



New Measures of European Competitiveness. A Global Value Chain Perspective

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Background

- Production is increasingly organised in global value chains (GVCs). This international fragmentation of production has strong effects on distribution of income both *across*, and *within* countries
- Demise of manufacturing employment and exports lead to demands for active industrial policies and trade protection in Europe and the US.
- At same time product case studies (of e.g. mobile phones) suggest that advanced nations still capture large parts of the value chain (e.g. by carrying out R&D, branding, logistics)





Background

- Nowadays, international competition is at level of activities rather than at level of products: **it is no longer about what you *sell*, but what you *do***
- Traditional measures of competitiveness such as export values do not capture the value added of activities. There is a need for new measures.
- We propose *GVC income*: the value added in a country by carrying out *activities* in global value chains (GVCs)
- This extends the concept of “exports of value added” and also includes activities carried out to satisfy domestic demand.





Simple illustration of GVC income concept

CARS consumed in EU: 100 million euro

Activities needed for producing a CAR:

- (A) Assembly: value added is 10% of car value
- (B) Component manufacturing: 30%
- (C) Branding: 60%

Activities carried out in		GVC income		Exports by EU
EU	Non-EU	EU	Non-EU	
A,B,C	-	100	0	0
B,C	A	90	10	30
C	A,B	60	40	0
-	A,B,C	0	100	0





GVC income measure

- **Exports statistics** are weak indicator of competitiveness
- **GVC income** provides alternative and measures the value added in a country by carrying out *activities* in global value chains (GVCs).
- Three attractive properties.
 - Indicates to what extent a country can compete with other nations in terms of *activities* related to global production
 - It is a reflection of an economy's strength to compete in both domestic and global markets.
 - Can be decomposed further into income for various types of labour and capital to analyse effects on income distributions





Aim of this paper

- **AIM** of this paper to establish some **stylised facts** on income distributions in **manufacturing GVCs**
- Focus on activities in **production of manufacturing** goods, as these are mostly organised in GVCs and internationally contestable.
- Three types of results
 1. Changes in the GVC income across regions
 2. Changes in employment involved in GVCs
 3. Changes in incomes for labour and capital in GVCs





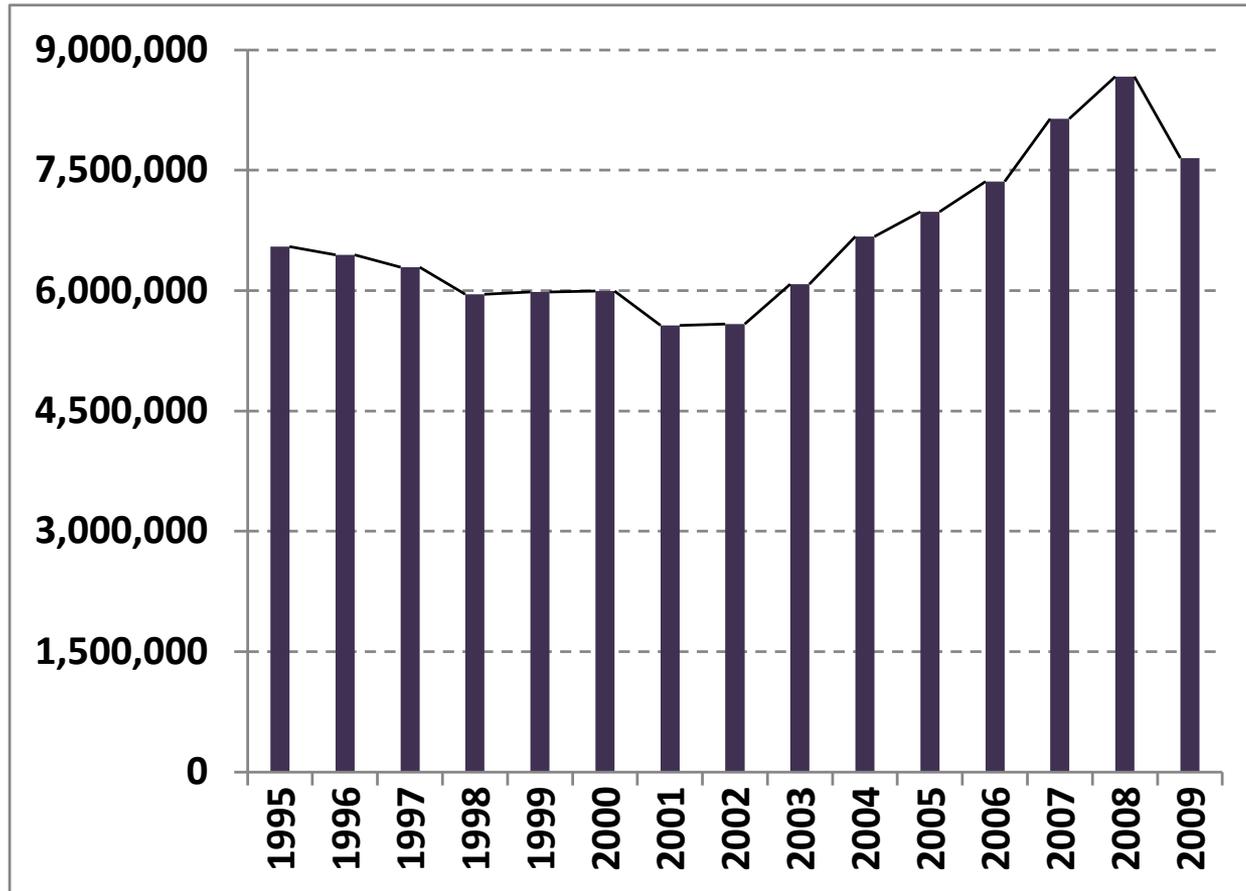
Slicing Up Global value chains

- **Challenges** in measurement
 - Statistical data to map the GVCs and trace the inter-industry and inter-country flows of goods and services. Need for a World Input-Output Table
- **World Input-Output Table (WIOT):**
 - Indicates the supply and use of products, with use broken down by country of origin: e.g. use of French steel in German cars sold to US consumers
 - Based on official statistics:
 - benchmark national supply and use tables extended with National Accounts time-series.
 - Linked using bilateral international trade stats on goods and services
- Relying on **input-output techniques** to breakdown the global consumption on manufacturing products into income for production factors around the world.





Global consumption of manufacturing goods (million 1995 US\$), 1995-2009

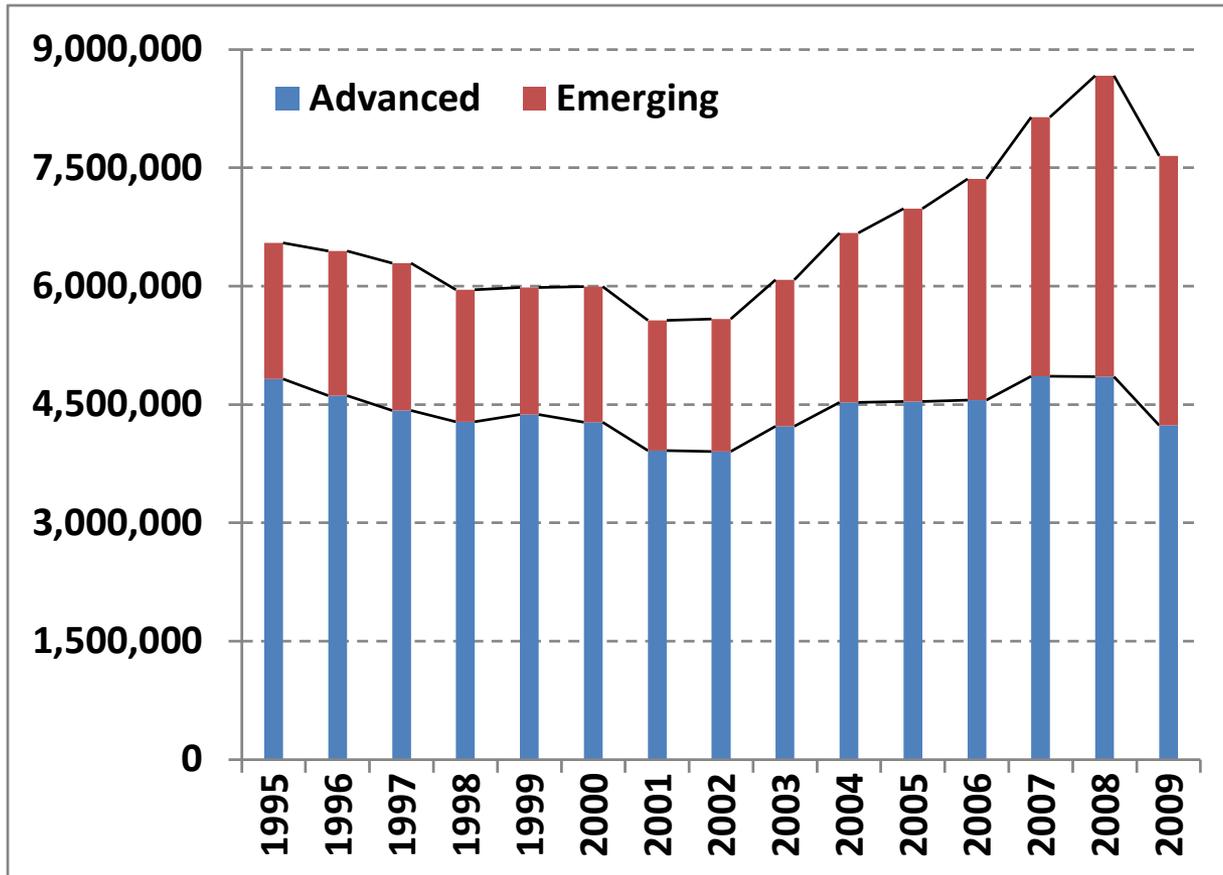


Converted to US\$ with official exchange rates, deflated to 1995 prices with the US CPI. Consumption includes private and government consumption and gross fixed capital formation.





Income earned in manufacturing GVCs (million 1995 US\$), 1995-2009



Stagnation in advanced countries,
but high growth in emerging countries since 2004

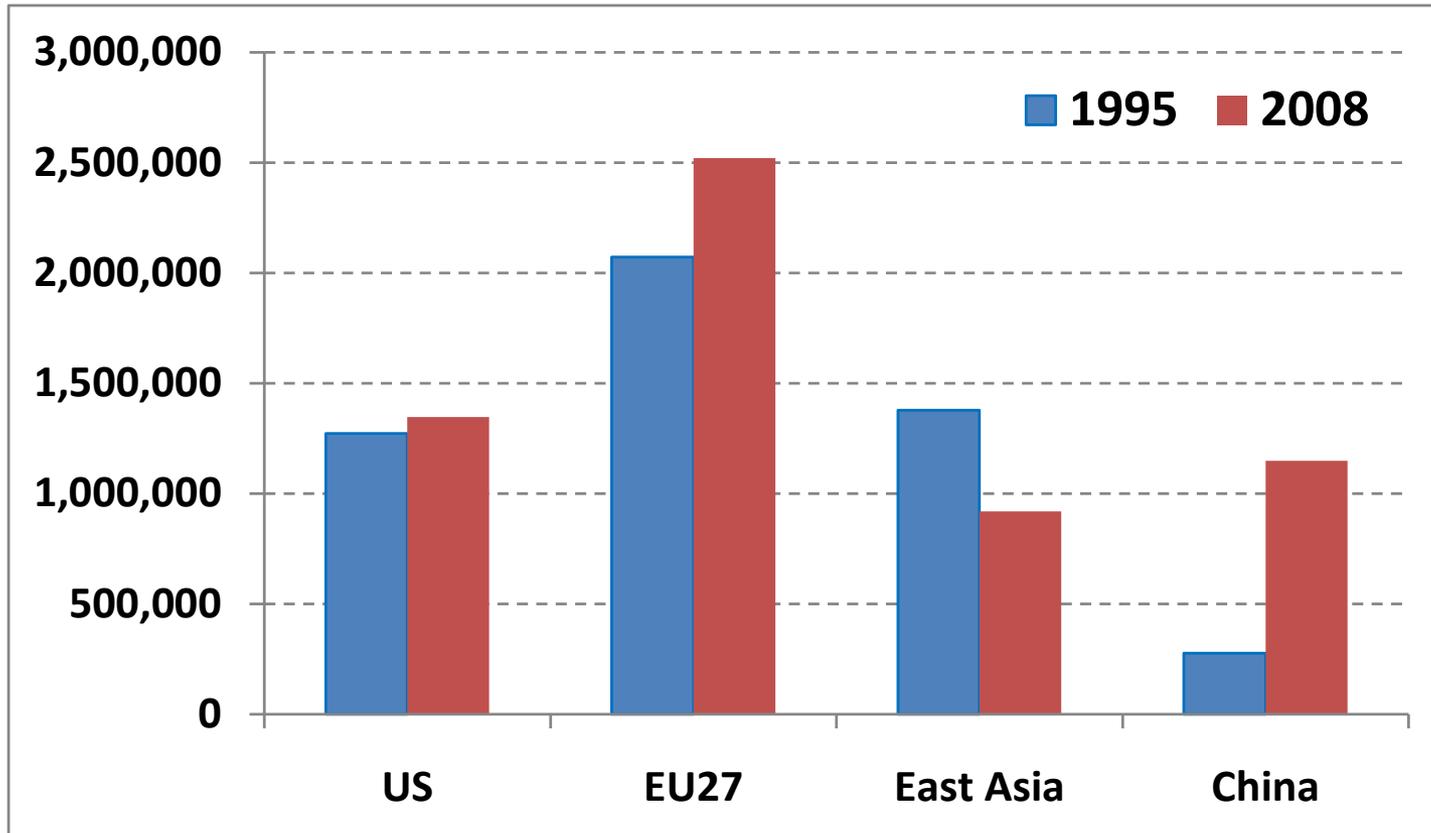


Advanced includes EU-15, Japan, Korea, Taiwan, Australia, Canada and U.S.
Emerging includes all other countries in the world.
Converted to US\$ with official exchange rates, deflated to 1995 prices with the US CPI.





GVC income, 1995 and 2008



GVC income in EU increasing;

In 2008, China almost on par with US and East Asia

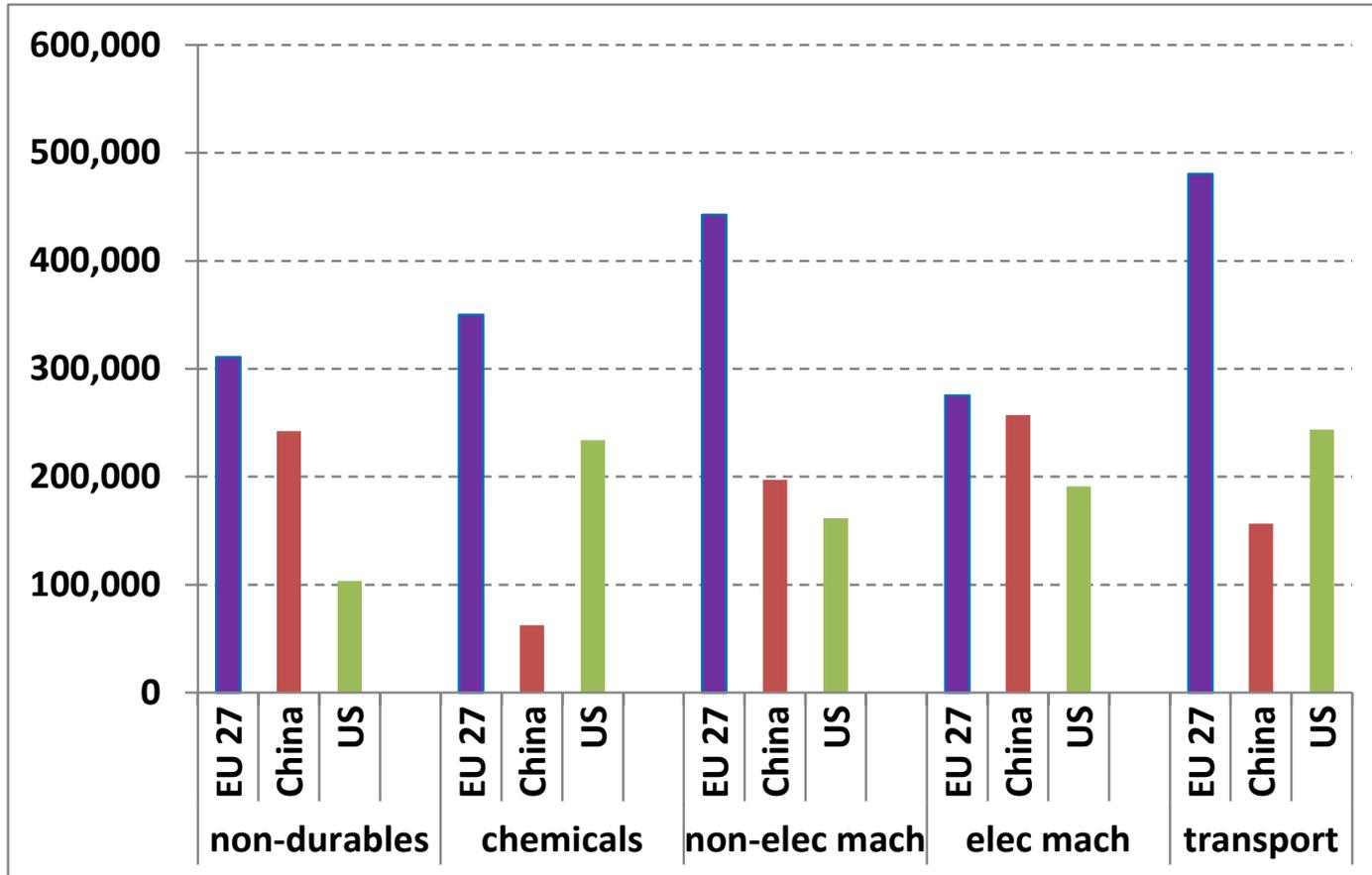


Note: GVC income in global manufacturing, in million 1995 US\$. East Asia includes Japan, South Korea and Taiwan.





GVC income in 2008: by product chain: EU, US and China



EU still strong
in durables;

China strong
in non-
durables and
electrical,
but much less
than expected
on basis of
export values



Note: GVC income in global manufacturing of non-durables, chemicals, non-electrical machinery, electrical machinery and transport equipment, in million 1995 US\$





Socio-Economic Accounts

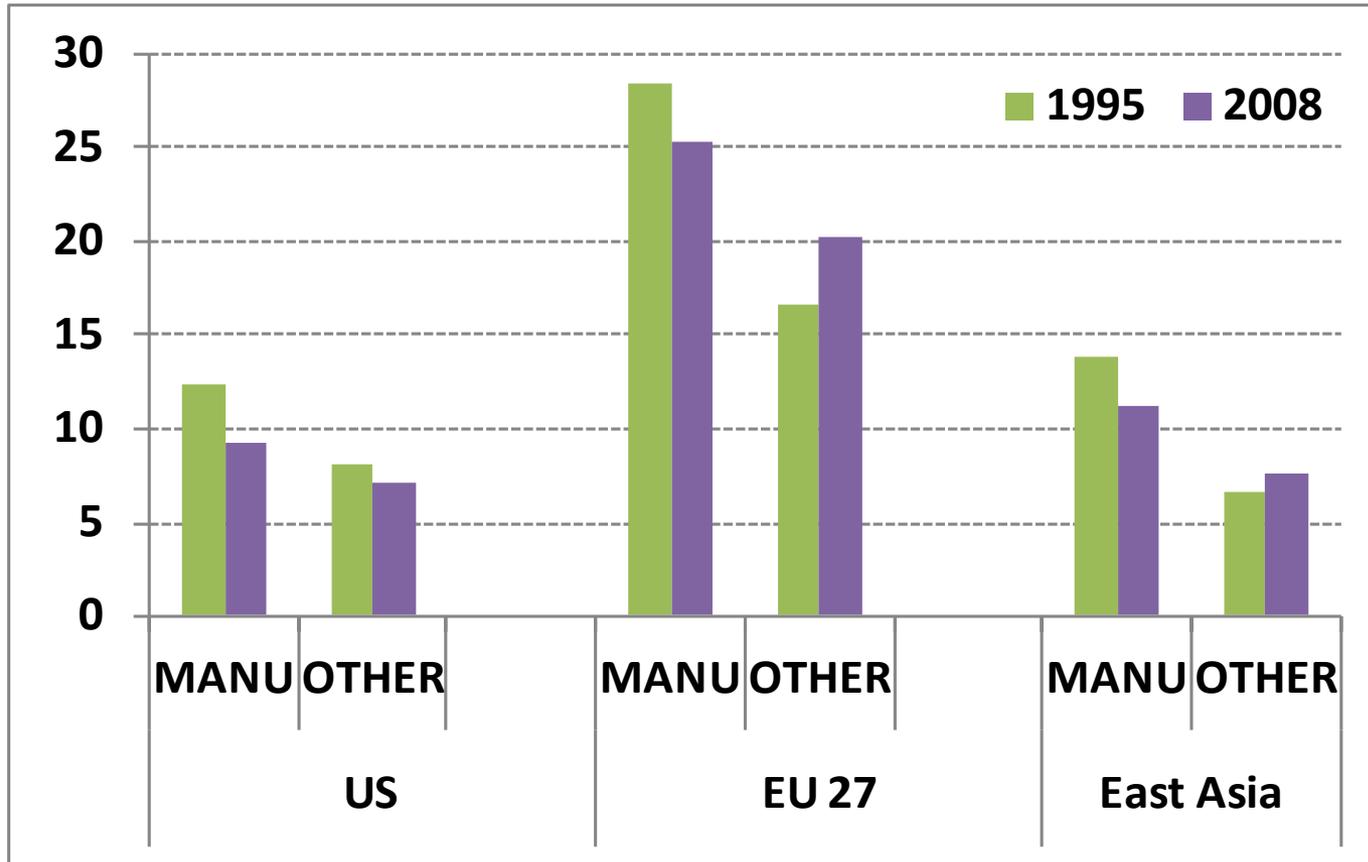
- **Labour accounts:** hours worked and wages (by industry and country) of
 - Low-skilled labour
 - Medium-skilled labour
 - High-skilled labour
 - Skills defined by levels of educational attainment (ISCED classification). Based on country-specific sources such as labour force surveys or household surveys.

- **Capital accounts:**
 - Capital stocks by industry and country
 - Compensation for capital incl. depreciation and profits, measured as value added minus labour income.





Number of workers in manufacturing GVCs, 1995 and 2008 by sector of employment



Increasing involvement of workers in *non-manufacturing* sectors in manufacturing GVCs

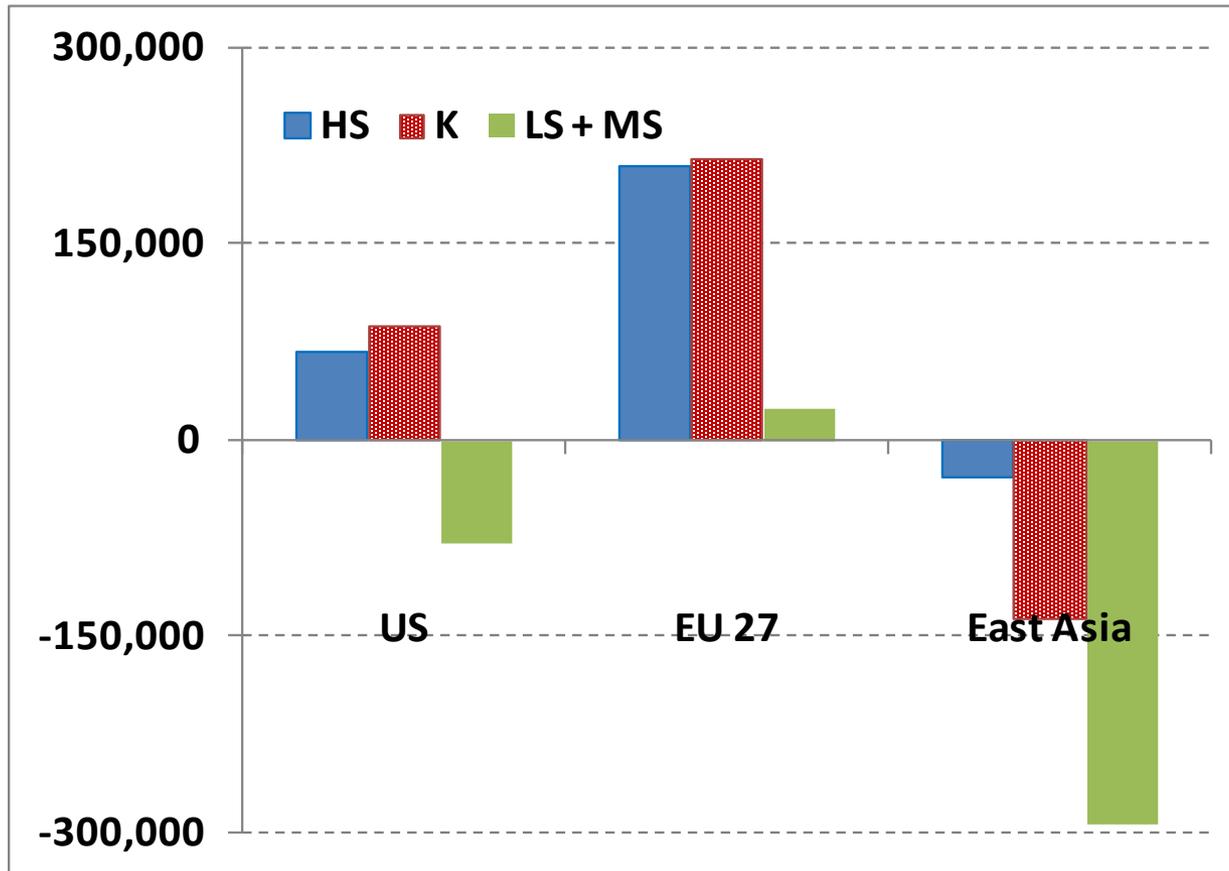


Note: Number of manufacturing and non-manufacturing workers involved in global manufacturing (millions)





GVC Income, change between 1995 and 2008: by production factor



Activities carried out by high-skilled labour (HS) and capital (K) gain much more than by low-skilled and medium-skilled labour (LS + MS)

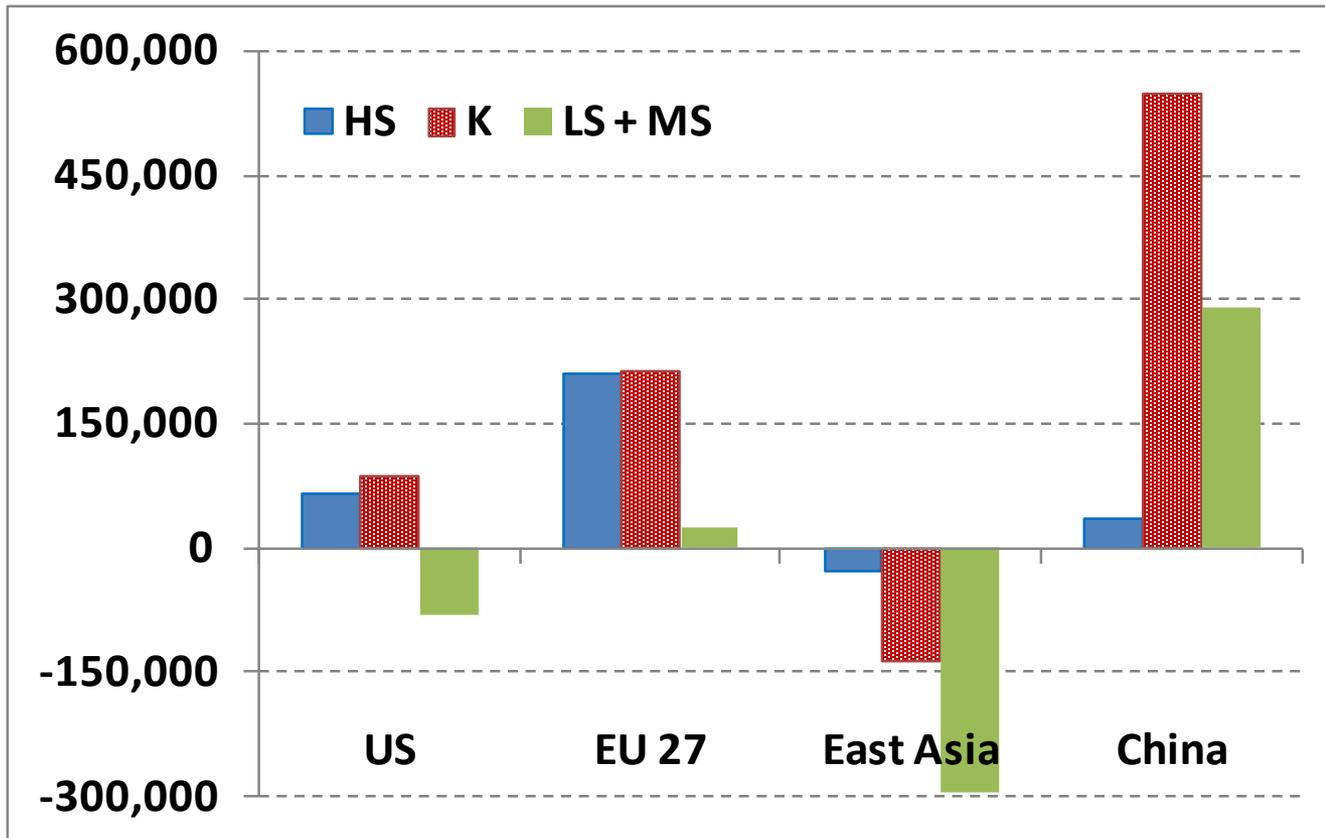


Note: GVC income in global manufacturing, in million 1995 US\$





GVC Income, change between 1995 and 2008: by production factor (countries)

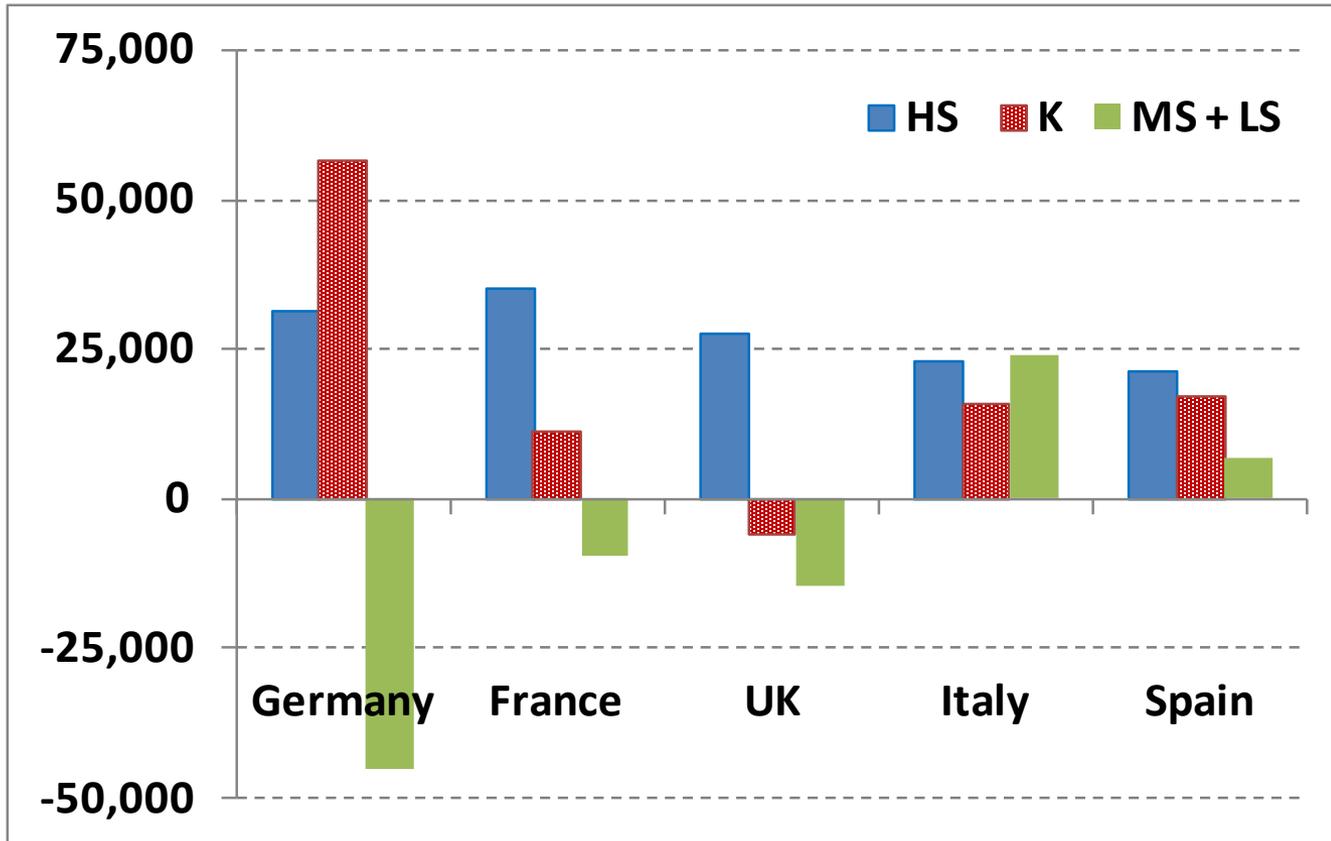


HS High-skilled labour K:capital
LS + MS: Low-skilled + medium-skilled labour





GVC Income, change between 1995 and 2008: by production factor (countries)



HS High-skilled labour K:capital
LS + MS: Low-skilled + medium-skilled labour





Concluding remarks (1)

- International fragmentation of production requires a new metric of competitiveness: we propose GVC income which is focused on “activities” rather than goods

Main findings with respect to manufacturing GVCs based on WIOD for period 1995-2008:

- 1a. GVC incomes stagnate in advanced countries, while accelerating in emerging countries since 2002.
- 1b. GVC income in Europe is still growing, but not in US and Japan
- 1c. GVC income in Europe particularly high in GVCs of durable goods
- 2. Increasing involvement of workers in *non*-manufacturing sectors
- 3. High-skilled workers and capital gain income in GVCs...
.....while medium- and low-skilled workers do not.





Concluding remarks (2)

- For more information, see accompanying paper “*New Measures of European Competitiveness. A Global Value Chain Perspective*”,

- **WIOD database**
 - Is publicly available as of today at www.wiod.org
 - Offers many more opportunities for analysis, e.g. also includes environmental accounts, see afternoon program
 - Is a proto-type database
 - Many statistical challenges remain
 - Will need coordinated international effort to bring forward

