

Technology and financial manias

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Important period: 1st half of 19th century in Britain

Emergence of modern economy, with:

- huge national debt, over twice GDP
- liquidity traps, ..
- extreme inequality, preoccupation with stability, land main source of power and status, ...
- disdain for companies (incl. Adam Smith)
- startup investment no better than gambling
- no sense for potential for steady economic and technological advances

Inflection point around 1850

Fast and steady growth appears and is slowly recognized (“the Great Victorian boom”):



Benefits of reaching back:

- celebrated: Walter Bagehot, *Lombard Street*, 1873
- neglected but more insightful: Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, 1802

Key developments:

4 giant investment manias and the modern corporation:

- 1824-25 compared to South Sea Bubble
- (1825 corporations liberalized)
- 1835-36 “lesser” railway mania and banks
- 1844-49 Railway Mania
- (1855-56 routine limited liability)
- (1862 limited liability even easier)
- 1862–66 railways, banks, insurance companies, ...

Two instructive examples:

- British railway mania of the mid-1830s: equivalent to about \$2,000 billion of real capital investment for U.S. today as fraction of GDP
- British Railway Mania of the mid- and late-1840s: equivalent to about \$4,000 billion
- mania of the mid-1830s: the only episode in history of gigantic and wildly speculative frenzy that was successful
- Mania of the 1840s: giant disaster, investors included such famous people as Charles Darwin, John Stuart Mill, and the Brontë sisters



THE RAILWAY JUGGERNAUT OF 1844.

Note: The illustration has been taken from the original engraving in the collection of the British Museum.

A very light but very enlightening introduction:

hilarious satirical 1845 short story by William Aytoun

google/bing *The Glenmutchkin Railway*

“Lesser” railway mania of the 1830s:

British railway system growth:

- ~300 km in 1836 (most influential: Liverpool and Manchester Railway, just ~50 km)
- ~3,000 km in 1843
- next 2 slides show railways in Britain in 1836 and 1843



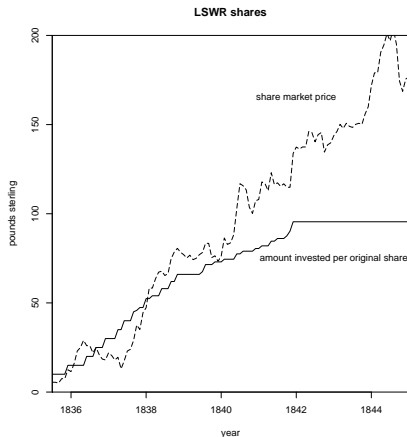


“Lesser” railway mania of the 1830s:

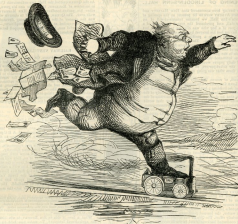
- wide and justified skepticism of John Stuart Mill et al.
- engineers (as usual) underestimated costs
- systematic but not well-validated demand estimation methodology provided almost perfect predictions of revenues (the only known instance in history for a revolutionary technology)
- with very optimistic original profit promises, investors obtained more modest but above-market returns

London and South Western Railway

One of the more successful ventures of the mid-1830s:



JOHN BULL'S LOCOMOTIVE LEG.



Railway Mania of the 1840s:

- interesting instance of misuse and non-use of quantitative models
- engineers again underestimated costs
- demand estimation methodology of the 1830s overestimated revenues
- success in the 1830s depended on cancellation of mistakes, not explained until recently
- results of the mania of the 1830s never analyzed carefully
- some observers came close to a proof failure was inevitable

Aftermath of the Railway Mania of the 1840s:

- disaster for most investors, especially those of modest means, impatient, or leveraged
- clear net economic benefit for nation, although it led to persistent inefficiencies in the British rail network (on the order of 25%)
- may have prevented a revolution in Britain in 1848 (“pseudo-Keynesian stimulus”)

Conclusions:

- some giant and wildly speculative manias do succeed
- some manias can be shown, using convincing quantitative models, to be destined to fail
- some bubbles do have substantial net economic benefits for society at large
- some bubbles may have been key to stimulating social change that promoted economic growth
- our economic system may have a built-in bias towards gullibility and toleration of promoters (“snake-oil salesmen”)

More information, papers, etc.:

<http://www.dtc.umn.edu/~odlyzko/>

or just google/bing “odlyzko”

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