Global Value Chains and Development

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MY CV in brief

- Degree in Economics Università Bocconi in Milan; MSc in Development Economics University of Oxford; PhD Institute of Development Studies, University of Sussex;
- Main research interests: Clusters, Global Value Chains, Innovation in developing countries; Emerging market multinationals and their innovation strategy;
- Check robertarabellotti.it to know more.

Agenda

1st day

- What is a Global Value Chain (GVC)?
- Economic Upgrading in GVCs;

2nd day

- GVC Governance patterns;
- Social upgrading;
- China in GVCs;
- Mapping GVCs;

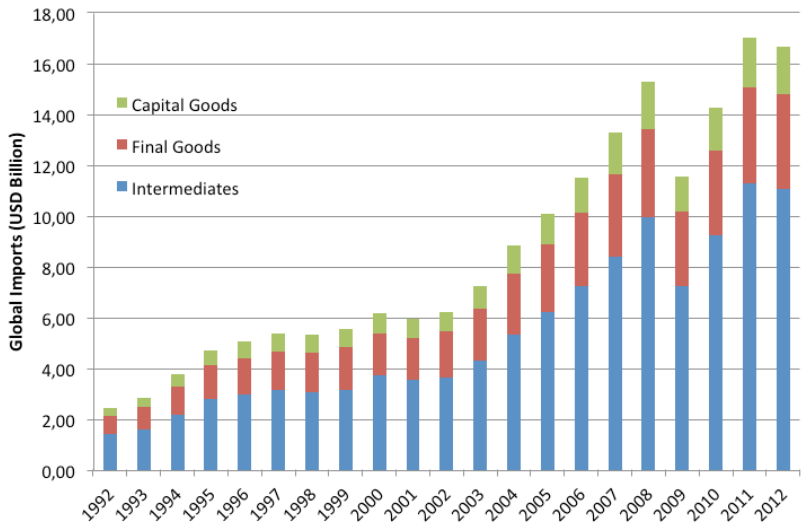
3rd day

- Discussion of case studies.

What is a global value chain?

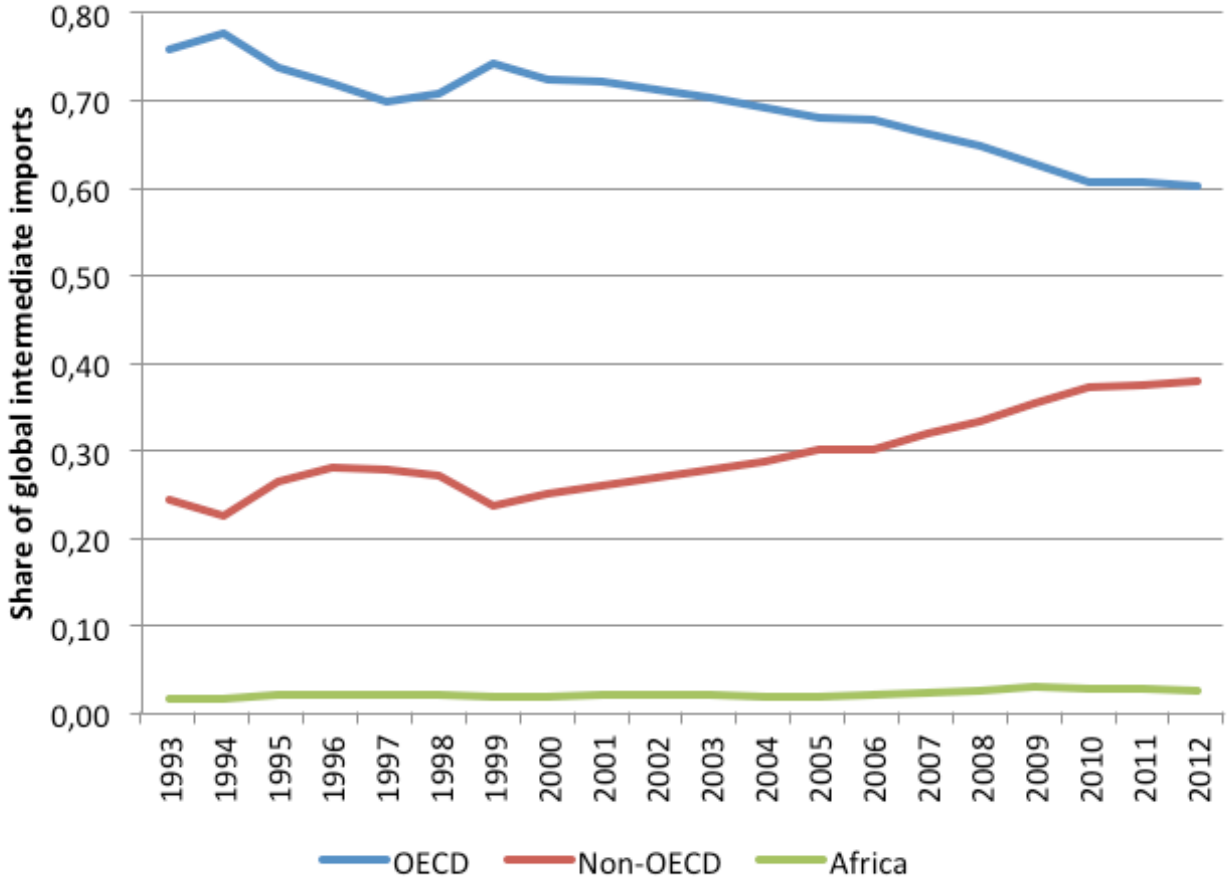
https://www.youtube.com/watch?v=5UAnYcqQTR4&t=185s

Recent growth of trade has been driven by intermediate goods



- Intermediate goods account for about 65% (USD 11 billion) of all imports in 2012, up from 57% and just USD 2.8 billion in 1995;
- The share of OECD countries in global imports of intermediates dropped from 75% to 60% while that of non-OECD countries picked up accordingly;
- Similarly the share of OECD countries in global manufacturing value added dropped from 80% to 60%.

Shares of global intermediate imports reflect the rise of emerging markets as production hubs



Source: UN COMTRADE

The Nutella GVC

Figure 6. The Nutella® global value chain

Source: Ferrero, Sourcemap and various on-line sources.

What is a global value chain?
The cocoa GVC

https://www.youtube.com/watch?v=5UAnYcqQTR4&t=185s

Definition of Value Chain

- A value chain is the full range of activities that firms engage in to bring a product to the market, from conception to final use;
- Such activities range from design, production, marketing, logistics and distribution to support to the final customer;
- They may be performed by the same firm or shared among several firms.

Figure 1: Four links in a simple value chain

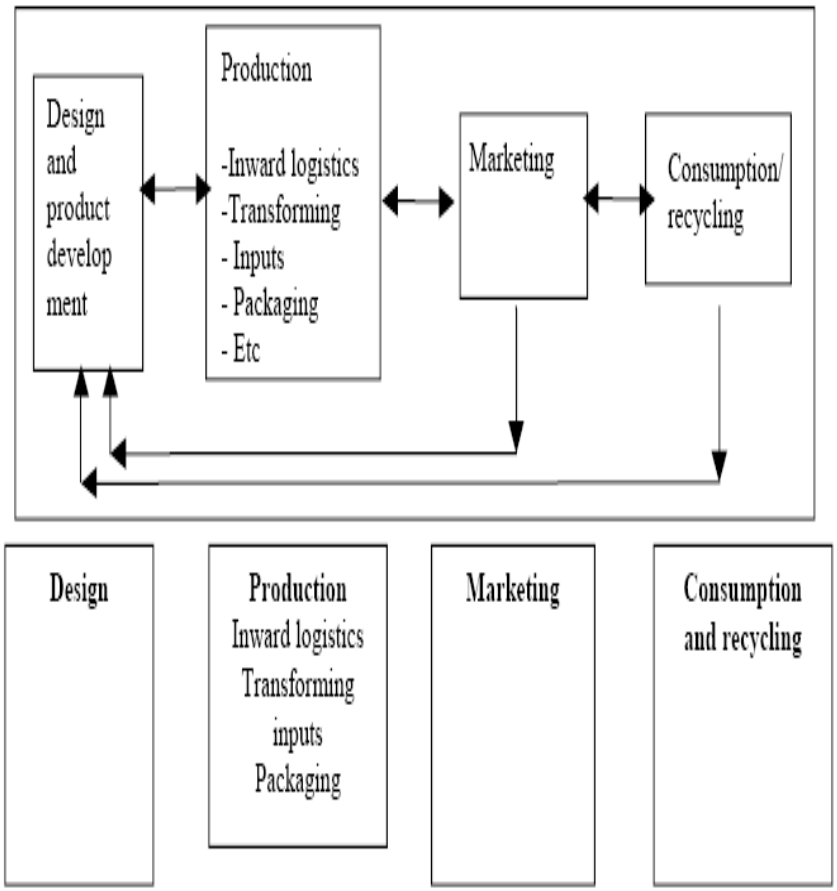
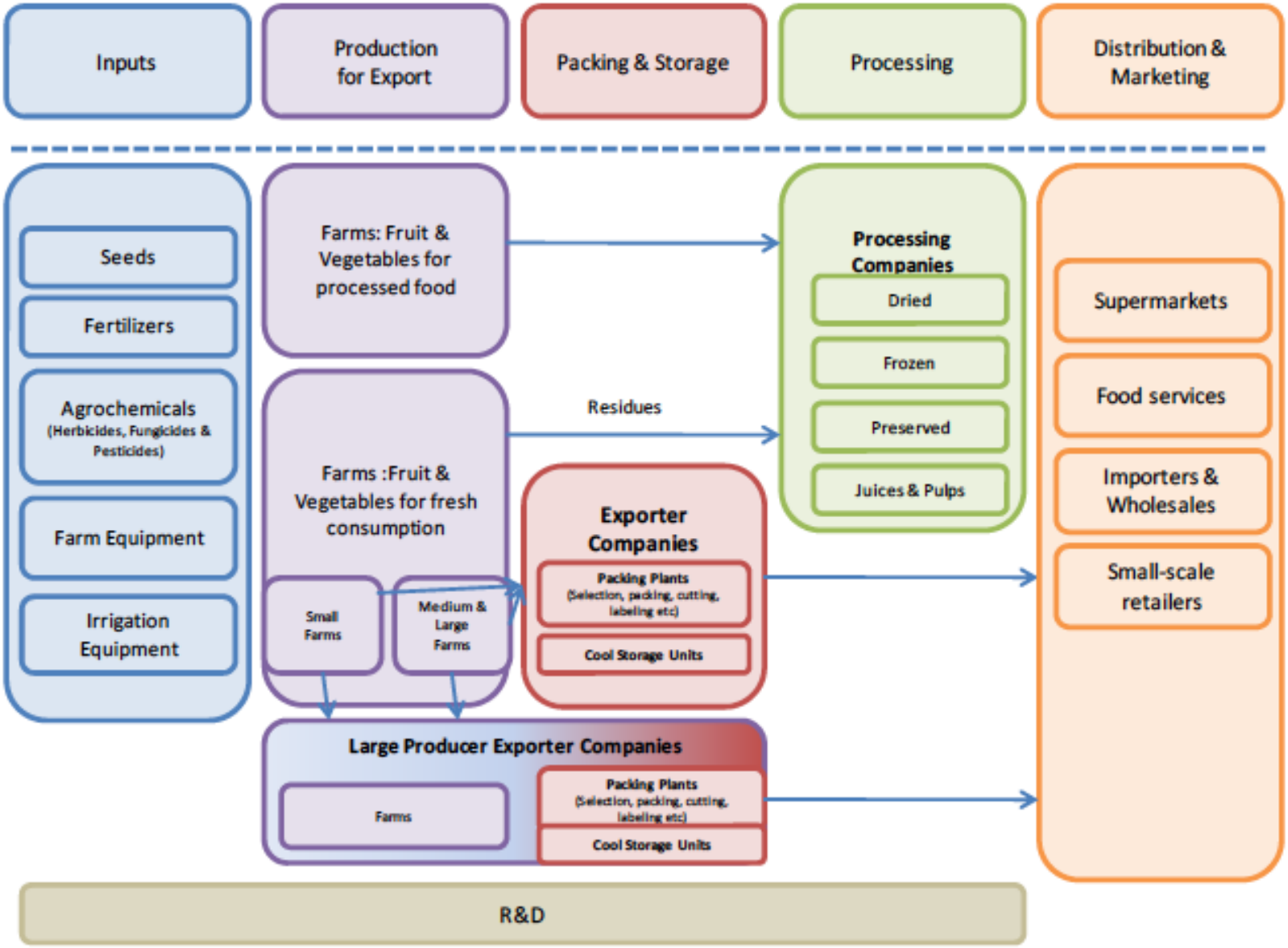


Figure 2. Fruit and Vegetables Global Value Chain



Source: (Fernandez-Stark et al., Forthcoming-c)

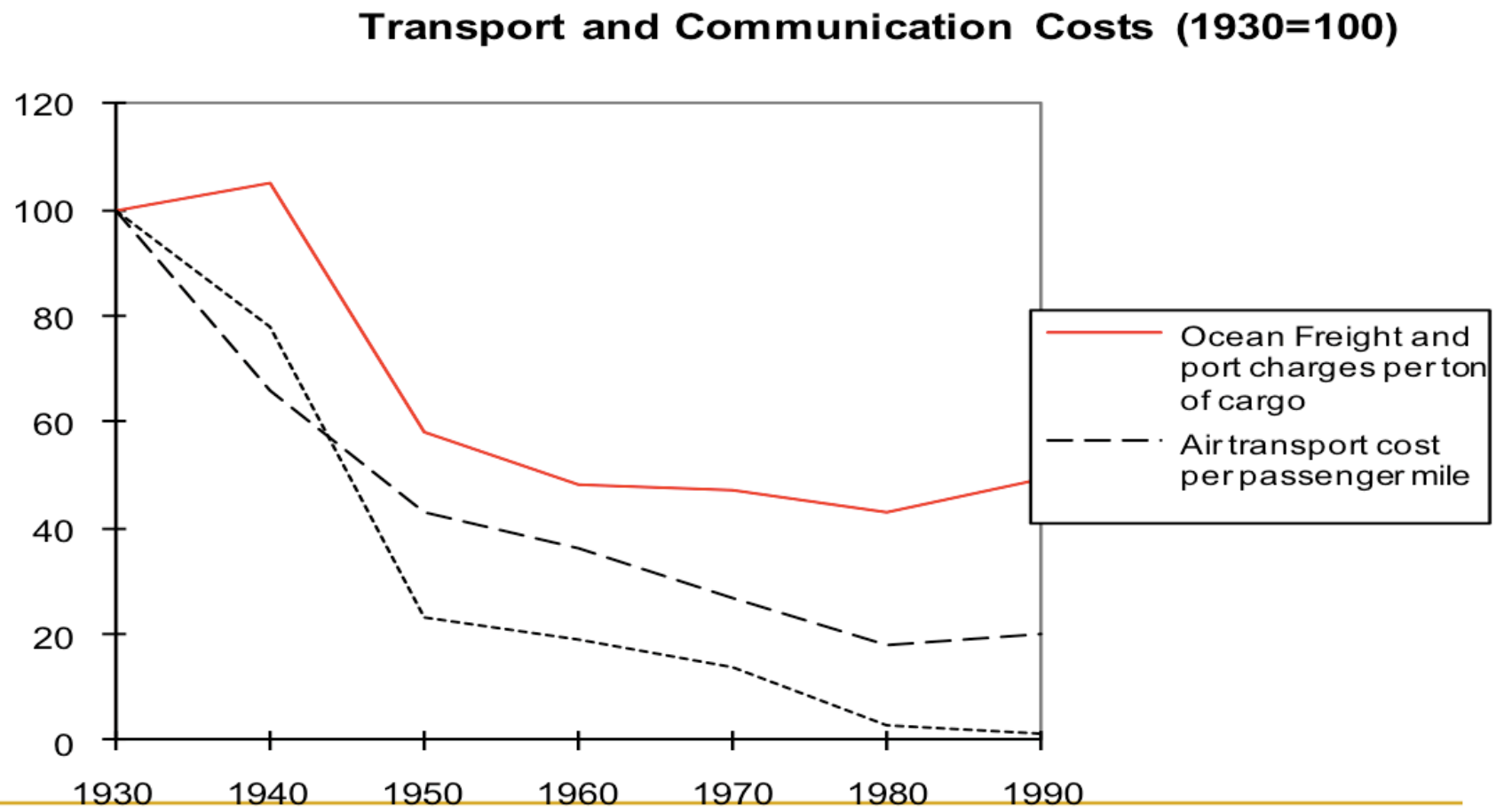
National, regional and global value chains

- Value chains can involve firms located
  - in the same country (domestic value chain);
  - In the same region (regional value chain)
  - Worlwide (global value chain).

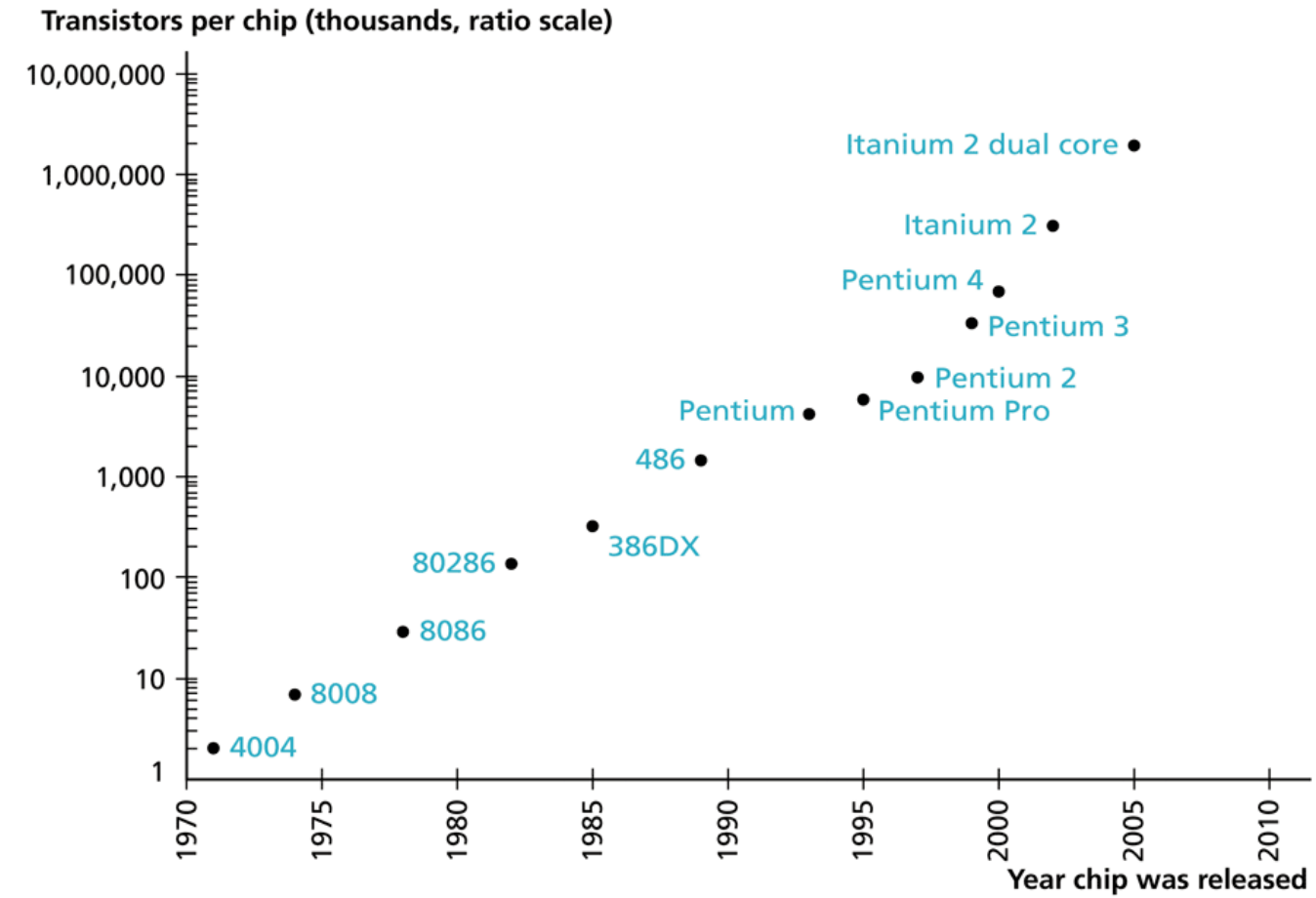
The drivers of GVC rise

- Trade costs have decreased significantly: the container revolution;
- Rapid advancing in ICTs: cheaper and more reliable TLCs and increasing powerful PCs have facilitated co-ordination and monitoring of activities at large distance;
- Liberalization: falling barriers to trade and investments;
- Large gaps in skilled and unskilled wages.

Decline in trade and communication costs

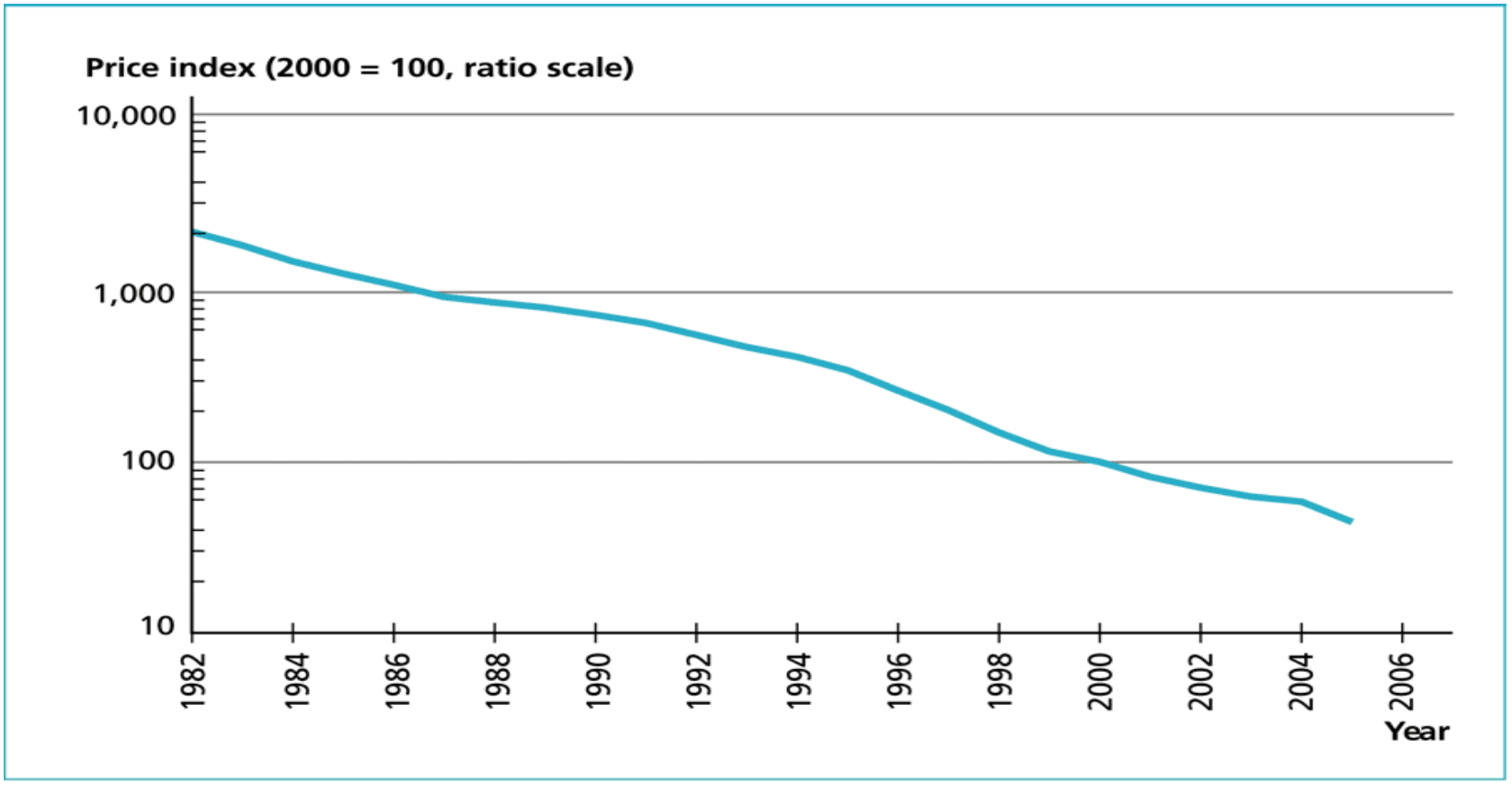


Moore's Law as Seen in Intel Microprocessors – how the availability of a global technology ..



Source: Intel Corporation.

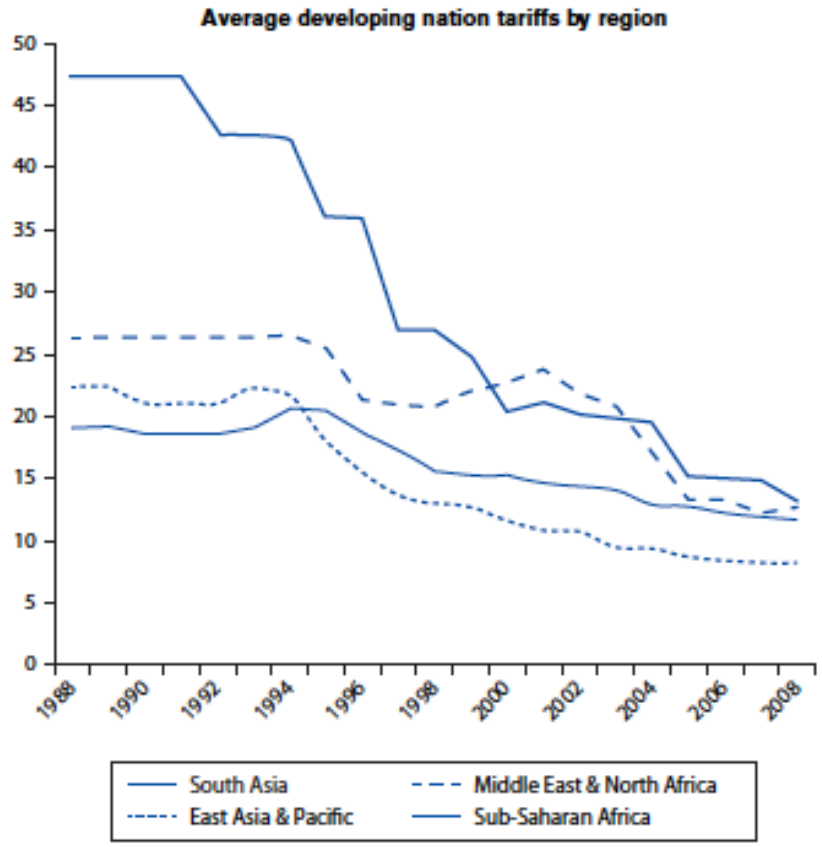
.. has driven down the price of computers, hence the cost of information and communication processing



Source: U.S. Department of Commerce, National Income and Product Accounts, Table 1.5.4. Includes both computers and peripherals.

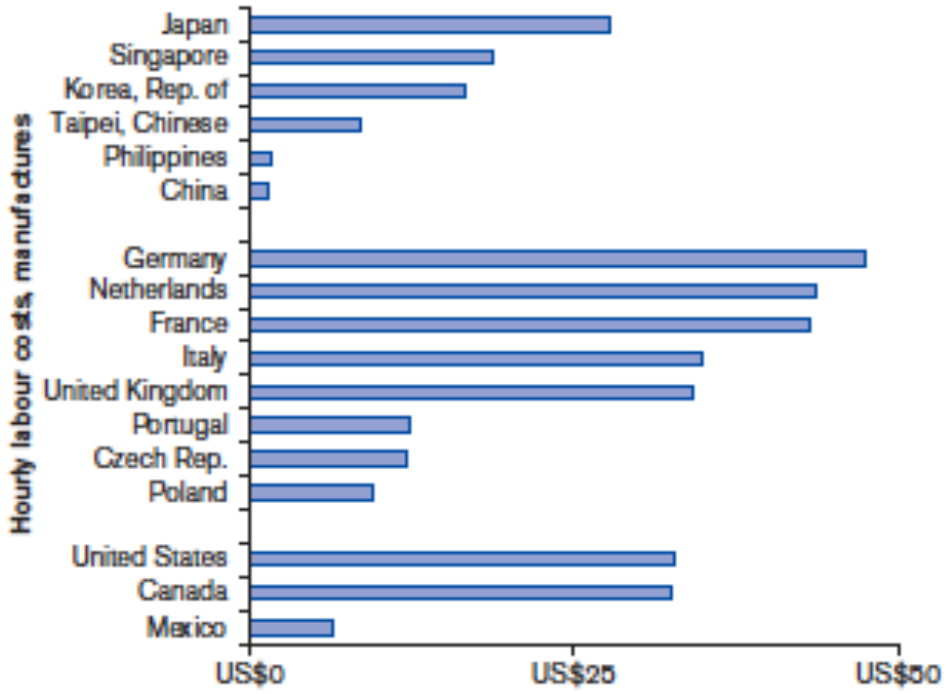
Falling trade barriers

FIGURE 1.7: **Unilateral tariff cutting by developing nations, 1988–2009**



Wage differences

FIGURE 1.11: **Wage differences in Factory Asia, Factory North America and Factory Europe, 2008**



Source: US Bureau of Labor Statistics, International Labor Comparisons.

GVC has deepened the process of globalization

- **Geographically:** more developing countries involved;
- **Sectorially:** manufacturing but also services;
- **Functionally:** production and distribution but also R&D and innovation.

Why is studying GVC useful?

- The increasing fragmentation of production across countries. Global value chains link geographically dispersed activities in a single industry and help to understand shifting patterns of trade and production. For policymakers, global value chains are useful to apprehend the interconnectedness of economies. In particular, GVCs emphasise how export competitiveness relies on the sourcing of efficient inputs, as well as access to final producers and consumers abroad.

- The specialisation of countries in tasks and business functions rather than specific products. While most policies still assume that goods and services are produced domestically and compete with "foreign" products, the reality is that most goods and an increasing number of services are "made in the world" and that countries compete on economic roles within the value chain. The concept of GVCs is thus important to close the gap between policy and the reality of business.

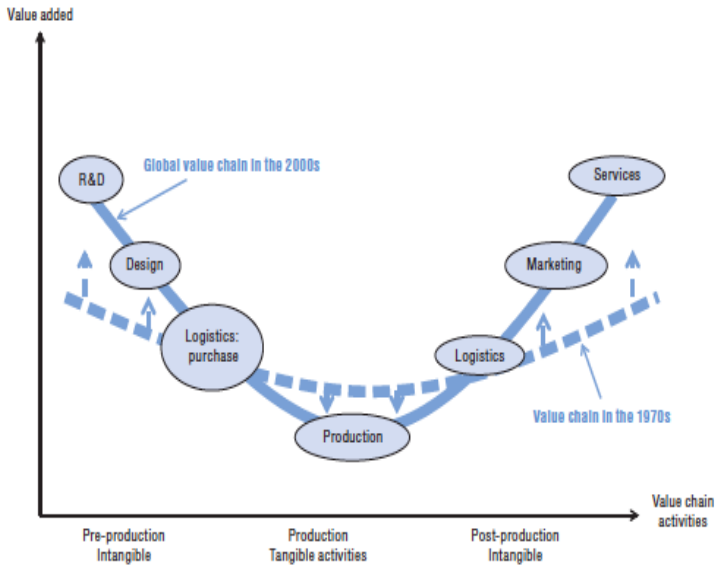
- The role of networks, global buyers and global suppliers. Global value chain analysis gives insights on economic governance and helps to identify firms and actors that control and coordinate activities in production networks. Understanding governance structures is important for policymaking, in particular to assess how policies can have an impact on firms and the location of activities.

GVC is “what you do”

Today, “what you do” (the activities a firm or country is involved in) matters more for growth and employment than “what you sell” (the final product). Global value chains (GVCs) allow firms and economies to “do” the part of the process they are best at, using intermediate goods and services from elsewhere without having to develop a whole industry. They affect countries’ competitiveness and patterns of trade and investment, offer potential for development in less developed countries, but also imply risks.

Countries can enter in the global market specializing in one or few stages of the value chain (the whole chain is not needed: The Golden Opportunity).

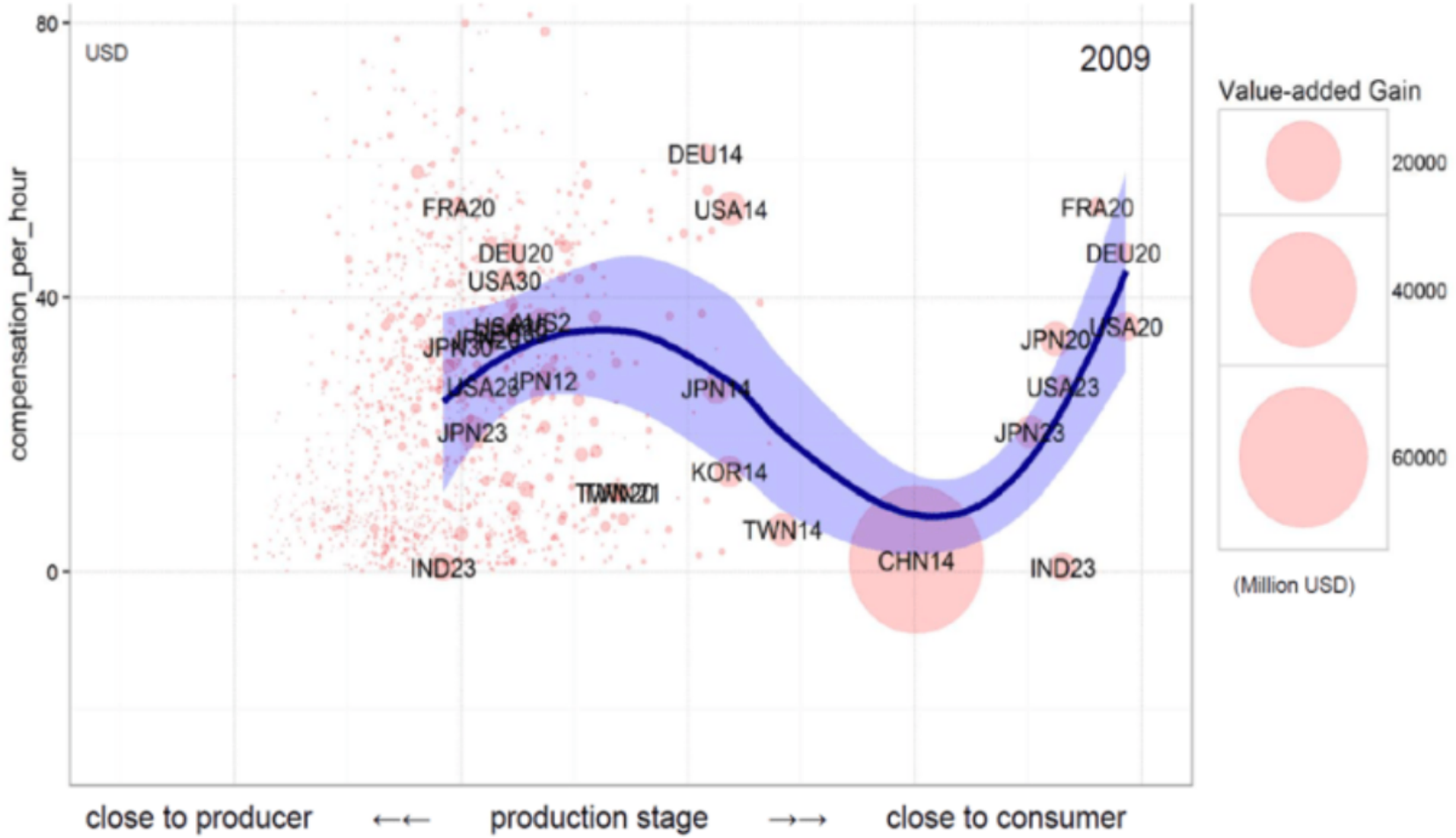
Value Added along the GVC: The Smiling Curve



Source: Based on Shih (1992), Dedrick and Kraemer (1999), and Baldwin (2012).

- **Along the GVC there are activities that are more lucrative than others:**
- Most value creation is generally found in: a) **upstream activities** (design, product development, R&D and manufacturing of key parts and components) and b) **downstream activities** (marketing, branding and customer service);
- **Assembly,** often offshored, to LDCS, **represents only a small part of value generation**.

“Smile curve” for China’s exports of electrical and optical equipment, 2009



GVCs in developing countries

- The participation in GVCs is a key opportunity for firms in developing countries to reach international markets;
- Countries can specialize in one or few tasks, phases of the GVC;
- Lead firms (e.g. Gap, Ferrero, Apple) organize the GVC and play a key role in fostering and supporting the upgrading process within GVC;
- Upgrading depends on the governance patterns and on the power relations characterizing the GVC;
- GVC analysis focus on the relationships between global lead firms and local producers to investigate the opportunities and constraints that result from entering such relationships.

Who are the key players inGVC?

- **Buyer-driven value chain**
- **Producer-driven value chain**

Giant Retailers: Wal-Mart

- Largest retailer in the world directs the biggest supply chain
- > 60,000 suppliers worldwide and over 80% are in China

Global Brands: Nike

- Nike, the largest sportswear company in the world, does not own any factories.
- Nike products made in 930 factories (subcontractors) in 50 countries
- >1 million workers in supply chain, but just 38,000 direct employees in U.S.

Manufacturers w/o Factories: Apple

- Apple, the top smartphone company in the world, designs and markets its products but owns no factories
- Foxconn, the largest electronics contract manufacturer in the world, makes Apple products and employs >1 million workers in mainland China

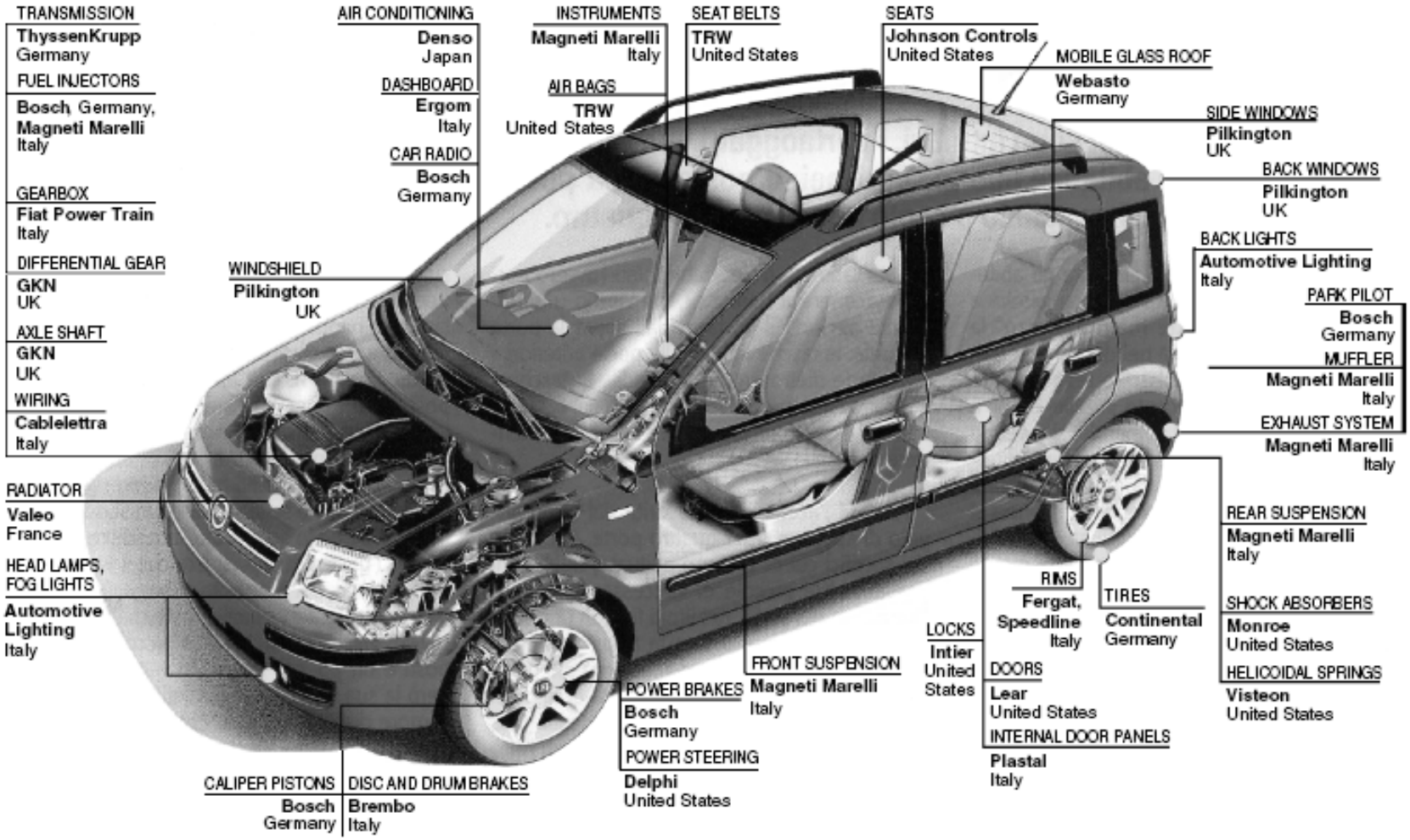
Buyer-driven value chains

- Retailers, brand-name merchandisers and trading companies play a pivotal role:
  - The consumer goods industry provides some of the best examples for these types of chains but also food value chains dominated by large food conglomerates show signs of buyer-driven value chains;
  - Global agribusiness chains are often buyer-driven because in many cases they are governed by the wholesalers, retailers and brand-name companies that are closer to final customers.

Producer-driven value chains

- Lead by MNCs or vertically integrated enterprises that control the production system and allocate the production on the basis of comparative costs advantages:
  - Examples of these value chains can be found in the capital and technology intensive industries such as the car and automotive industries, the electronics or the pharma industry.

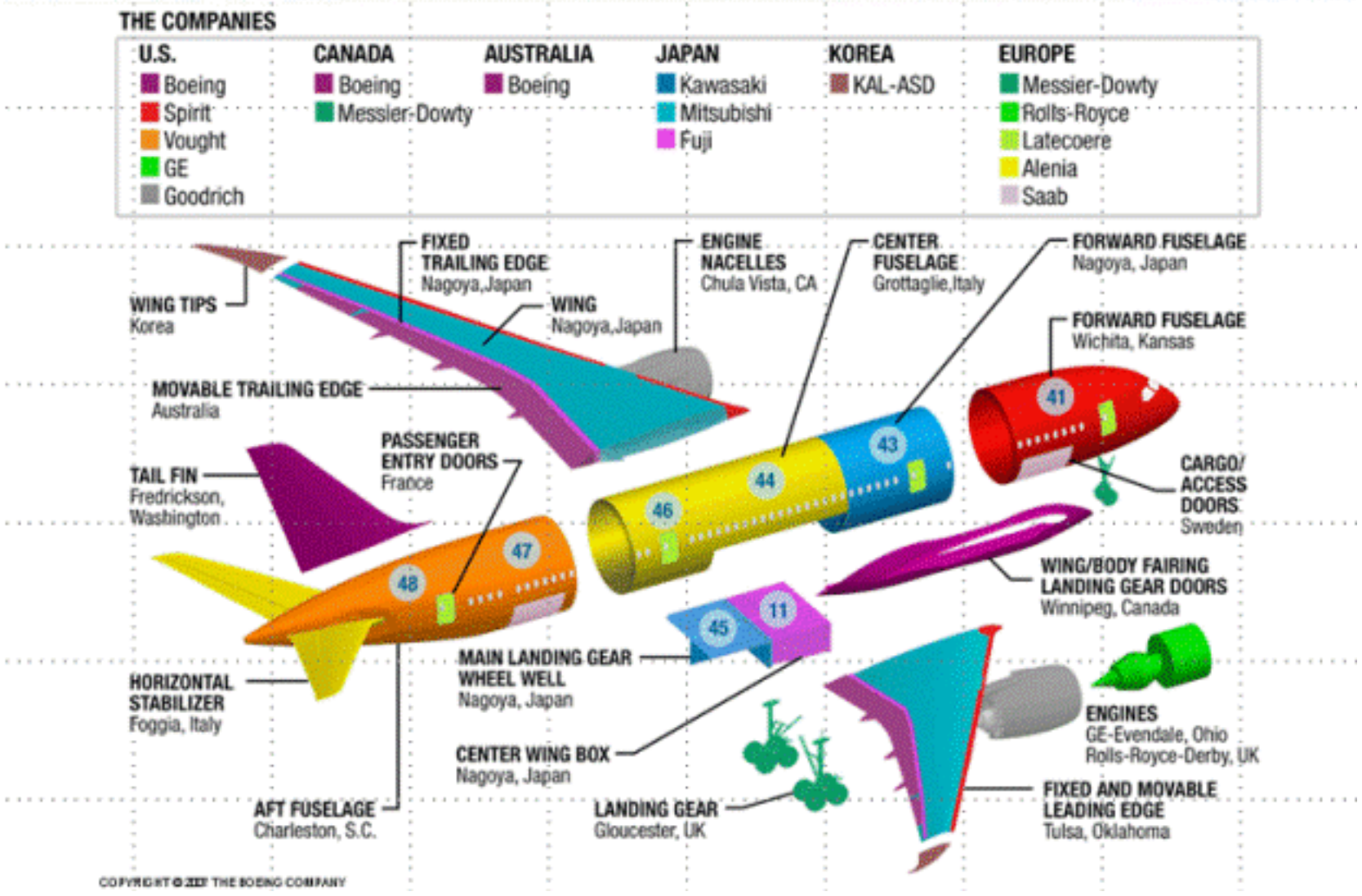
Figure 3 Local Network of Supply Relations for the New Fiat Panda



Note. Reprinted courtesy of *AUTO* magazine.

Partners Across The Globe Are Bringing The 787 Together

787 DREAMLINER



Economic Upgrading in GVC

- Economic upgrading is **moving up the value chain** through:
- There are four types of upgrading:
  ① Process upgrading;
  ② Product upgrading;
  ③ Functional upgrading;
  ④ Inter-sectoral/inter-chain upgrading.

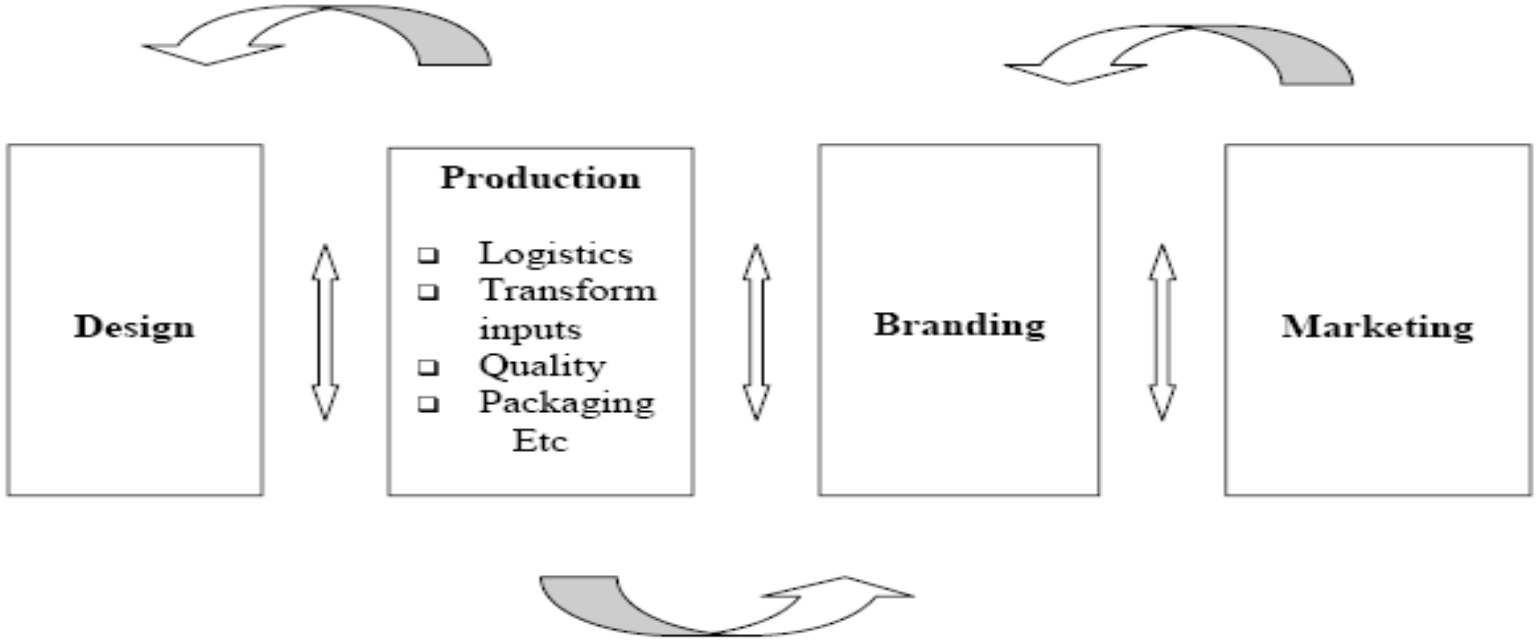
Process and Product Upgrading

① **Process upgrading** implies reduction in costs, productivity and flexibility increases by reorganizing the production system or investing in new or better equipment/technology;

② **Product upgrading** involves a shift to more sophisticated, complex, better quality products as well as producing a larger range of products.

③ Functional upgrading

- Changing the mix of activities and **acquiring new skill intensive functions** (i.e. from manufacturing to design);



Functional upgrading is changing the mix of activities within and between links

Functional upgrading in Mexico

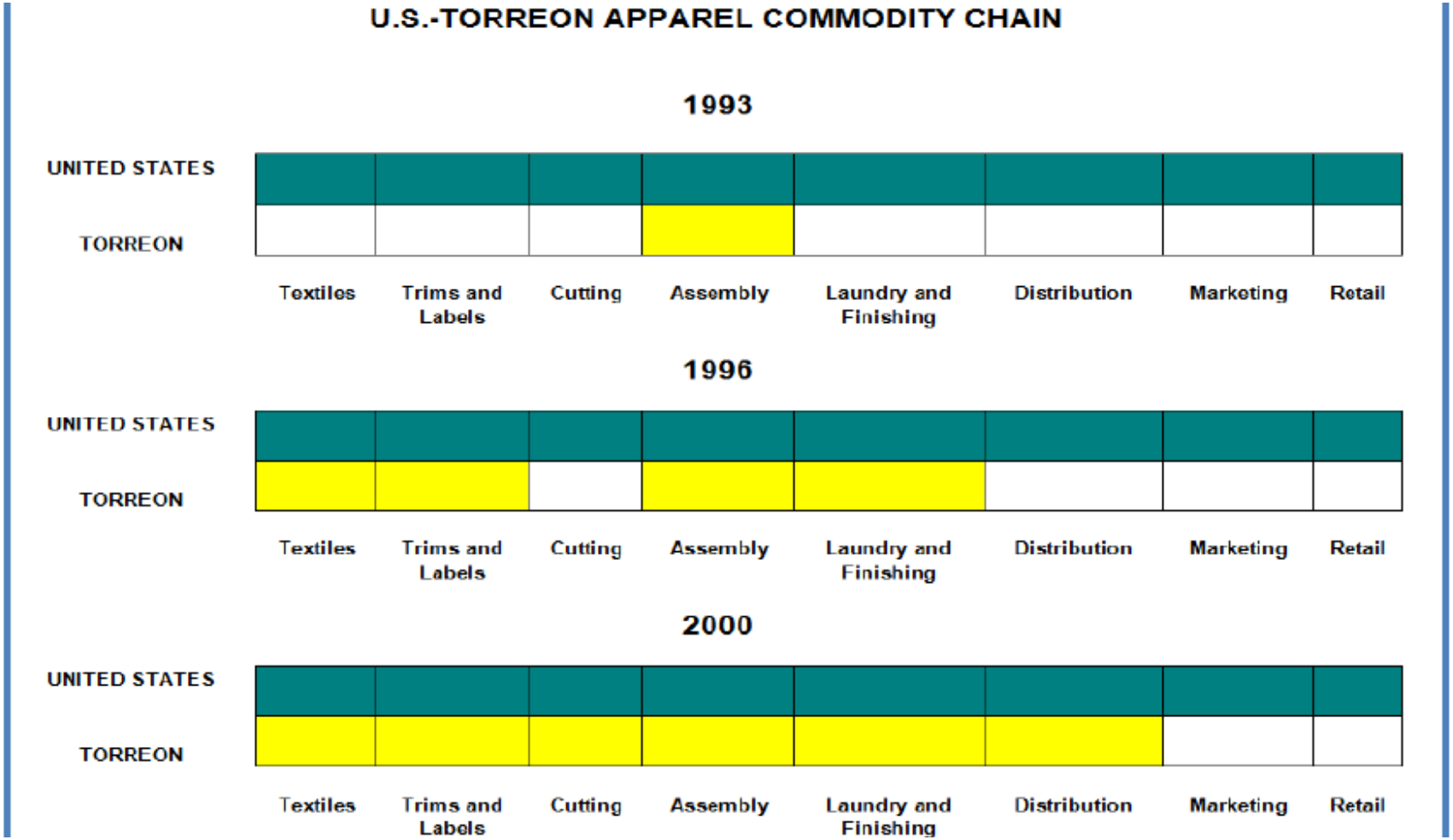
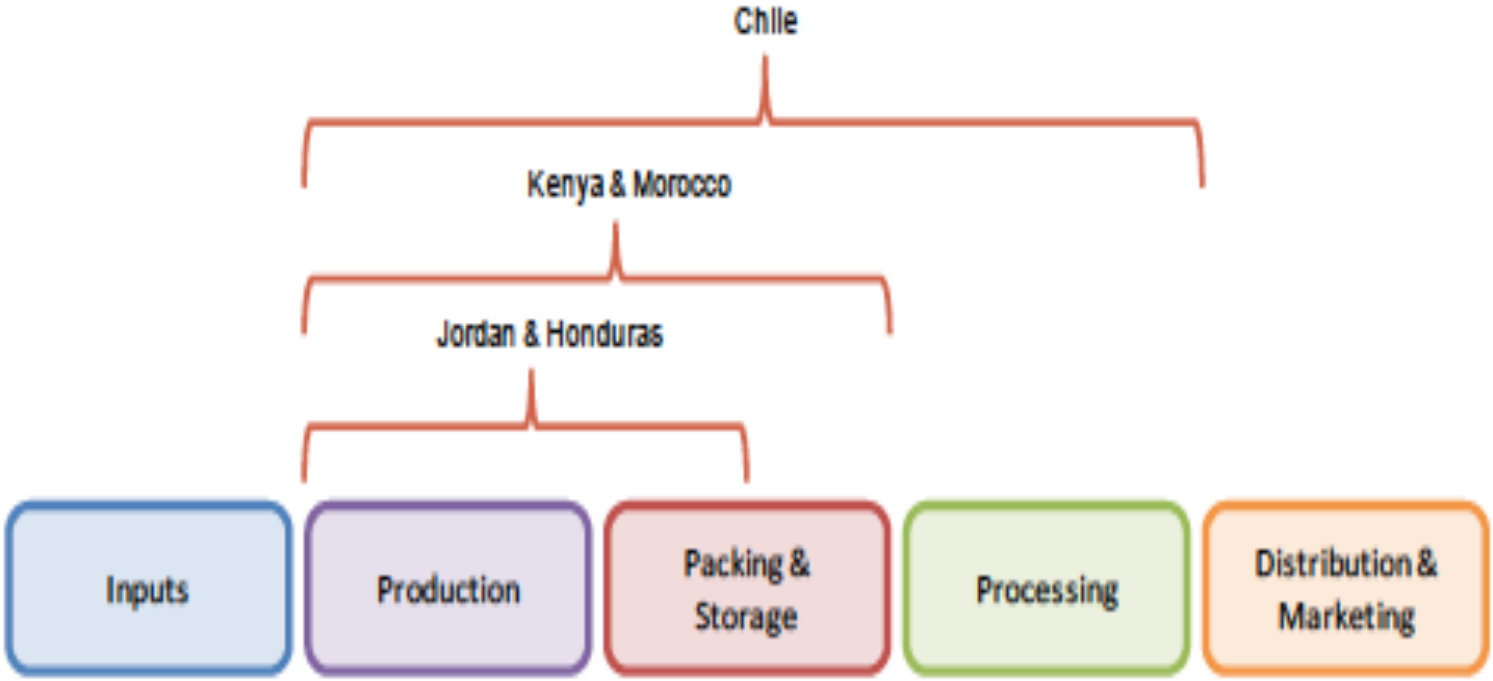


Figure 4. Upgrading Stages of Selected Countries in the Fruit and Vegetables Value Chain



Source: (Fernandez-Stark et al., Forthcoming-c)

④ Intersectoral/inter-chain upgrading

- Applying competences acquired in one function of a chain and using them in a different sector/chain;
- **Sinos Valley shoe producers** (Brazil) have functionally upgraded (moving up to design, branding and retailing) in the **domestic/regional value chain**:
  - Leveraging their production capabilities acquired in the US value chain;
  - 'Made in Brazil' program promoted by the local business association to create a local design capability and a brand.

Upgrading in GVC is conditioned by governance

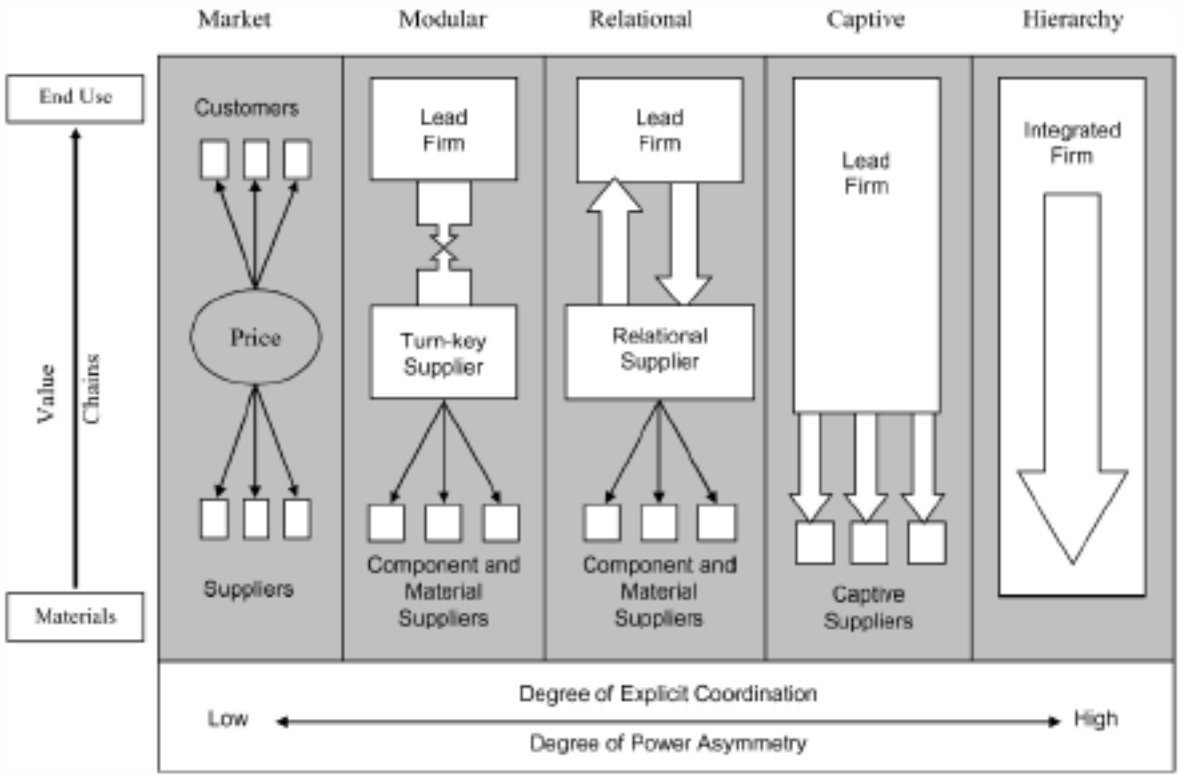
Complexity of transactions	More complex transactions require greater interaction among actors in GVCs and thus stronger forms of governance is required rather than simple price-based markets
Codifiability of transactions	Some industries codify complex information so that data can be handed off between GVC partners with relative ease, often using advanced information technologies. GVC partners must have access and expertise for dealing with such codified information
Competence of suppliers	The ability to receive and act upon complex information or instructions from lead firms requires a high degree of competence on the part of suppliers.

Five GVC Governance Types

Governance Type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	*Degree of explicit coordination and power asymmetry*
Market	Low	High	High	*Low* ↕ *High*
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

Network org. forms

Figure 3. Five Global Value Chain Governance Types



Source: (Gereffi et al., 2005)

Key governance patterns

- **Modular**: when complex transactions are relatively easy to codify. Typically, suppliers in modular chains make products to a customer's specifications and take full responsibility for process technology (common in agro-food, electronics, auto);
- **Relational**: when buyers and sellers rely on complex information that is not easily transmitted or learned (common in clothing, footwear);
- **Captive**: when small suppliers are dependent on one or a few buyers that often wield a great deal of power. Such networks feature a high degree of monitoring and control by the lead firm.

Economic and Social Upgrading

- It is often implicitly assumed that economic upgrading in GVCs will automatically translate into social upgrading through better wages and working conditions.
- However, case studies provide a more mixed picture.
- While this can be the outcome, there is no evidence that this necessarily follows if the work generated is highly insecure and exploitative.

Social upgrading in GVC

- Social upgrading is the process of improvement in the rights and entitlements of workers as social actors and enhancement of the quality of their employment;
- This includes access to better work, which might result from economic upgrading (for example, a worker that has acquired skills in one job is able to move a better job elsewhere in a GVC);
- But it also involves enhancing working conditions, protection and rights;
- Improving the well-being of workers can also help their dependents and communities;
- The concept of social upgrading is constituted by four pillars:
  - Employment,
  - Standards and rights at work,
  - Social protection;
  - Social dialogue.

Figure 1. Typology of workforce composition across different GPNs

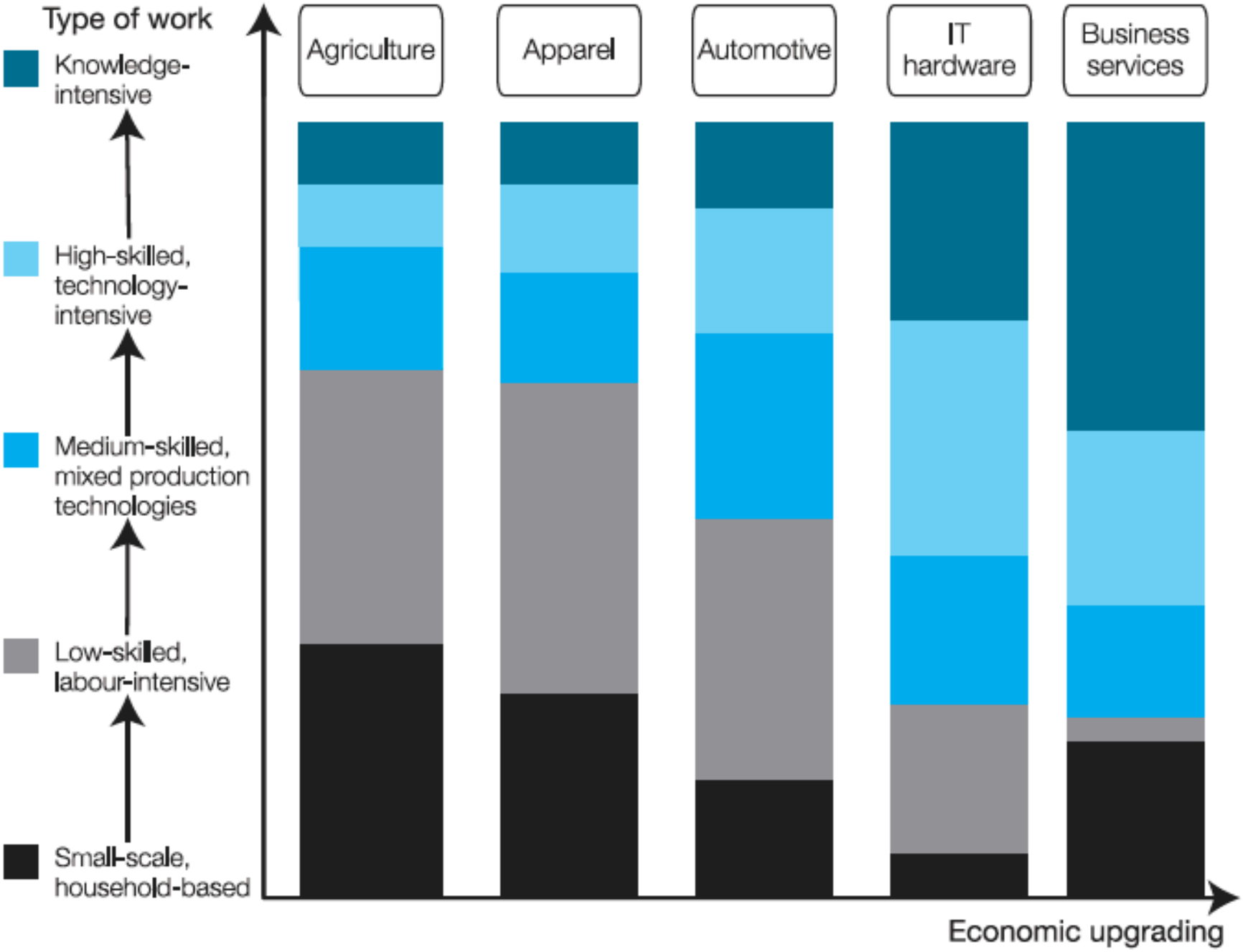
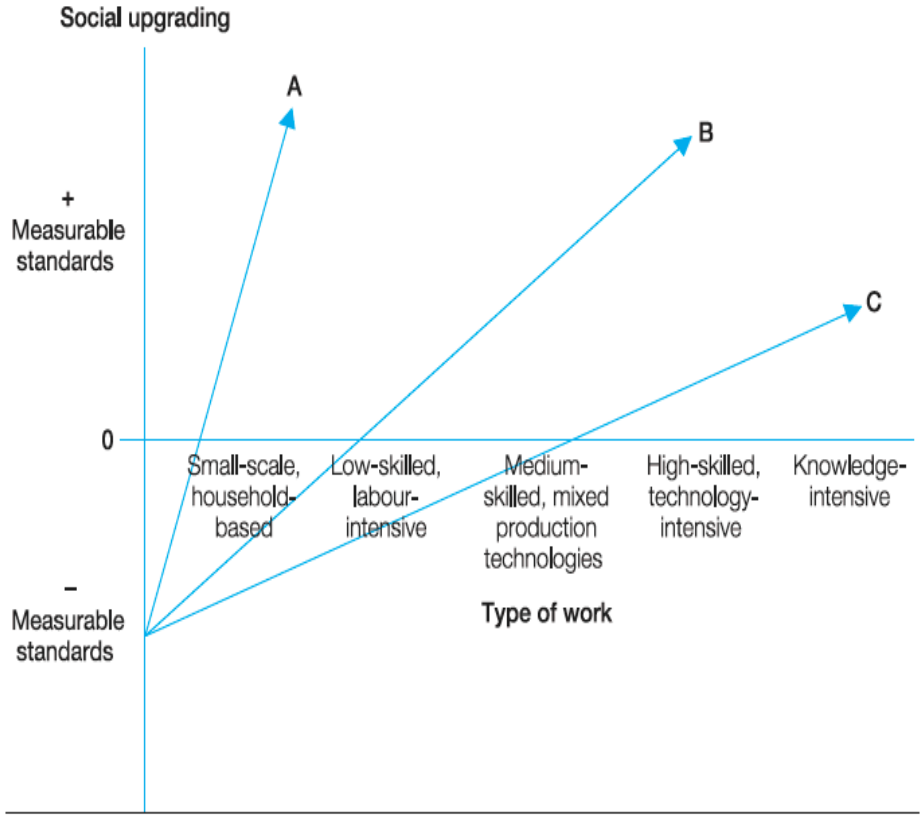


Table 1. Key drivers of economic and social upgrading and downgrading, by type of work

	Small-scale, household-based	Low-skilled, labour-intensive	Medium-skilled, mixed production technologies	High-skilled, technology-intensive	Knowledge-intensive
Economic upgrading/downgrading	(+) Allows poor workers and producers to engage in GPNs (+) Provides access to niche produce and labour skills, such as high plateau teas or hand-sewn embroidery (+/–) High dependence on intermediaries who can support or exploit (–) Difficulty meeting standards, hence exclusion from GPNs (–) Often low value-capture within chain	(+) Good for ramping up output, exports, and foreign exchange (+) Helps to attract foreign investors and to meet international quality standards (–) Highly dependent on global buyers in control of inputs and orders (–) Minimal local linkages to host economy/local firms (–) Low value added (–) Vulnerable to buyers' purchasing decisions (–) Few opportunities for skill improvement	(+) Integrated production and control in final production, key inputs, even in finance, logistics, product development (+) A process of buyer-oriented upgrading (+) Stronger forward and backward linkages (+) Higher value added (–) More stringent performance standards and reduced margins procured by global buyers	(+) Higher capital- and technology-investment inflows (+) Increasing modularity (+) Technology learning and knowledge spillovers – "supplier upgrading" (+) Emerging "global firms", e.g. in China and India (–) High entry barriers for local firms in lucrative segments and know-how	(+) Better income and export prospects (+) Technology learning and knowledge spillovers (+) Upgrading from simple service jobs (e.g. call centres) to more advanced business services (software, medical services, engineering) (+) Newest area: offshoring of design and innovation (R&D centres in developing countries) (–) Entry barriers in lucrative segments and know-how
Social upgrading/downgrading	(+) High quantity of jobs, especially for female workers (+) Women can balance productive and reproductive work (–) Likelihood of unpaid family labour, including child labour (–) Lack of contracts or security (–) Long or insecure working hours and poor conditions (–) Lack of social protection and rights	(+) High quantity of jobs, especially for female workers (–) Low quality, low wages; "footloose" jobs (–) Operation of labour relations predominantly on a flexible, casual basis (–) Absence of fixed working hours (–) Lack of employment security and other benefits (–) No skill improvement (repetitive, scrappy work)	(+) Fair quantity of jobs (+) Relatively higher wages than assembly jobs (+/–) Relatively high job security in vertically integrated firms, but increased use of flexible employment (+) Layers of skills and jobs down the supply chain make it possible to retain core skills and outsource others to peripheral workers	(–) Relatively small volume of employment (+) High-quality jobs (higher wage than that of other manufacturing industries) (+) Relatively high job security (–) Flexible work arrangements on the rise (–) Concentration of "good jobs" in advanced countries (+) Opportunity for skill improvement	(–) Small number of jobs (+) High wages and benefits by domestic standards (+) Continuous skill improvement (+) Flexible work arrangements not making employees vulnerable (+) Greater possibility of gender-neutral work (–) High entry barriers, e.g. education, English language–"not inclusive" (+/–) High individualization of work

Source: Adapted from Gereffi and Güler (2008 and 2010).

Figure 2. Possible social upgrading trajectories



- Trajectory A: when workers remain within home-based production but are still able to improve their working conditions (better wage, more secure contracts);
- Trajectory B: for instance from subsistence agriculture to wage employment in the clothing industry;
- Trajectory C: when workers move to better paid jobs associated with social upgrading (e.g. skilled jobs in IT sector in China or India).

Table 3: Measures of economic and social upgrading

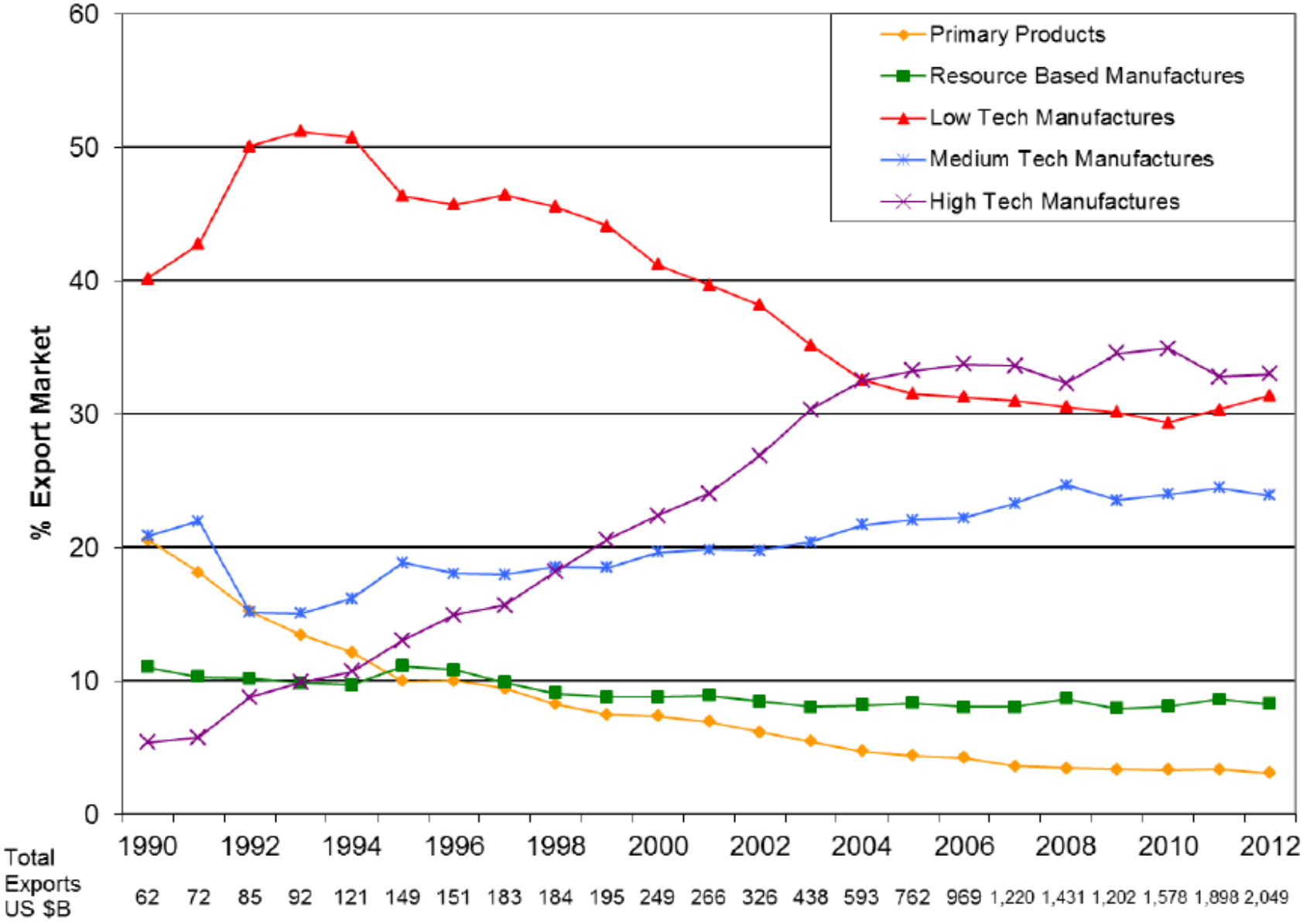
Level of Aggregation	Economic Upgrading	Social Upgrading
Nation	-Productivity growth -Value added growth -Profits growth -Increased capital intensity -Export growth -Income in exports	-Wage growth -Employment/Population growth -Growth in labor share -Formal employment -Decline in youth unemployment -Share of wage employment in non-agricultural employment -Gender equality of employment and wages (e.g. female intensity of paid employment) -Poverty reduction -Improved labor standards, including FACB, job safety, child labor, forced labor, employment discrimination -Regulation of monitoring -Improved political rights (freedom house index) -Human Development Index -No. of ILO conventions adopted -Decent work deficit
Sector or GPN	-Productivity growth -Value added growth -Profits growth -Export growth -Increased capital intensity -Increased skill intensity of functions (assembly/OEM/ODM/OBM/full package) -Increased skill intensity of employment -Increased skill intensity of exports	-Wage growth -Employment growth -Improved labor standards, including FACB, job safety, child labor, forced labor, employment discrimination
Firm or plant	-Increased skill intensity of functions (assembly/OEM/ODM/OBM/full package) -Developing skill to manage the supply chain -Composition of jobs -Increased capital intensity/mechanization -Product, process, functional, chain upgrading	-Improved standards in plant monitoring (e.g. M-audit criteria) -Number of workers per job

Source: Own illustration.

Why is China gaining global market share?

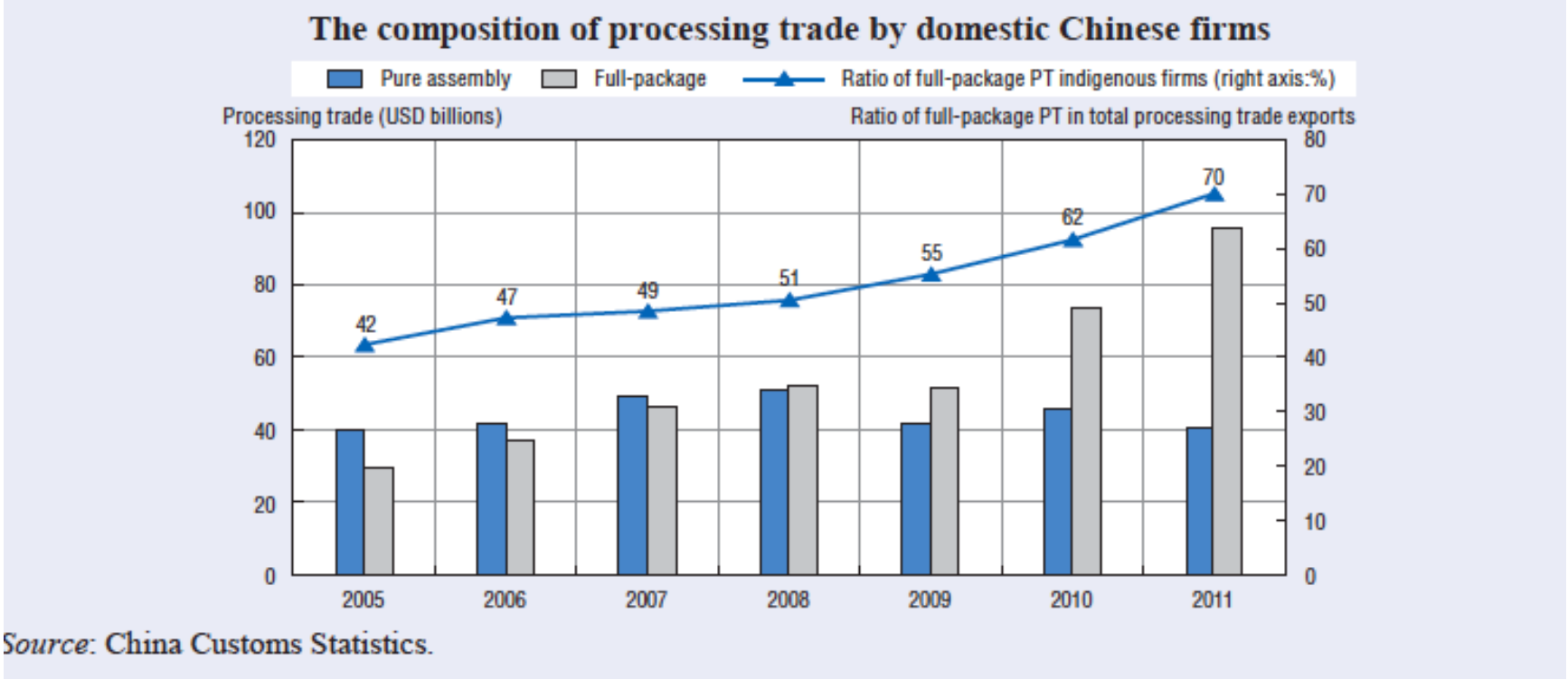
- China is a **lower-cost producer** overall (labor costs lower, but not transport & tariffs)
- China has huge **scale and scope economies** (supply-chain cities)
- China has **a coherent and multidimensional upgrading strategy** – diversify and add high value activities
- China is using **direct foreign investment** to promote **"fast learning"** in new industries
- China uses **access to its domestic market** to attract TNCs and promote knowledge spillovers

Composition of China's Exports to the World Market, 1990-2012



Source: UN Comtrade.

China process upgrading: from simple contract assembly to "full-package" manufacturing



Source: China Customs Statistics.

Functional upgrading

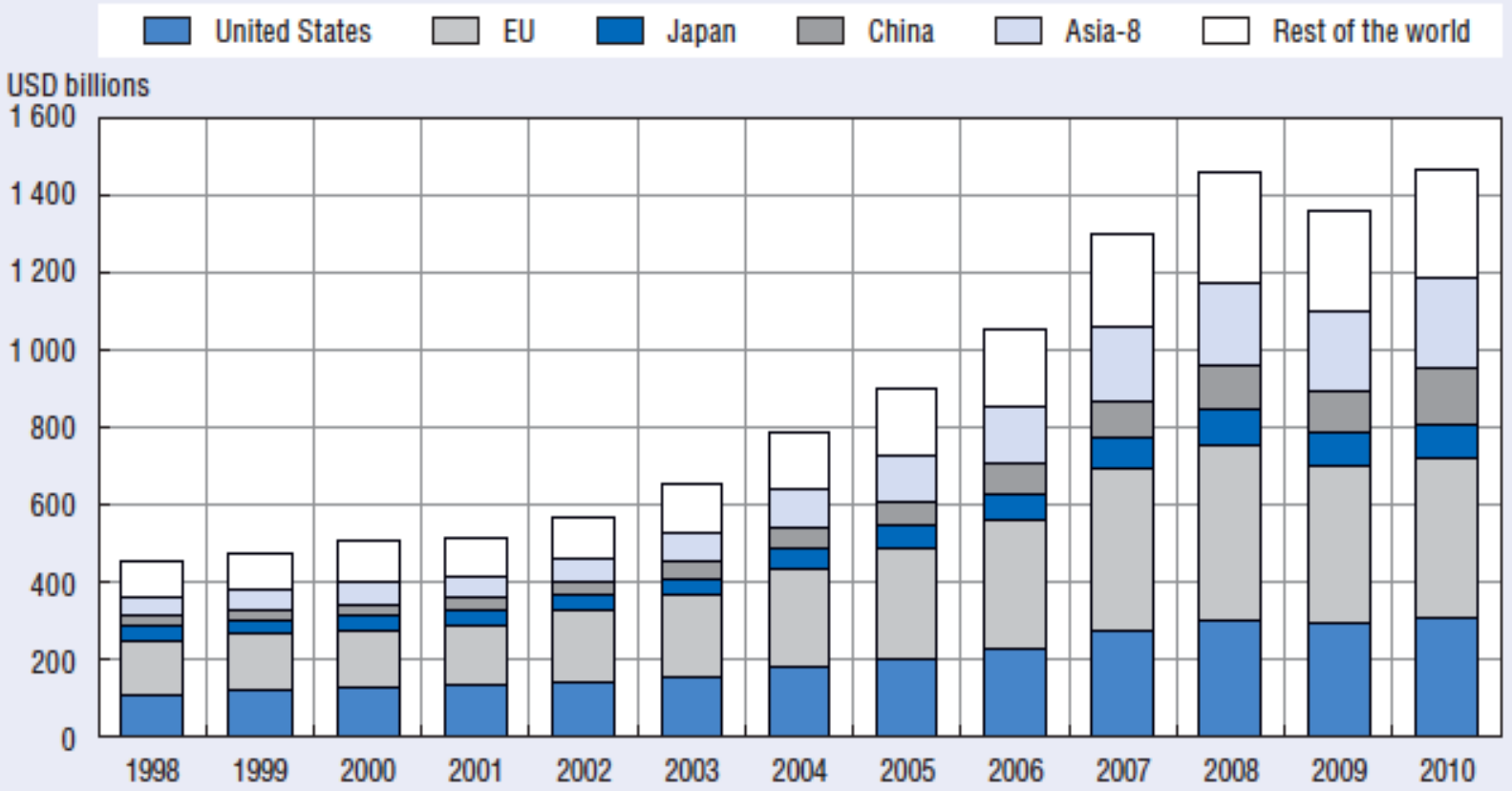
- From assembler to parts provider: China's share in world exports has increased not only in final products but also in parts and components;
- From 1995 to 2007, China's share in world exports of parts and components increased by 9.2%, while those of Japan and the United States dropped by 7.1% and 6.3%.

A new role in the knowledge-intensive segments of GVCs?

- China is now the world's second largest spender on R&D after the United States;
- Patents held by Chinese residents increased at an average annual rate of 29% between 1999 and 2009.
- However, Chinese firms' patents, especially in the United States, are largely held by a handful of export oriented firms in computer, communication and consumer electronics industries, such as Foxconn, Huawei and ZTE;
- China's exports of commercial knowledge-intensive services (business, financial and communication services) have also expanded.

Box 7.1. China: upgrading in GVCs *(continued)*

World exports of commercial knowledge-intensive services (USD billion)



Note: Asia-8 includes Chinese Taipei, India, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand. EU excludes Cyprus[2], Estonia, Latvia, Lithuania, Luxembourg, Malta, and Slovenia. China includes Hong Kong.

Source: Science and Engineering Indicators 2012, National Science Foundation.

China Is Climbing the Value Chain

- Moving from low-technology to high-technology manufactured goods
- Moving from manufacturing to high value services
  - R&D, design, marketing of national brands (autos, appliances, telecom), logistics, finance
- Moving from inward FDI (joint ventures & technology transfer) to outward FDI (primary commodities, computers, shipping)

The future of China's upgrading

- Its **large and fast-growing domestic market** facilitates the upgrading of GVC activities: Chinese firms absorb advanced knowledge by participating in foreign MNEs' GVCs, they can use this knowledge to develop new capabilities and new products for the domestic market;
- China was able to leverage its **large market to attract foreign investments embodying the latest technology**. This allowed Chinese firms to improve their capabilities and keep up with the world's technological frontier;
- Competition with MNEs in the domestic market gives Chinese firms incentives to invest in technology and other knowledge-based assets.

But beware…

- High tech exports doesn't mean high value added production: see the iPod case;
- Export dependence has risks for economic and employment growth;
- Economic upgrading ≠ Social upgrading

The Ipod GVC

VALUE CREATED BY GLOBAL VALUE CHAIN

iPod 4

US Product

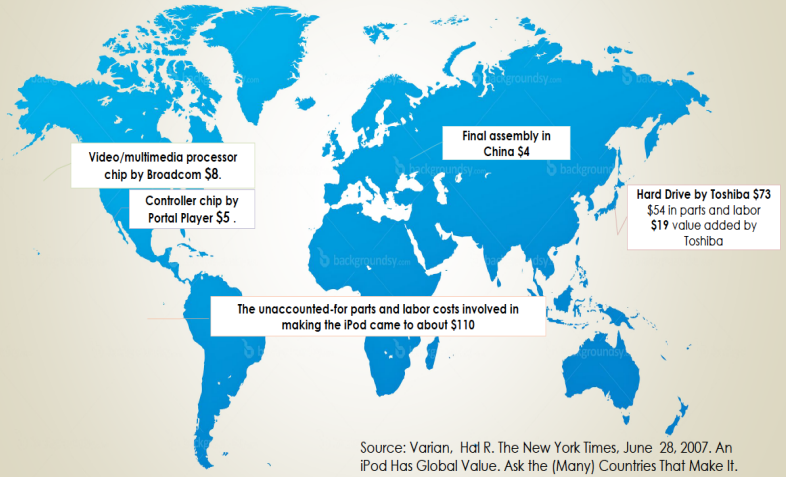
Caters to local and international market

481 components

Market Price **$299**
as of June 2007, without tax

Source: Varian, Hal R. The New York Times, June 28, 2007. An iPod Has Global Value. Ask the (Many) Countries That Make It.

VALUE CREATED BY GLOBAL VALUE CHAIN



Source: Varian, Hal R. The New York Times, June 28, 2007. An iPod Has Global Value. Ask the (Many) Countries That Make It.

VALUE CREATED BY GLOBAL VALUE CHAIN

For the a product with 481 components, mostly produced offshore and assembled in China…

American Value Addition

$163 (54% of retail price)

Domestic component makers $8

Distribution and retail costs $75

Apple's Value Addition **$80**

VALUE CREATED BY GLOBAL VALUE CHAIN

Apple has the biggest value share, because it figured out a way to turn 481 generic components into a $299 lifestyle marvel

…and they don't even have to make it themselves

Apple's Value Addition **$80**

China assembles all iPods, but it only gets about $4 per unit -or just over 1% of the US retail price of $300

451 parts that go into the iPod

Hard Drive by Toshiba → Japanese company, most of its hard drives made in the Philippines and China; it costs about $73 - $54 in parts and labor -- so the value that Toshiba added to the hard drive was $19 plus its own direct labor costs

Video/multimedia processor chip by Broadcom→ American company with manufactures facilities in Taiwan. This component costs $8.

The retail value of the 30-gigabyte video iPod that the authors examined was $299 in June, 2007

Controller chip by Portal Player→ American company with manufactures .This component costs $5 .

-Final assembly→ done in China, costs only about $4 a unit

The unaccounted-for parts and labor costs involved in making the iPod came to about $110

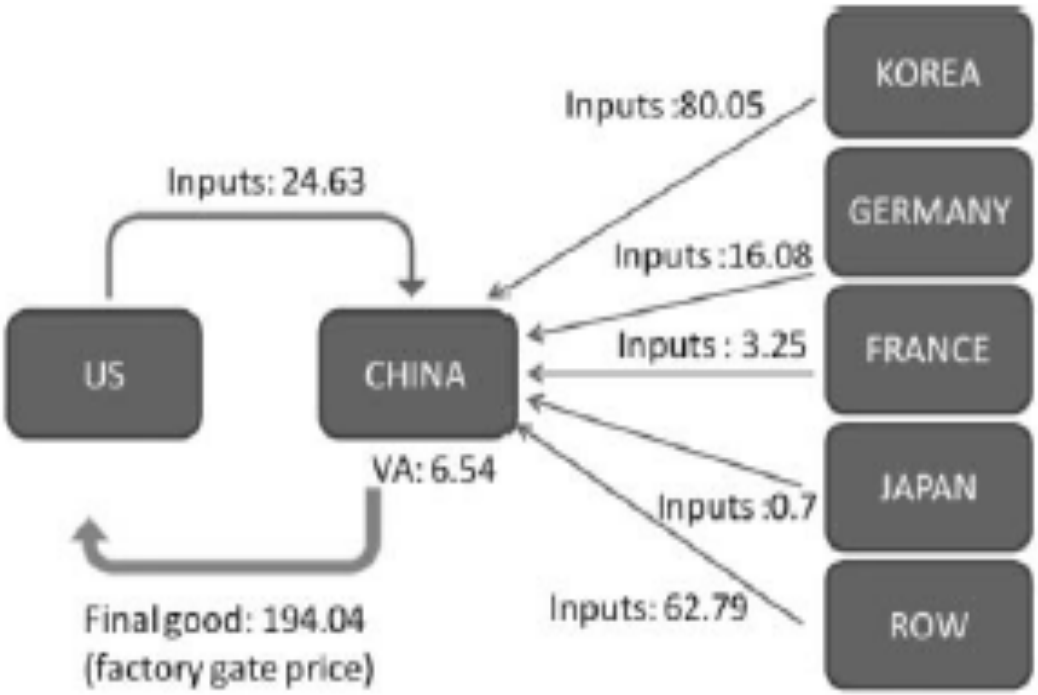
The largest share of the value added in the iPod goes to enterprises in the United States→ $163 of the iPod's $299 retail value in the United States was captured by American companies and workers, breaking it down to $75 for distribution and retail costs, $80 to Apple, and $8 to various domestic component makers.

The bulk of the iPod's value is in the conception and design of the iPod. That is why Apple gets $80 for each of these video iPods it sells, which is by far the largest piece of value added in the entire supply chain. Apple figured out how to combine 451 mostly generic parts into a valuable product.

Source: Varian, Hal R. The New York Times, June 28, 2007. "An iPod Has Global Value. Ask the (Many) Countries That Make It."

Who captures Value in Apple's iPod?

- Apple captures the most of the value;
- Suppliers of key inputs also gain a good share of value;
- Trade statistics may lead to wrong conclusion (is a made in China IPOD a chinese or a US product?).



US trade balance with	CHINA	KOREA	GERMANY	FRANCE	JAPAN	ROW	WORLD
Gross	-169.41	0	0	0	0	0	-169.41
Value added	-6.54	-80.05	-16.08	-3.25	-0.7	-62.79	-169.41

Figure 2 US bilateral trade balance with China for one unit of iPhone4 (US$). *Source:* OECD (2011: 40).

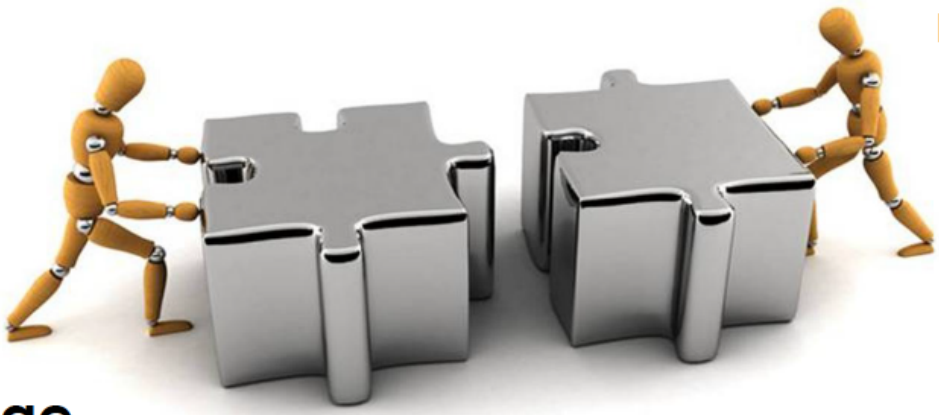
Mapping GVC

https://www.youtube.com/watch?v=KMkJu8S8ztE

PARTICIPATION IN GLOBAL VALUE CHAIN

Backward linkage

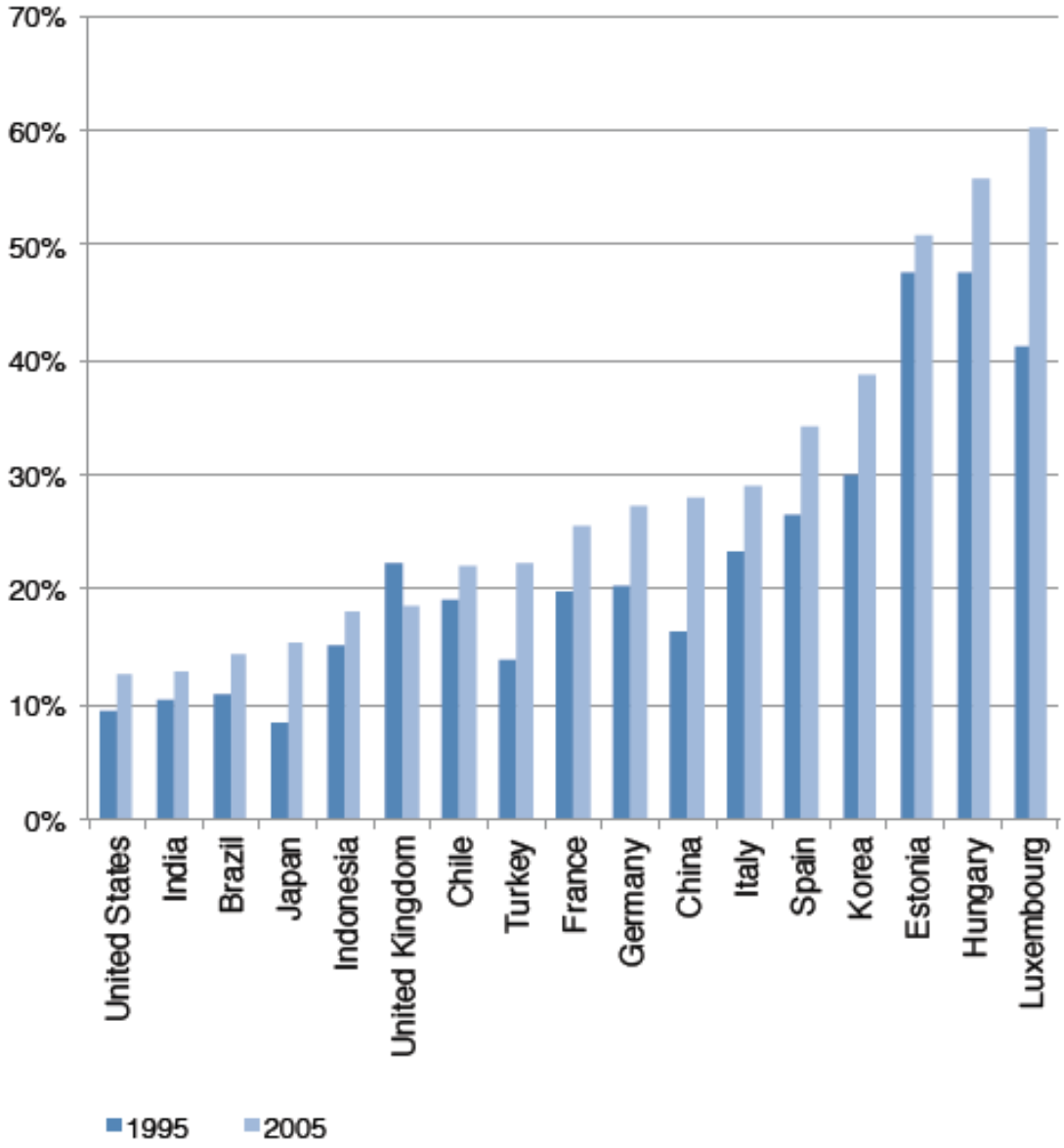
the country imports **intermediate products** to be used in its exports



Forward linkage

the country provides **inputs into exports** of other countries

Import content of Exports (%)

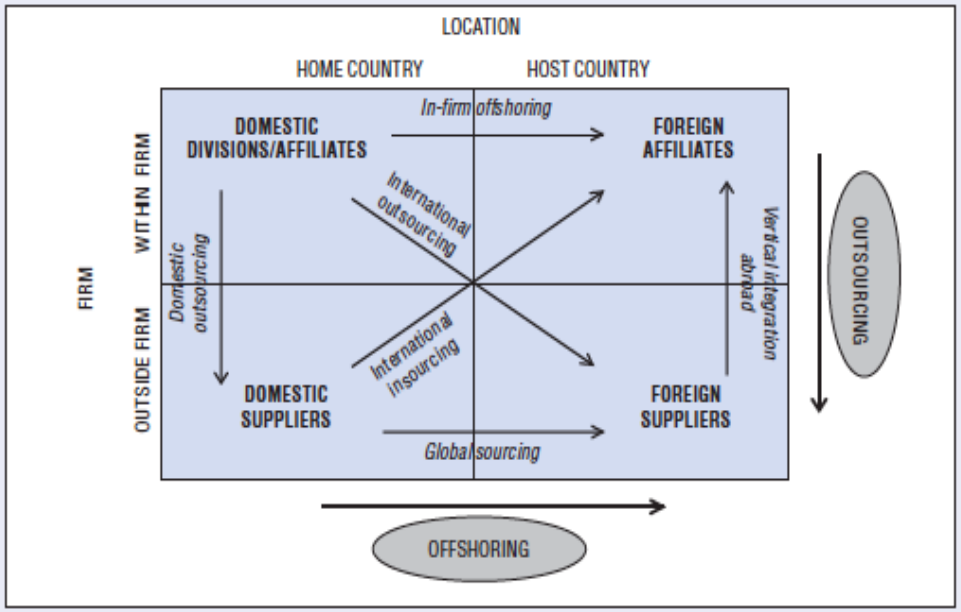


Source: OECD Input-Output Database

Outsourcing and Offshoring

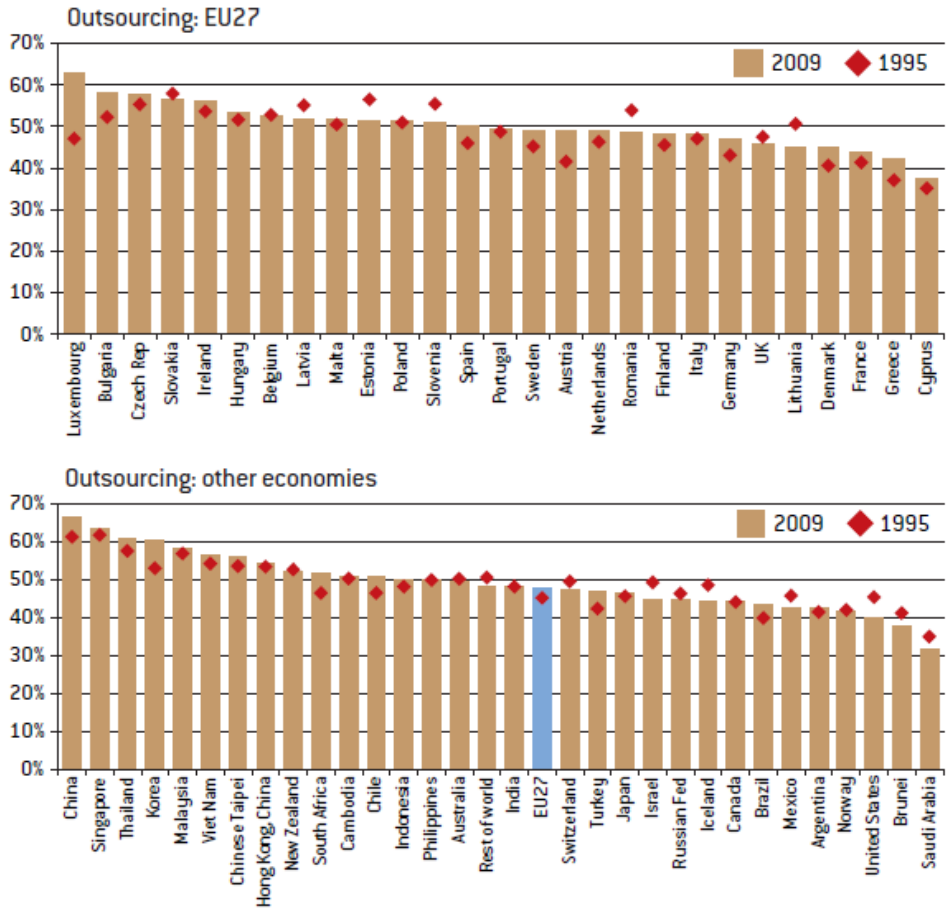
- **Outsourcing:** purchase of intermediate goods and services from outside specialist providers;
- **Offshoring:** purchase of intermediate goods and services from **foreign** specialist providers.

Firms' strategies of outsourcing and offshoring

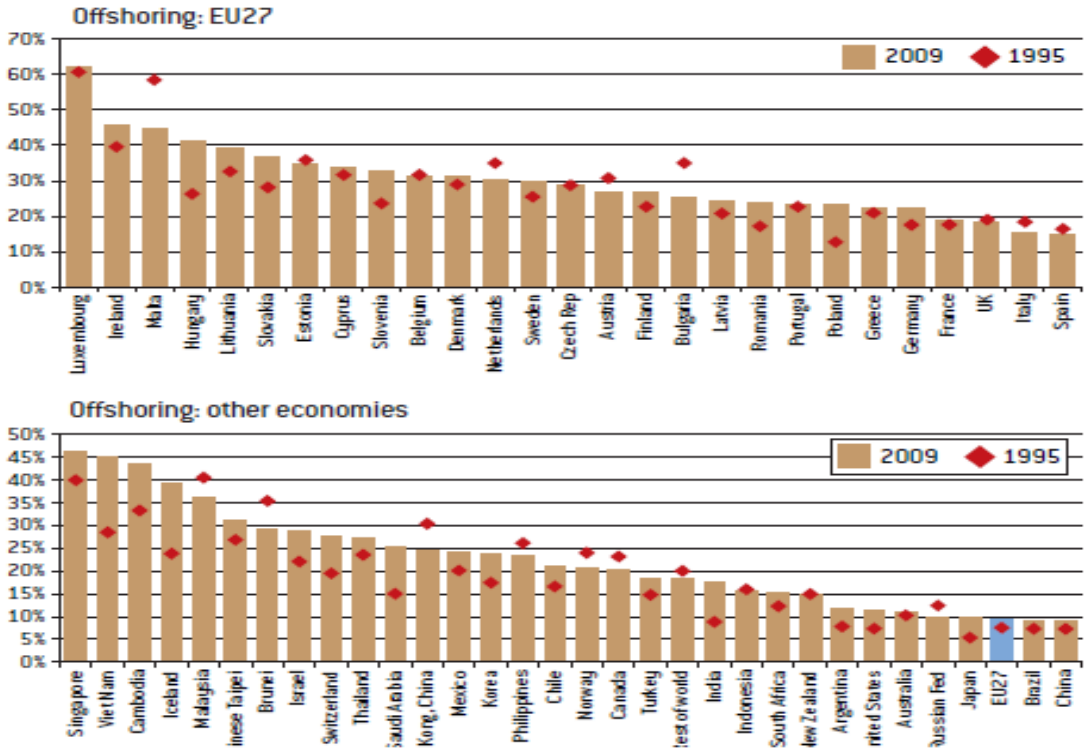


Source: Based on OECD (2006), OECD (2007a) and Miroudot et al. (2009).

Outsourcing (= share of externally sourced intermediates in production or "vertical dis-integration"): rather common to all countries



Offshoring (= imports of intermediate goods and services as % of total intermediate inputs): decreasing with country size

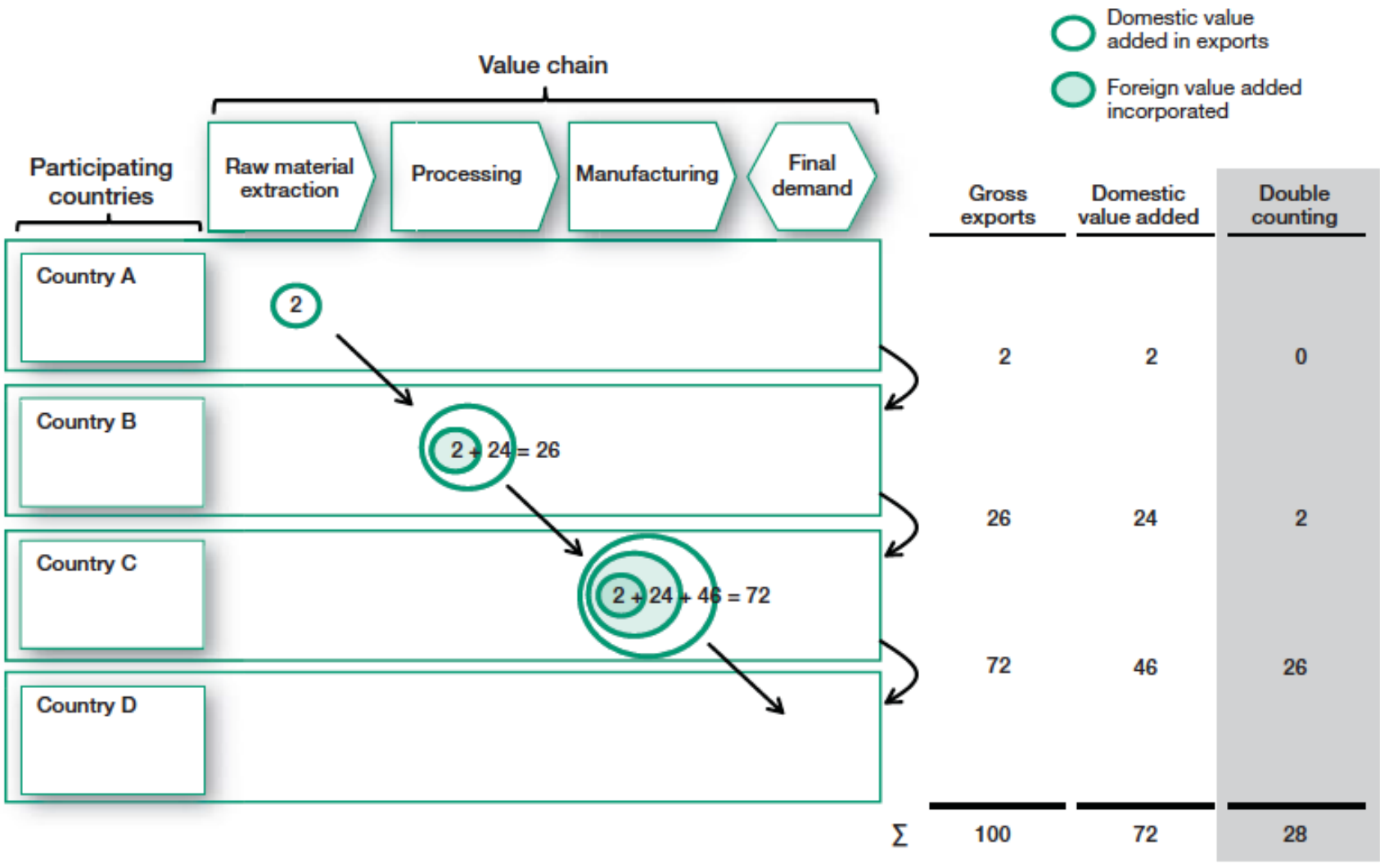


Source: OECD/WTO (2013), OECD-WTO: Statistics on Trade in Value Added, (database). Note: outsourcing is calculated as the purchase of intermediate goods and services from specialist external suppliers as percentage of production, while offshoring is calculated as the purchases of intermediate goods and services from foreign providers as percentage of intermediate inputs.

Trade in value added

- Trade statistics record gross flows of goods and services every time they cross borders;
- TIVA (Trade in Value Added) database addresses the problem of double counting, measuring the value added by a country in the production of any good or service exported.

Figure IV.1. Value added trade: how it works

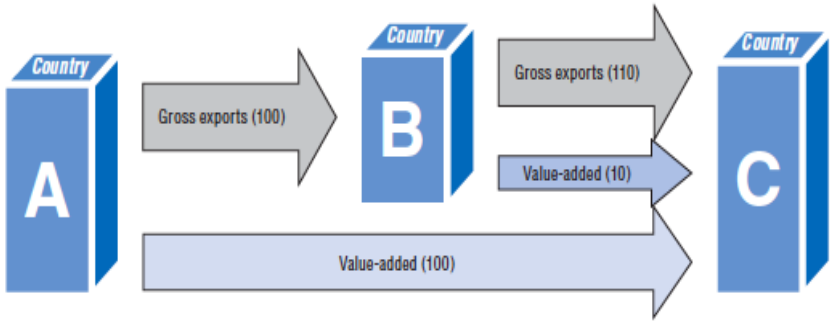


Source: UNCTAD.

GVC and trade statistics

- Global exports = 210;
- Value Added = 110;
- In trade statistics C has a deficit of 110 with B;
- In fact, C has a trade deficit of 10 with B and of 100 with A;
- A depends on the demand in C;
- B depends on A for intermediate parts.

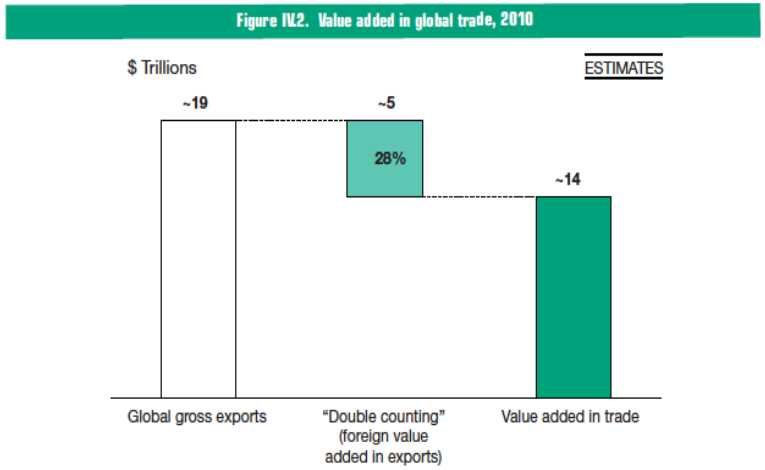
Figure 2.1. A simple schematic for trade in value added



Source: OECD (2012).

VA in global trade

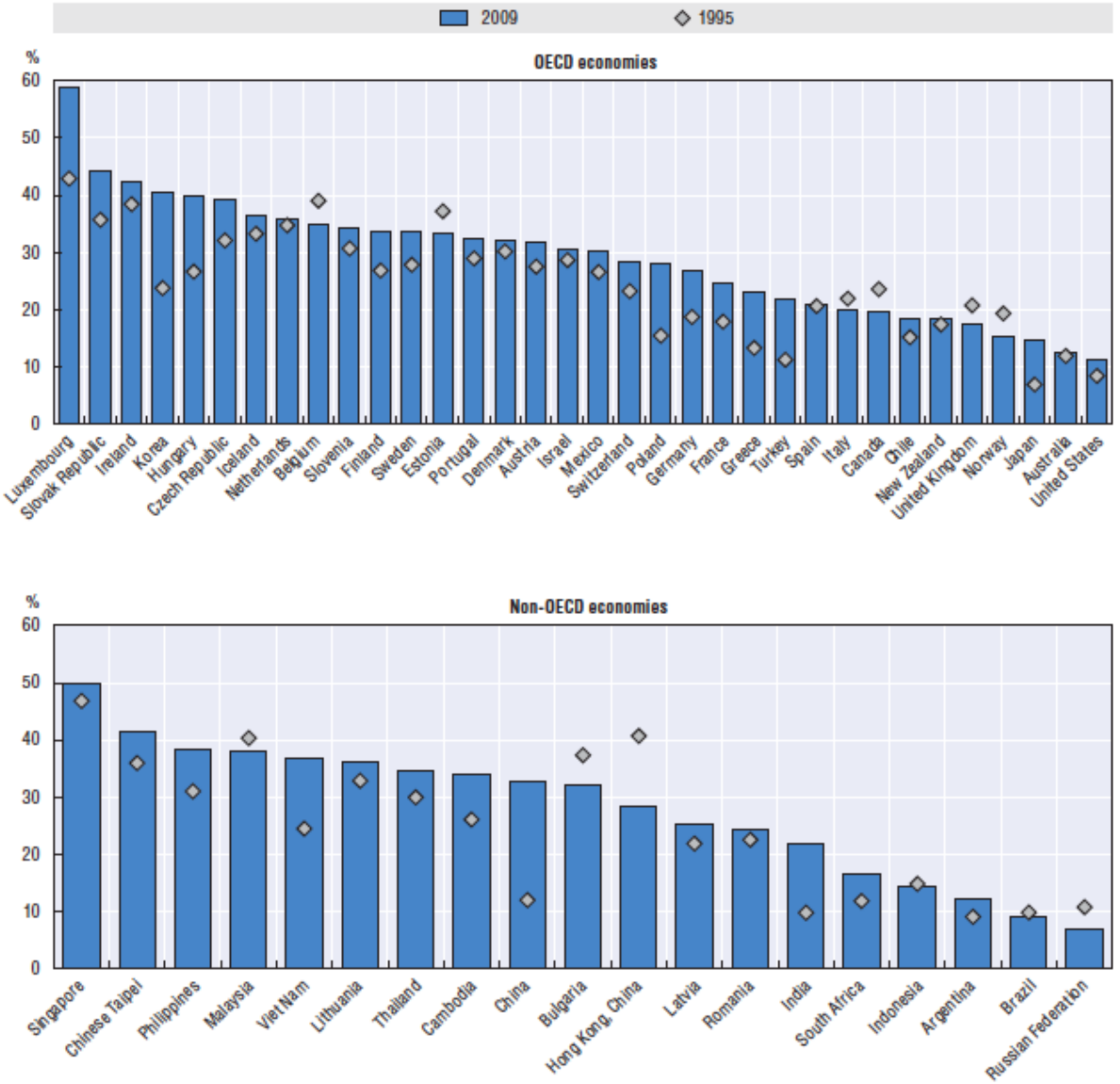
- 28% of global exports is double counted in trade statistics.



Source: UNCTAD-Eora GVC Database, UNCTAD estimates.

Figure 1.4. Foreign value-added content of exports by country, 1995 and 2009

As a percentage of total exports



Note: Caution is warranted when comparing 1995 and 2009 figures for China, since data availability only allows to distinguish between processing and non-processing exports from 2005 onward; this likely affects the results (see Chapter 2).

Source: OECD/WTO (2013), OECD-WTO: Statistics on Trade in Value Added, (database), doi: 10.1787/data-00648-en (accessed April 2013).

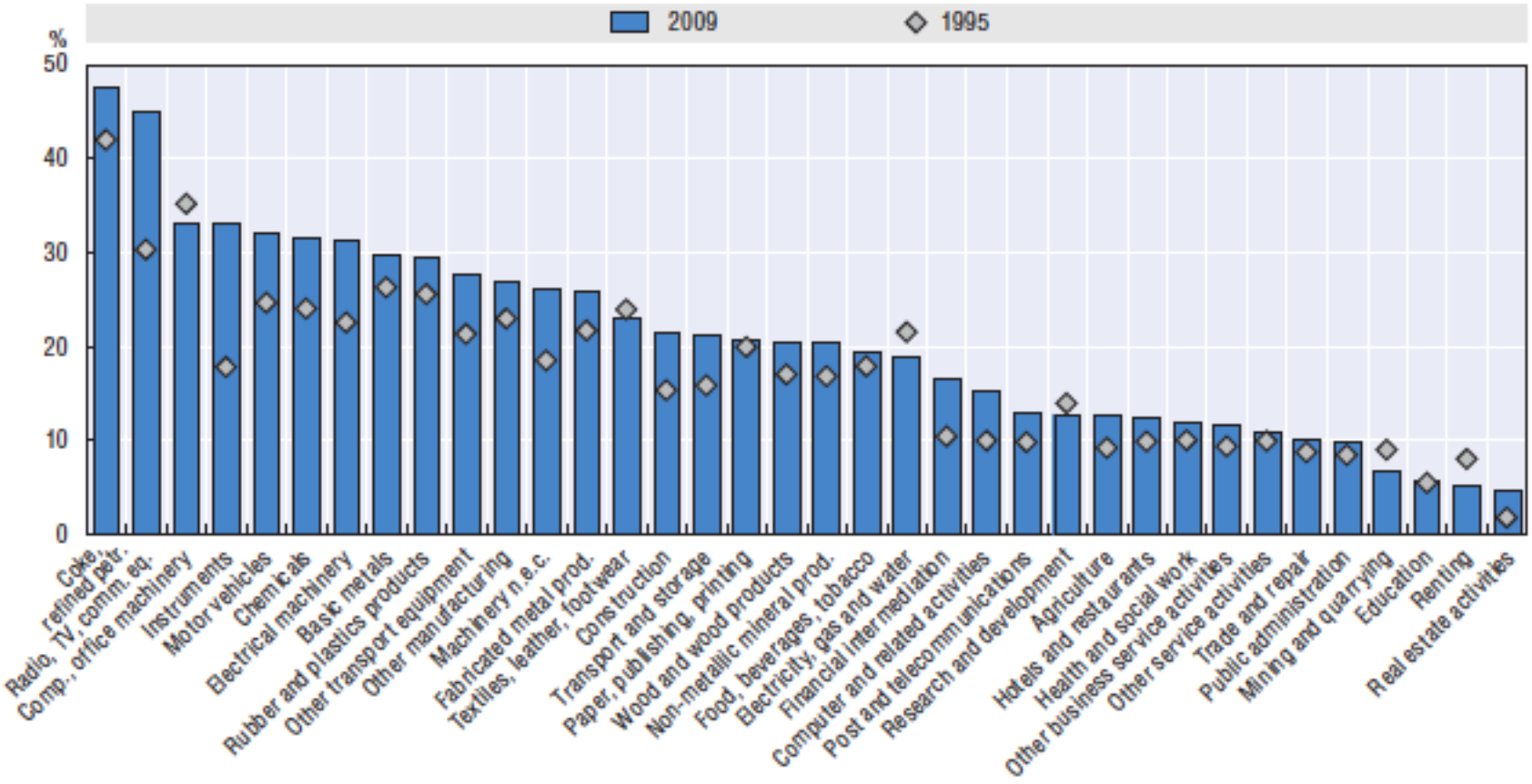
StatLink http://dx.doi.org/10.1787/888932834378

Foreign value added by country

- Economic size of countries:
  - smaller economies have higher shares of foreign value added embodied in their exports;
- Specialization of countries:
  - countries with substantial natural resources have lower ratio of foreign value added in their exports as mining activities require fewer intermediate goods in the production process.

Figure 1.5. Foreign value-added content of exports by industry, OECD average, 1995 and 2009

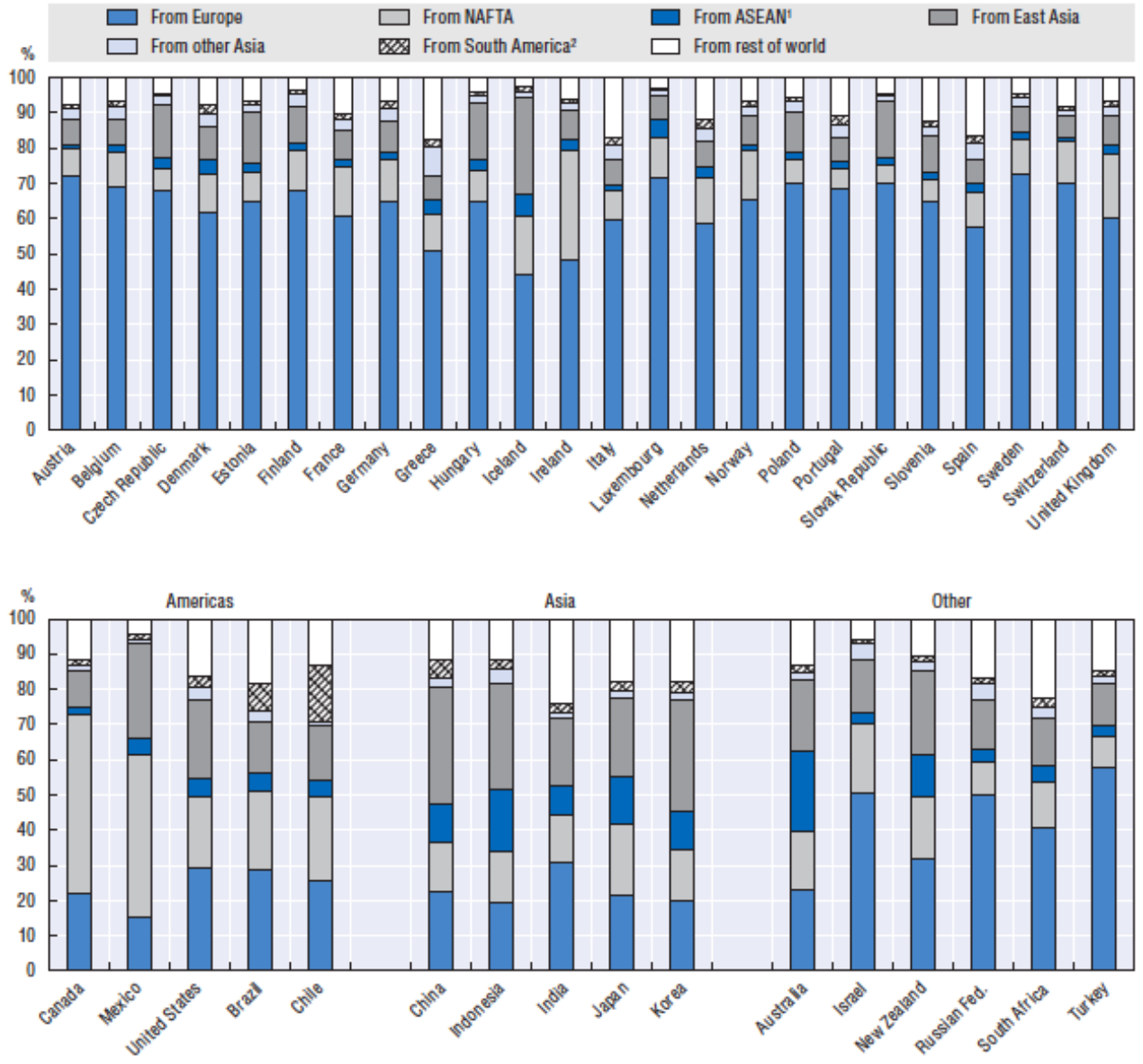
As a percentage of total exports



Foreign value added by industry

- The fragmentation of production in GVCs is linked to the technical characteristics of products and it is far more developed in manufacturing than in services;
- **Foreign value added is very large in basic industries** that make heavy use of imported primary goods such as coke and refined petroleum, basic metals, chemicals, and rubber and plastics;
- **Fragmentation is also significant for modular products in high technology industries:** parts and components are often produced in one country and exported to another in which they are assembled;
- This international division of labour is deep in electrical machinery, radio/television and communication equipment, office, accounting and computing machinery, but also motor vehicles.

Figure 1.6. Origin of foreign value-added content of exports, by geographic region, 2009



1. Excluding Myanmar and Laos.

2. Argentina, Brazil and Chile.

Source: OECD/WTO (2013), OECD-WTO: Statistics on Trade in Value Added, (database), doi: 10.1787/data-00648-en (accessed April 2013).

StatLink http://dx.doi.org/10.1787/888932834416

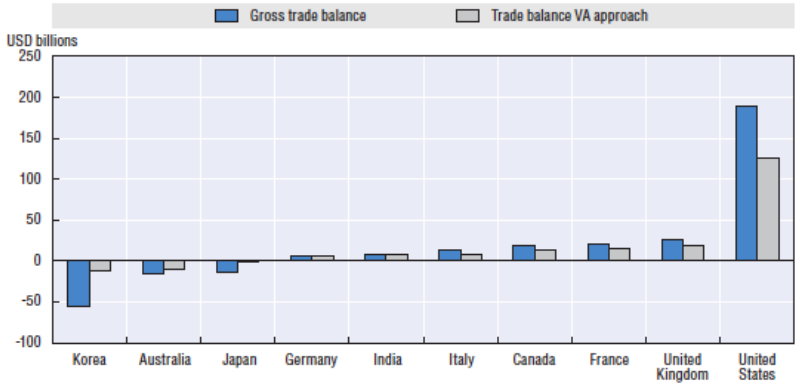
Foreign value added by geographic regions

- In most **European countries**, between 60% and 70% of the foreign value content of exports comes from other European countries;
- Within the **NAFTA region**, Canada and Mexico are heavily oriented towards the other NAFTA countries, in particular the United States: almost half of the imported intermediates embodied in their exports originates in the NAFTA zone;
- In **Asia**, the majority of the intermediates embodied in exports are sourced from within the region, reflecting the importance of Factory Asia where (advanced) parts and components are often produced by developed economies such as Japan and Korea and then exported to emerging economies such as China and increasingly Vietnam and Cambodia where the intermediates are assembled into finished products.

China trade balance

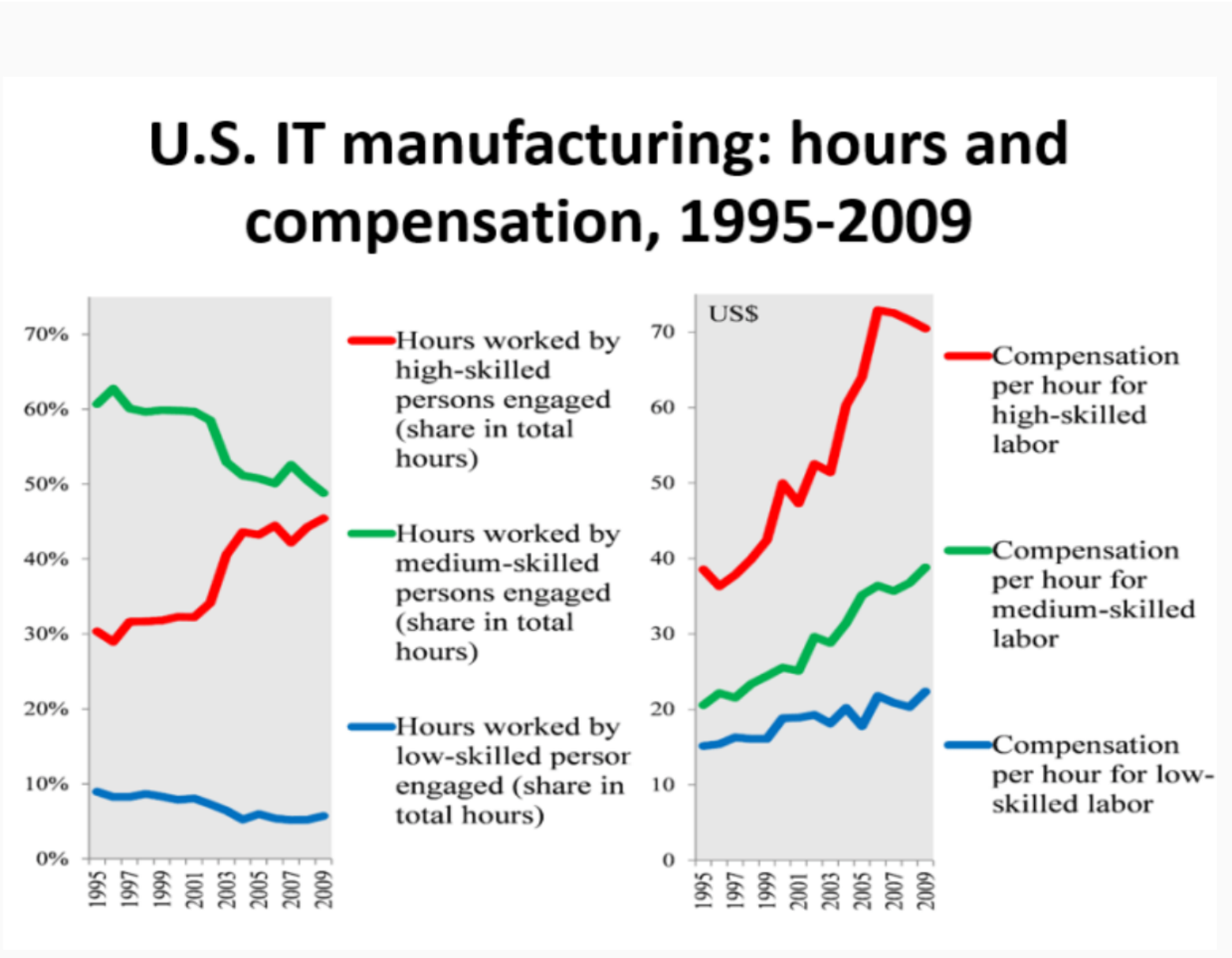
- China's trade surplus with the USA is smaller;
- China assembles intermediate parts coming from Korea and Japan (Factory Asia);
- There is a pressure for rebalancing trade deficits which can induce a rise in protectionism..

Figure 2.7. China's value-added and gross trade balances, USD billion, 2009



Source: OECD/WTO (2013), OECD-WTO: Statistics on Trade in Value Added, (database), doi: 10.1787/data-00648-en (accessed April 2013).

Wo wins and who loses?



Chinese IT manufacturing: hours and compensation, 1995-2009