

A BRIEF HISTORY OF GLOBAL TRADE EVOLUTION AND ECONOMIC GROWTH

Technology, spatial distribution of resources and paradigm shift of economics have been driving economic integration since 1800s.

EE 482 Public Policy and Industrialization
Semester 1 / 2019
Faculty of Economics, Thammasat University

Main contents

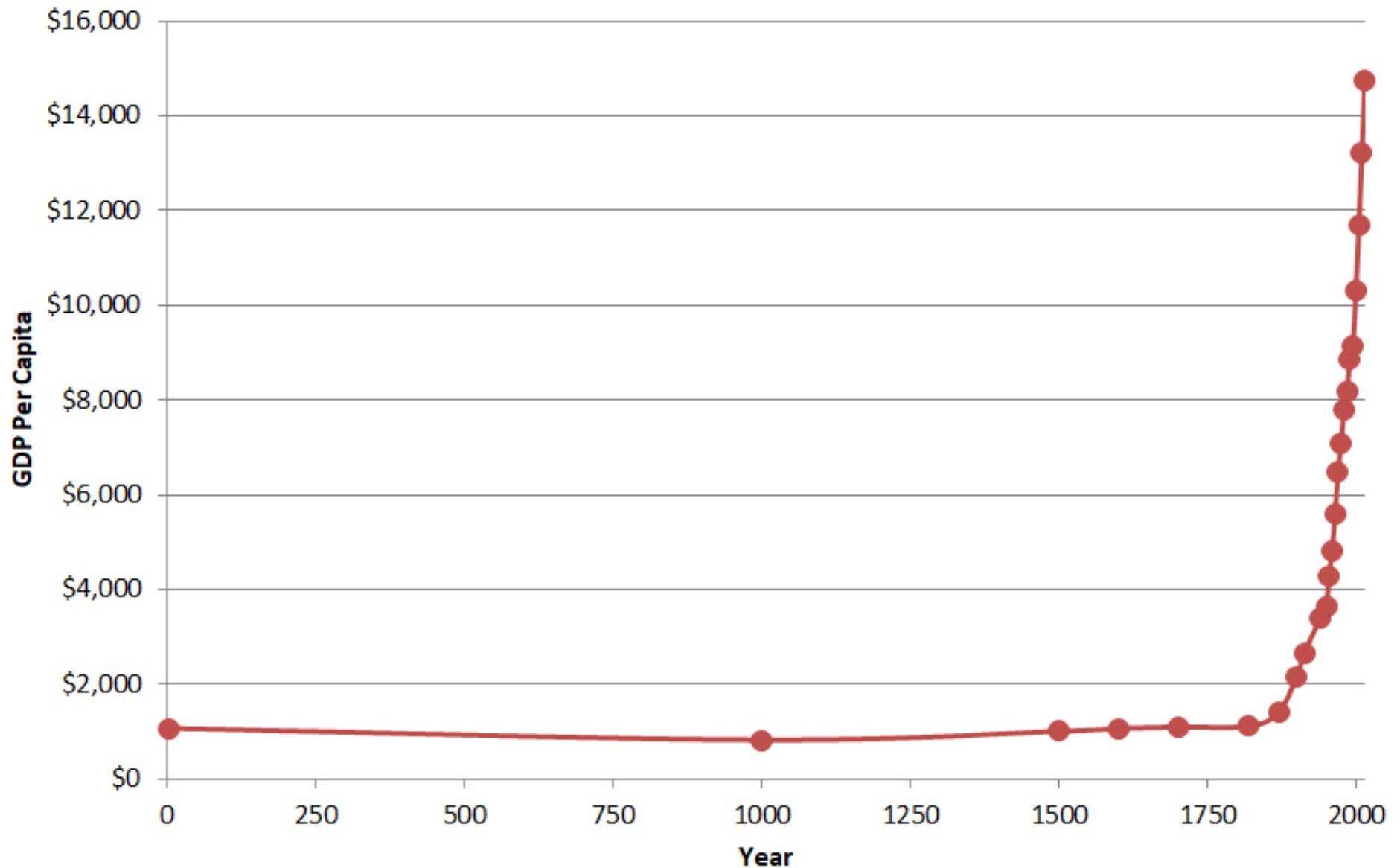
Part 1: First Unbundling Revolution

Part 2: Second Unbundling Revolution

Part 1: First Unbundling Revolution (i.e. The Industrial Revolution)

Global GDP Per Capita, 1-2015

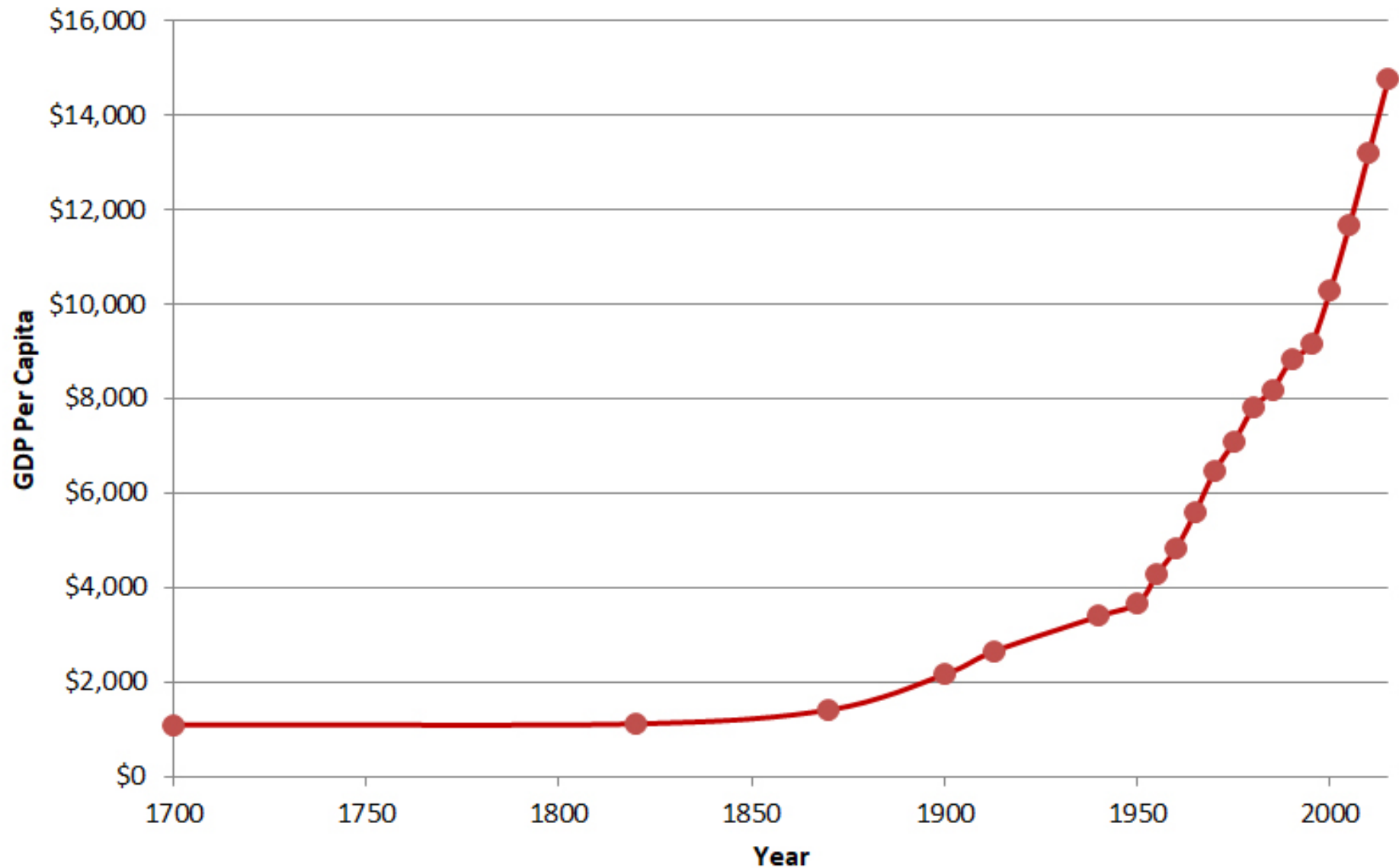
2011 International Dollars



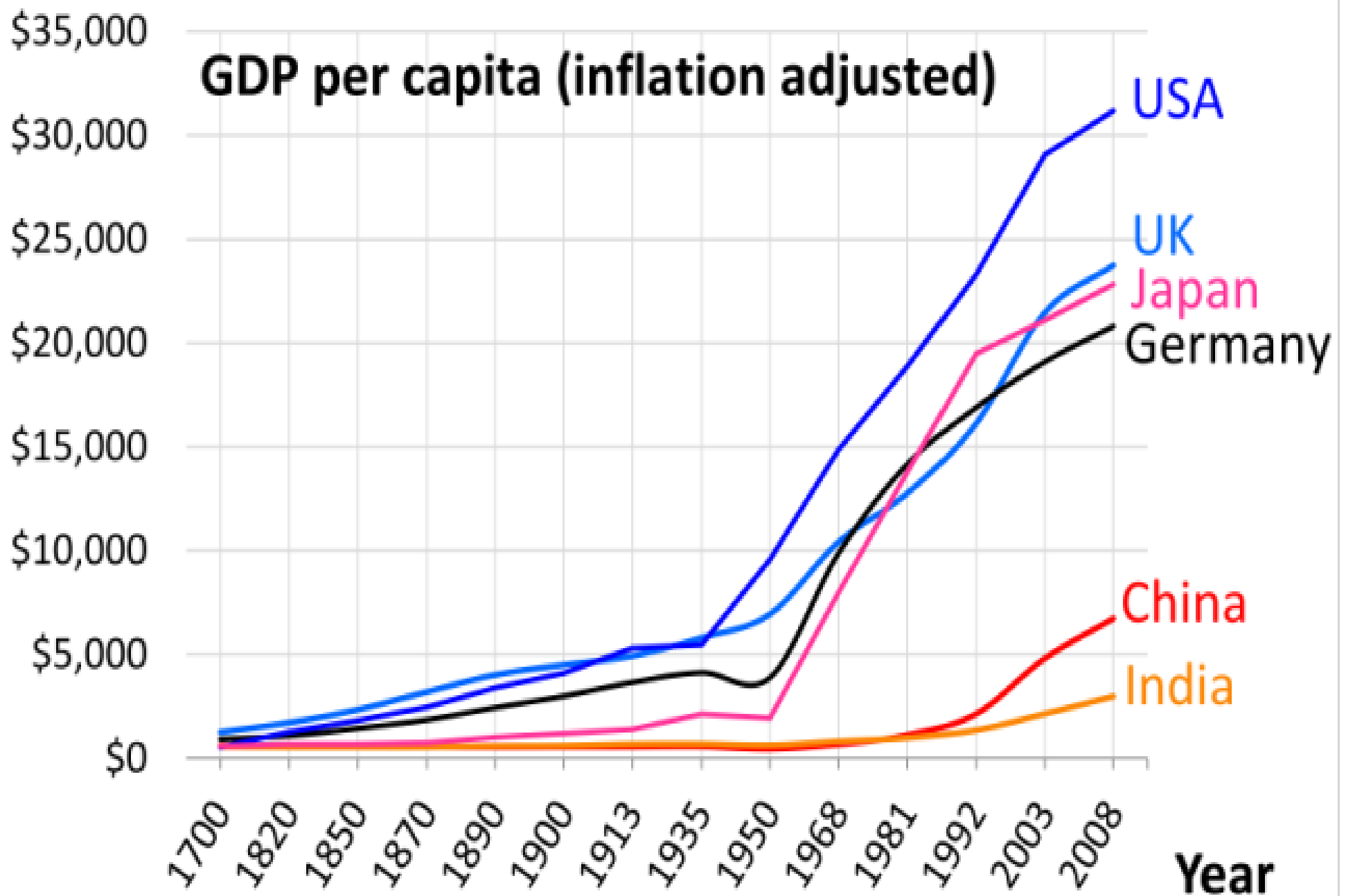
Source: GDP data from ourworldindata.org. Population data from worldpopulationhistory.org

Global GDP Per Capita, 1700-2015

2011 International Dollars



Source: GDP data from ourworldindata.org. Population data from worldpopulationhistory.org



Source : <https://www.forbes.com/sites/goncalodevasconcelos/2015/03/04/the-third-industrial-revolution-internet-energy-and-a-new-financial-system/2/#7ec16dd7167e>



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Bridgewater Associates

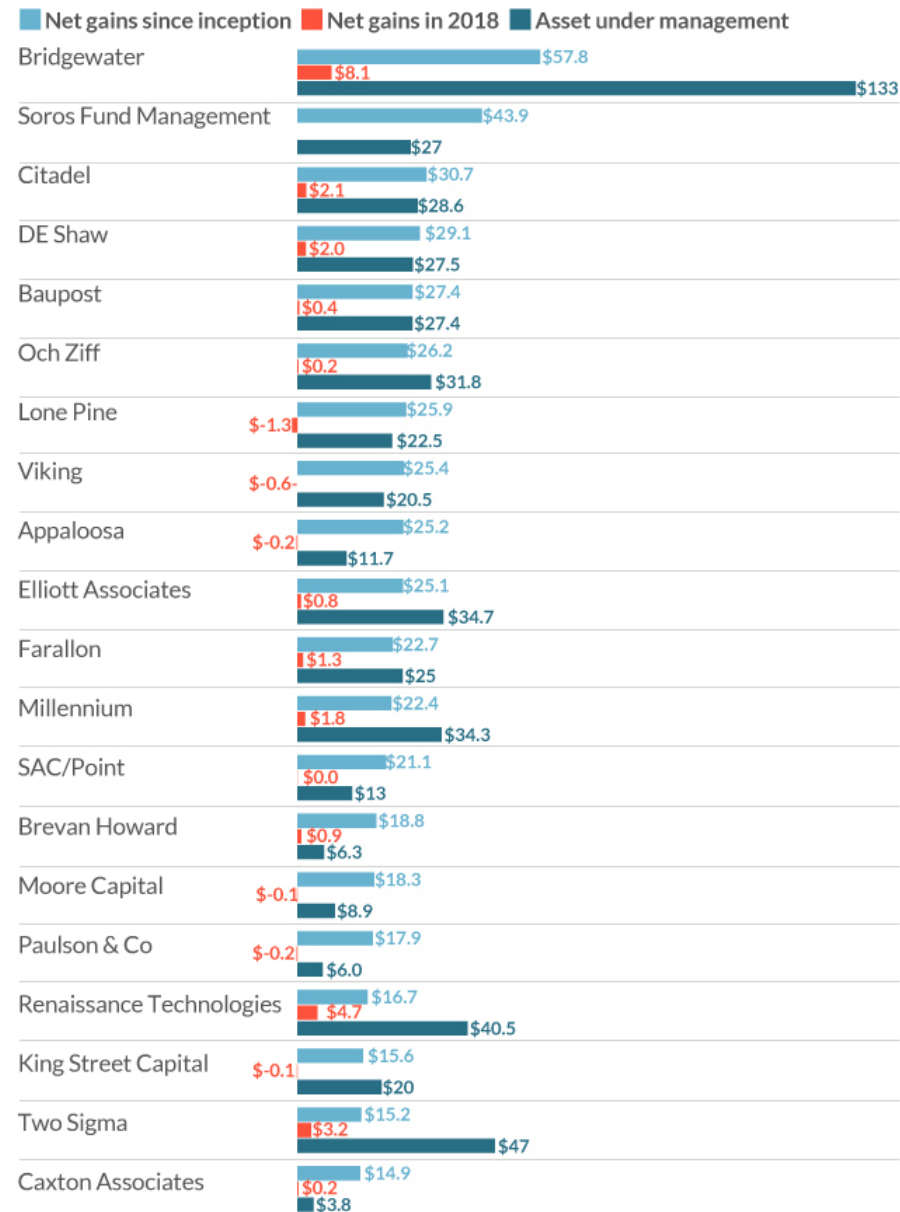
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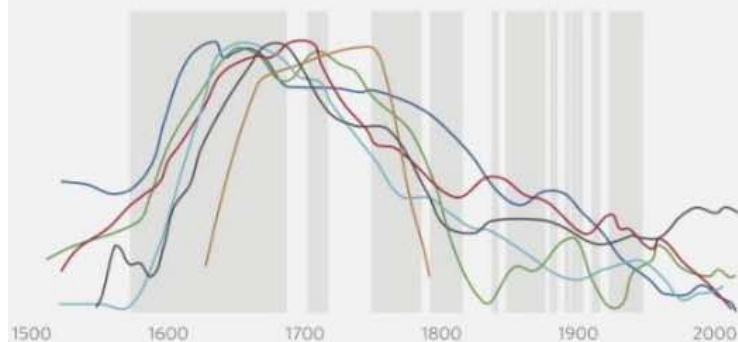
In billions



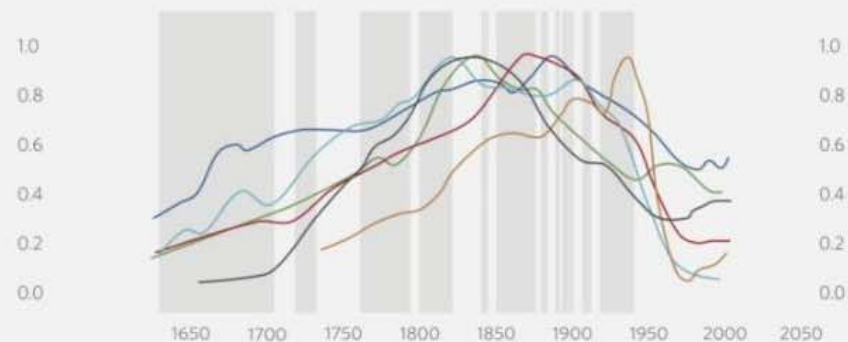
Reserve Currency Empires

(Centered 30yr Average)

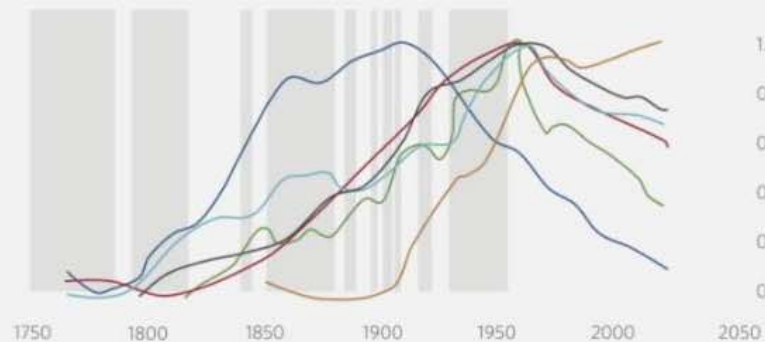
The Dutch



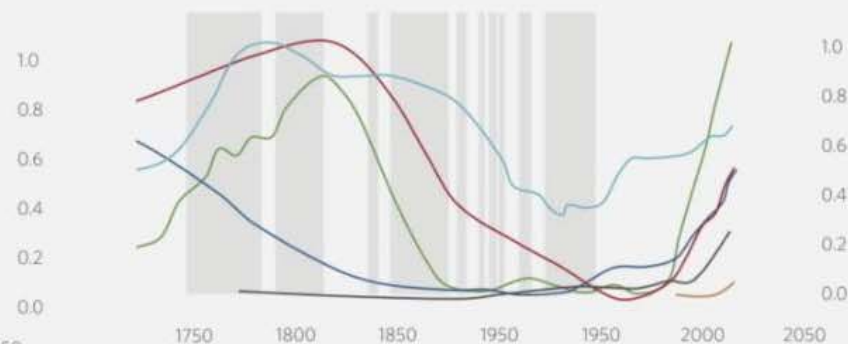
Great Britain



United States



China



Tech, Edu & Comp

Output

Trade

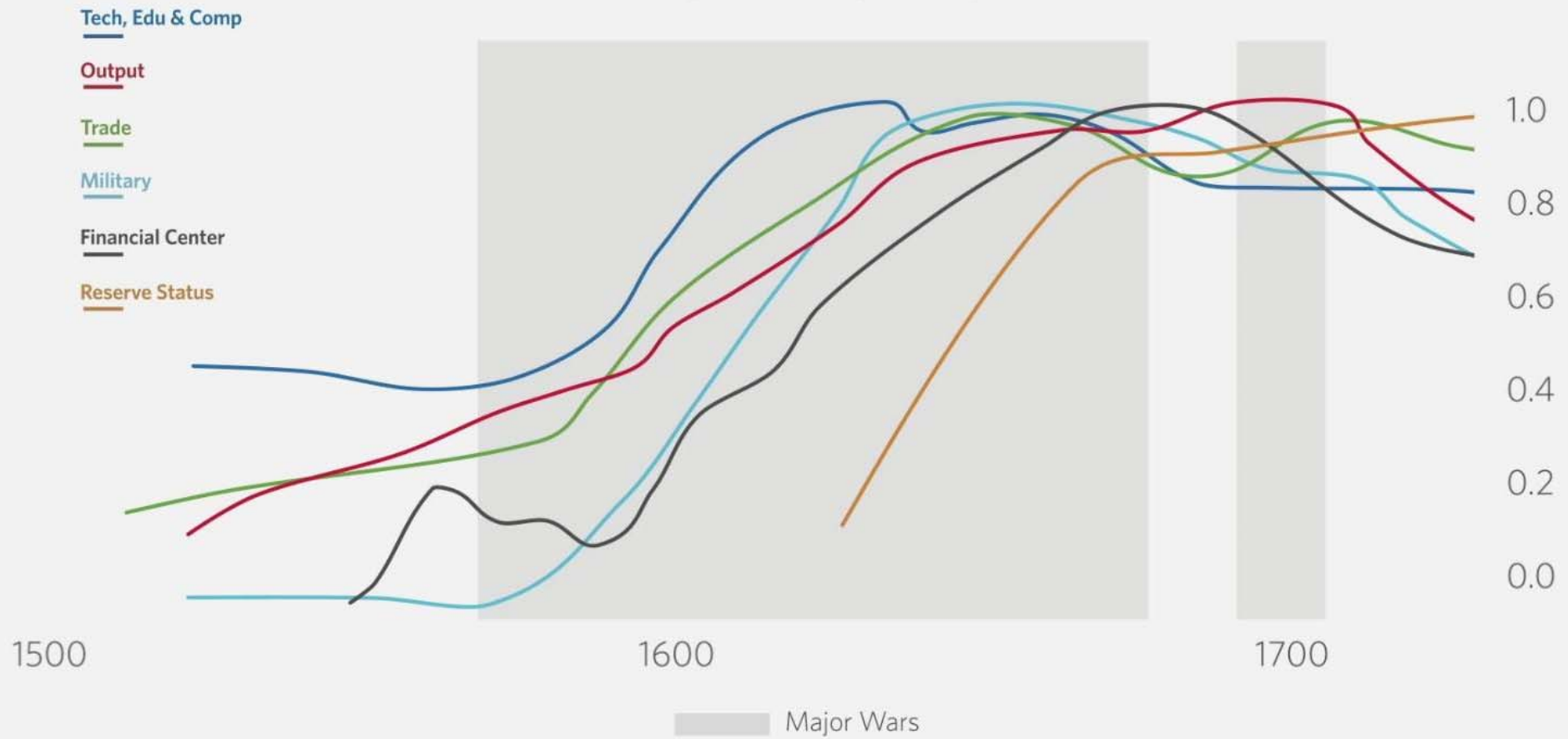
Military

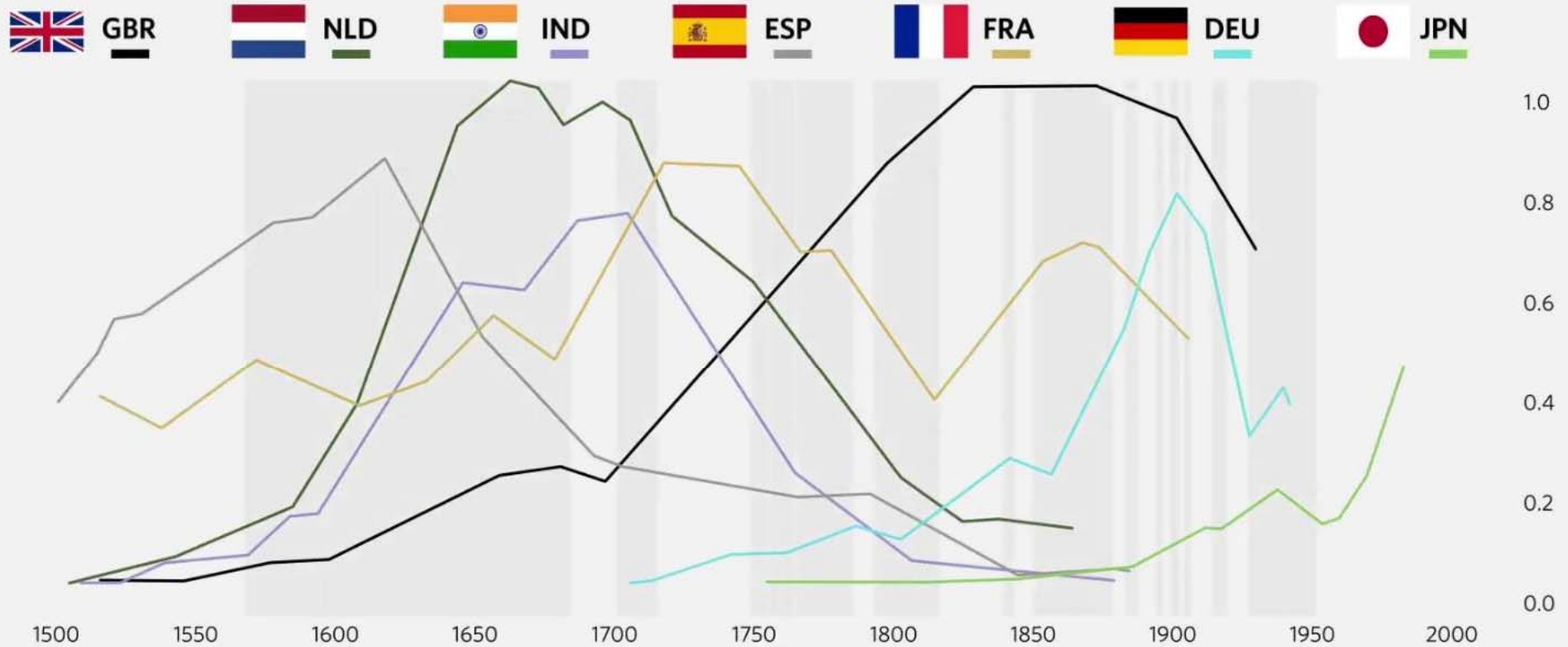
Financial Center

Reserve Status

Major Wars

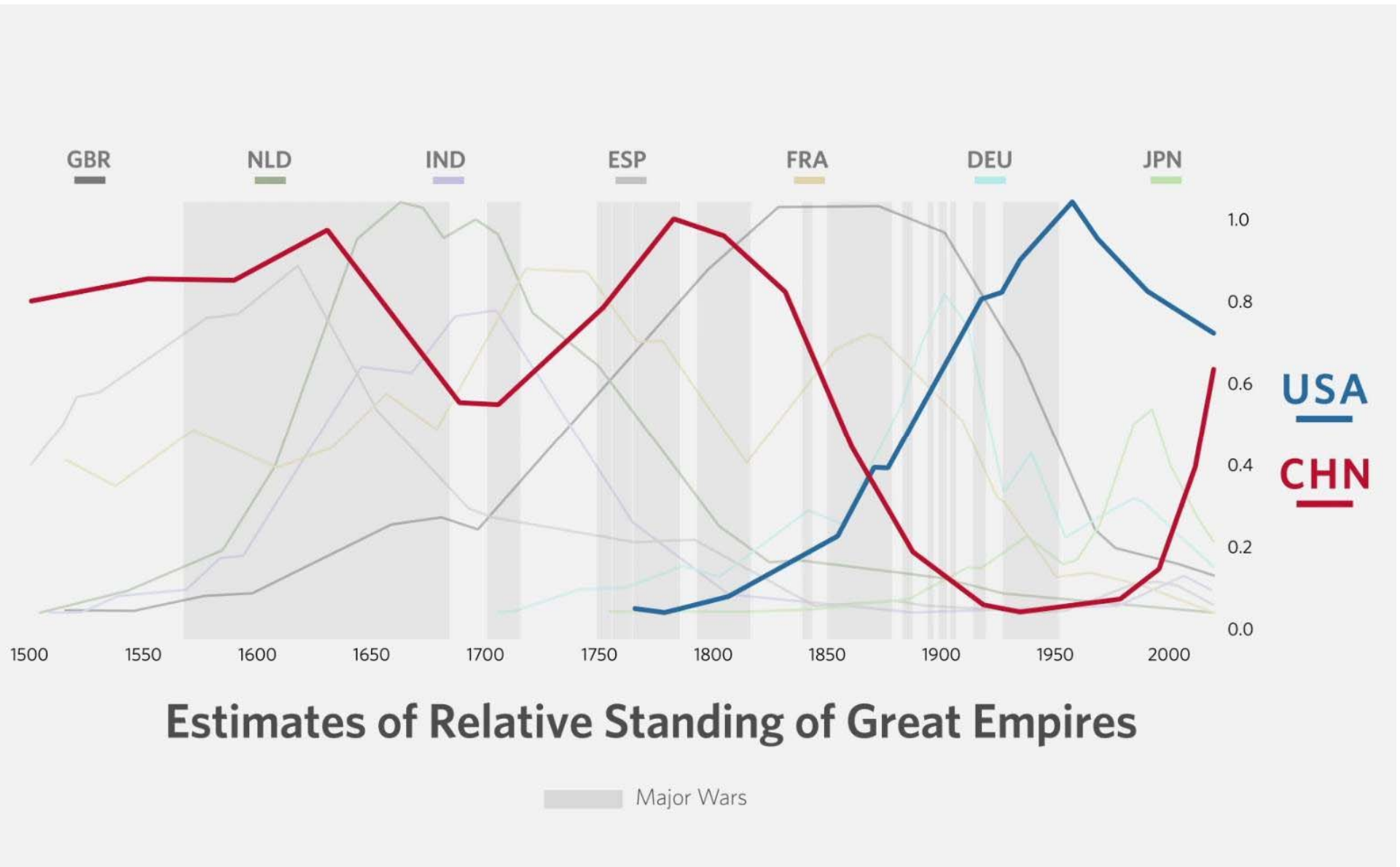
The Dutch





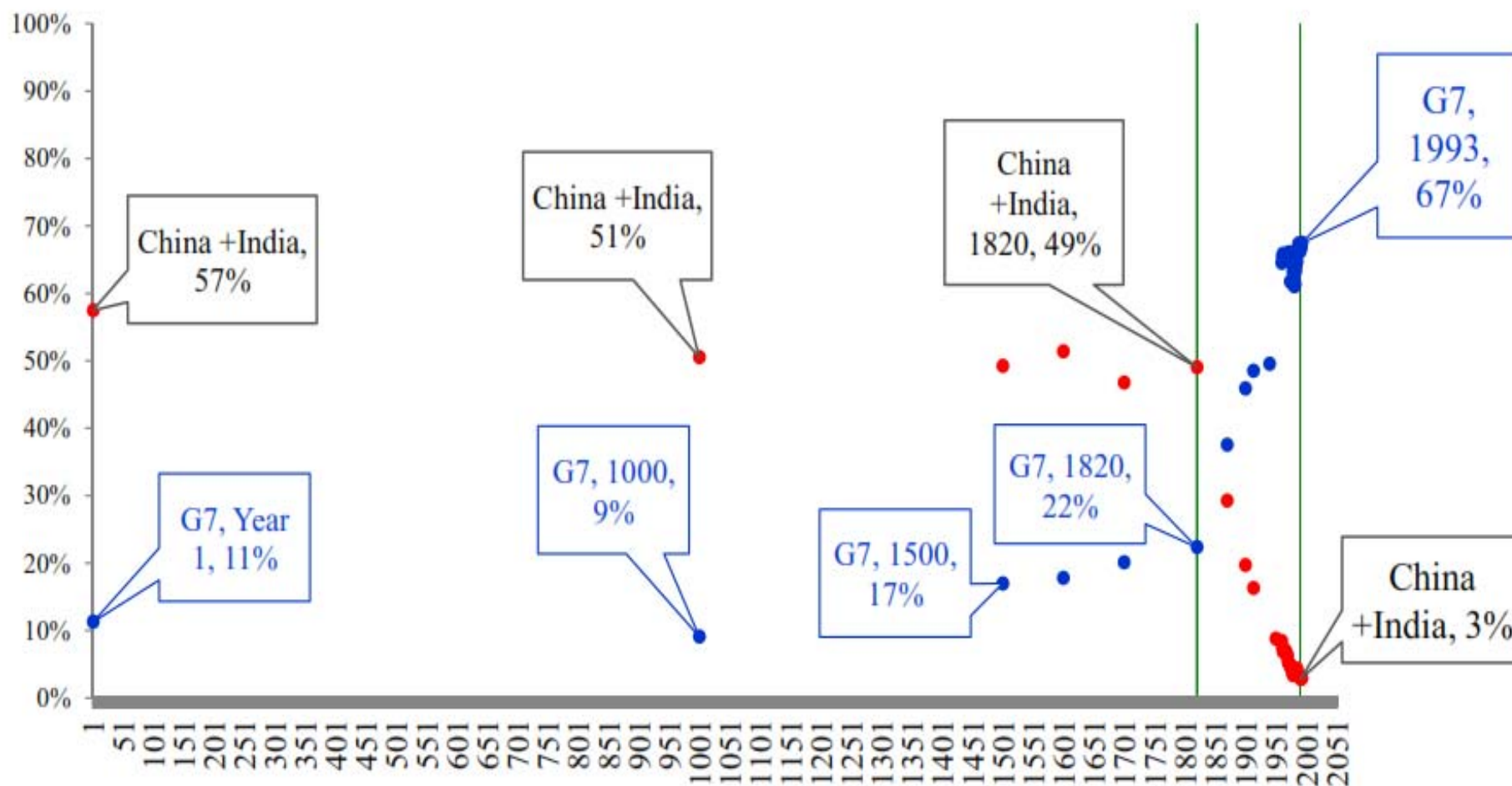
Estimates of Relative Standing of Great Empires

Major Wars



Part 1: First Unbundling Revolution

World GDP shares, Year 1 to 2012



Source: Baldwin (2011)

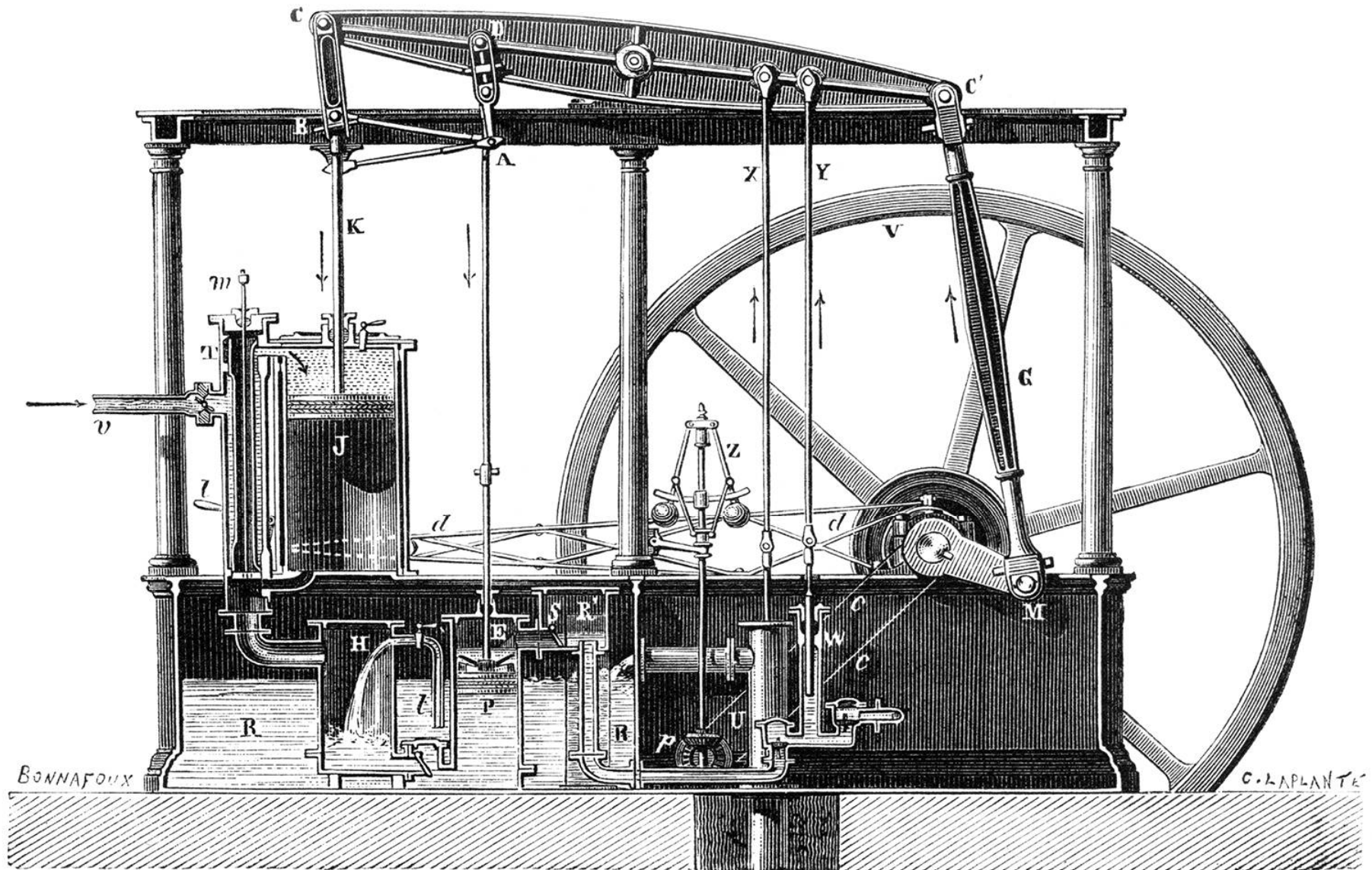


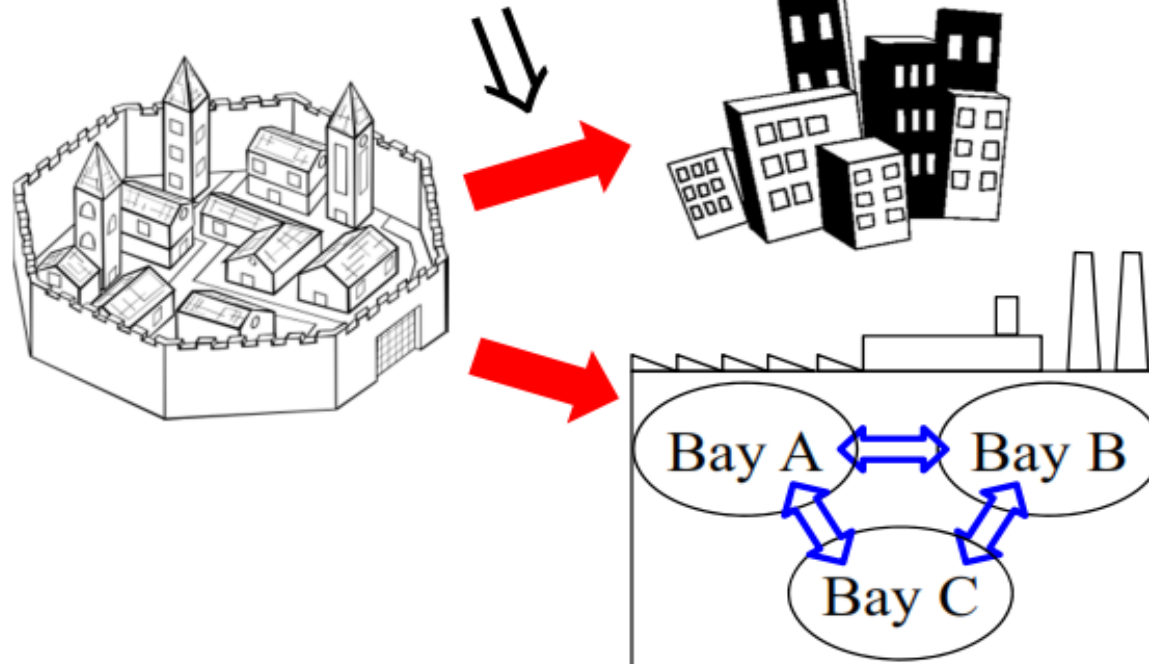
Fig. 59. — Machine à balancier de Watt.

v. Tuyau de prise de vapeur; T, tiroir; J, cylindre; H, condenseur; PE pompe d'épuisement; WY pompe alimentaire de la chaudière
UX pompe d'alimentation de la bûche R; p Z régulateur; dd excentrique; ABCD parallélogramme; GM bielle et manivelle; V volant.

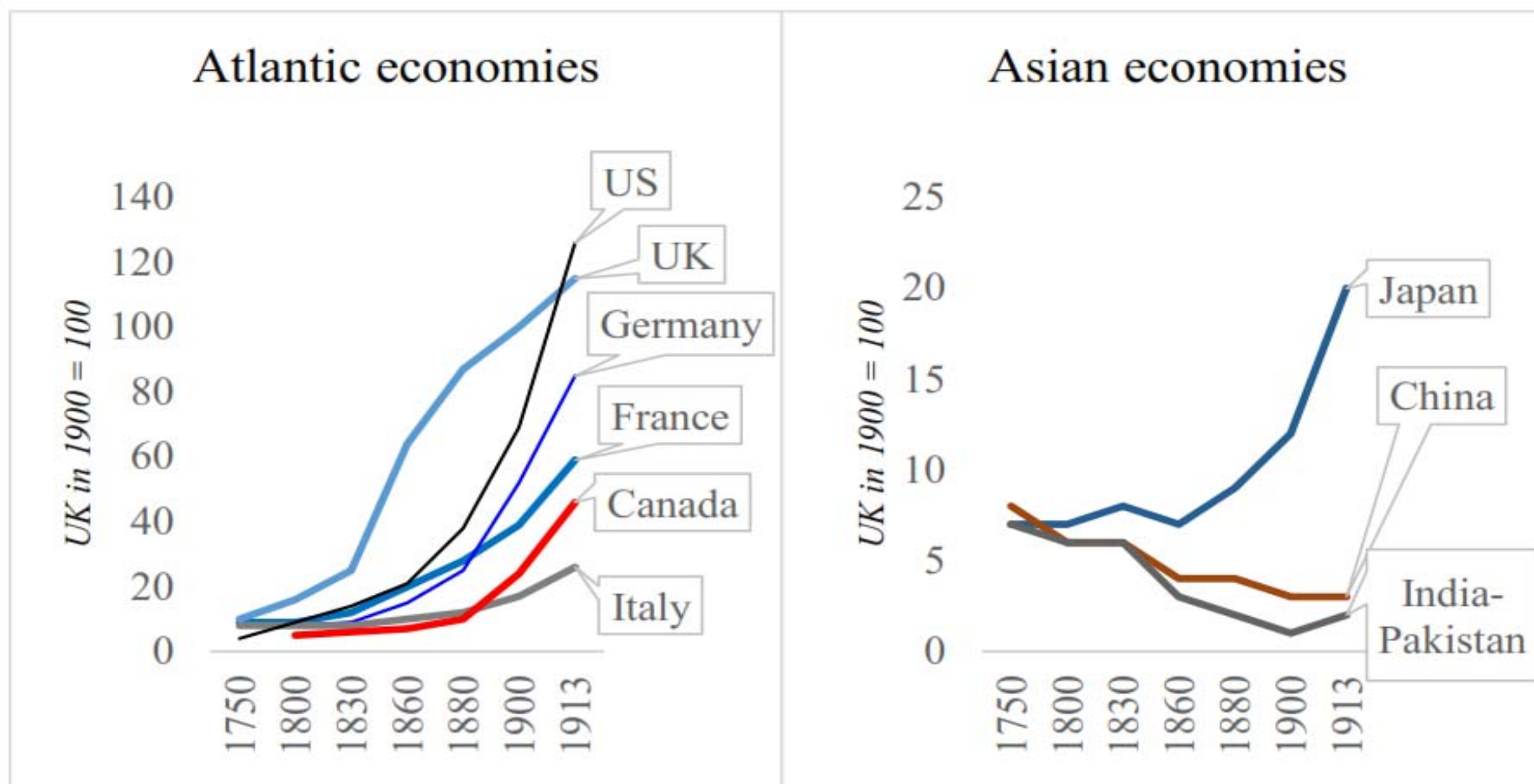
1st unbundling



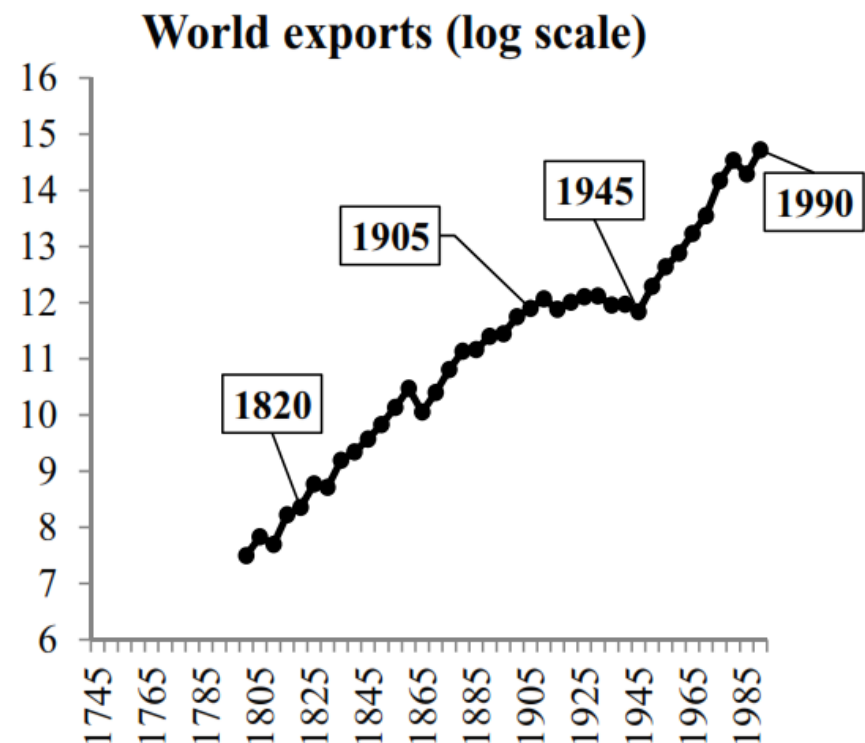
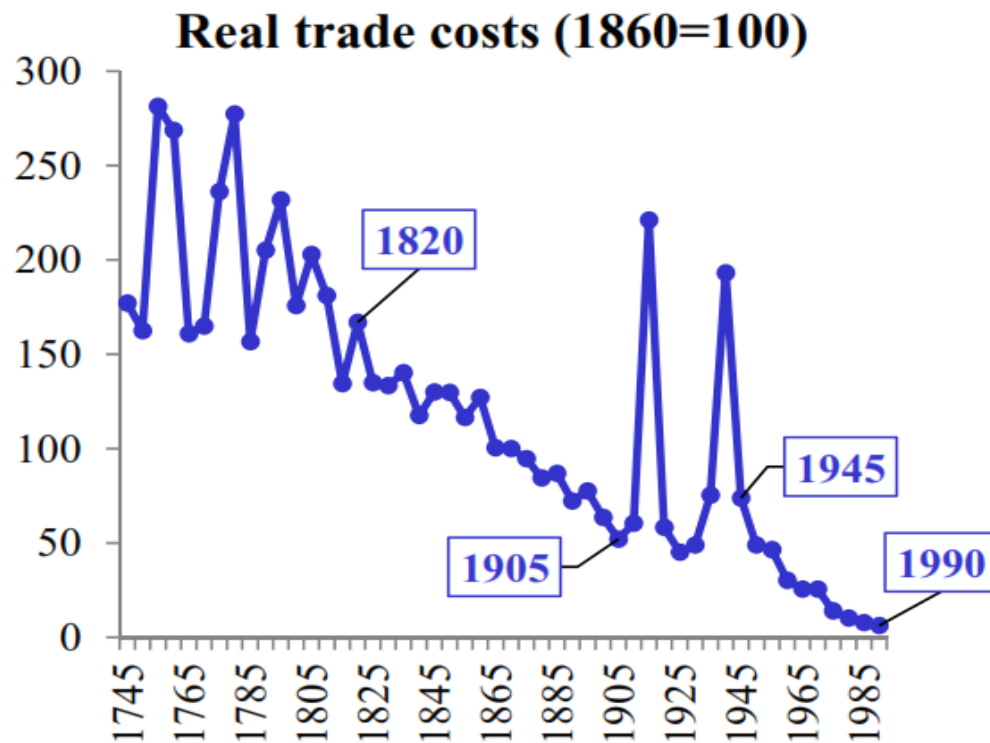
Steam revolution



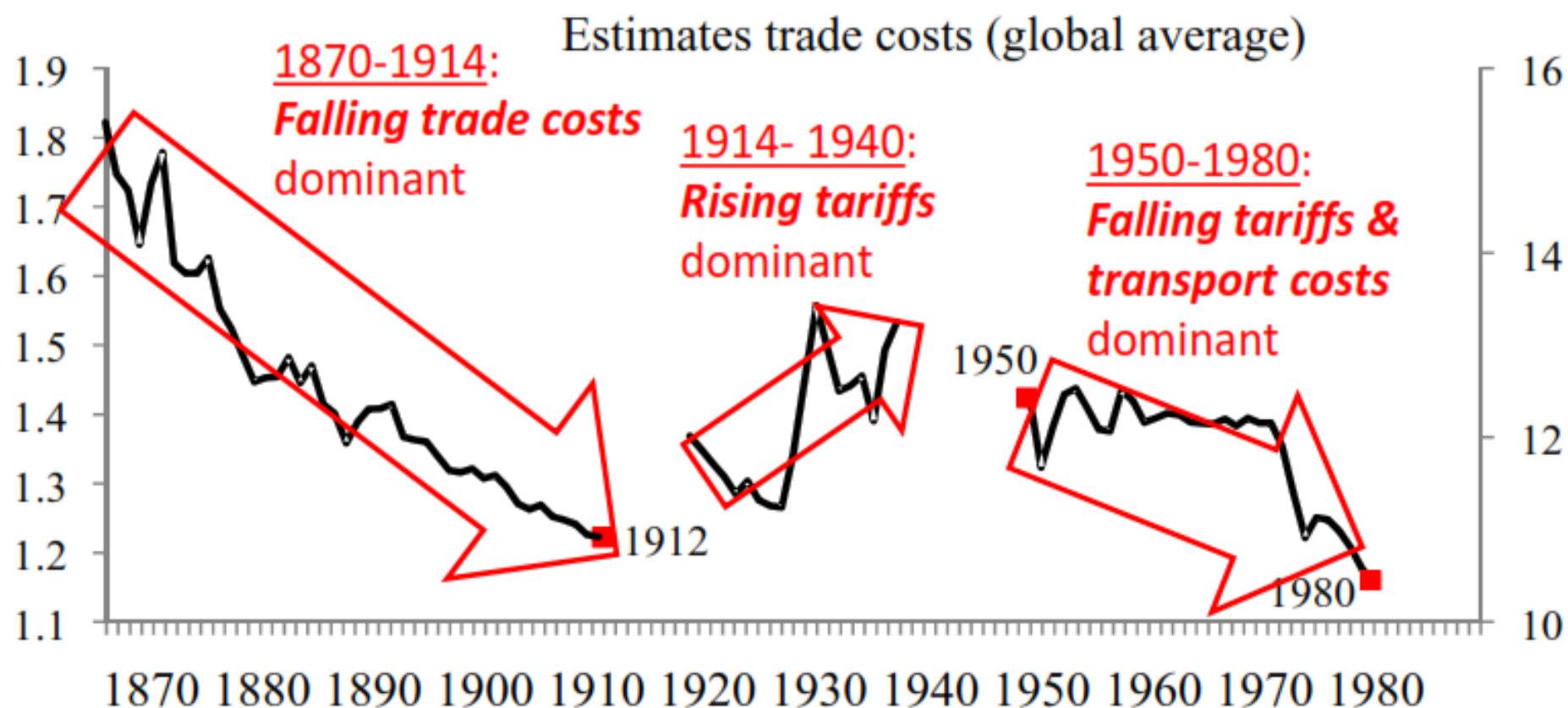
Part 1: First Unbundling Revolution



Part 1: First Unbundling Revolution

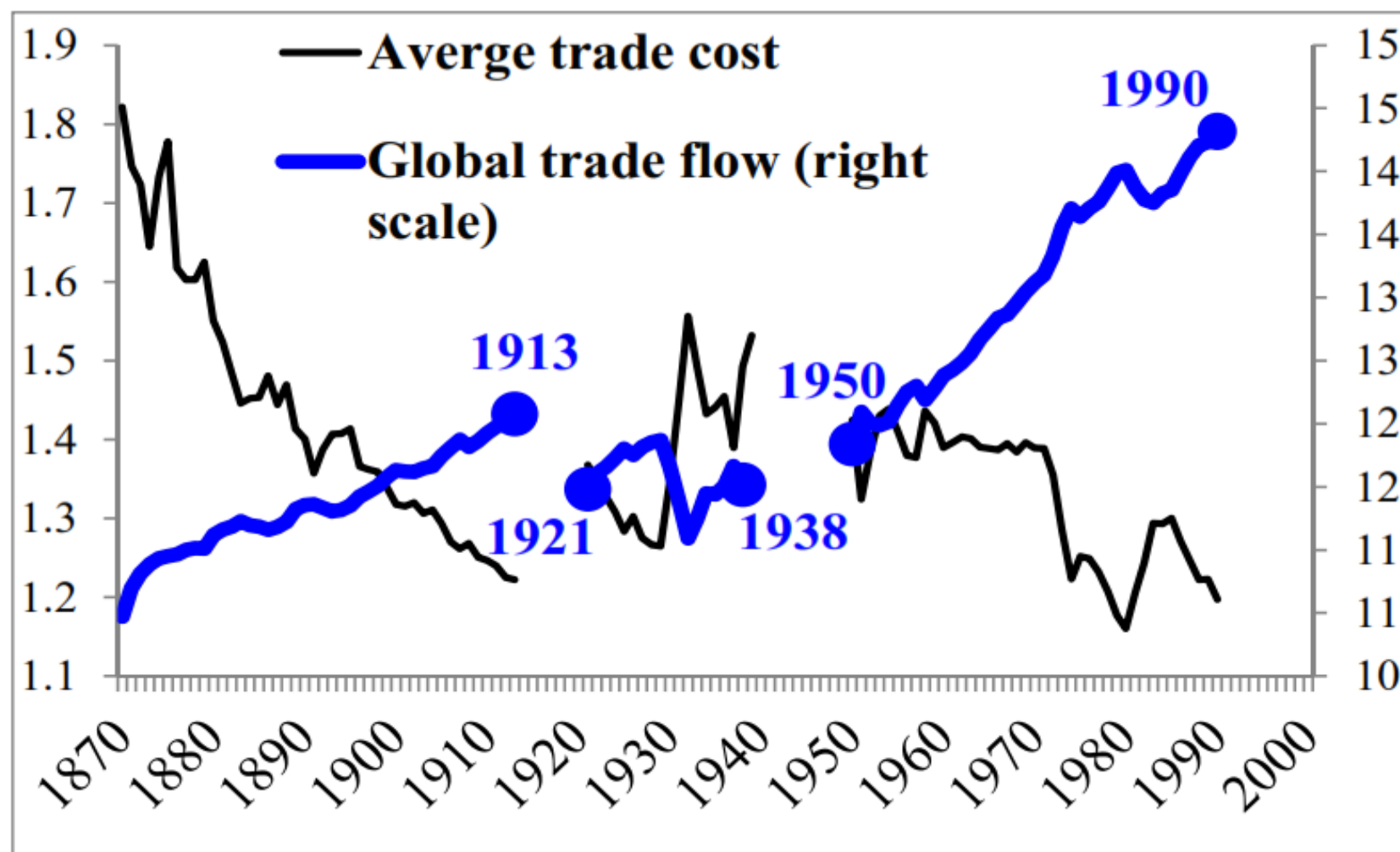


Part 1: First Unbundling Revolution



Source: Gravity model based estimates of trade costs (Jacks, Meissner, Novy 2011).

Part 1: First Unbundling Revolution

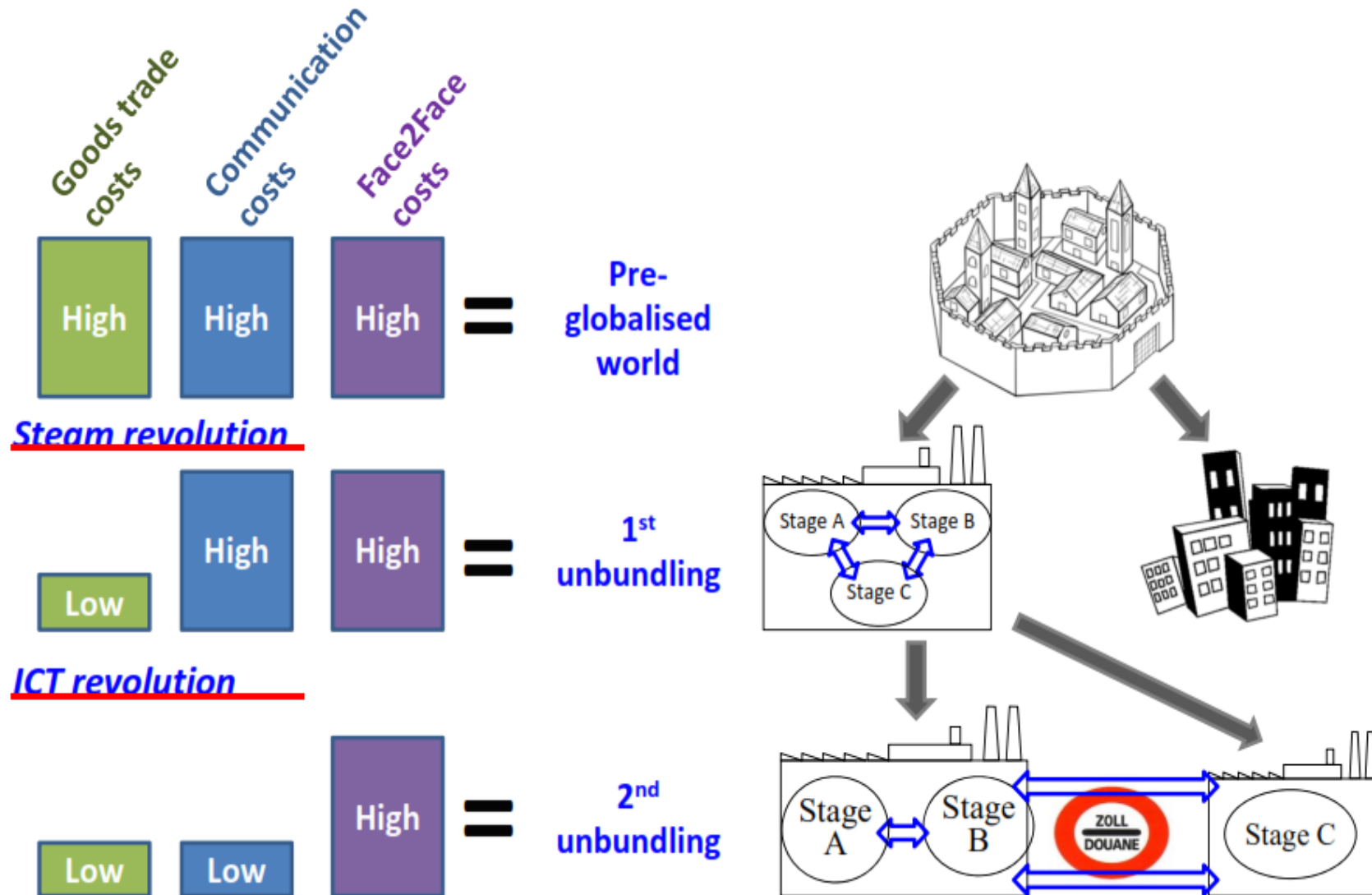


Source: Gravity model based estimates of trade costs (Jacks, Meissner, Novy 2011).



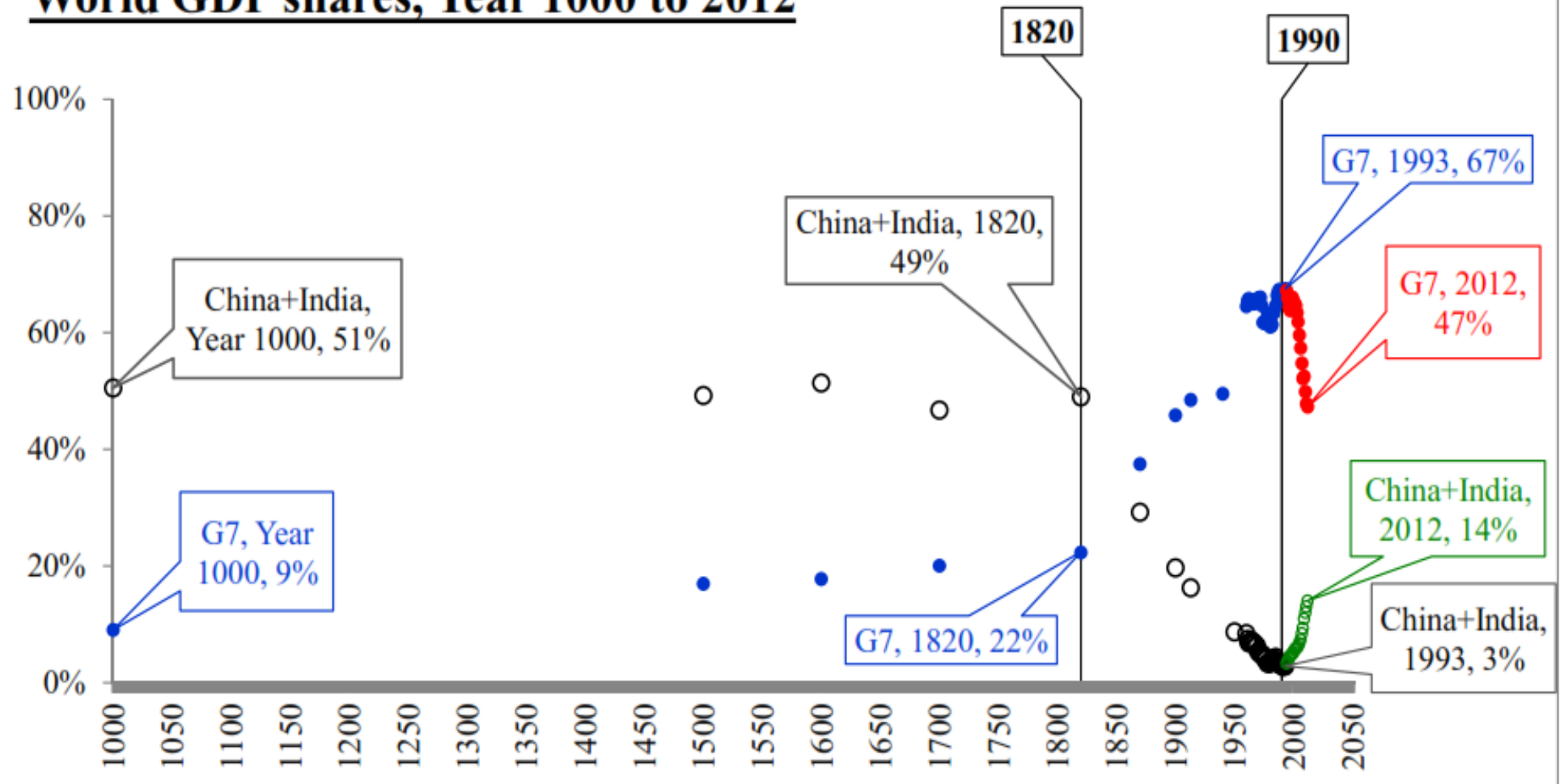
Part 2: Second Unbundling Revolution

Part 2: Second Unbundling Revolution

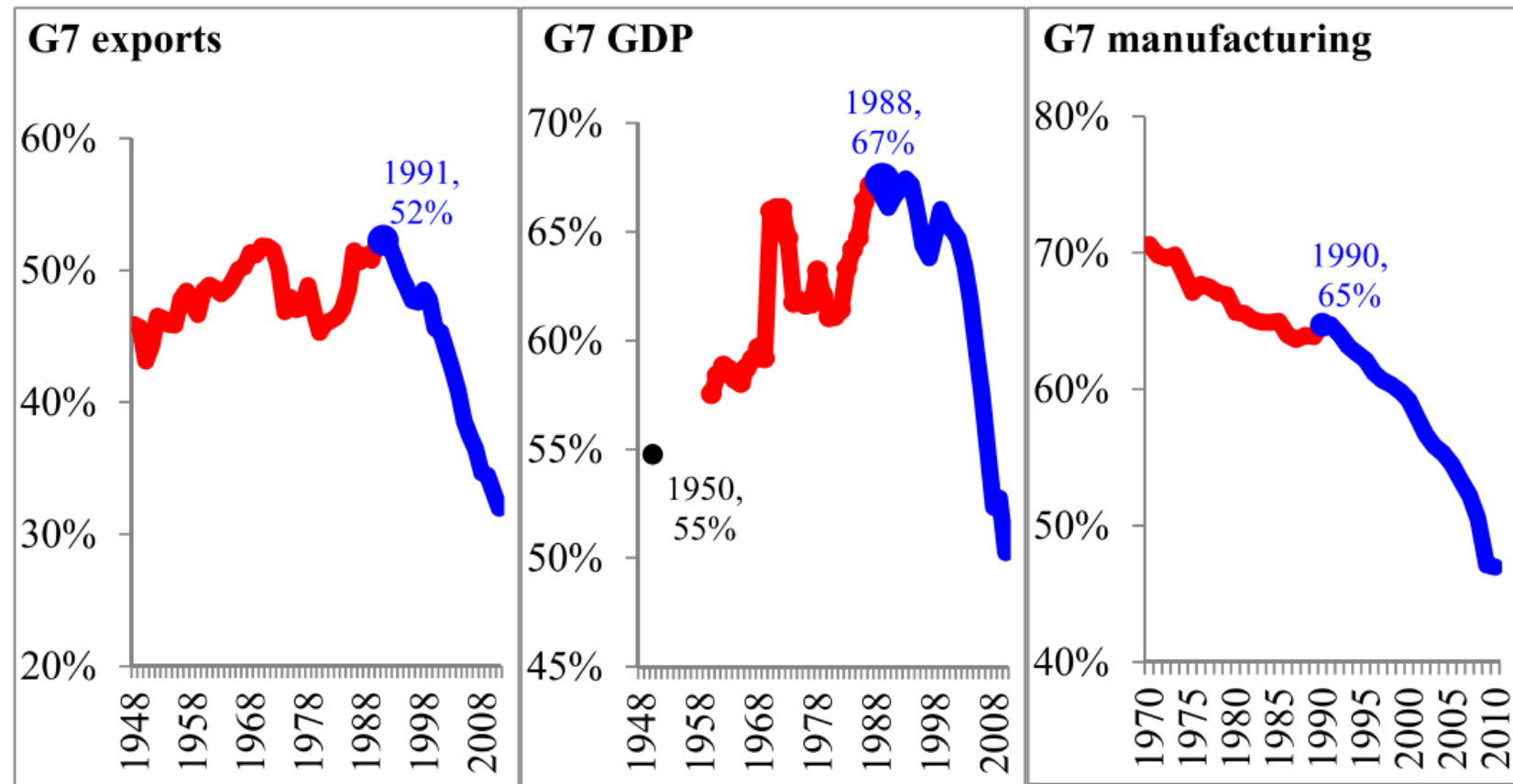


Part 2: Second Unbundling Revolution

World GDP shares, Year 1000 to 2012

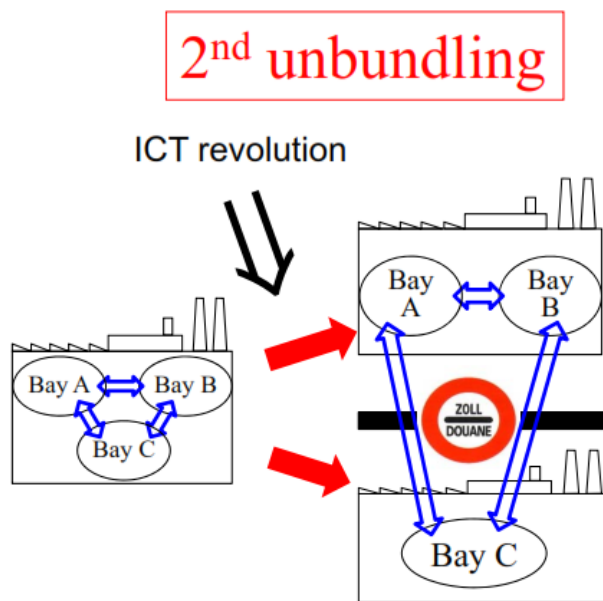


Part 2: Second Unbundling Revolution

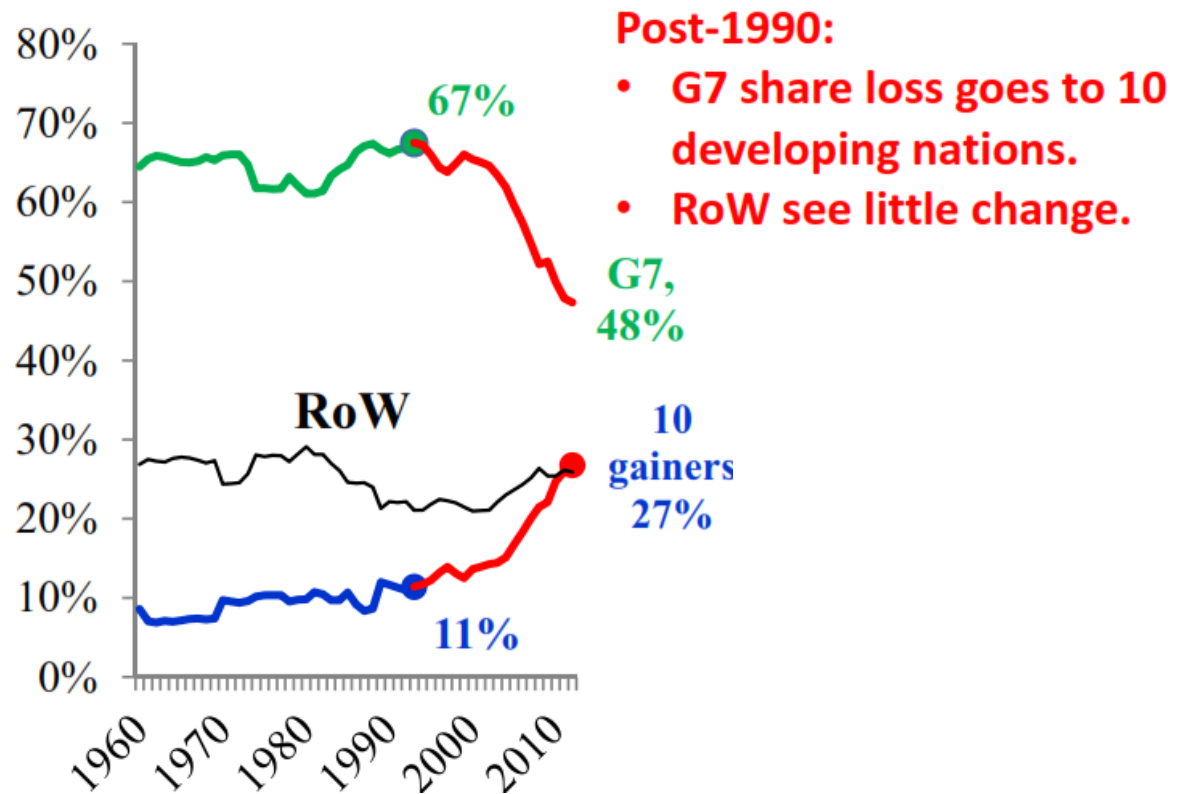


Source: Baldwin (2011)

Part 2: Second Unbundling Revolution



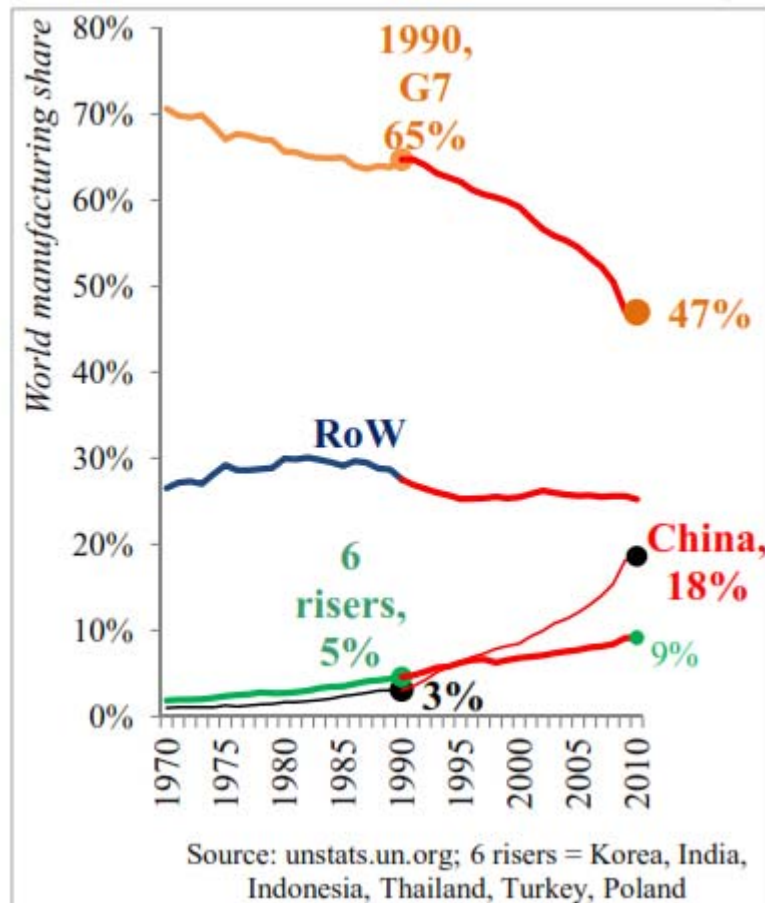
Dispersion of production stages, but regional clustering ('factory Asia', 'factory EU', etc.)



China, Brazil, Mexico, Poland, India, Turkey, Russia, Korea, Indonesia, Venezuela

Source: Baldwin (2011)

Part 2: Second Unbundling Revolution

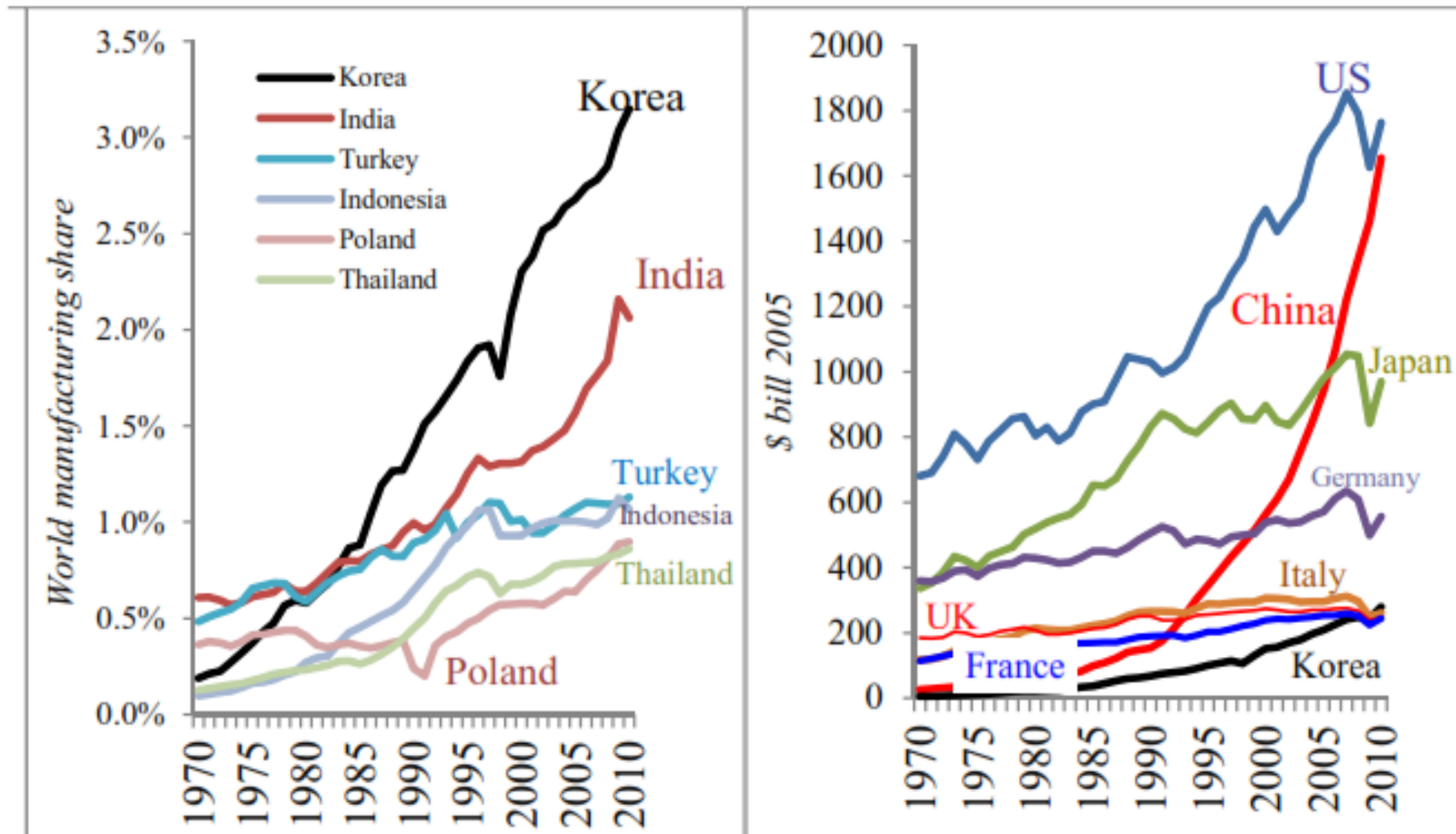


From 1990:

- G7 share loss plummets.
- RoW see little change.
- '7 risers' gain all of G7's loss.

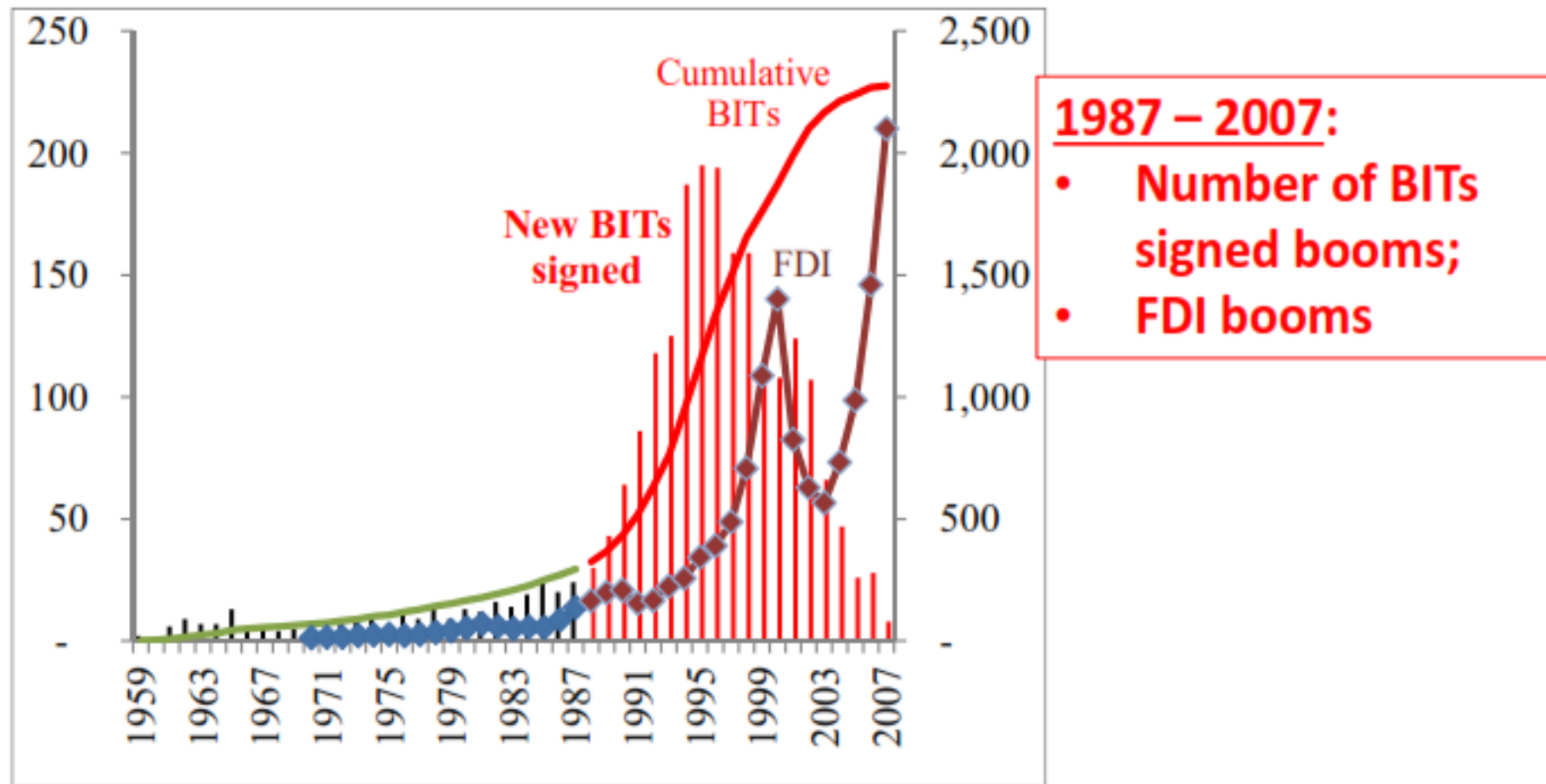
Source: Baldwin (2011)

Part 2: Second Unbundling Revolution



Source: Baldwin (2011)

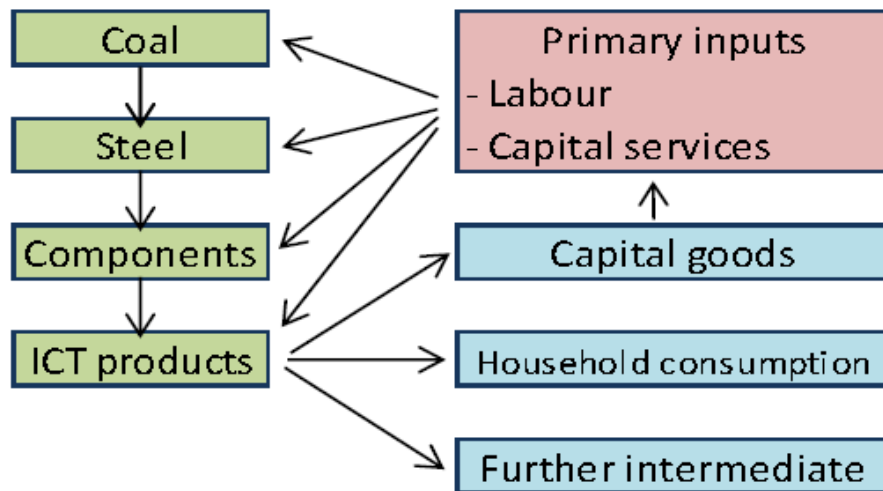
Part 2: Second Unbundling Revolution



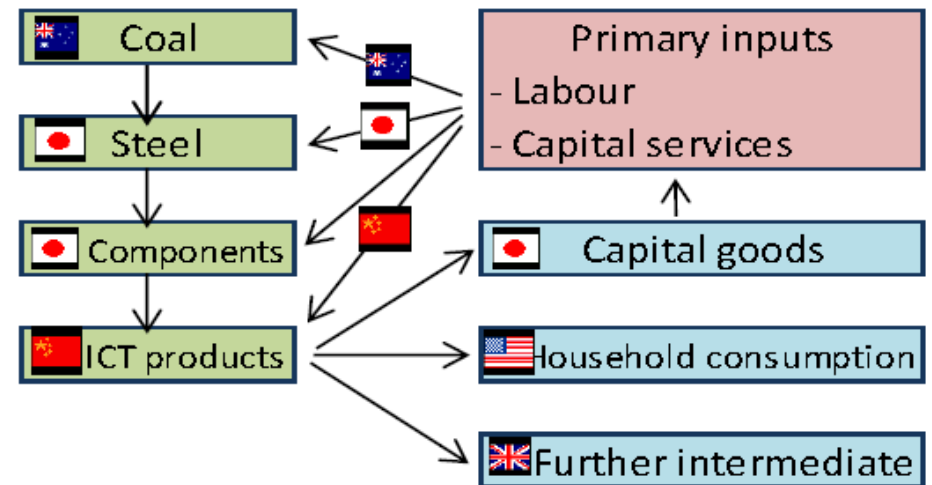
Source: Baldwin (2011)

Global Value Chain (GVC)

Domestic production network



International production network



Source: Baldwin (2011)

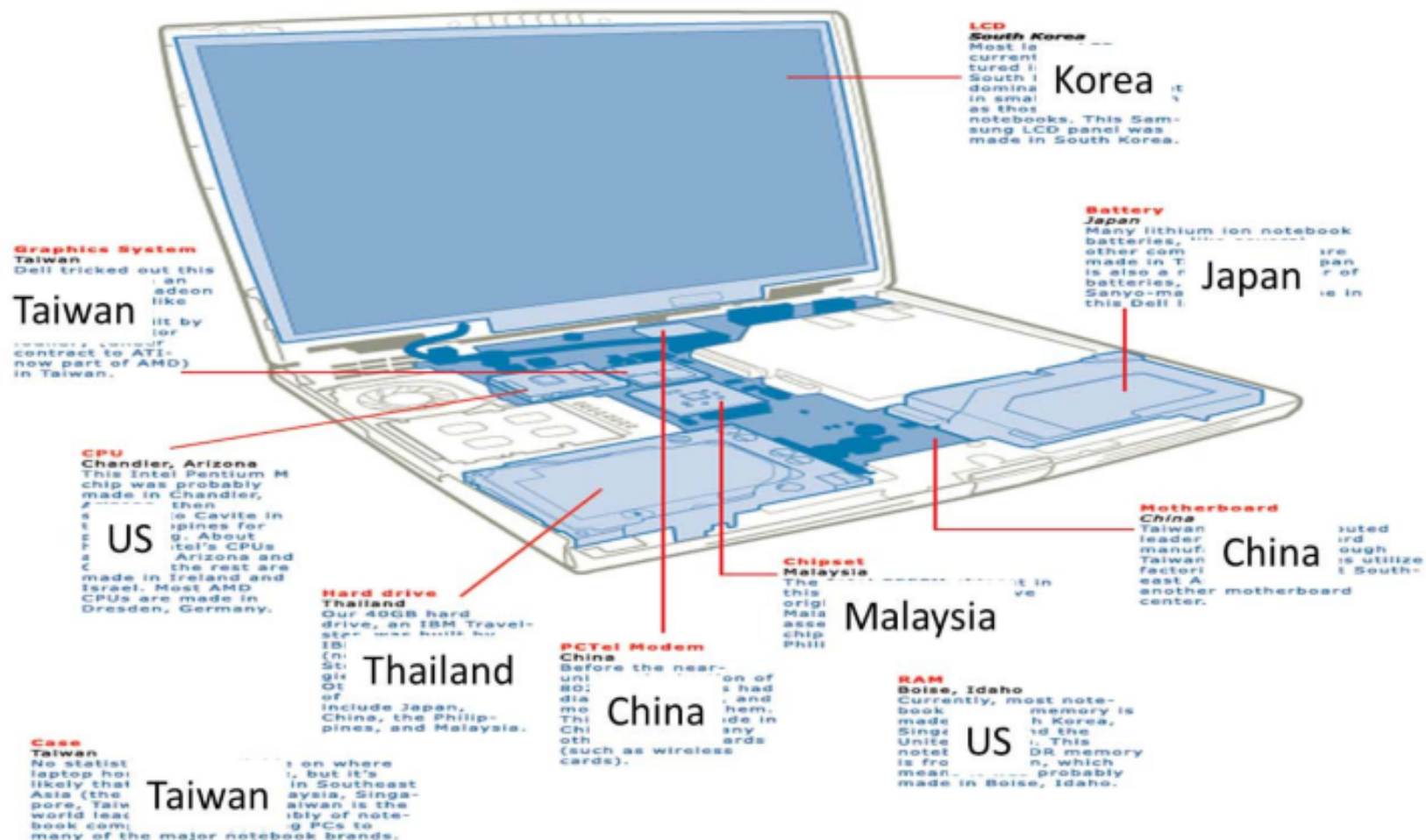
Apple IIc made in Dallas area, 1980s



Apple's know-how + Chinese labour



Fractionalisation of manufacturing



Global Value Chain (GVC)

- Linden (2009), Xing and Detert (2010) , Dedrick (2010), Linden (2011) have analyzed the value chain of producing iPod and iPhone :

Country	Components	Manufacturers	Costs
Chinese Taipei	Touch screen, camera	Largan Precision, Wintek	\$ 20.75
Germany	Baseband, power management, transceiver	Dialog, Infineon	\$ 16.08
Korea	Applications processor, display, DRAM memory	LG, Samsung	\$ 80.05
United States	Audio codec, connectivity, GPS, memory, touchscreen controller	Broadcom, Cirrus Logic, Intel, Skyworks, Texas Instruments, TriQuint	\$ 22.88
Other	Other	Misc.	\$ 47.75
Total			\$ 187.51

Source: Xing and Detert (2010)

Global Value Chain (GVC)

Betting on Displays

Apple supplier Foxconn is in talks to make smartphone screens, the most expensive parts in iPhones.

Apple iPhone 6

COST OF SELECTED PARTS

Display	\$45
Memory	15
Communications	37.50
Cameras	11
Processor	20
Mechanical	30
Other	37.60

TOTAL PARTS \$196.10

Labor 4

TOTAL \$200.10

U.S. RETAIL PRICE \$649

Sources: IHS iSuppli (price), Apple (photo)
The Wall Street Journal



Apple iPhone 6 Plus

COST OF SELECTED PARTS

Display	\$52.50
Memory	15
Communications	37.50
Cameras	12.50
Processor	20
Mechanical	35
Other	38.60

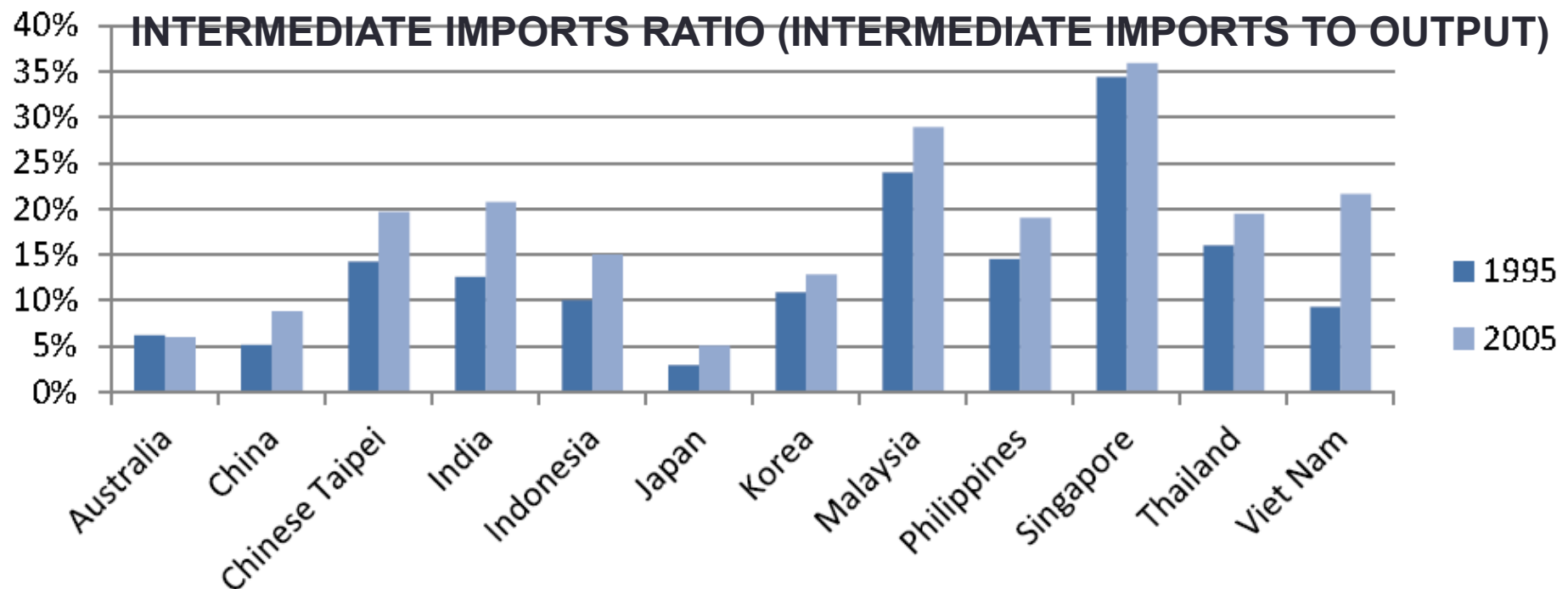
TOTAL PARTS \$211.10

Labor 4.50

TOTAL \$215.60

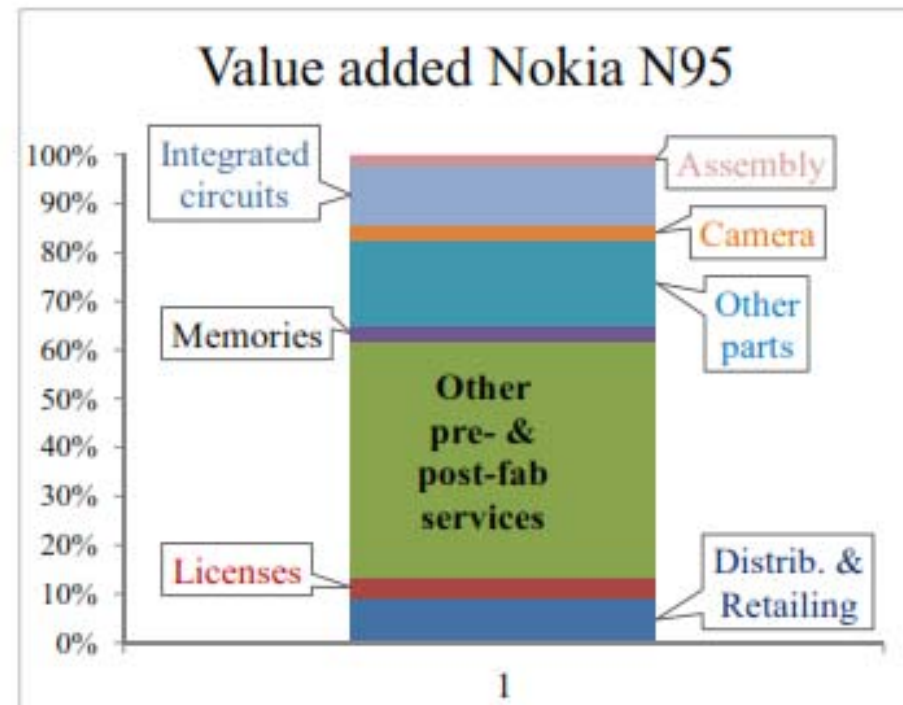
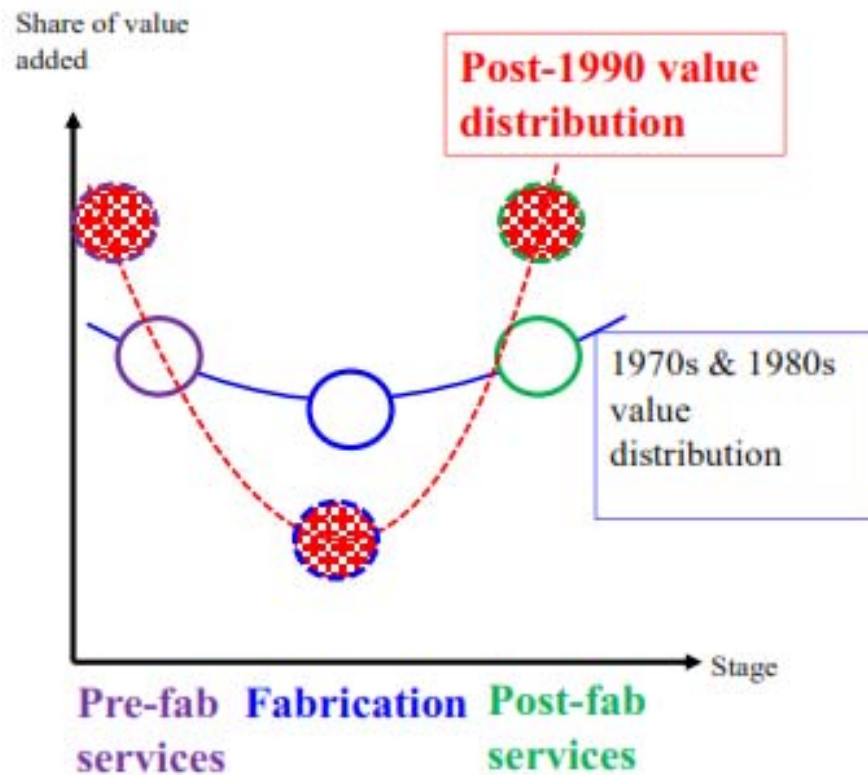
U.S. RETAIL PRICE \$749

Note: Both price breakdowns are based on the 16 GB Sprint model without contract



Source: Baldwin (2011)

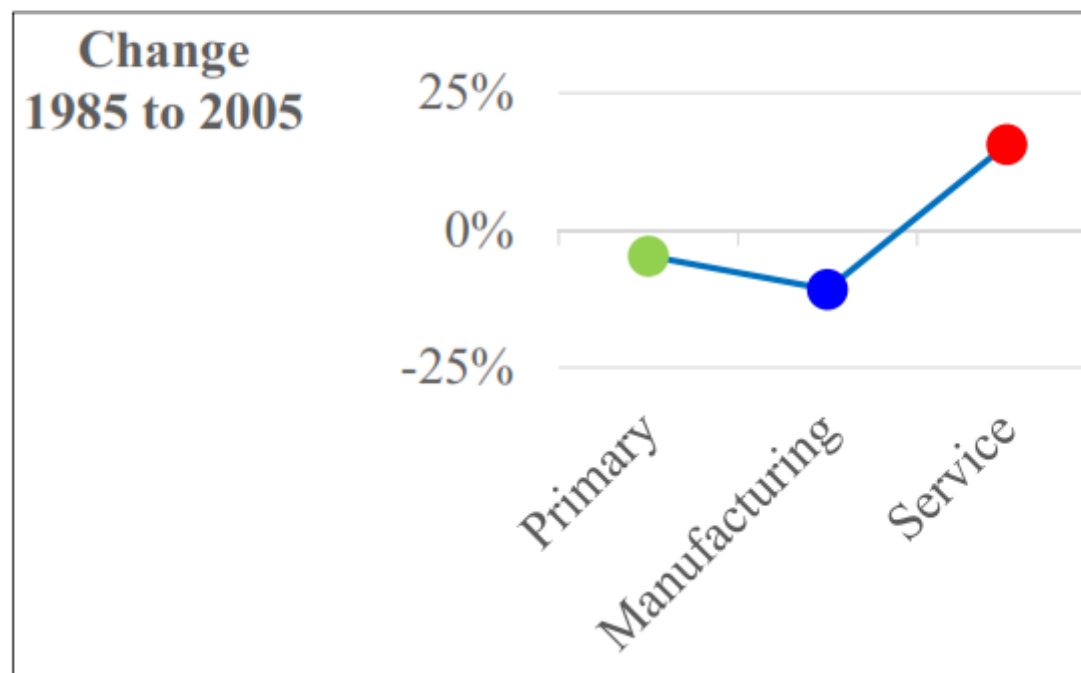
Smiling Curve and Value Added



Source: Baldwin (2011)

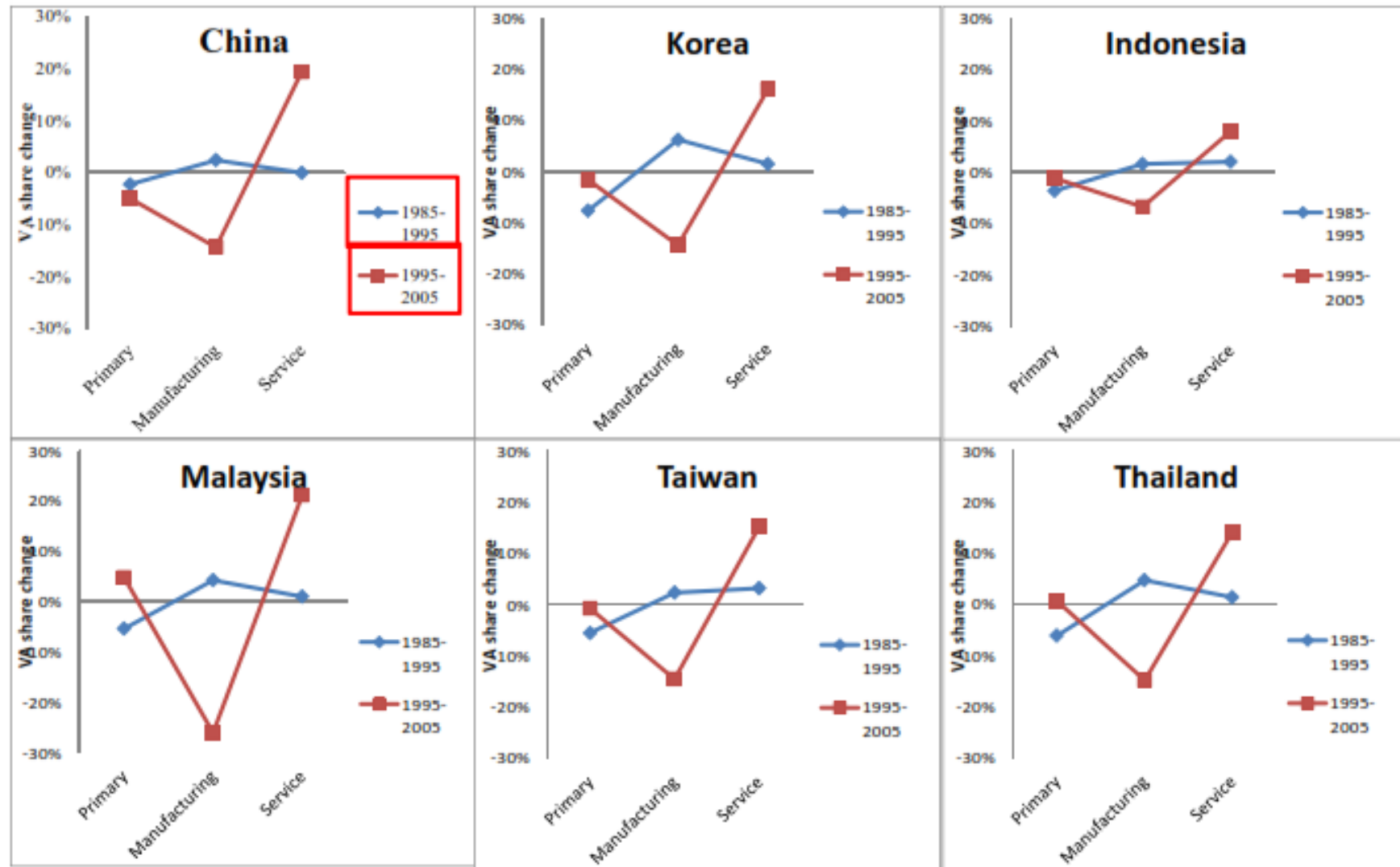
Smiling Curve and Value Added

Smile curve: Look at the change in source sector value added



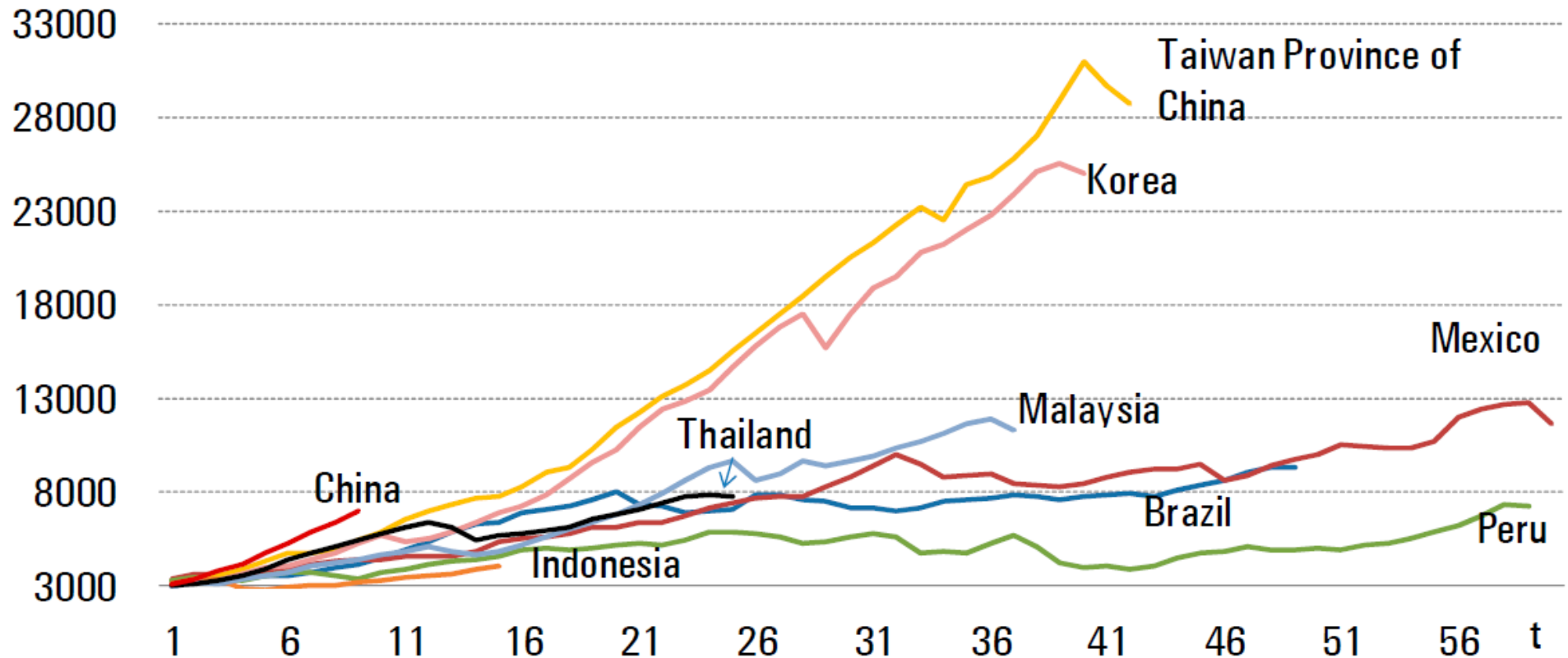
Source: Baldwin (2011)

Smiling Curve and Value Added



Cross-Country Comparison

GDP/Capita
(in PPP U.S. dollars)



Source: IMF staff calculations.

* $t=0$ is defined as the year when the GDP per capita for a particular country reached 3000 U.S. dollars in PPP terms.

WE2-1 Years of Asian Economies Shifting to High-Income or Upper Middle-Income Countries

Item Country	Grouping	Per Capita Nominal GNI (2012)	Per Capita Nominal GNI (1995)	The year of entering into a group		
				High-Income	Upper Middle- Income	Lower Middle- Income
Japan	High-Income	47,870	41,350	1967	Before 1962	...
Singapore	High-Income	47,210	22,420	1981	Before 1962	...
Hong Kong	High-Income	36,560	22,619	1978	Before 1962	...
Taiwan	High-Income	20,083	12,648	1988	1973	Before 1962
Korea, Republic	High-Income	22,670	10,770	1993	1978	Before 1962
Malaysia	Upper Middle	9,820	4,010	—	1979-86、 1991	Before 1962、 1987-90
China	Upper Middle	5,720	530	—	2010	1998
Thailand	Upper Middle	5,210	2,720	—	2010	1966
Indonesia	Lower Middle	3,420	980	—	—	1979
Philippines	Lower Middle	2,500	1,030	—	—	Before 1962
India	Lower Middle	1,550	370	—	—	2007
Vietnam	Lower Middle	1,550	288	—	—	2008
Laos	Lower Middle	1,270	360	—	—	2010

Source: Suehiro (2014), Studies on Emerging Asian Economies: Beyond the Catch-up Industrialization, Iwanami Publisher, p.128 (in Japanese). Up-dating the figure of per capita GNI in 2012.