Guest lecture FDI, Trade & Geography

Subject: global value change
In the past a couple of countries managed to build their own supply chains (e.g. Korea, Japan) and got to compete at the world market.

Industrial upgrading (micro)

Global production networks (GPN) offer dynamic learning paths for developing countries and potential for capturing a larger value share. This process of structural change is also known as **industrial upgrading**.

Participation in GPN is important for exporting activities. This is not simply anonymous arms-length transactions as assumed in international trade theories, but encompasses various governance modes.

Key question: Why are some firms and some countries able to start the upgrading process, while others fail

Various stages in industrial upgrading with increasing requirements in terms of skills and capital:

- Assembly (Original equipment manufacturing OEM)
- Process engineering
- Product development (own design manufacturing ODM)
- Research and Development
- Own brand manufacturing (OBM)

In East Asia successful examples of firms that managed to upgrade from OEM to OBM

The car industry

There has been a rapid change of where the cars are being produced since 1960. At first, most cars were produced in the US, Germany, UK and France. Now Japan and China are the biggest producers. For years Ford and GM had the most worldwide sales, but now Toyota is on top and Honda is doing better than Ford.

Car industry at South Korea:
Miracle growth

- 30 thousands cars in 1975 to 2.3 million in 2000
- From no exports in 1975 to 5th largest in the world
- From 30.000 workers in 1970s to 330.000 in 2000

Starting with simple activities (assembly) to complex (design). High government involvement, based on local firms rather than foreign.

A shift toke place from assembling foreign models to creating their own models.

How was technology (ideas) acquired?

- Reverse engineering
- Licensing
- Personnel exchange. Send their workers to other countries.
- Handbooks and blueprints
- Research and development. People had to understand.

Management style: crisis construction. There were a lot of constructers next to the factories, so when the factory opened, the workers could immediately start working on it.

Government involvement

- Educated (technical) workforce
- Import protection
- Export subsidies, tax exemption and cheap credit. This was conditional!
- Cheabol (business conglomerate) and deliberation councils

In Asia successful examples of firms that managed to upgrade from OEM to OBM.
This way they captured an increasing part of the global value chain.
There is more than one recipe for success.

Success factors based on conviction that industrial upgrading is not automatic and needs supporting policies:

- Human capital formation
- Infrastructure
- Protection of markets (temporary)
- Under valued exchange rates

The old path of ISI is closing

Malaysia vs Thailand:
Malaysia:

- Launched the national car project – Proton – as a joint venture with Mitsubishi in the 1980s.
- Aim to build a full supply chain (like Japan and Korea did)
- Some upgrading, but continued they sill had to rely on Mitchubity for technology and design.
- Proton nationalized. High costs of parts production (high local content restrictions). Mostly domestically produced.

Thailand:

- Also auto-industrialization plans in the 1980s
- Also joint ventures with Japanese MNEs
- But: relaxing trade and ownership restrictions. Eliminating local content restrictions (in 1998)
- Aimed to implement advanced technology in local factories
- Export promotion, by providing incentives for assembly.
- Export promotion in stead of import oriented (Malaysia)

The result:
Thailand employs way more high-skilled workers than Malaysia.

Malasia's export hardly grew overtime, whereas Thailands export grew significantly.

Global Value chains (macro)

Nowadays international competition is at level of activities rather than at level of products: it is no longer about what you sell, it is about what you do. How much value do you add to the product. The export price is not equal to the value added to the product.

Production processes are fragmented across countries known as the unbundling of production activities (Baldwin, 2006). This is raising new concerns about how to measure trade and analyze competitiviness. Production fragmentation leads to a new division of labour in the world economy. 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.

New measure: GVC income, which is the income generated in a country by carrying out activities in global production networks.
Based on large-scale research project financed by the European Commission in past 5 years.

Essential: Consumption of cars produced in Germany generates income for workers in Germany, France and the USA. We will decompose consumption value into a stream of incomes around the world.
WIOD covers 40 countries (27 EU countries and 13 other major countries incl. US, China, India, Brazil, Russia, Mexico) plus "Rest of the World"

Country-industry-factor perspective: e.g. how much value does high- skilled labour in Germany add in the global manufacturing of cars?
Relying on input-output techniques to measure the direct and indirect inputs into production (K):
$K=F(I-B)^{-1}C$
With F factor inputs (direct only), B the matrix of intermediate inputs, (I-B)-1 the so-called Leontief inverse and C final expenditure

Main characteristics of WIOD:

- Time-series (1995-2009) benchmarked on NA data
- National supply and use tables as the point of departure
  Based on detailed accounts of trade in goods and services
- Improved allocation of imports of goods to use categories (modified BEC)
- Based on official statistics with maximum of transparency in calculations
- Fully compatible satellite accounts with data on use and remuneration of production factors (capital and labour of three skill levels)

Disadvantage: you need a lot of data in order to construct these tables.

But what type of activities in the global value chain add value?
Distinction between so-called business functions (smile curve)

1. Pre-production
2. Production
3. Post-production activities

Preliminary results, only EU

Proxy value added of business functions by the wages of workers, classified by occupation. Need mapping business functions to occupations. Occupations (2-digit ISCO88) by country and industry from the EU labor force surveys.
Wage data by occupation from the structure and earnings survey 2002

Policiy implications:

1. Focus on activities ins tead of sectors. Stimulate education
2. Effects of trade on functional income distribution (high skilled people benefit more than low skilled people)