

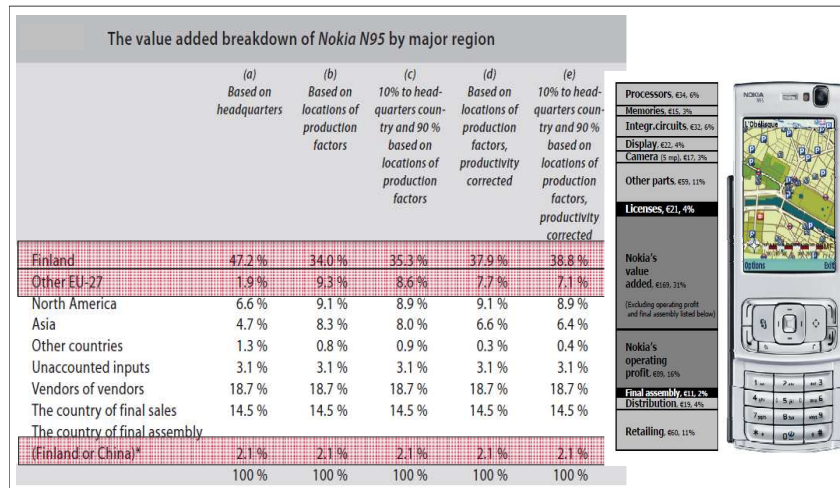
# Made in Europe: Production integration in Europe and beyond

Robert Stehrer

## Overview

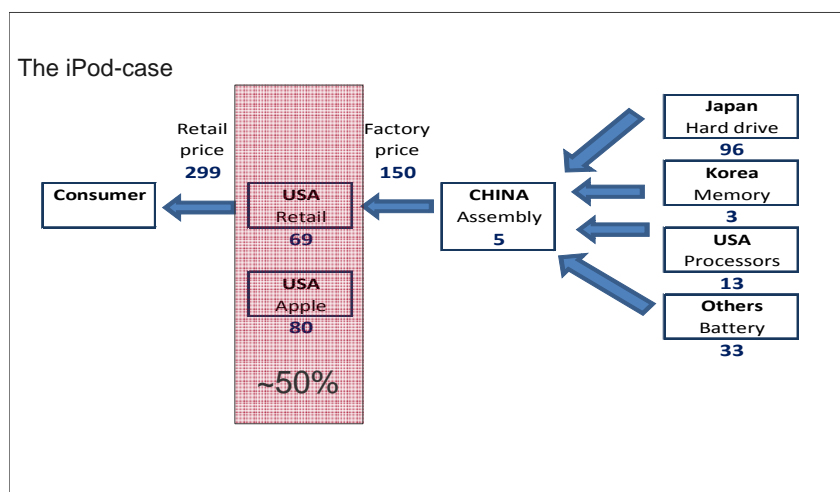
- Growth in pre-crisis period was partly fuelled by international integration processes
  - Within Europe and particularly for the EU-12
  - Europe with world (emerging markets)
- Various aspects of international integration
  - Trade, FDI, Migration
  - Internationalisation of production, global supply and value chains
  - Offshoring
- Pre-crisis period has seen significant changes in geographical patterns of production chains
  - Intra-European integration of production as compared to other parts of the world
  - Europe's role in the global economy
  - Implications on intra- and extra-integration of production
- Who captures value added in global manufacturing?
  - How much does EU get from the growing cake?
  - Where is value added created and who earns factor incomes
  - What does that mean for employment?

### Internationalization of production – Nokia N95



Source: Säpele, et al. (2011), ...

### Internationalization of production



Source: Linden, et al. (2007), ...



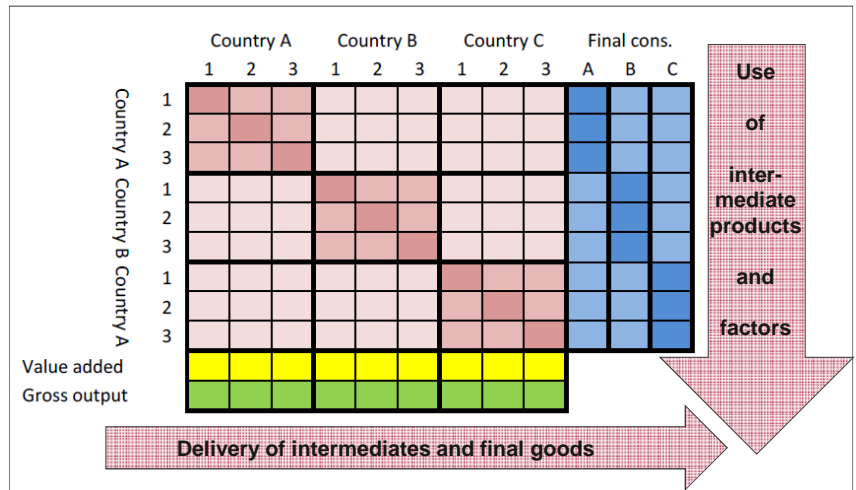
World Input-Output Table – Schematic scheme

		Country A			Country B			Country C			Final cons.		
		1	2	3	1	2	3	1	2	3	A	B	C
Country A	1												
	2												
	3												
Country B	1												
	2												
	3												
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Value added													
Gross output													

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## World Input-Output Table – Schematic scheme



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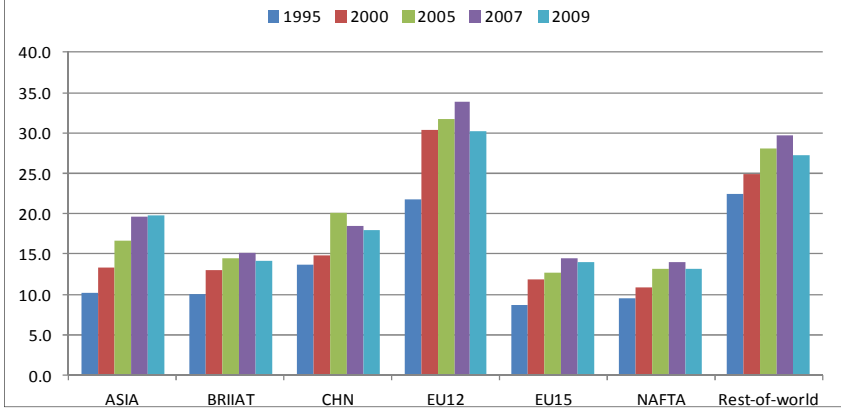
## The World Input-Output Database (WIOD) project

- Large-scale EU Framework 7 project (May 2009 – April 2012)
- Inter-country Supply-Use and Input-Output tables
  - Benchmarked to National Accounts data
  - 35 sectors (NACE Rev. 1) and 59 products (CPA)
  - Linked together with bilateral trade data for goods and services
- Period: 1995-2009 (current and previous year prices)
- 40 countries (85% of world GDP)
  - EU-15 countries
  - EU-12 countries
  - NAFTA: Canada, USA, Mexico
  - BRIIAT: Brazil, Russia, India, Indonesia, Australia, Turkey
  - ASIA: Japan, China, South Korea, Taiwan
  - CHN: China
  - Rest-of-World
- Satellite accounts
  - Socio-economic: Capital and labour (HS, MS, LS) in physical inputs and factor incomes
  - Environmental accounts

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### Foreign content of exports, 1995-2009

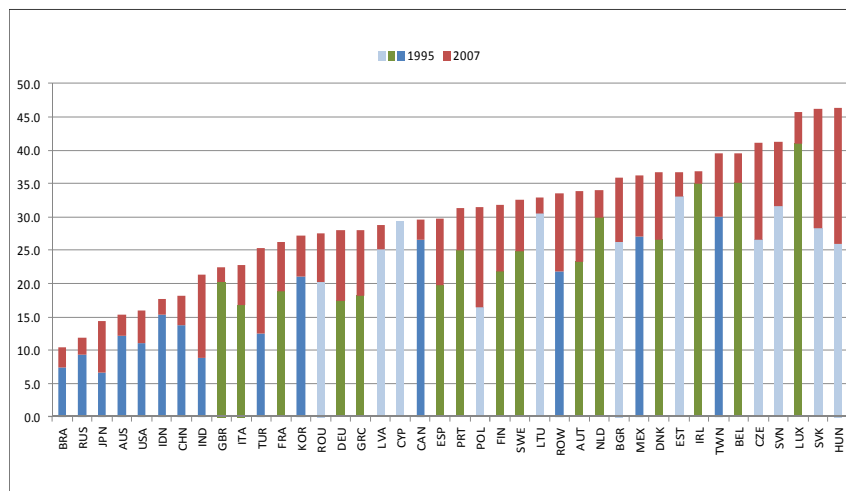
Foreign output needed to produce a country's exports  
in % of foreign and domestic production needed for exports



Source: WIOD database, own calculations.

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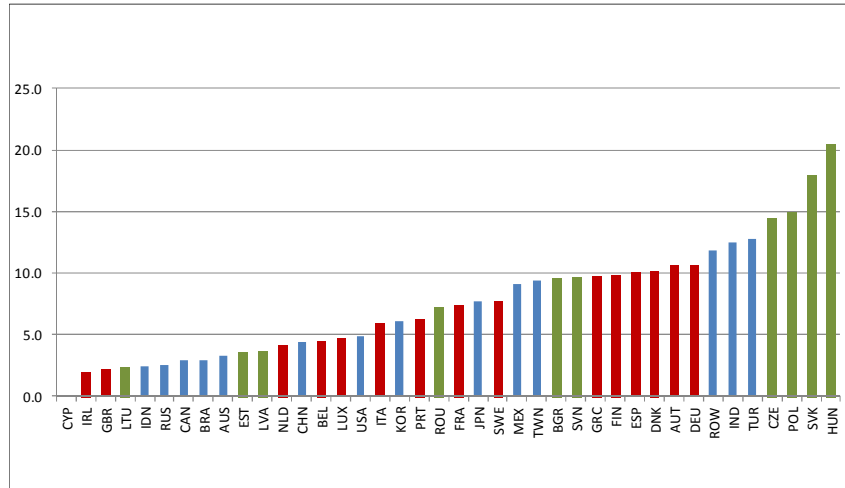
### Foreign content of exports, 1995-2007



Source: WIOD database, own calculations.

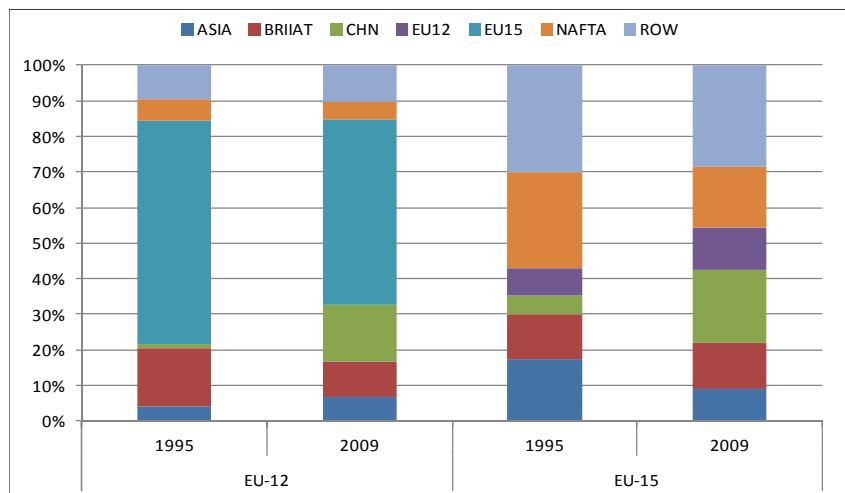
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### Foreign content of exports Difference 1995-2007 in percentage points



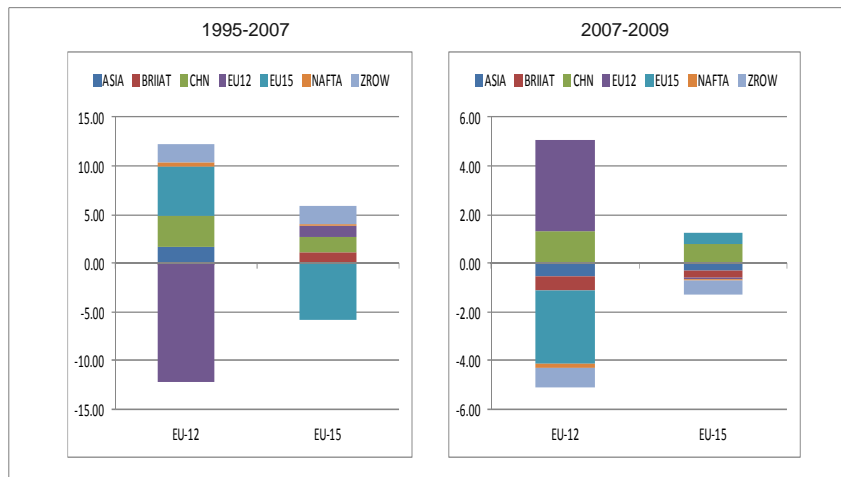
Source: WIOD database, own calculations.

### EU sourcing structures, 1995 and 2007



Source: WIOD database, own calculations.

## Squeezing in and crowding out percentage point change



Source: WIOD database, own calculations.

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## Integration of production

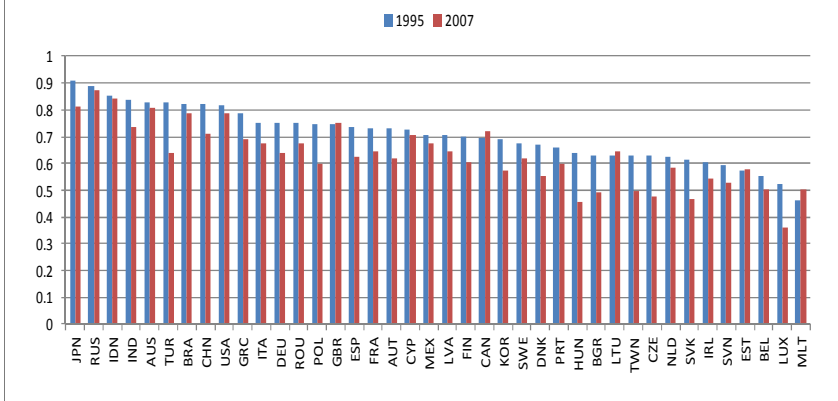
- EU is highly integrated in production, particularly NMS4
- EU integration process was very dynamic
  - as compared to other regions
  - For both intra-EU and extra-EU integration
- Crisis lead to 'back-shoring'
  - Together with reduction of 'near-shoring'
  - And increasing 'far-shoring'
- Break in longer-term patterns?
  - Evidence from trade data suggests increase of 'far-shoring'
  - Firm level evidence supports back-shoring and far-shoring

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## Increasing international integration of production – Decreasing value added content of exports

Domestic value added content of exports (VAX ratio), 1995 and 2007



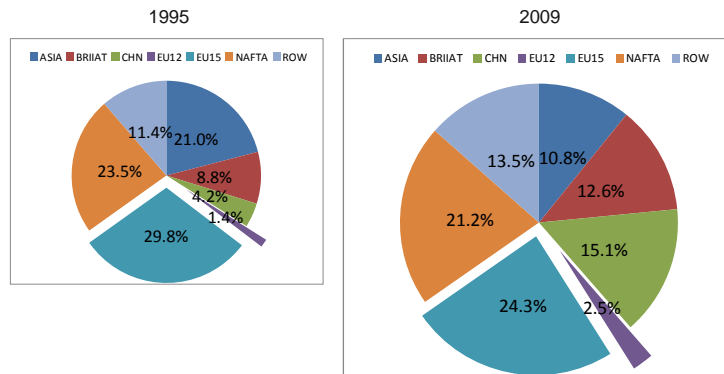
Source: WIOD database, own calculations.

## Slicing up global value chains

- Who contributes value added to global manufacturing output?
  - Value added created in manufacturing sectors
  - Value added created for inputs in manufacturing sectors
  
- Where is income earned?
  
- Which factors gain and loose?

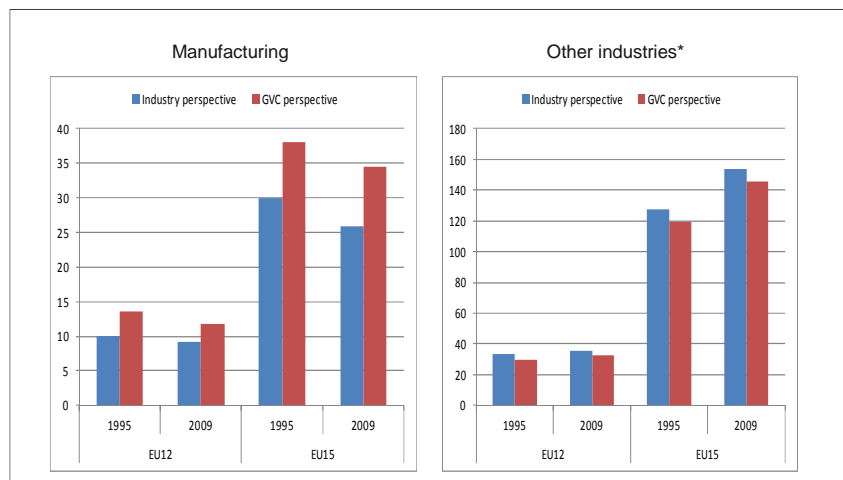
## Who contributed value added to global manufacturing demand ?

Value added created for production of global manufacturing output



Source: WIOD database, own calculations.

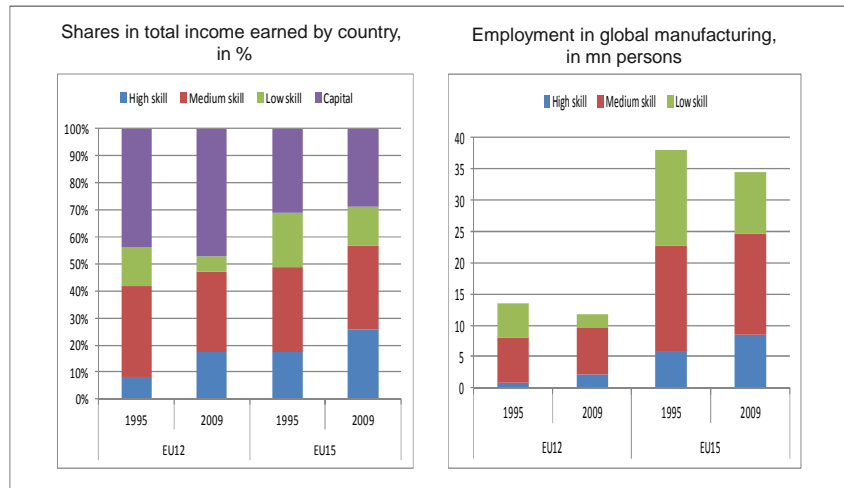
## EU contribution of employment to global output in mn persons employed



\* Note different scale.

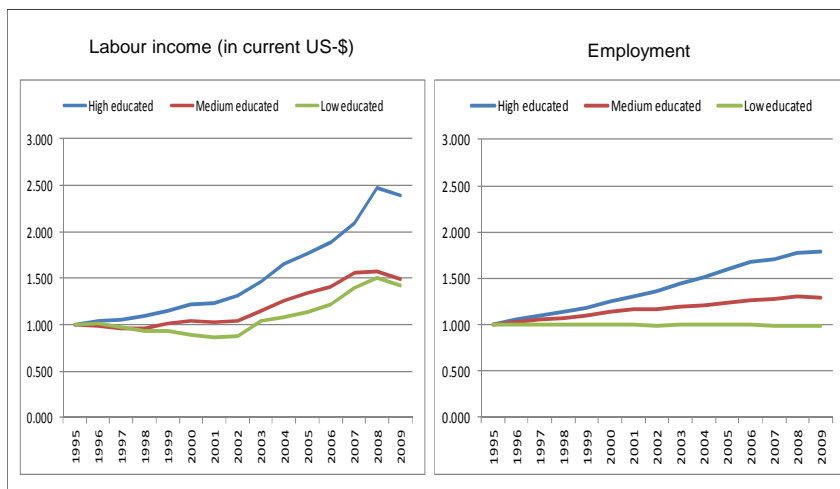
Source: WIOD database, own calculations.

### Income and employment in global manufacturing



Source: WIOD database, own calculations.

### Employment and labour income in WIOD countries 1995=1



Source: WIOD database, own calculations.

## Summary/Conclusions

- Increasing integration in international production chains
  - Strong intra-EU integration particularly with new member states
  - Significant shifts to global manufacturing
- Crisis led to a break in these patterns
  - Tendency to “back-shoring”
  - From EU perspective: tendency to “far-shoring” on the expense of “near-shoring”
- Rising vertical integration of countries and declining value added content of exports
- Change in perspective: Slicing up global value chains
- General increase of value added contributed to and income earned on global manufacturing output for EU countries
  - New member states even significantly increased their shares
  - Old member states lost in importance in relative terms
- Income and employment of low educated workers declined in EU
  - On the background of significantly changing global employment patterns
  - Rising supply of educated labour also in emerging markets
  - General increase of wage spread between low qualified and high qualified workers
  - Patterns of factor- and sector biased technical progress
- Last but not least: Presentation of recently compiled database (WIOD)
  - Aimed for studying global patterns of production and trade

## References

- Foster, N., R. Stehrer, M. Timmer and G. de Vries (2012), Trade in value added and factor services: Trends and patterns, in preparation.
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