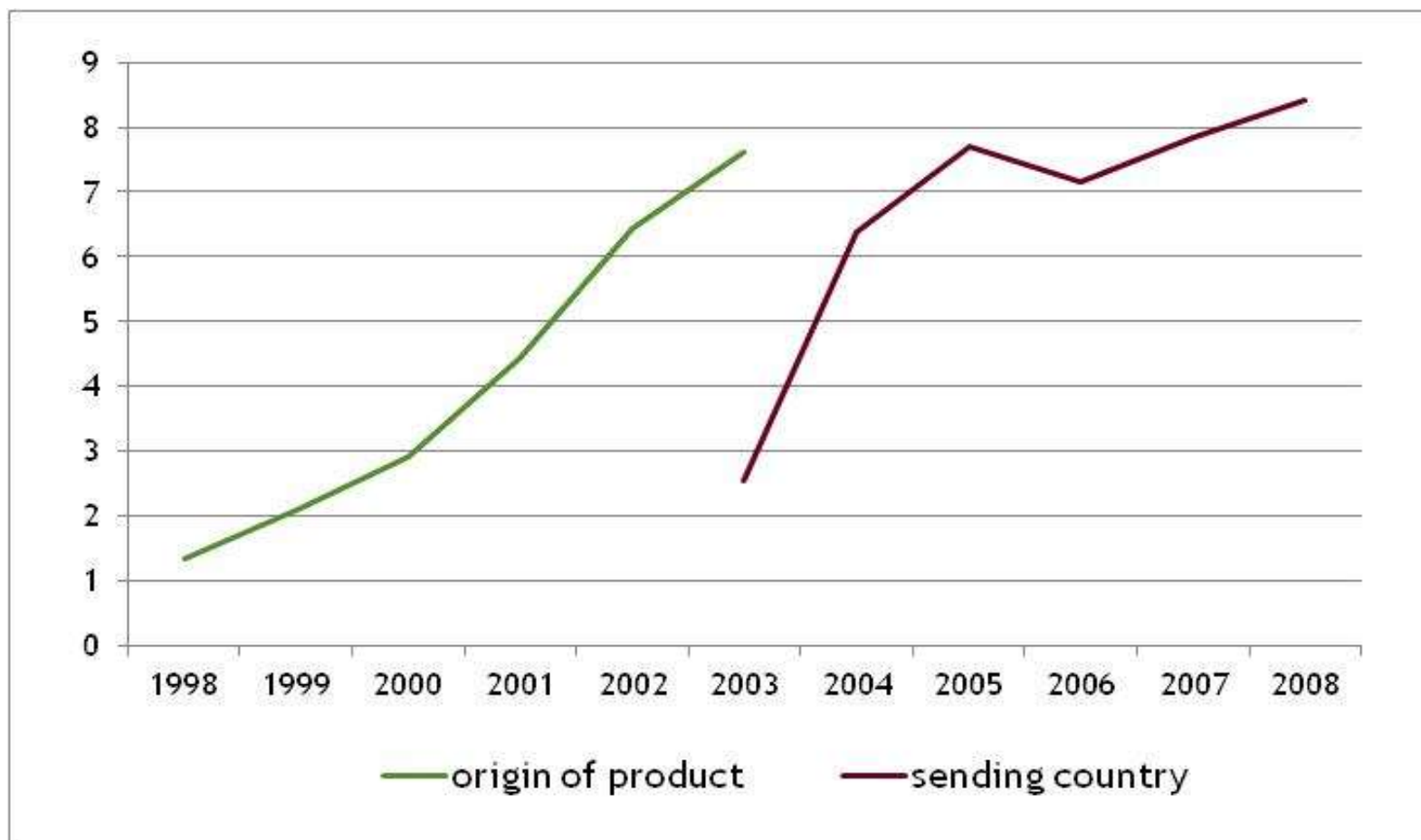
Chinese import penetration in manufacturing. 1999-2006

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Outsourcing became prevalent in a few sector

Chinese Import share in manufacturing production, 1998-2007

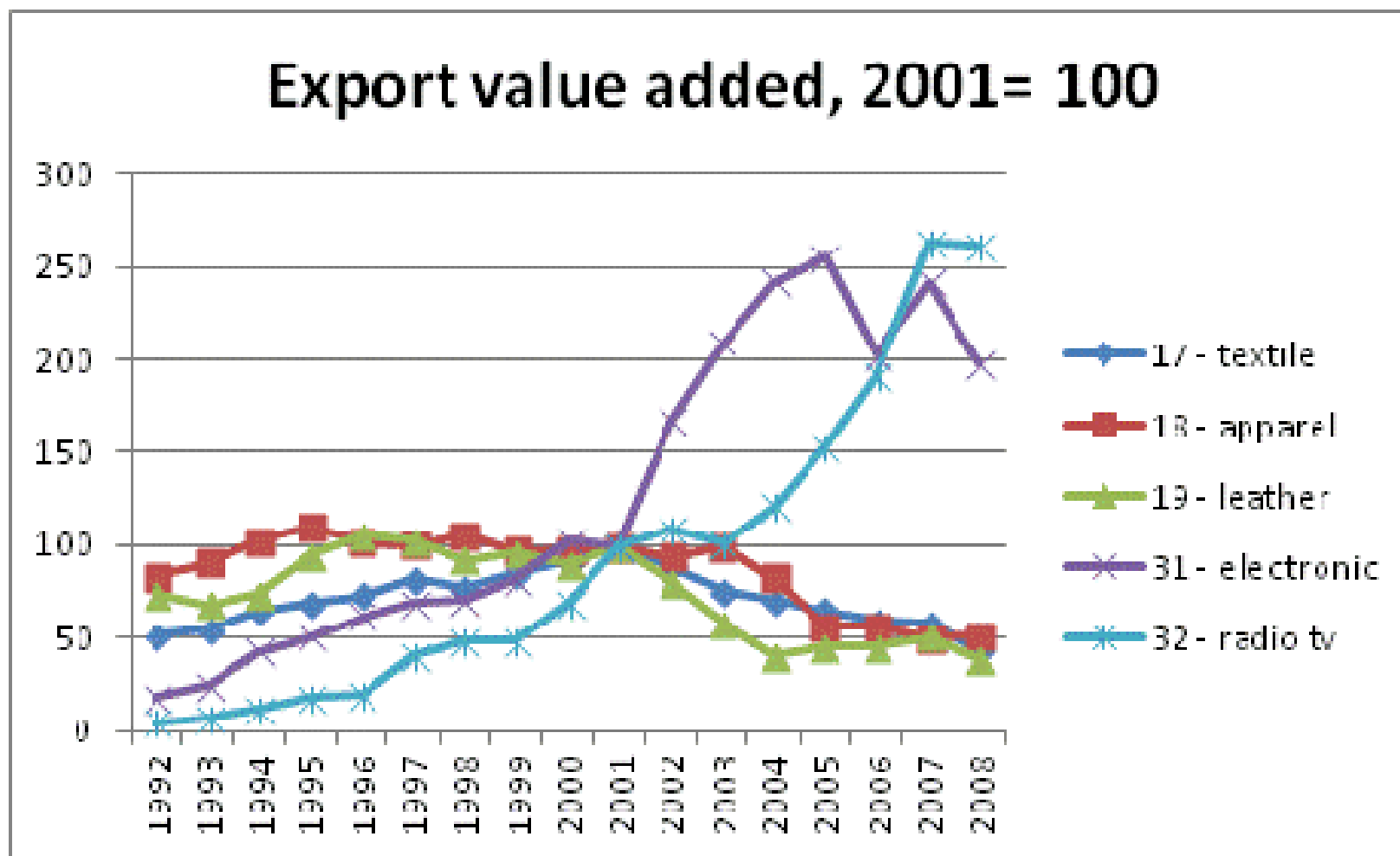# Surprisingly little significant impact, wages respond to increased Chinese competition

- No significant impact of Chinese competition on:
  - Survival
  - Employment
  - Output
  - TFP

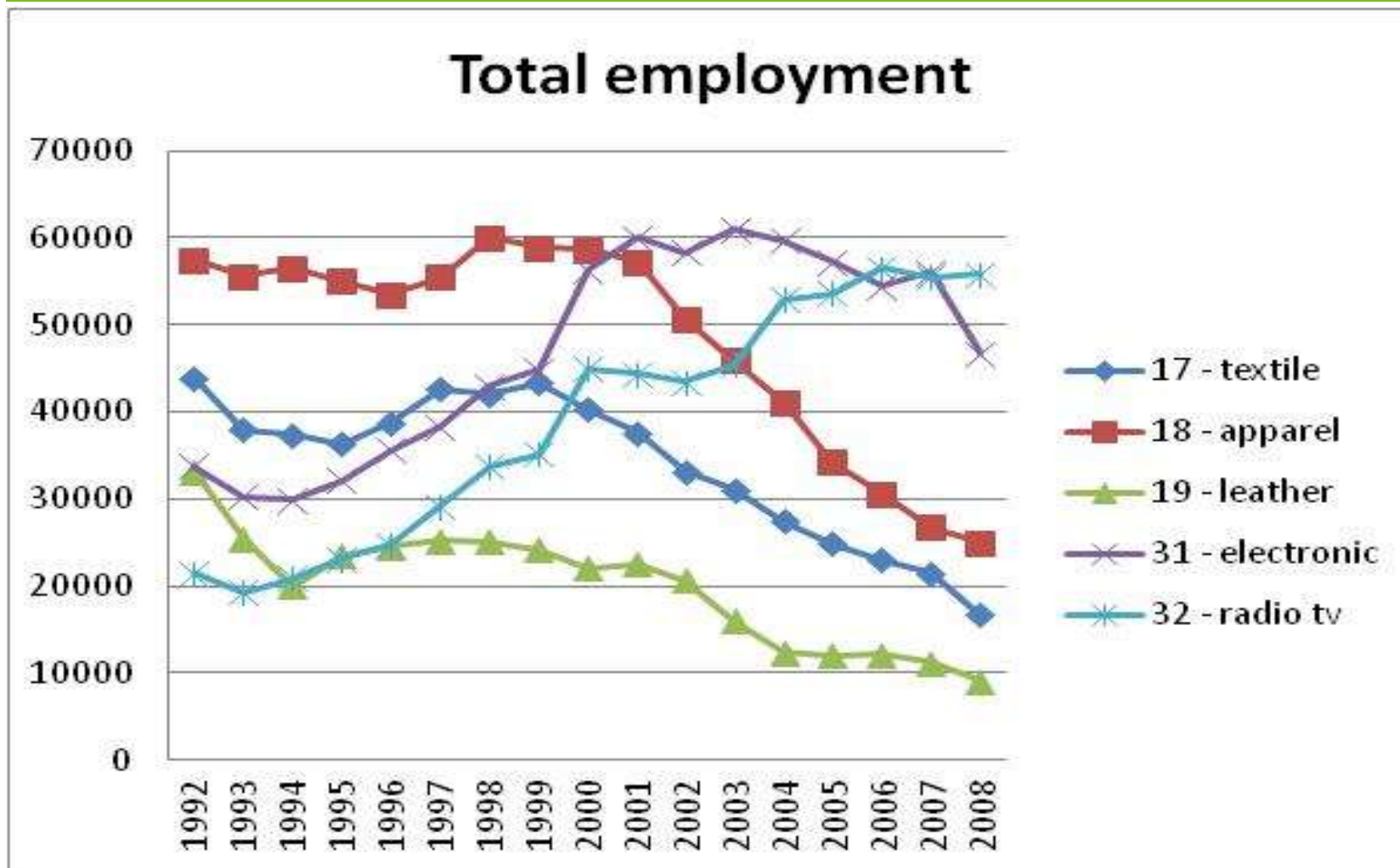| Change in wages	1999-2002	2003-2007
import penetration	-0.31	-0.16 not significant
import share in production	-0.03	-0.35

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Diverging adjustment patterns among the sectors

- **Low tech sectors retreated from Chinese competition:**
  - Textile
  - Apparel
  - Leather and shoes
- **Acceleration of technological change in electronics (office machinery, electrical machinery, radio tv)**
  - While benefittinfg from low cost parts
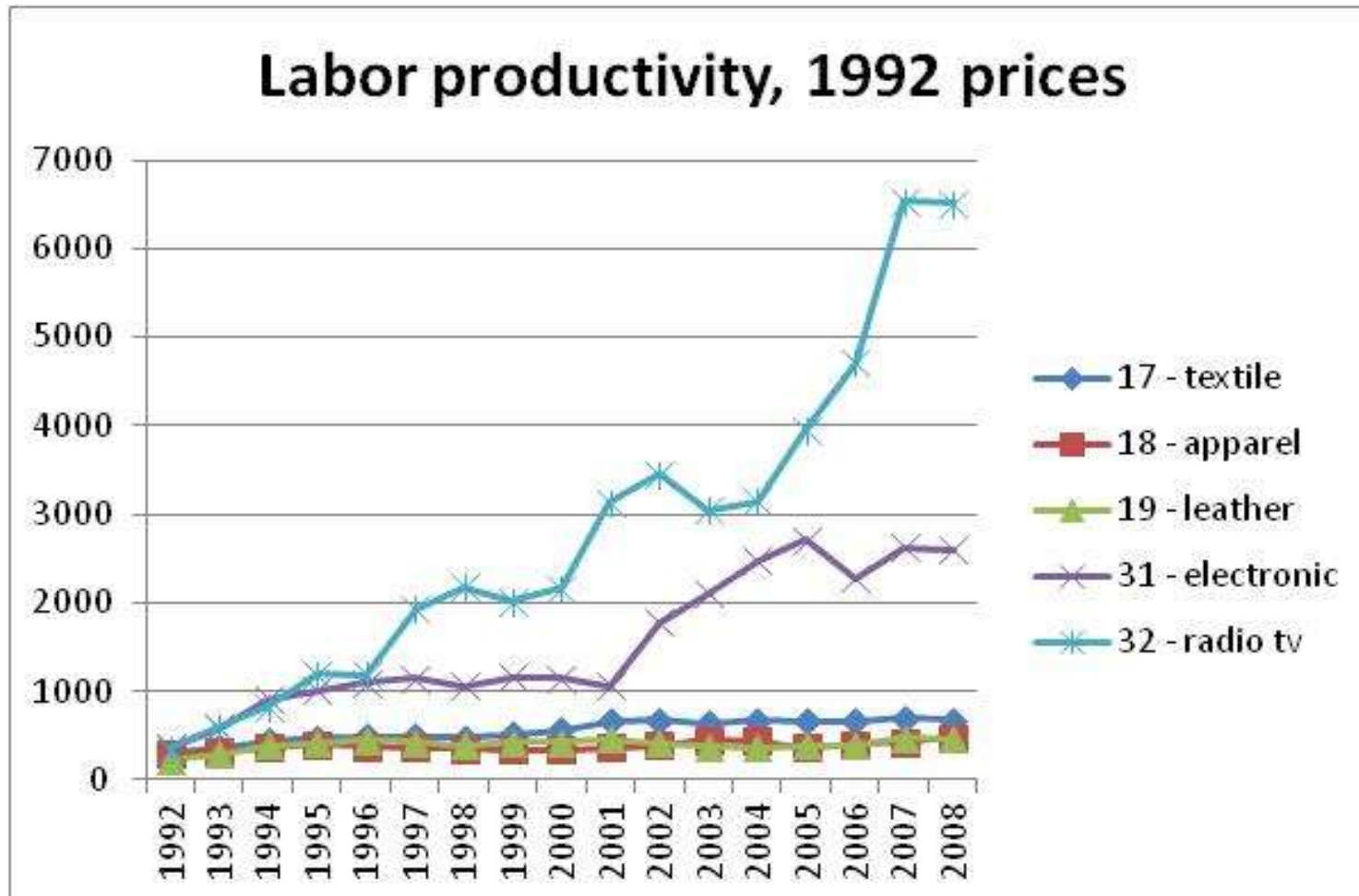 - Restructuring to higher technology products

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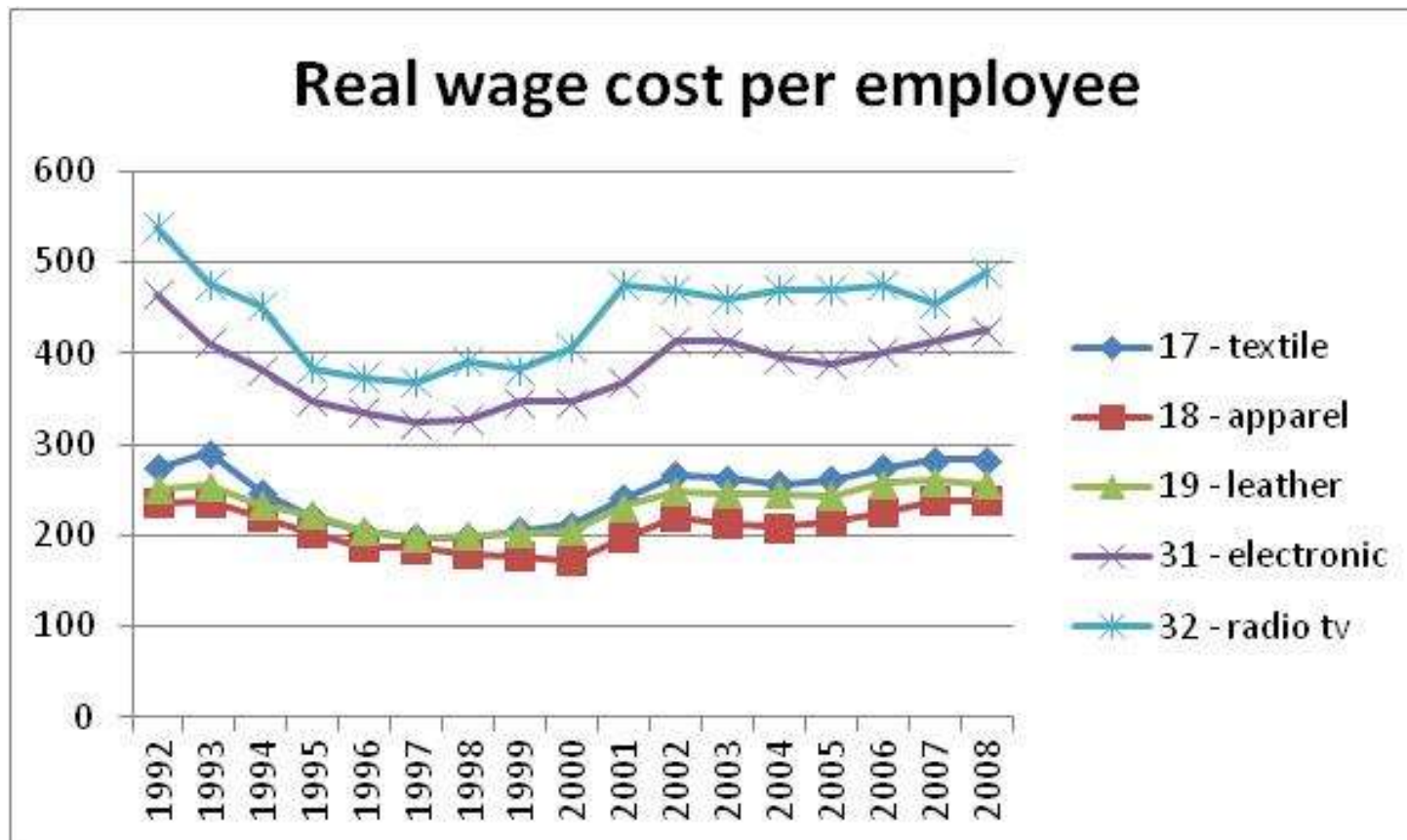# Competition on third market was the decisive factor in success

Export value added, 2001= 100

Legend:
- 17 - textile
- 18 - apparel
- 19 - leather
- 31 - electronic
- 32 - radio tv

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Significant downsizing in low tech industries

Total employment

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Low skill industries weren't able to move up on the technology ladder

Labor productivity, 1992 prices

- 17 - textile
- 18 - apparel
- 19 - leather
- 31 - electronic
- 32 - radio tv

Minimum wage increases didn't allow wage adjustment in low tech sectors, significant decline in wage share in expanding sectors
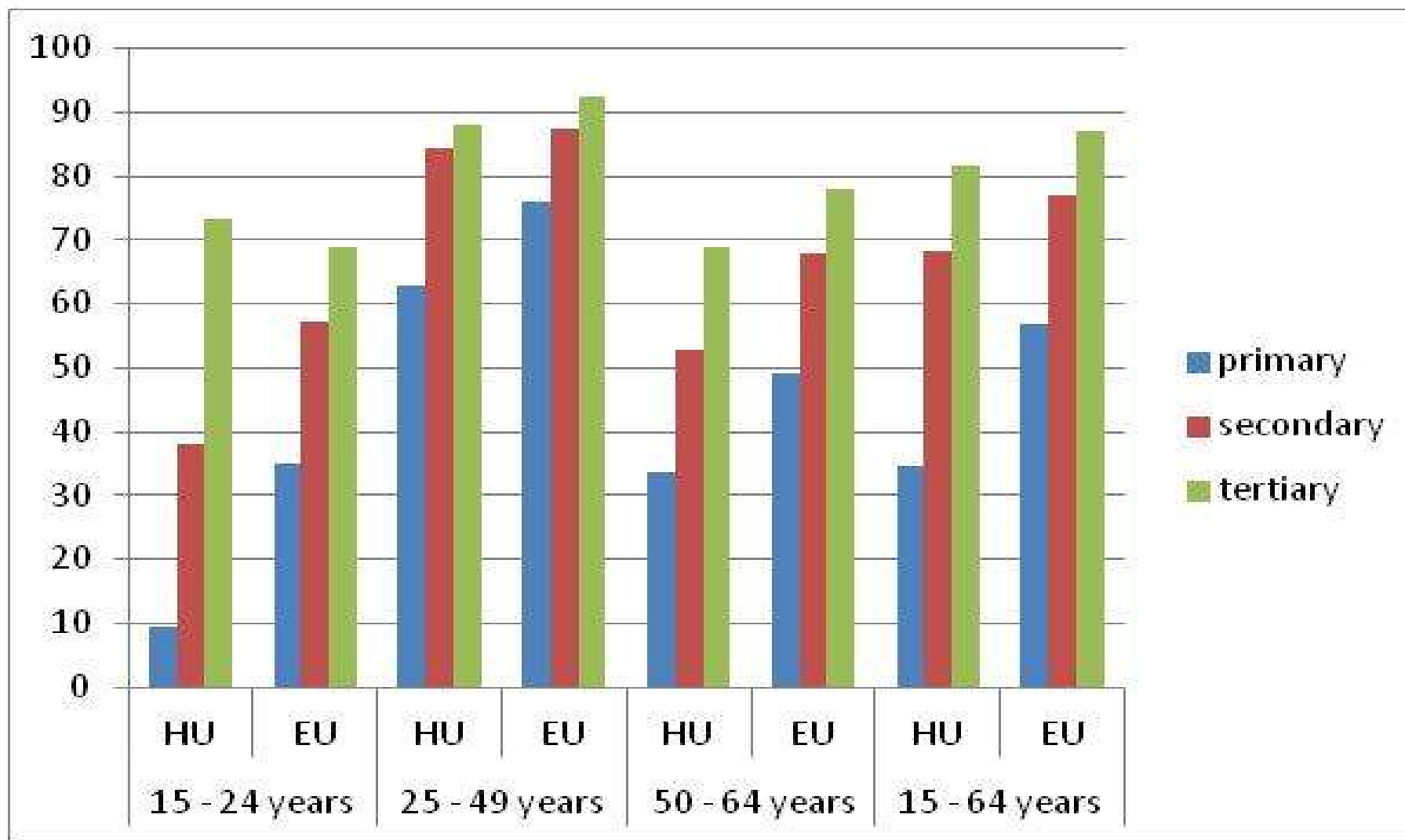

Real wage cost per employee

Legend:
- 17 - textile
- 18 - apparel
- 19 - leather
- 31 - electronic
- 32 - radio tv

China entry to WTO coincided with large minimum wage hikes in Hungary

Kaitz indices in the region

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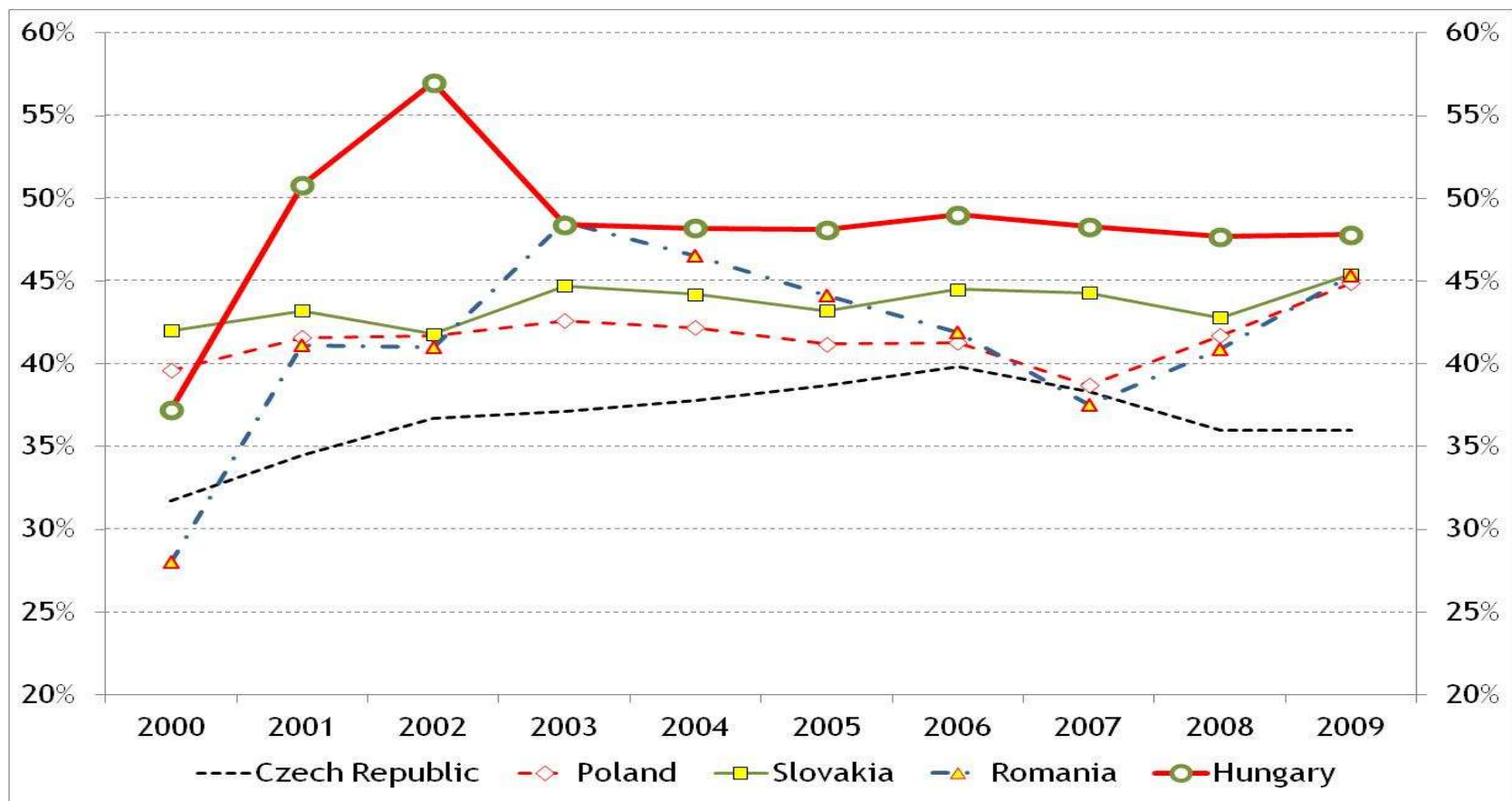
Participation rate in Hungary and in the EU

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The export story

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# China's export shares in the region tripled from 2000 to 2010, but indirect impact is more importent

The share of China in the trade of CEE countries

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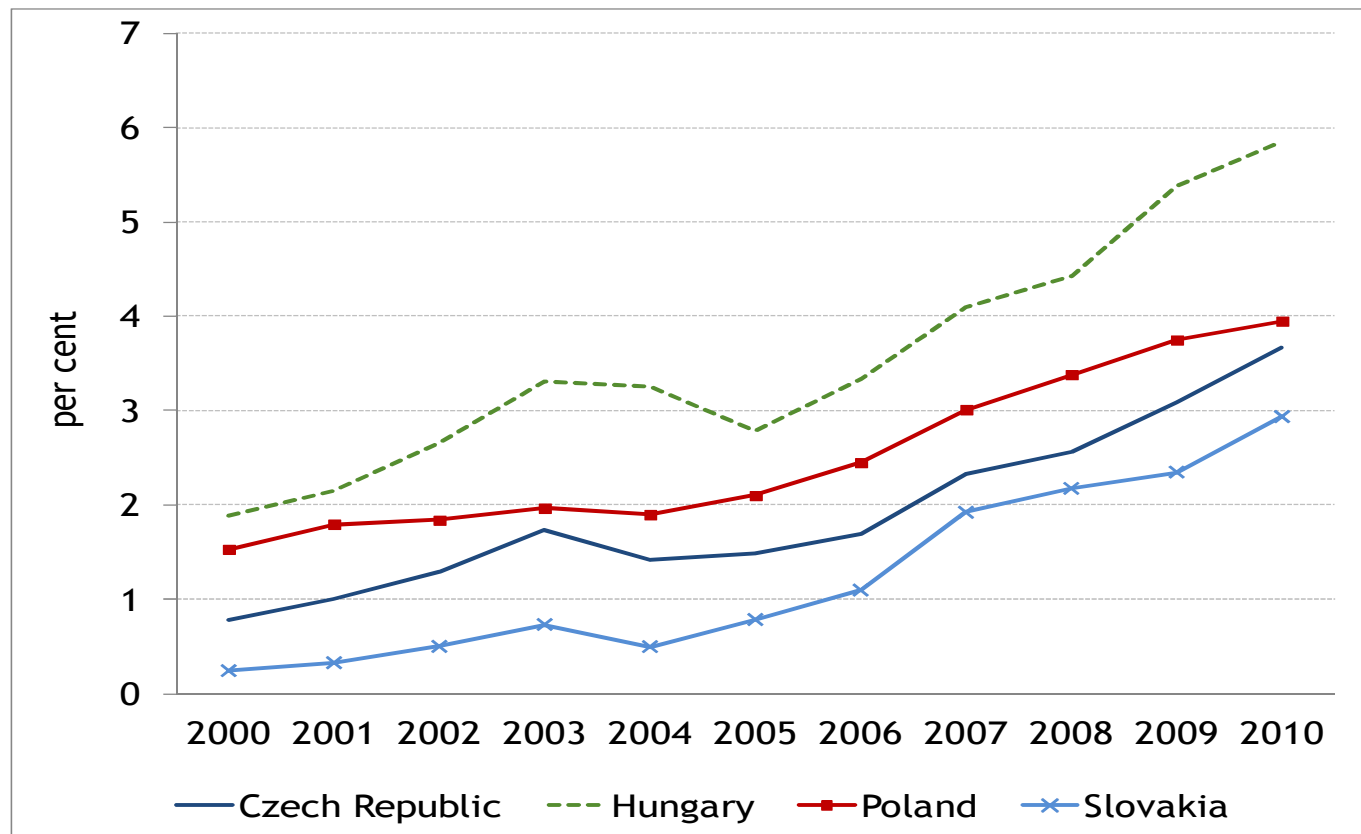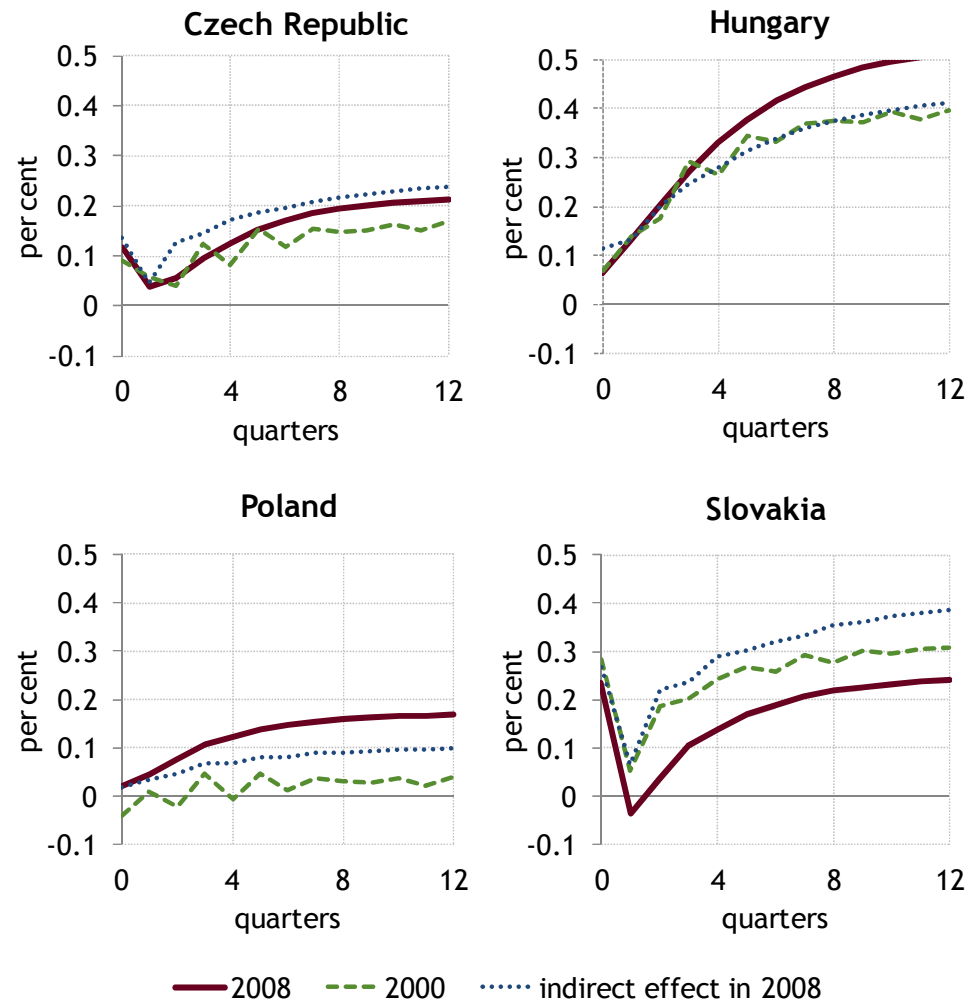
The GVAR framework

- Global model combining individual country VECM models, whose domestic variables are related to country-specific foreign variables in a consistent manner.

- Details:
    - Replication of **Cesa-Bianchi** et al. (2011) + detailed CEE region
    - 32 regions (eurozone modelled as a single entity)
    - Sample: 2000Q1-2009Q4
    - Country VECMX variables: domestic & foreign GDP, inflation + oil price
    - Time-varying trade weights for construction of foreign variables
    - 2000/2008 trade weights for construction of GVAR
    - Generalized impulse responses (GIRF) for a China GDP shock lie between Cesa-Bianchi et al. (2011) and Dreger-Zhang (2011)

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GIRF's of GDP for a 1% increase in China GDP:
impact with 2000 (dashed line) and 2008 (solid line) trade weights

The chart shows point estimates of the generalized impulse responses of GDP levels.

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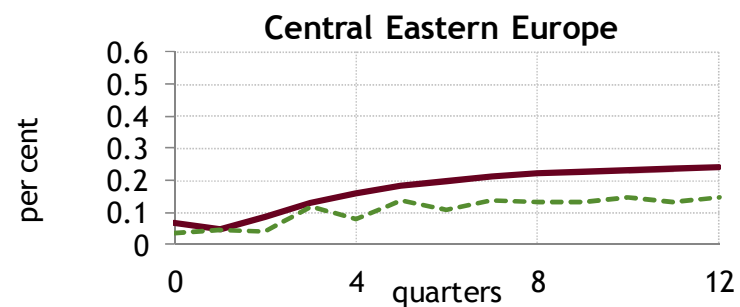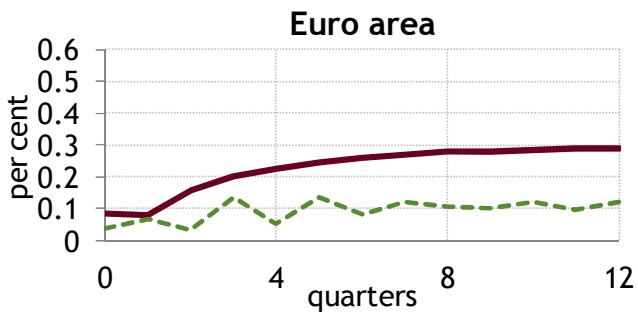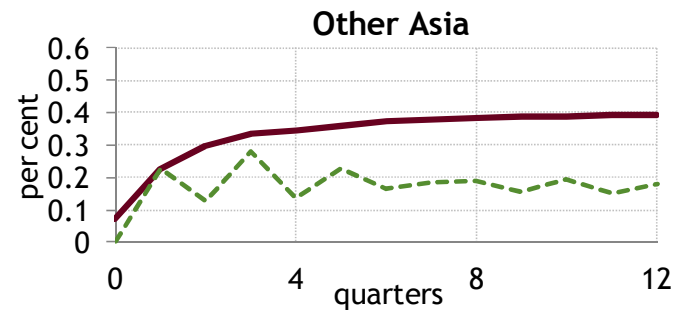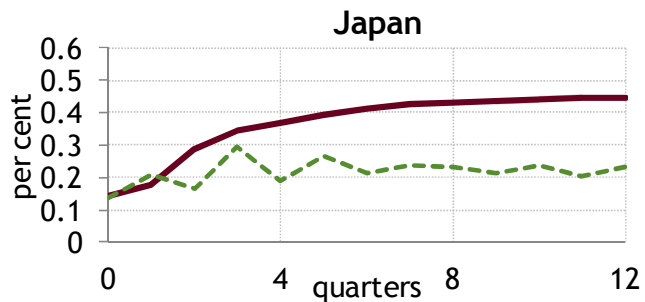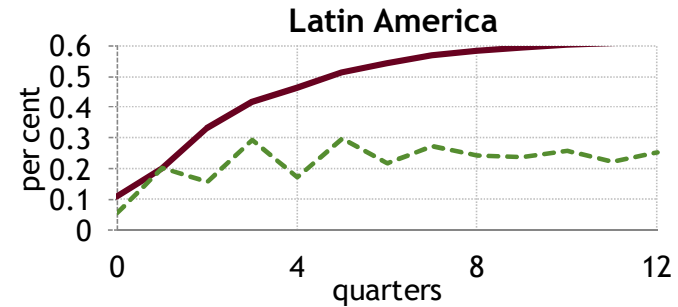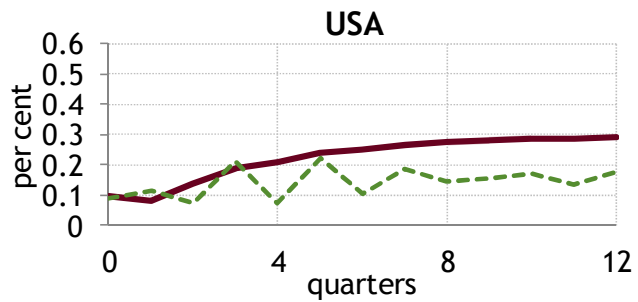
GIRF's for a 1% increase in China GDP:
impact with 2000 (dashed line) and 2008 (solid line) trade weights

• Role of China increases from 2000 to 2008

• Indirect effects dominate (stronger China-eurozone trade linkages)

Indirect effect = ceteris paribus impact of China's stronger trade linkages with the eurozone and the USA (calculated by lowering the trade shares of China in CEE countries)

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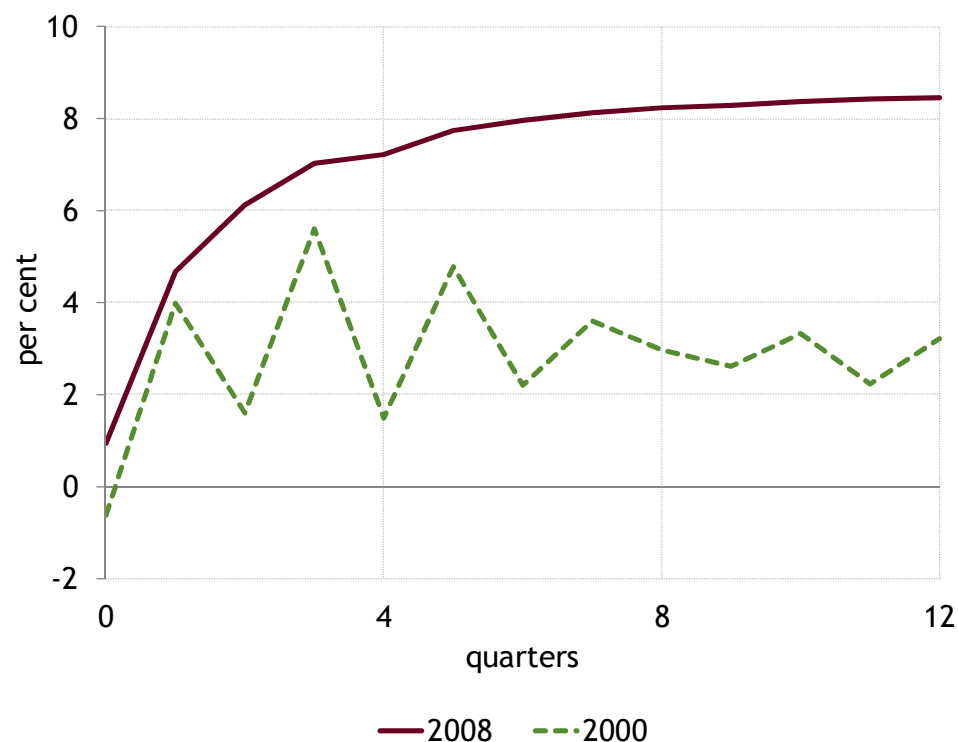# The flip side: the impact on commodity prices and global inflation

Robust Chinese demand for commodities

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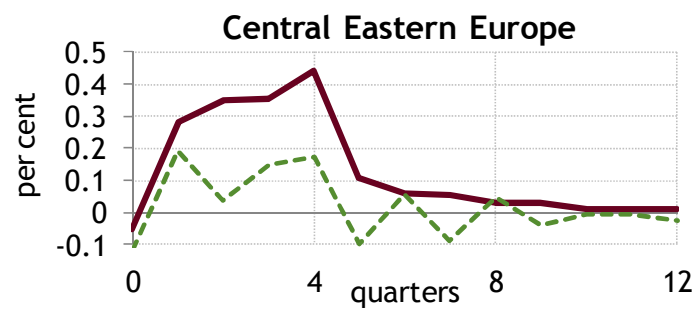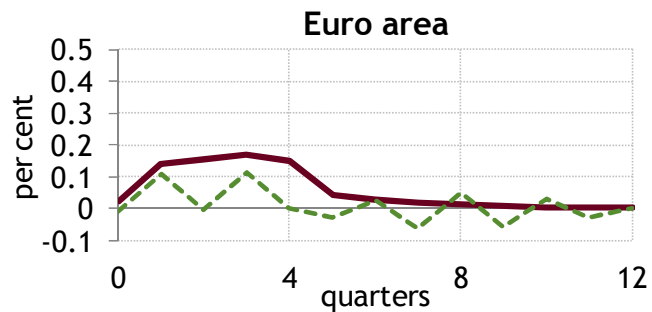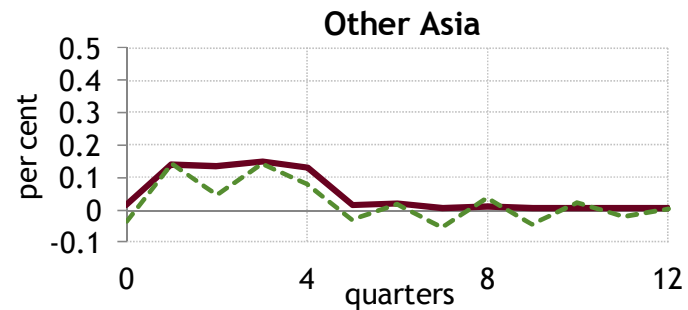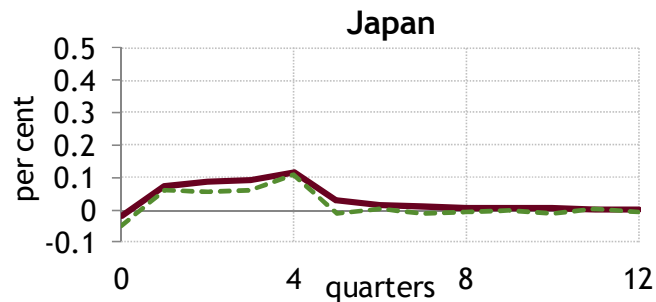
China is the marginal consumer of commodities

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Chinese demand affects commodity prices and global inflation

GIRF of oil price to a 1% increase in China GDP

per cent / quarters

— 2008   - - - 2000

The chart shows point estimates of the generalized impulse responses of nominal oil prices.

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GIRF's of inflation for a 1% increase in China GDP:
impact with 2000 (dashed line) and 2008 (solid line) trade weights

USA

Latin America

Japan

Other Asia

Euro area

Central Eastern Europe

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The chart shows point estimates of the generalized impulse responses of year-on-year inflation rates.
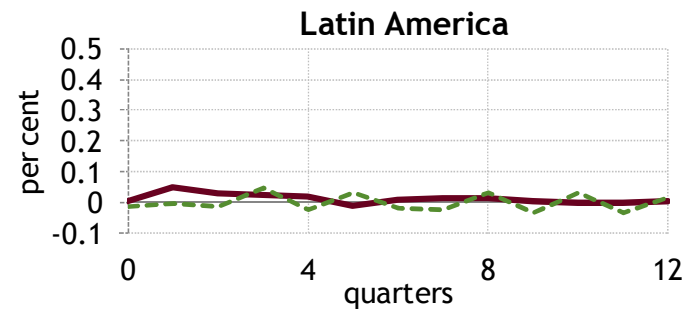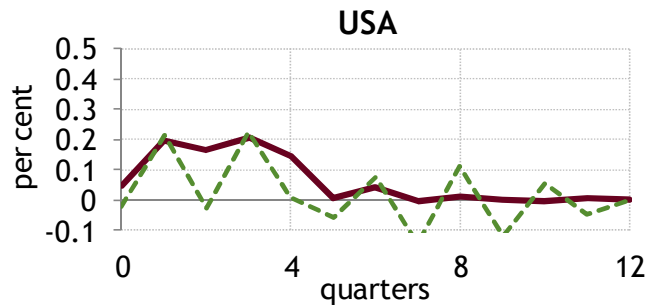
How much did China contribute to post-crisis recovery?

- Chinese stimulus/GDP:
(from Dreger-Zhang, 2011)
  - 3.1% in 2009
  - 2.7% in 2010
  - Modelled as shock to Chinese GDP

- Non-negligible effect throughout the world
  - Major source of growth for Hungary

Estimated impact of Chinese stimulus measures in 2009-2010 on GDP growth (percentage points)

	2009	2010	2011
USA	0.4	0.7	0.4
Latin America	0.8	1.5	0.9
Japan	0.7	1.1	0.6
China	2.0	2.5	0.9
Rest of Asia	0.7	1.0	0.4
Euro area	0.4	0.7	0.4
Central Eastern Europe	0.3	0.5	0.4

Analysis based on GVAR model with 2008 trade weights.

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Summary

- China plays a growing role in global output gap and price trends:
  - so far indirect trade channels are more important for Hungary
  - commodity price channel is stronger than in other regions:
    - Challange for monetary policy
- Chinese competition:
  - induced an acceleration of technological change
  - burden of adjustment fell more heavily on low skilled
- Policy challenges:
  - transition of displaced workers across jobs were unsuccessful
    - ALMP
  - skills didn't keep up with technological change
    - education challenges
    - Chinese skill intensity is increasing

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