

Welcome to the Guest Lectures in  
**The Economic History of Globalization**  
21<sup>st</sup> and 23<sup>rd</sup> September 2004

**Explaining the Growth in  
World Trade at the End of the  
19<sup>th</sup> Century**

## **Plan for the two lectures:**

- September 21: General overview (see Lecture Note)
- September 23: Detailed look at Gunnar Persson's paper "Mind the Gap!"

These slides and the lecture note will also be made available on my website:

[www.keynes.dk](http://www.keynes.dk)

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# Globalization

What is globalization?

For the economist: market integration on a global scale.

When did globalization start?

At the end of the 19<sup>th</sup> century.

“The inhabitant of London could order by telephone, sipping his morning tea in bed, the various products of the whole earth, in such quantity as he might see fit, and reasonably expect their early delivery upon his doorstep; he could at the same moment and by the same means adventure his wealth in the natural resources and new enterprises of any quarter of the world, and share, without exertion or even trouble, in their prospective fruits and advantages; or he could decide to couple the security of his fortunes with the good faith of the townspeople of any substantial municipality in any continent that fancy or information might recommend. He could secure forthwith, if he wished it, cheap and comfortable means of transit to any country or climate without passport or other formality, could dispatch his servant to the neighbouring office of a bank for such supply of the precious metals as might seem convenient, and could then proceed abroad to foreign quarters, without knowledge of their religion, language, or customs, bearing coined wealth upon his person, and would consider himself greatly aggrieved and much surprised at the least interference. But, most important of all, he regarded this state of affairs as normal, certain, and permanent, except in the direction of further improvement, and any deviation from it as aberrant, scandalous, and avoidable. The projects and politics of militarism and imperialism, of racial and cultural rivalries, of monopolies, restrictions, and exclusion, which were to play the serpent to this paradise, were little more than the amusements of his daily newspaper, and appeared to exercise almost no influence at all on the ordinary course of social and economic life, the internationalisation of which was nearly complete in practice.”

*John Maynard Keynes, The Economic Consequences of the Peace, 1919*

# Evidence of Globalization at the End of the 19<sup>th</sup> Century

- Commodity market integration
- Factor market integration
- Convergence of living standards among present day OECD

We focus on the first point.

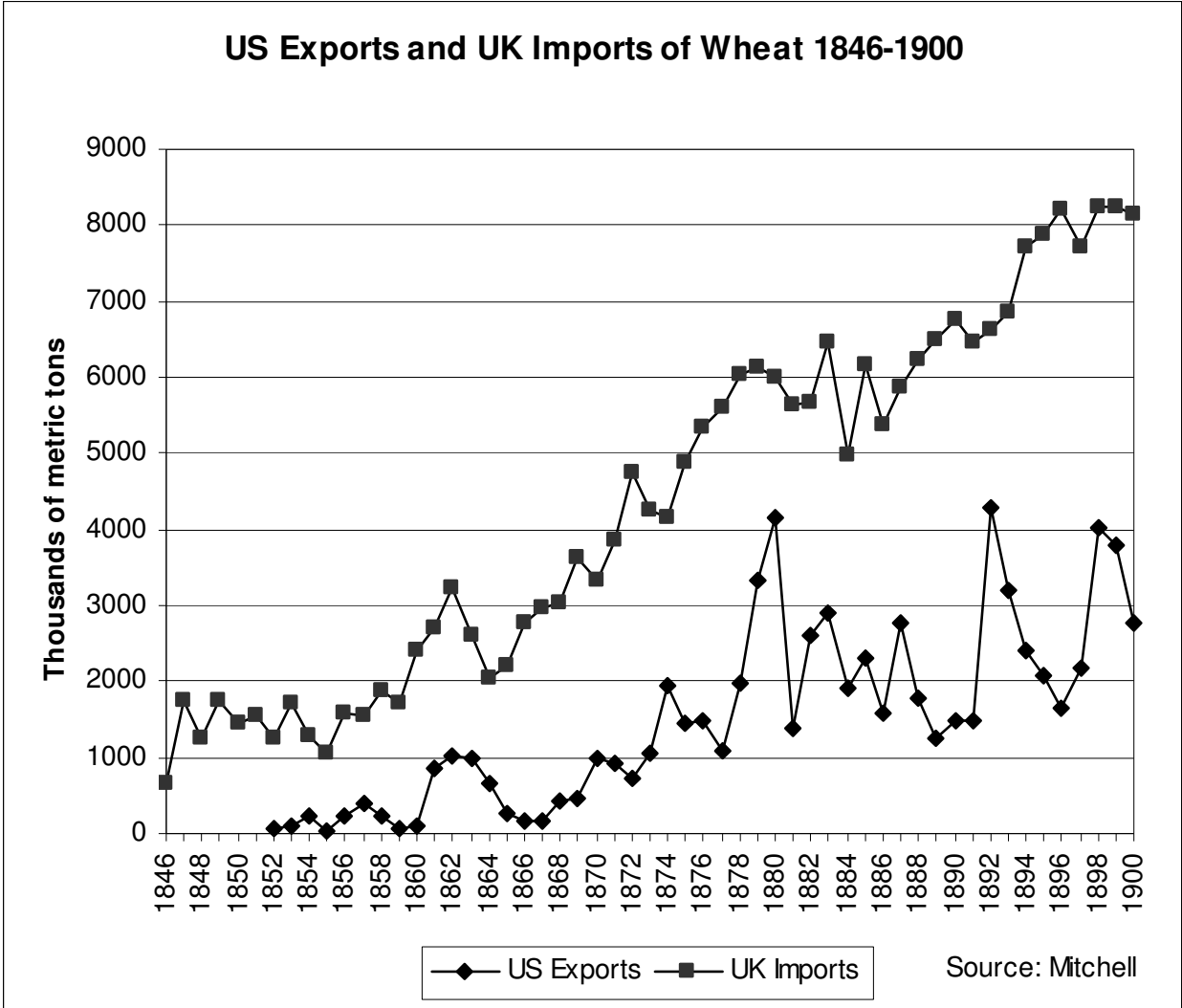
**Table 3.1**  
Trade Shares, 1870–1987 (merchandise exports as percentage of GDP, 1985 prices)

Country	1870	1913	1950	1973	1987
Australia	6.3	10.9	7.8	9.5	12.4
Austria	9.0	13.9	4.0	12.6	20.0
Belgium	7.0	17.5	13.4	40.3	52.5
Canada	12.8	12.9	13.0	19.9	23.8
Denmark	6.6	10.1	9.3	18.2	25.8
Finland	10.5	17.0	12.7	20.5	23.0
France	3.4	6.0	5.6	11.2	14.3
Germany	7.4	12.2	4.4	17.2	23.7
Italy	3.3	3.6	2.6	9.0	11.5
Japan	0.2	2.1	2.0	6.8	10.6
Netherlands	14.6	14.5	10.2	34.1	40.9
Norway	9.3	14.6	13.5	27.4	34.0
Sweden	8.0	12.0	12.2	23.1	27.0
Switzerland	10.4	22.3	9.8	21.3	28.9
United Kingdom	10.3	14.7	9.5	11.5	15.3
United States	2.8	4.1	3.3	5.8	6.3
Total <sup>a</sup>	5.9	8.2	5.2	10.3	12.8

Source: Calculated from Maddison (1991, appendix tables F.6, A.2, A.3).

<sup>a</sup> Average over all sixteen countries, weighted by country GDP.

We look at the growth of the “Atlantic Economy” and in particular in the growth in grain trade between the US and the UK.



## Why wheat and Why US/UK?

- In 1850, between a half and two thirds of the income of British workers was spent on food and drink, most of which was grain based.
- Availability of data.
- Protectionism in other European countries (see next week).

## What explains the increase in trade?

Could be due to  
narrowing of price  
differentials.

Commodity market  
integration.

Law of one price.

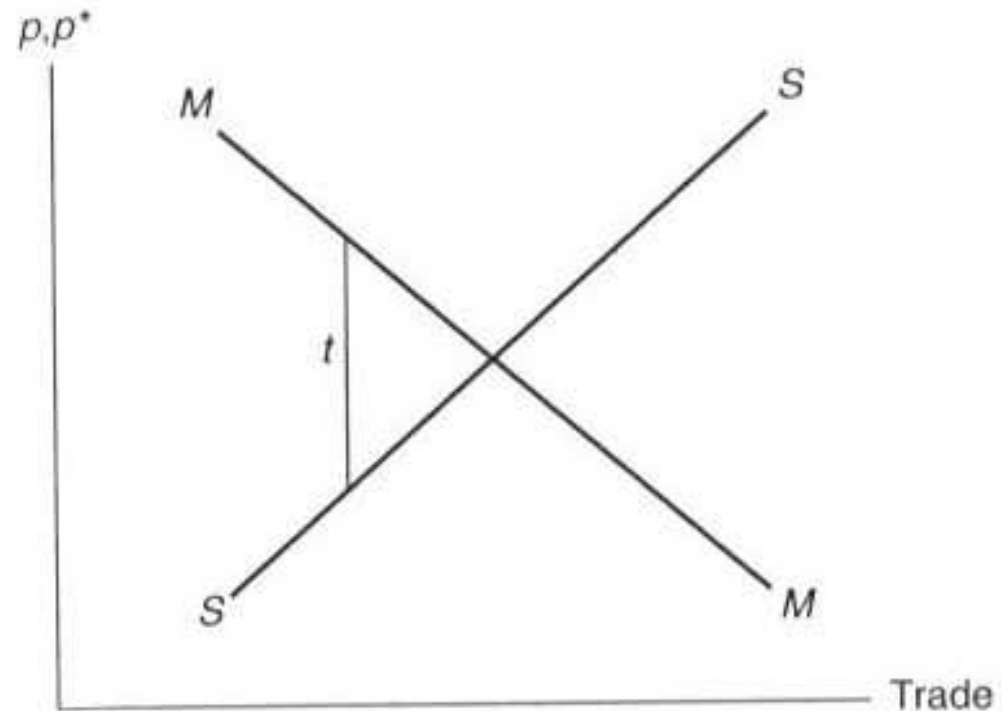


Figure 3.1  
Trade and transport costs.

## Falling transport costs

Lessening of wedge ( $t$ ) between import and export prices.

Leads to increase in trade *ceteris paribus*.

Could also be shifts in MM or SS schedules.

Reasonable explanation: technical innovations in latter part of the 19<sup>th</sup> century.

**Table 3.2**  
Railway Mileage, 1850–1910

Country	1850	1870	1890	1910
Austria-Hungary	954	5,949	16,489	26,834
Australia	—	953	9,524	17,429
Argentina	—	637	5,434	17,381
Canada	66	2,617	13,368	26,462
China	—	—	80	5,092
France	1,714	11,142	22,911	30,643
Germany	3,637	11,729	25,411	36,152
India	—	4,771	16,401	32,099
Italy	265	3,825	8,163	10,573
Japan	—	—	1,139	5,130
Mexico	—	215	6,037	15,350
Russia (in Europe)	310	7,098	18,059	34,990
United Kingdom	6,621	15,537	20,073	23,387
United States	9,021	52,922	116,703	249,902

Source: Hurd (1975, appendix 2, 278).

# Evidence of price equalization?

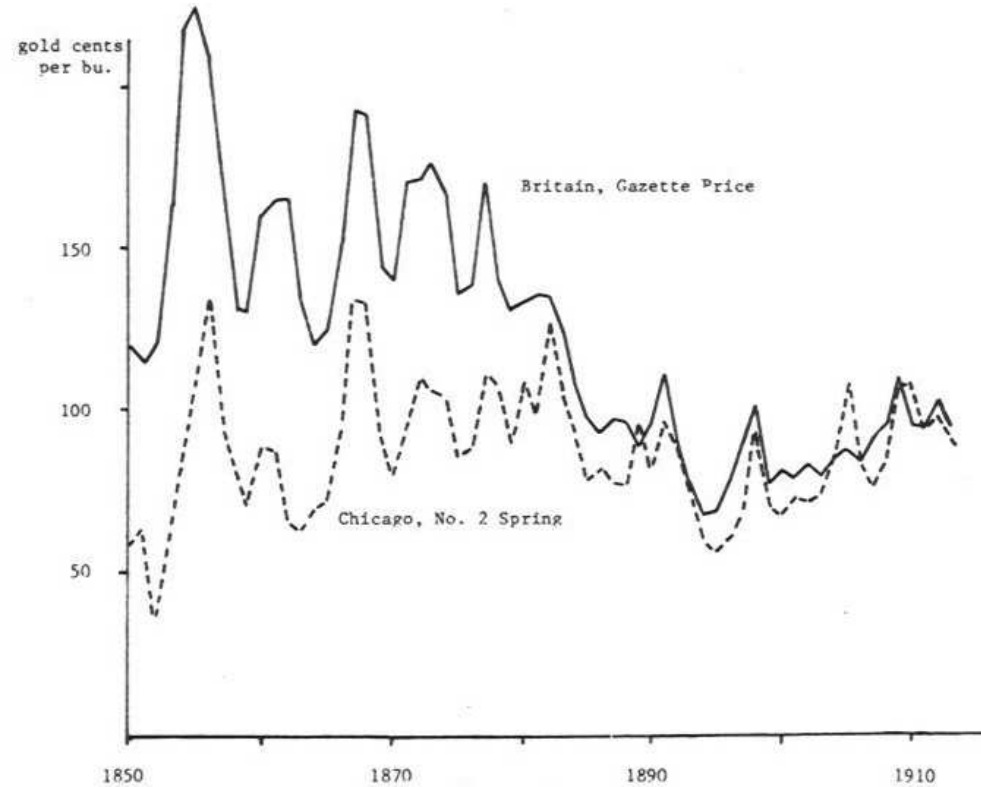


FIGURE 1  
THE PRICE OF WHEAT IN BRITAIN AND CHICAGO, 1850-1913

Source: C. Knick Harley, "Transportation, the World Wheat Trade, and the Kuznets Cycle," paper presented at the MSSB Conference on Exports and National Economic Growth, 1975 (Princeton, forthcoming), Appendix Table.

Persson's conditions for inferring transport cost decline from price convergence:

1. Markets must be equally efficient over time, that is the price spread that is not accounted for by transport and transaction costs have been arbitrated away.
2. Transaction costs, such as insurance and port charges, are either insignificant or constant over time.
3. Quality differences between different varieties or grades of a commodity have been controlled for.

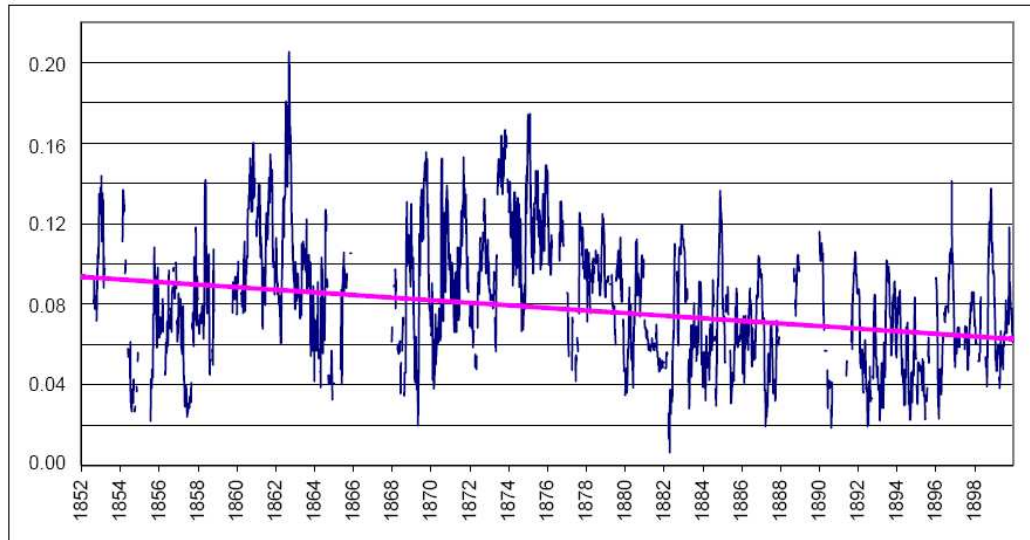
## Freight rates did decline ...

... but so did all other prices.

How should we deflate transport costs?

$$\textit{Freight\_factor} = \frac{T}{P}$$

**Figure 6. The freight factor, New York to UK ports 1852-1900. (Transport costs divided by the price of US wheat in London. Linear trend)**



Note: 1852:8-1853:3 American, Liverpool sail; 1854:2-1864:12 US Red, Liverpool sail, 1865:1-1865:12 US Red, Liverpool steam; 1867:12-1869:6 American, Liverpool steam, 1869:7-1869:12 US Red, Liverpool steam; 1870:1-1874:12 American, Liverpool steam, 1875:1-1877:12 US Red, Liverpool steam, 1878:1-1880:12 Red Winter, Liverpool steam; 1881:1-1885:3 Red Winter, London steam; 1885:3-1895:8 No. 2 Red Winter, London steam; 1896:1-1900:12 No. 2 Red Winter (Glasgow), London steam.

Test statistics: Intercept = 0.09356      sd = 0.0012      t = 77.96667       $R^2 = 0.078$

Trend = -0.00000176      sd = 0.00000014      t = -12.57143

Sources: See Appendix 1.

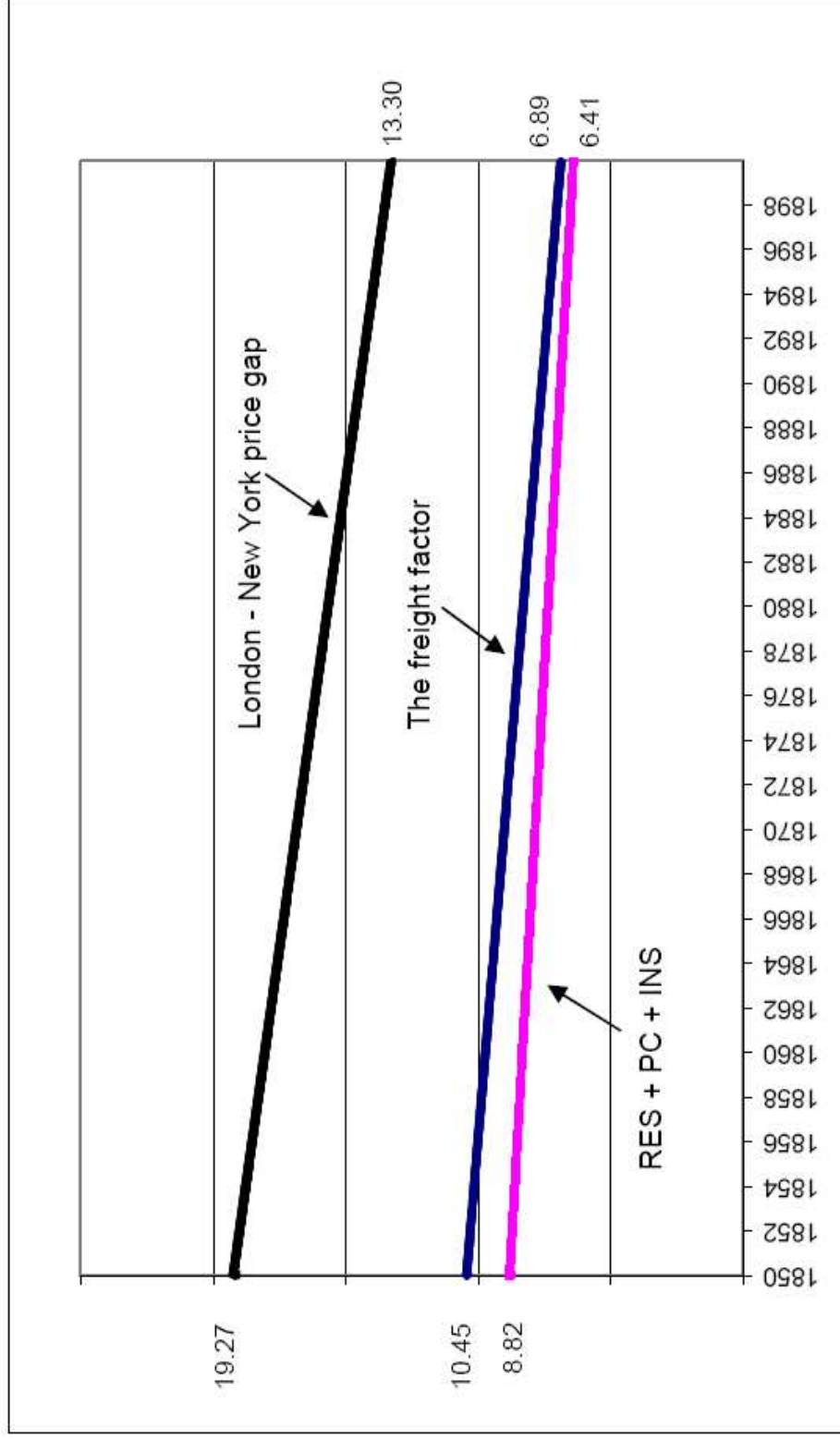
What was the true price gap?

$$(1') P^{\text{US wheat, London}} - P^{\text{US wheat, New York}} = \text{TRANS} + \text{PC} + \text{INS} + \text{TA} + \text{RES.}$$

With all costs accounted for and perfect markets, RES=0:

*Transport and transaction cost adjusted law of one price.*

**Figure 7. The evolution of the transatlantic wheat price gap 1850-1900. Per cent of New York price of wheat.**



## Other possible explanations

- Trade policy (repeal of British Corn Laws in 1846). Precondition.
- Political factors:
  - 1854-56 Crimean War
  - 1861-65 American Civil War
  - 1870-71 Franco-Prussian War
  - Peace!
- Downward shift in supply schedule, or more elastic supply schedule, with e.g. Western Settlement in the US.