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Trade costs

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References for this lecture

- **BBGV**
 - Chapter 6, paragraph 6.1, 6.2
 - Chapter 5, paragraph 5.2

Trade costs

- **Transport** costs
- **Tariffs**
- **Non-tariff** trade barriers
- Costs due to **cultural** differences

How relevant are trade costs?

- Suppose a **country** accounts for **10 percent** of world's **GDP**
- **Full integration of markets** would imply that the share of **output sold to 'home' consumers** produced by 'home' producers should be around **10 percent** of total **production of 'home' producers**
- **Foreign sales** should account for about **90 percent** of the total production of 'home' producers

How relevant are trade costs?

- **Western Europe** and the **US** account (**each**) for about **20 percent** of world GDP
- That would imply that **export** should account for about **80 percent** of GDP
- However, export is only about **10 percent** of GDP in **US** and **40 percent** in **EU**

Table 6.1 Regional trade pattern of Europe; percent of total, 1860-2009

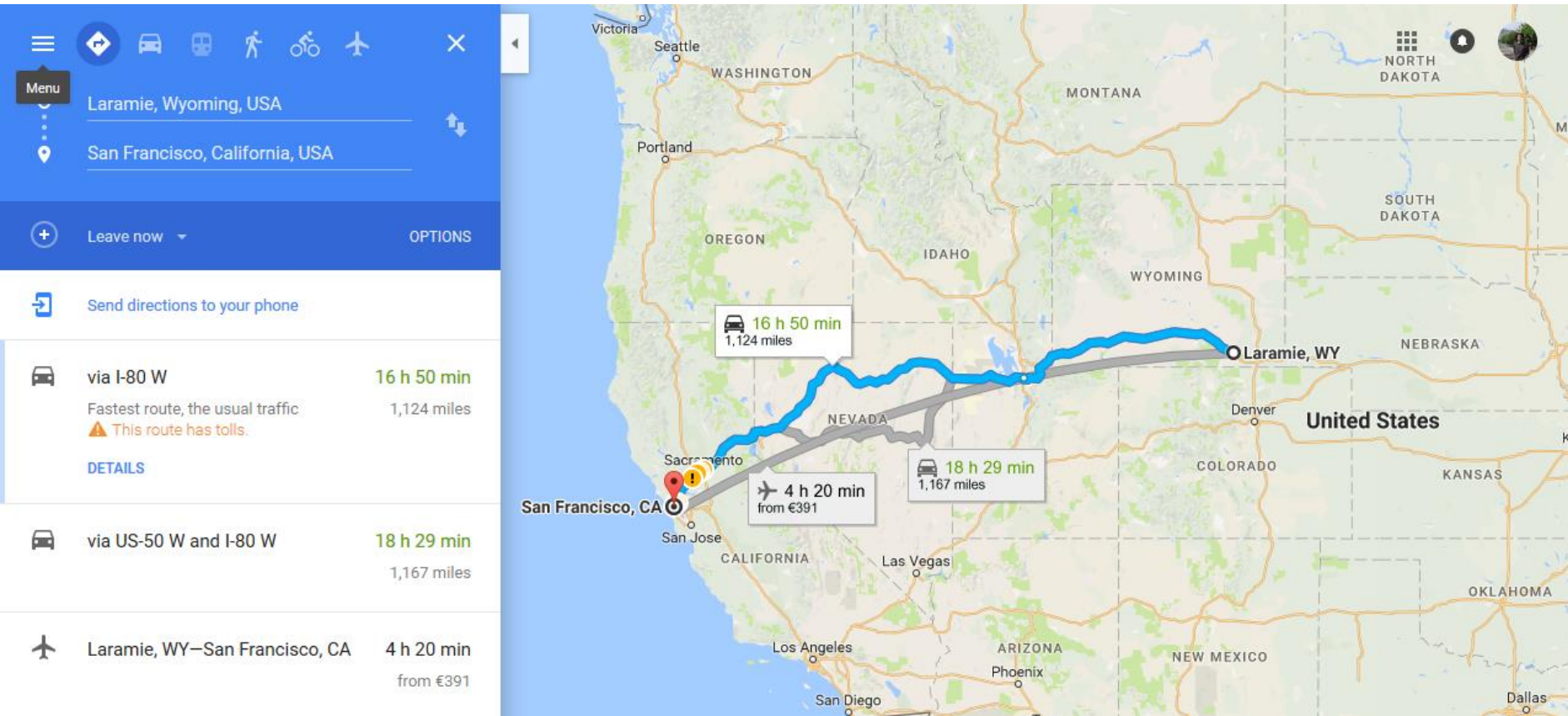
Export to:	Europe	United States	China	Japan	Rest of world
1860	67.5	9.1			23.4
1910	67.9	7.6			24.5
1999	69.1	8.5	0.9	1.6	19.9
2004	68.5	7.8	1.6	1.4	20.7
2009	66.7	6.2	2.5	1.1	23.5
Import from:	Europe	United States	China	Japan	ROW
1860	61	14.3			24.7
1910	60	14			26
1999	66.2	7.5	2.4	3.4	20.4
2004	66.0	5.3	4.3	2.5	22.0
2009	63.9	4.8	6.5	1.7	23.1

Source: Baldwin and Martin (1999) for 1860 and 1910 data, other data from Eurostat; China excludes Hong Kong.

Transportation costs

- Transportation costs are tightly **related** to
 - **Geographical** distance
 - **Mode** of transportation (sea, river, air, land, etc)
- The **mode** of transportation depends on the **type** of **good**
- Transportation costs for exporting may **vary** even **substantially within** a country
 - **Producers** in places close to a **port**, an **airport**, a **border** pay much less than other producers

From Laramie, WY to San Francisco, CA



How to measure transportation costs?

- **Trade statistics**

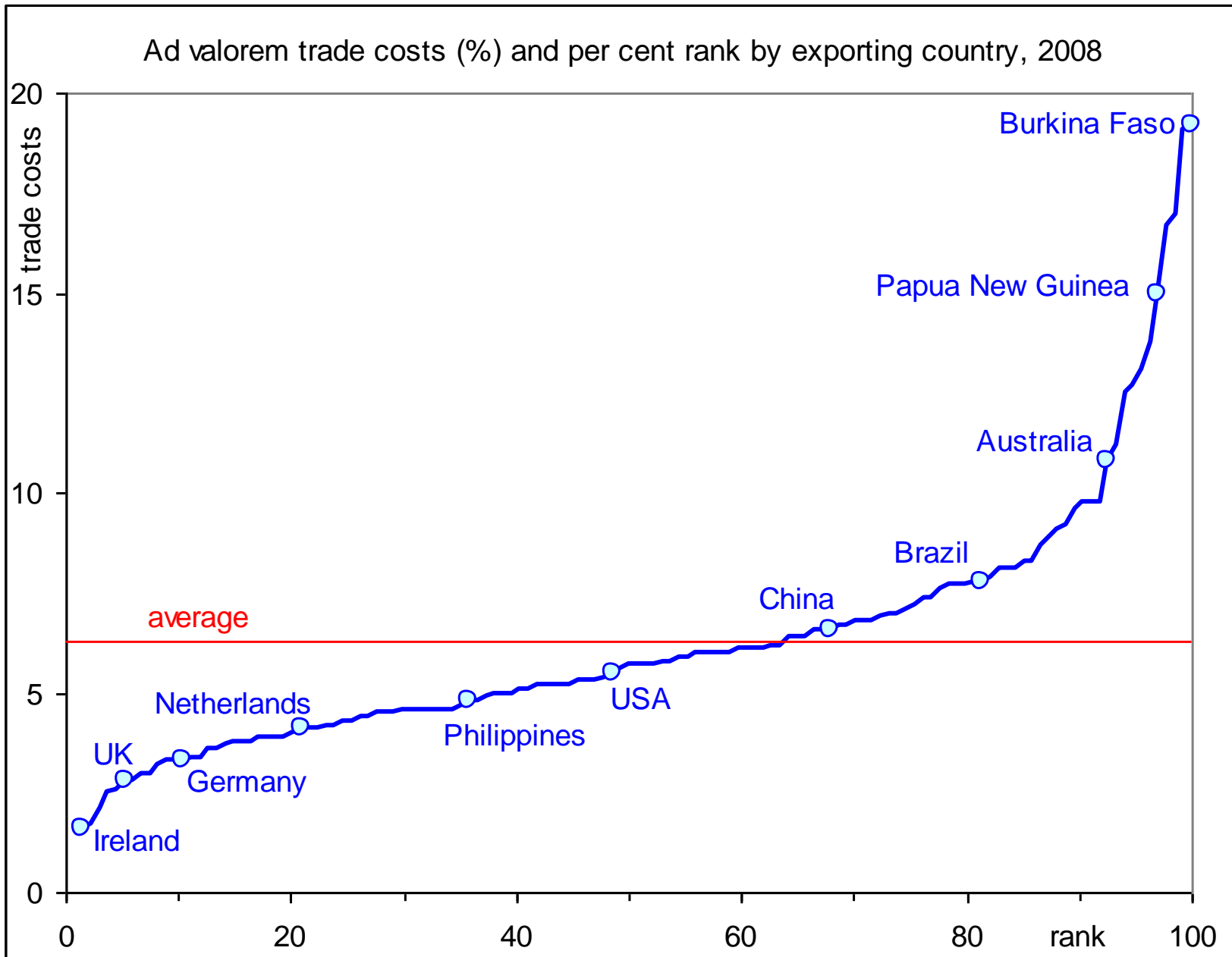
- In principle, the value of **export** from country i to country j should be **equal** to the value of **import** of country j from country i
- Import and export, however, are **evaluated in different ways** in trade statistics
- **Import** → CIF
 - **CIF** = Cost, Insurance, Freight
 - The **value** of import includes **all costs** paid by the exporter to ship the merchandise to the border of the importer
- **Export** → FOB
 - **FOB** = Free on Board
 - Export just include those costs paid to prepare the merchandise for export, **up to the home port/border**

Indicator of transportation costs

- The **relative incidence of transportation costs** in international trade can be proxied by the following indicator

$$\left(\text{Import}_{\text{CIF}}^{i \text{ from } j} / \text{Export}_{\text{FOB}}^{j \text{ to } i} \right) - 1$$

Figure 6.1 Ad valorem trade costs by exporting country, 2008 (%)



Source: based on data for 134 countries from Sourcin and Pomfret (2012).

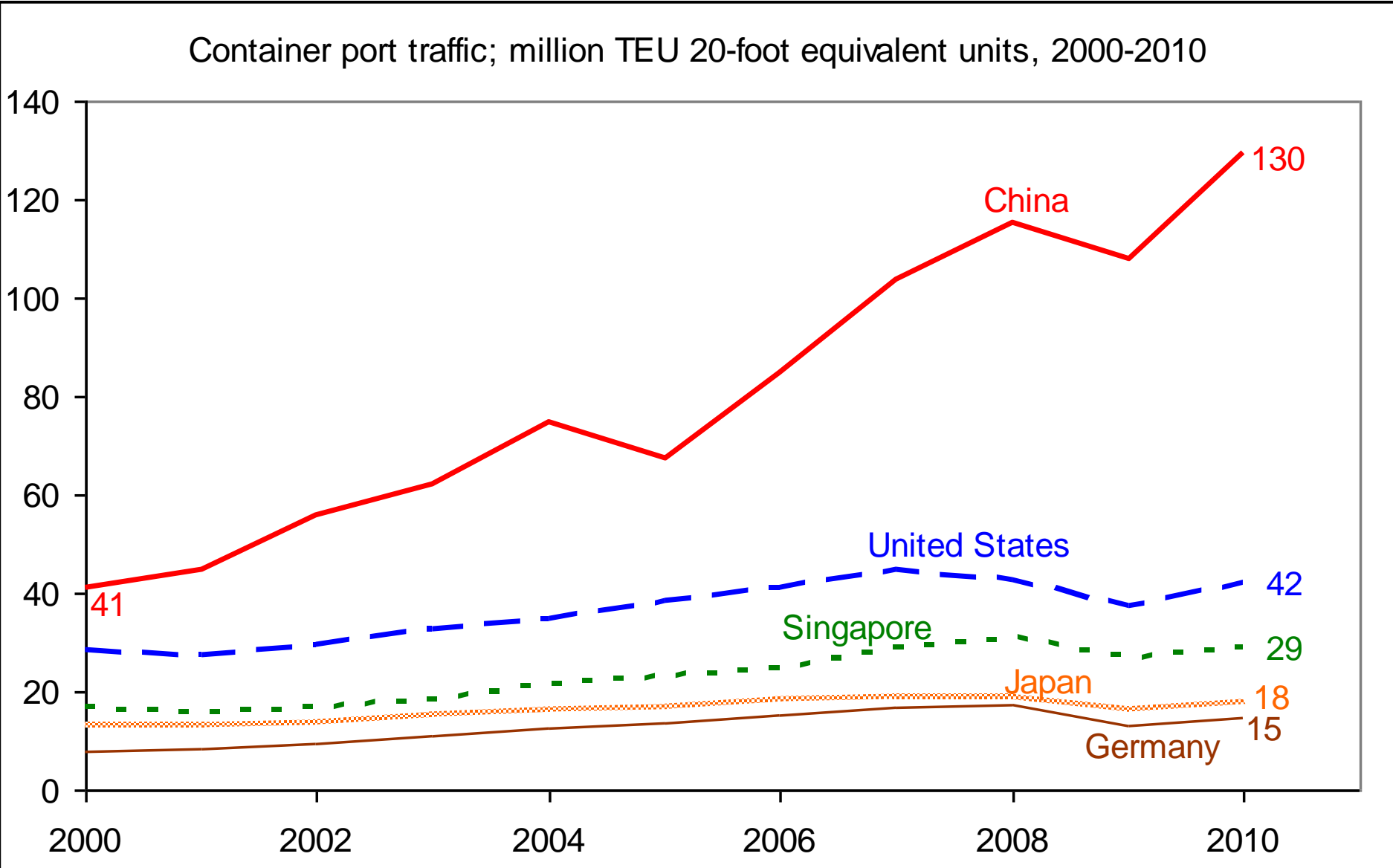
Drivers of transportation costs

- Transportation costs are **high** for
 - **Landlocked** countries (e.g. Burkina Faso)
 - Countries that are located **far** away from their trade **partners** (e.g. Australia)

Transportation costs and tariffs

- For the **US**
 - **Transportation costs on import** account for about **4.8** percent of the value of imported goods
 - **Tariffs on import** account for about **4.1** percent of the value of imported goods
 - **Transportation costs are as important as tariffs!**

Figure 6.2 Container port traffic; mn TEU 20-foot equivalent units, 2000-2010



Transportation modes

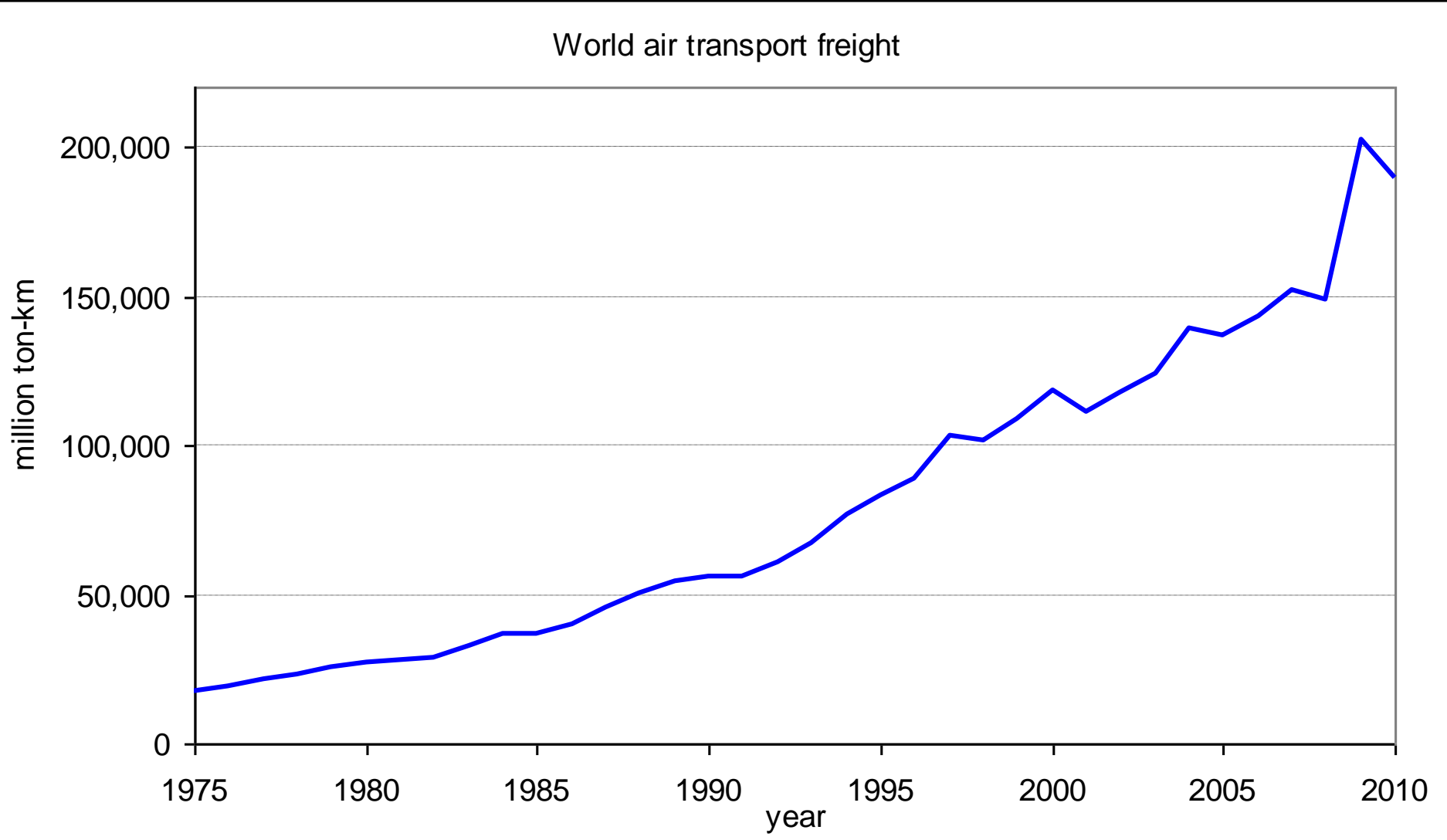
- **Most** commodities are shipped by the **sea**
- **Road** and **rail** transport remain **important**, especially for **big** and **landlocked** countries
- **Air** transport remains very **expensive** and is mostly used for **high-value** and **perishable** commodities → **0.6 percent** of **weight** but **35 percent** of **value** of world international trade

Table 6.2 The world's largest container ports; mn TEU, 1989 and 2009

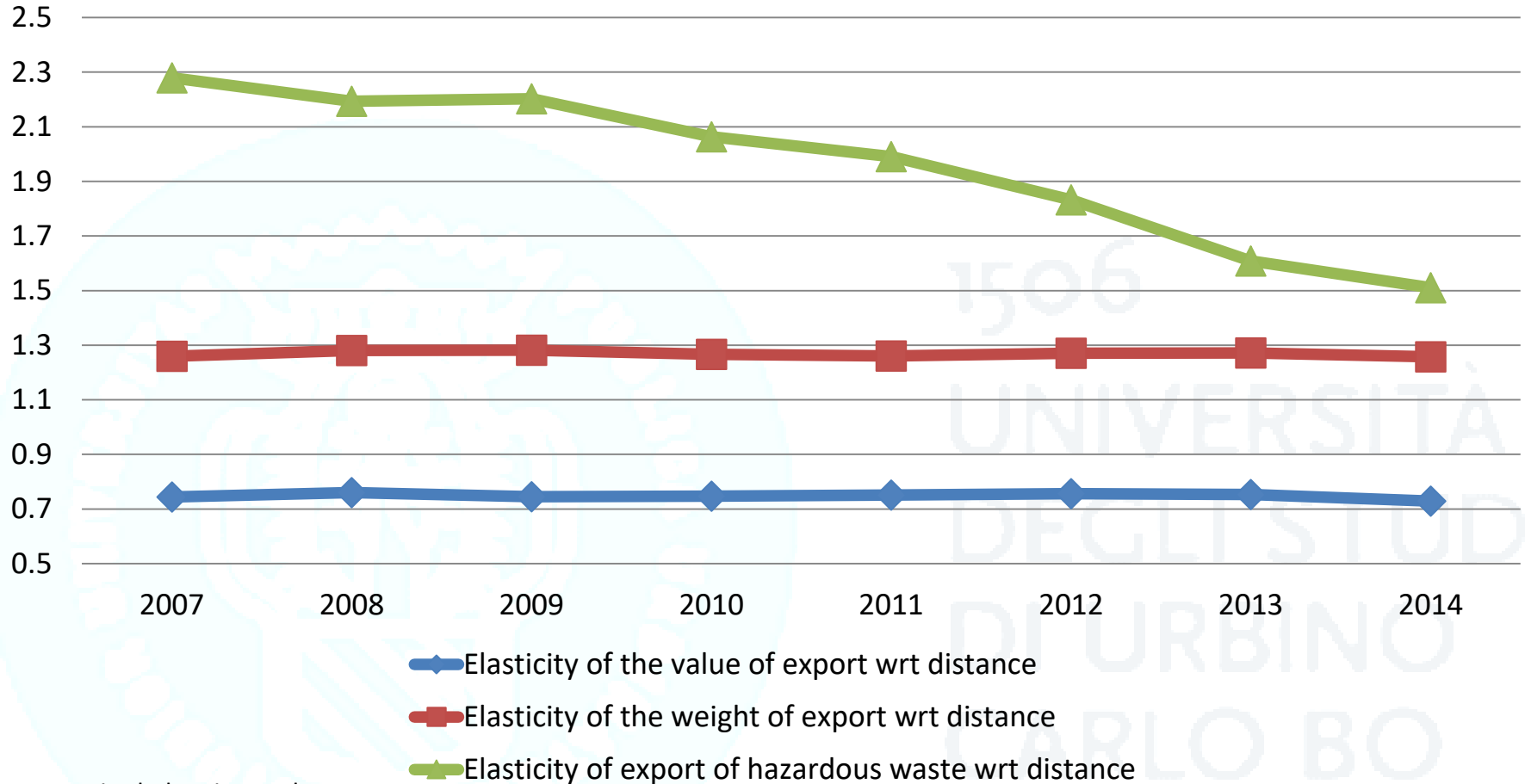
	1989		2009	
1	Hong Kong	4.5	Singapore	25.8
2	Singapore	4.4	Shanghai (China)	25.0
3	Rotterdam (Netherlands)	3.9	Hong Kong	20.9
4	Kaohsiung (Taiwan)	3.4	Shenzhen (China)	18.2
5	Kobe (Japan)	2.5	Busan (South Korea)	11.9
6	Busan (South Korea)	2.2	Guangzhou (China)	11.2
7	Los Angeles (USA)	2.1	Dubai (Un Arab Emirates)	11.1
8	New York (USA)	2.0	Ningbo (China)	10.5
9	Keelung (Taiwan)	1.8	Qingdao (China)	10.2
10	Hamburg (Germany)	1.7	Rotterdam (Netherlands)	9.7
11	Long Beach (USA)	1.5	Tianjin (China)	8.7
12	Yokohama (Japan)	1.5	Kaohsiung (Taiwan)	8.5
13	Antwerp (Belgium)	1.5	Antwerp (Belgium)	7.3
14	Tokyo (Japan)	1.4	Port Klang (Malaysia)	7.3
15	Felixstowe (Britain)	1.4	Hamburg (Germany)	7.0
16	San Juan (Puerto Rico)	1.3	Los Angeles (USA)	6.7
17	Bremen (Germany)	1.2	Tanjung Pelepas (Malaysia)	6.0
18	Oakland (USA)	1.1	Long Beach (USA)	5.0
19	Seattle (USA)	1.0	Xiamen (China)	4.6
20	Manila (Philippines)	0.9	Laem Chabang (Thailand)	4.6

Source: The Economist Aug 24, 2010

Figure 6.3 Developments in world air transport freight; mn ton-km, 1975-2010



Distance and trade within the EU



22 EU countries belonging to the OECD. PPML estimates. Sources: Eurostat-COMEXT (value and weight) and E-PRTR (hazardous waste)

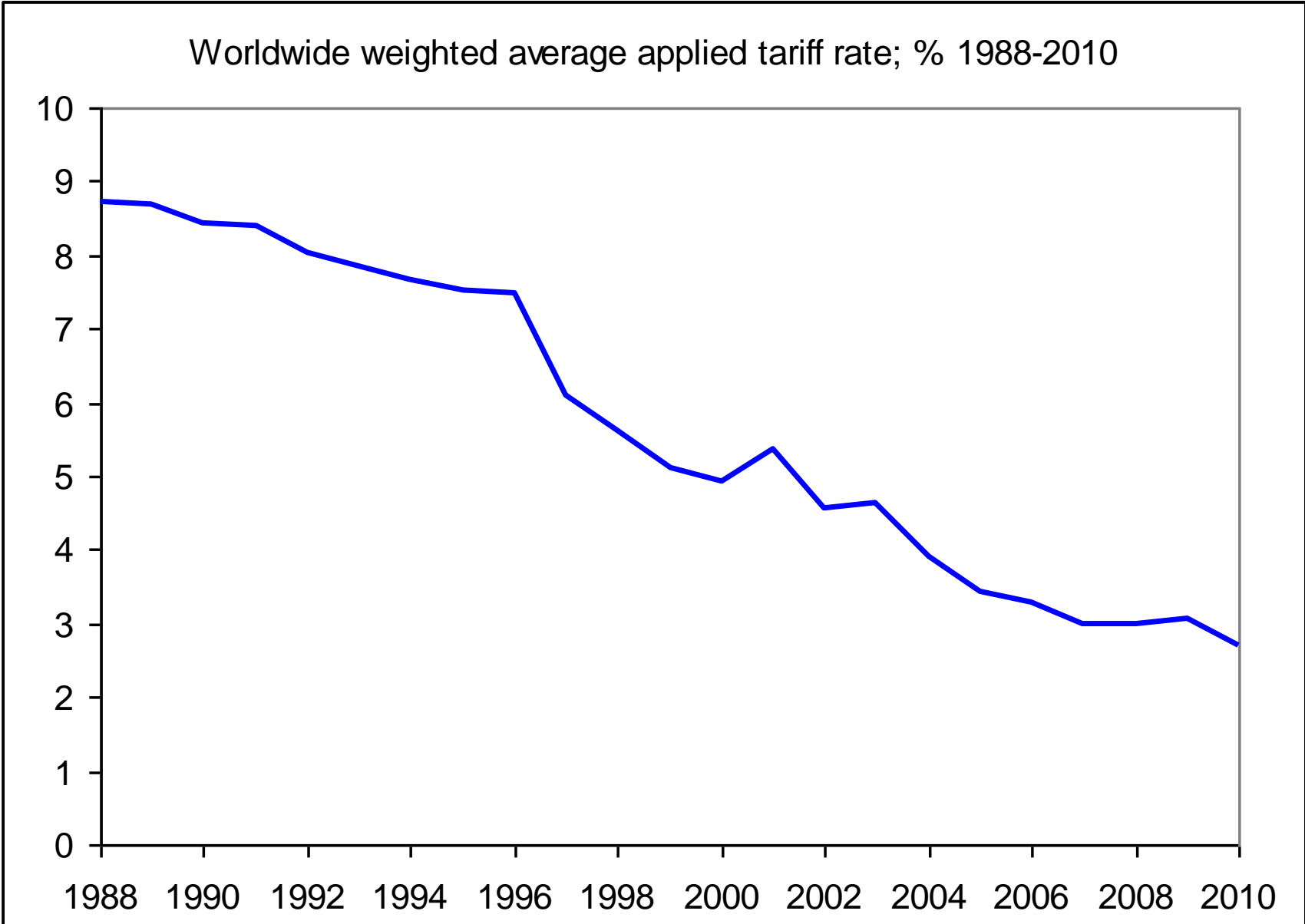
Tariffs

- Tariffs are **levied** on **import** of certain **commodities** by the **government** of the **importing country**
- **Aims** of tariffs
 - **Protect** home **producers** from foreign competition
 - Generate **tax revenue** for the government → particularly important for **developing countries** that are not able to raise taxes at home

Tariffs and GATT-WTO

- **GATT** (General Agreement on Tariffs and Trade, 1947-1995) and **WTO** (World Trade Organization, 1995-today) organized various **multilateral trade negotiations** to reduce tariffs
- GATT and WTO also aimed at reducing **non-tariff trade barriers**

Figure 5.1 Worldwide applied tariff rate, 1988-2010



Source: World Development Indicators online; applied tariff rate, weighted mean, all products. Applied rates are rates that are actually used and differ from those that are allowed (these are the so-called bound rates, which are usually higher than the applied tariff rates)

Figure 5.2 USA average tariffs, 1820–2010

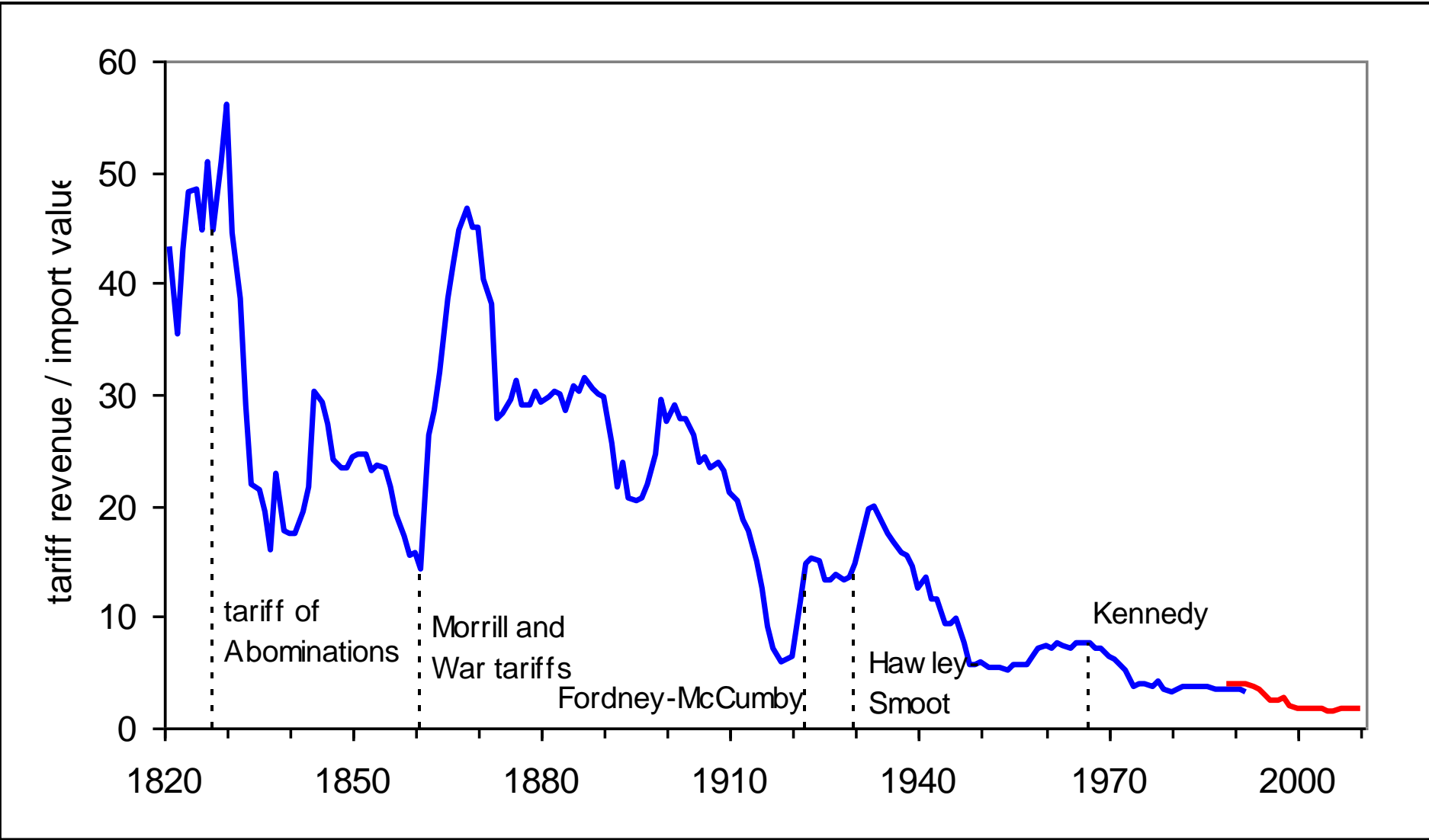
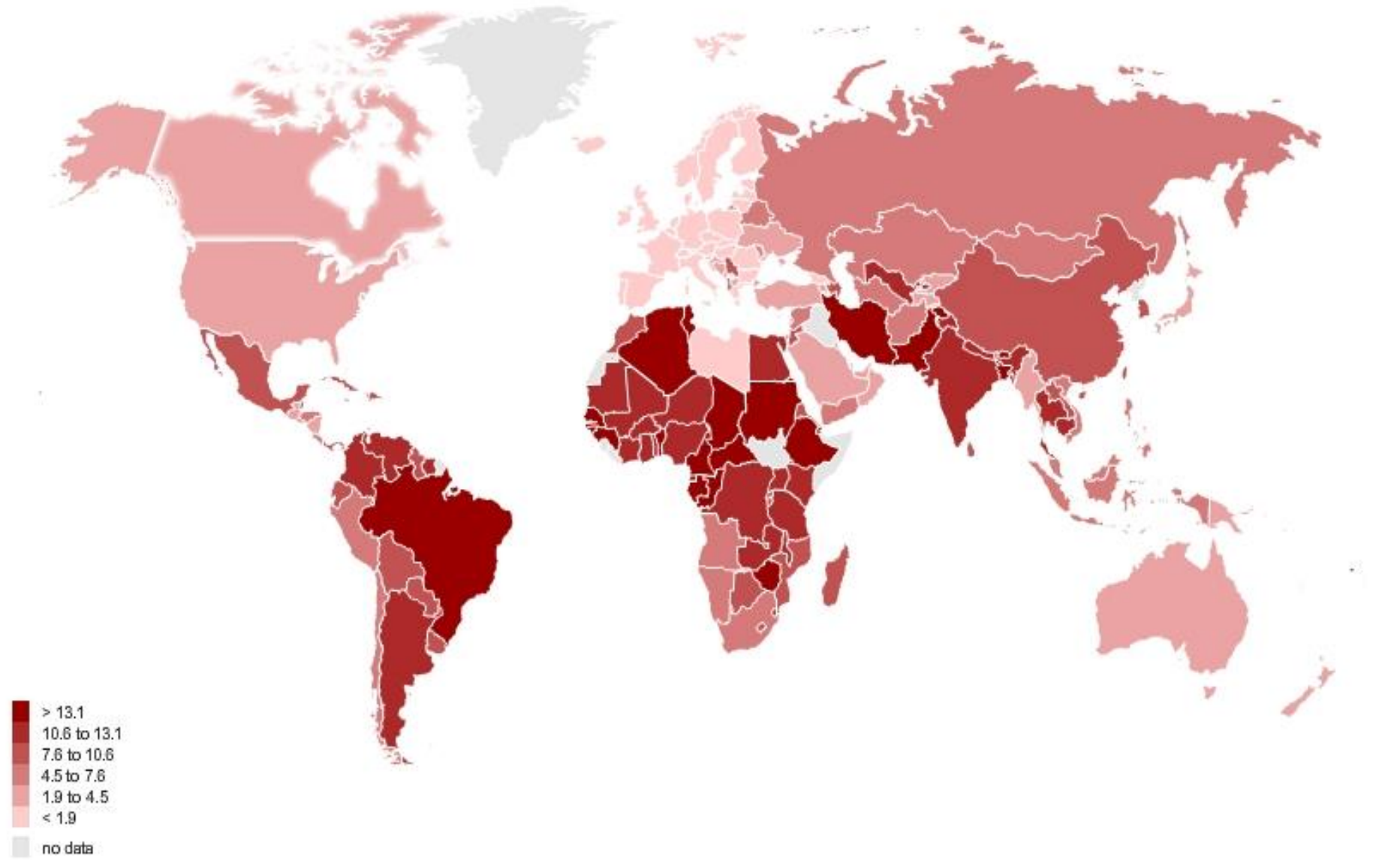


Figure 5.3 Applied tariff rate; simple mean, all products, 2010

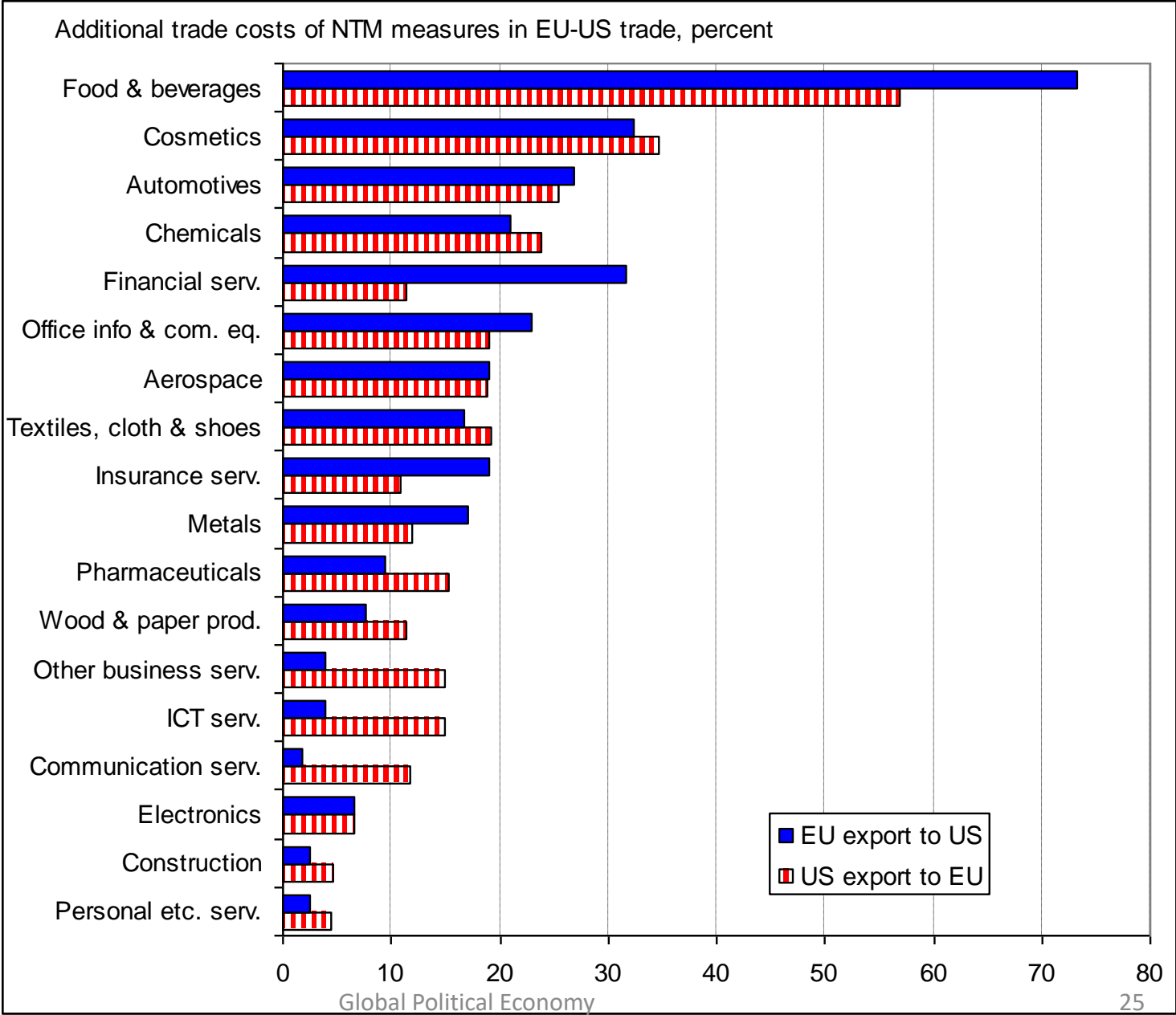


Source: World Bank eAtlas of Global Development; 2010 or latest available.

Non-tariff barriers

- **Import quotas** → only a certain amount of a certain commodity can be imported from a certain country in a year
- Differences in **production standards** (e.g. electric plugs, GSM network, etc)
- Differences in **product requirements** (e.g. safety standard of cars, OGM in food products, etc)
- **Labelling** requirements (e.g. need to list all ingredients in food products)
- **Anti-dumping** laws (e.g. ban import from 'exploiting' countries)

Figure 5.9 Additional trade costs of NTM measures in EU-US trade; 2010, percent



Source: Berden et al. (2010); sectors sorted by average additional trade costs.