Lecture 2c:

Trade and comparative advantage: Japan in the 1850's

Thibault FALLY

C181 – International Trade

Spring 2018

Evidence on Ricardo?

Evidence on Ricardo?

An ideal **test** would be to:

- estimate productivity
- Identify sectors that are relatively more productive, relative to other sectors and other countries.

Evidence on Ricardo?

An ideal **test** would be to:

- estimate productivity
- Identify sectors that are relatively more productive, relative to other sectors and other countries.

However:

- It is difficult to estimate productivity
- And even more difficult to estimate productivity across many sectors and countries due to lack of precise data.

Evidence on Ricardo?

Instead:

- Can we focus on a single country?
- What predictions of Ricardian Model could be tested?

Evidence on Ricardo?

Instead:

- Can we focus on a single country?
- What predictions of Ricardian Model could be tested?

Recall that a country gains from trade because now it can:

- Import goods at prices relatively lower than before
- Sell goods at prices relatively higher than before.

Testable prediction:

➔ Prices increase for goods with higher NET exports!

6 Example: Japan

Trade liberalization in Japan in 1851-53

- Since the economy was much less complicated at that time, it is possible to have a detailed picture

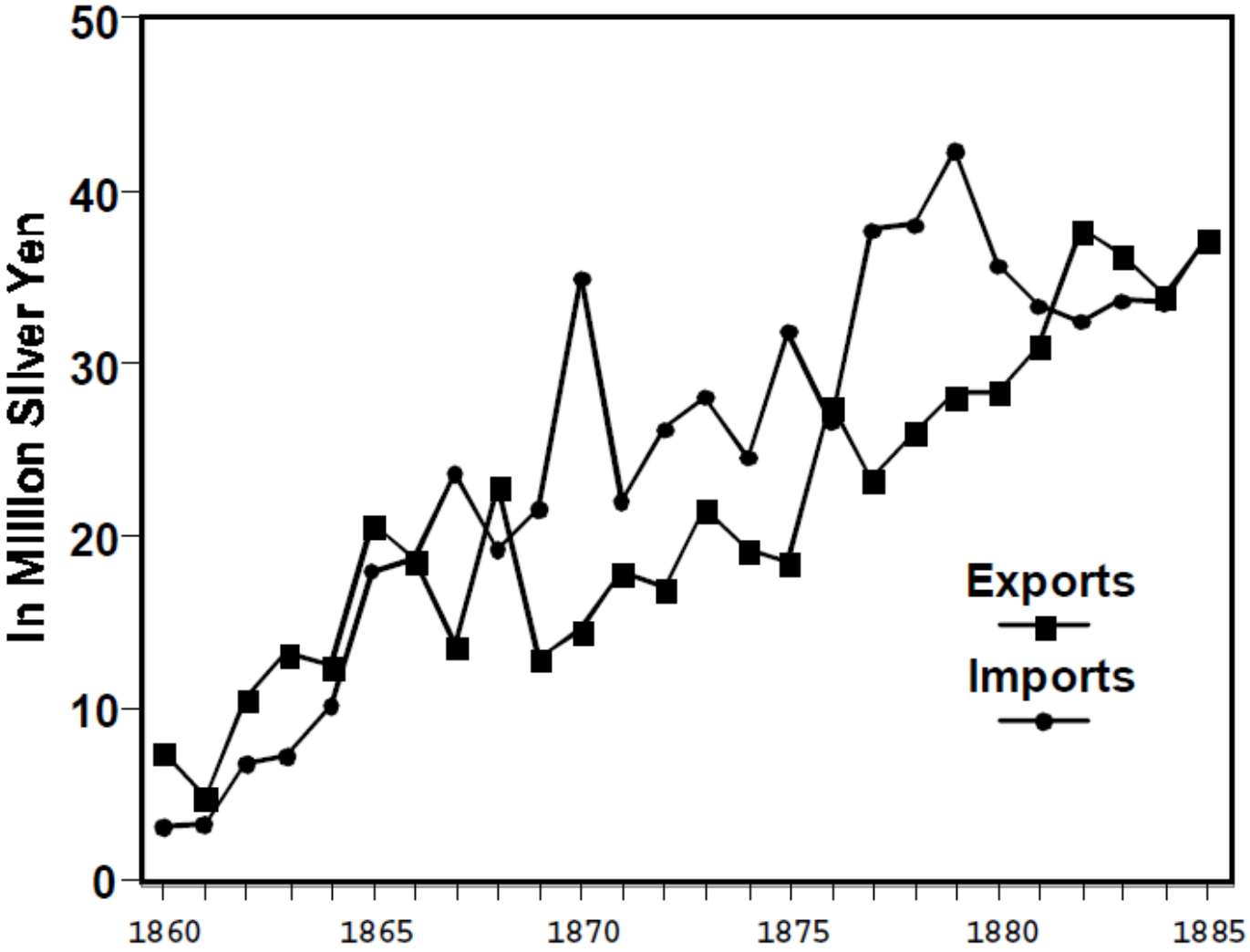
→ Empirical evidence for the range of goods that were traded at that time

Source: Bernhofen and Brown (2004)

Commodore Perry, around 1853

Imports and export in 1860-1885

Figure 3: The Development of Japan's External Trade: 1860-1885



Traded goods

Table 1: The Composition of Japanese Trade, 1868-1875

Product	Percent of Imports	Percent of Exports
Agricultural: Non-Food		
Silk		35.9
Silkworm Eggs		15.7
Other (Vegetable Wax and Cotton)	2.2	2.7
Agricultural: Food		
Tea		28.2
Rice	10.8	
Sugar	9.9	
Other Foods	4.2	8.2
Other Raw Materials		
Fuel (Coal and Charcoal)		1.9
Other	3.1	2.9
Textiles		0.2
Cotton Yarn	15.1	
Cotton Cloth	18.4	
Woolens	19.2	
Other textiles	1.8	
Other manufactures		4.3
Weapons and ammunition	2.7	
Machinery and instruments	1.4	
Miscellaneous manufactures	11.2	

Notes: The trade shares of each commodity group are based upon total imports and exports for the period 1868-1875.
Source: Japan Bureau of Revenue (1893).

6 Example: Japan

Trade liberalization in Japan

In 1851-53

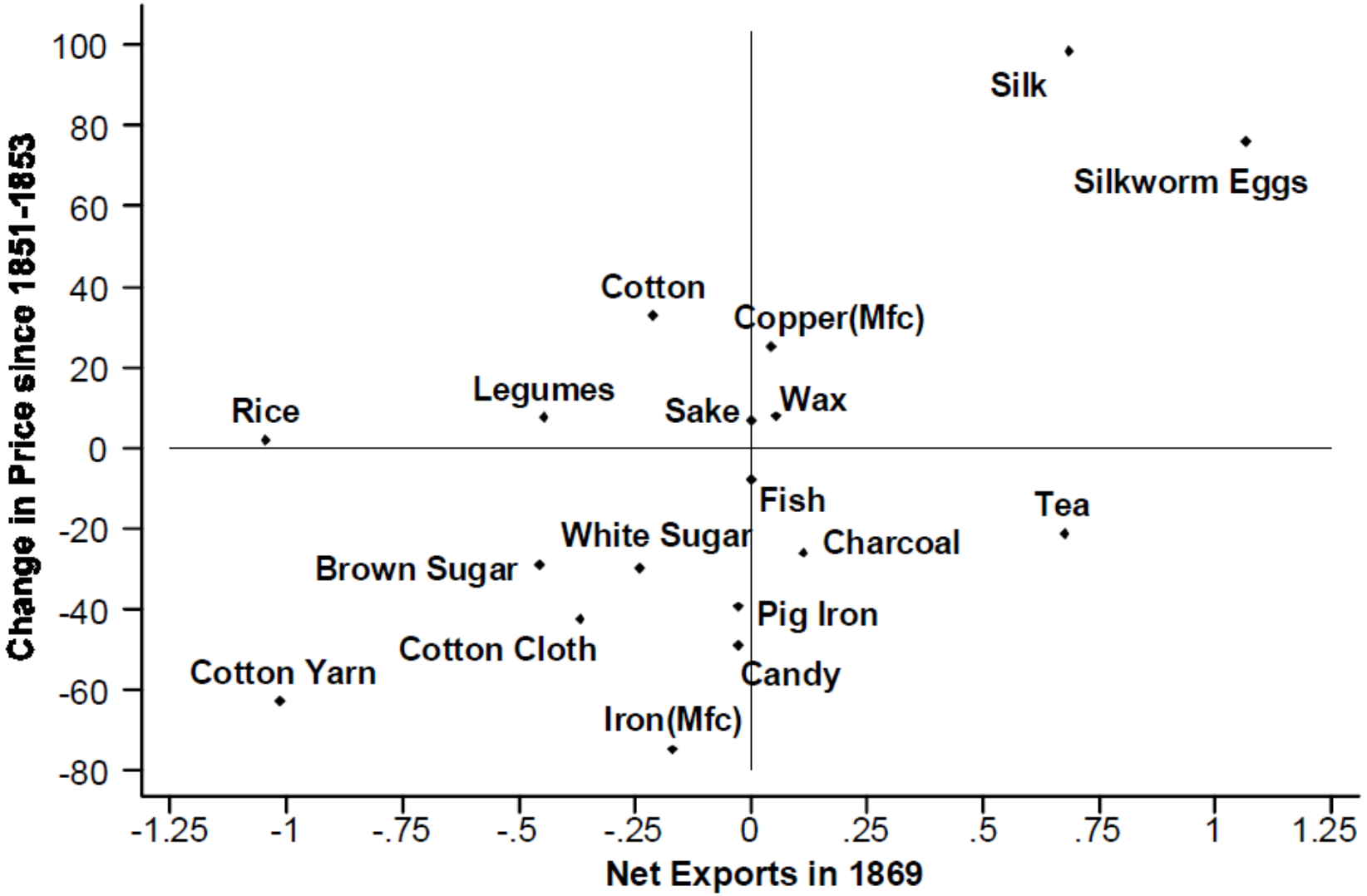
→ Do we see an increase in the relative price of goods for which Japan has a comparative advantage?

Or, equivalently:

→ Do we see Japan export goods for which it had the largest price increase?

Correlation between net exports and prices

Figure 4: Net Exports and Price Changes for 1869



6 Example: Japan

Trade liberalization in Japan

In 1851-53

→ Do we see an increase in the relative price of goods for which Japan has a comparative advantage?

YES

6 Example: Japan

Next step: can we quantify the gains from trade?

Q: Did it lead to welfare gains by shifting the budget curve?

6 Example: Japan

Next step: can we quantify the gains from trade?

Q: Did it lead to welfare gains by shifting the budget curve?

A more precise question:

→ Had prices stayed the same as in Autarky, would the value of its current imports exceed the value of exports?

= sum of $p_{gA}\ (M_g - X_g)$ across goods g

Gains from trade

TABLE 2 -CALCULATIONS OF THE PER CAPITA GAINS FROM TRADE (IN GOLD RYŌ)

Group of Goods	$p^{a}_{1850s}T_i$ (i=1868…1875)								$p^{a}_{1850s}\widetilde{T}_{1850s}$
	1868	1869	1870	1871	1872	1873	1874	1875	
(1) Goods with observed autarky prices	-0.05	0.01	0.12	0.05	0.01	0.05	0.06	0.08	0.037
(2) Goods with estimated autarky prices	0.02	0.02	0.02	0.02	0.04	0.07	0.05	0.08	0.035
(3) Woolens and muskets	0.08	0.08	0.12	0.15	0.22	0.26	0.17	0.19	0.141
Gains per capita in ryō	0.04	0.11	0.26	0.22	0.26	0.37	0.28	0.33	0.219

6 Example: Japan

Trade liberalization in Japan

In 1851-53

Q: Did it lead to welfare gains by shifting the budget curve?

YES, although gains are not very large at the beginning

"By gaining the good and rejecting what is wrong, it is our desire that we'll compare favorably with other lands abroad“

Poem by Emperor Meiji…