First Industrial and Financial Elite

How Entrepreneurship in Transportation, Communication, Manufacturing, and Finance Changed America, 1865–1900
Is your cell phone on?

A very serious looking Andrew Carnegie, one day who will become the richest man in America, as a boy asks you to please turn your cell phones off so that you can learn about the remarkable achievements of the first industrial leaders of the United States!
Themes and Topics

Private Enterprise
- Topic 3: Robber Barons or Industrial Statesmen
- Topic 4: First Industrial Elite as a Cohort Group
- Topic 5: Vertical and Horizontal Integration Strategies for Building Economic Institutions
- Topic 6: Personal and Social Determinants of Success
- Topic 7: Mass Production and Consumer Culture
- Topic 8: Non-market versus market economies
- Topic 9: The status of labor in late 19th century America
- Topic 10: What laissez faire meant in the late 19th Century
Themes and Topics

• Multiculturalism
  ▪ Topic 3: Ethnic Ancestry of the First Industrial Elite
  ▪ Topic 4: Immigrants communities, ethnic and racial minorities and the new work hierarchy

• Regional Differentiation
  ▪ Topic 6: Immigrant Working Class of the Northeast
  ▪ Topic 10: Patterns of Corporate Penetration: North, South, West
Themes and Topics

• **Role of Government**
  - Topic 9: The role of local, state, and the national government in fostering Big Business and economic development
  - Topic 10: The role of state and the national government in regulating Big Business

• **Social and Cultural Outsiders**
  - Topic 1: Republican versus Outsider Groups (minorities, workers, and women's) definitions of freedom and citizenship
  - Topic 6: The status of labor in late 19th century
Themes and Topics

- Cultural change
  - Topic 3: Big Business as a Standardizing Agent
  - Topic 4: Urban Culture
  - Topic 5: Consumer Culture
  - Topic 6: Social Darwinism as an ideology
Central Analytical Questions

- Statistics on U.S. Industrialization, 1860–1900
- Who were the first leaders of modern American industrial and financial enterprise?
- What were the causes of the growth in the scope and scale of American business?
- What were the strategies that produced big businesses?
- What was the role of the Financial Elite?
Key Forces in the Transformation: Railroads

• The creation of the modern economy in the United States during the 1840s to the 1890s was due to:
  - Mass transportation in the form of the Railroads
  - Mass communication in the form of the Telegraph
  - Cheap Energy in the form of Coal
Railroads as Big Business

- The major industry after 1865 (employment, capital, scale)
- $1 Billion in revenue in 1890
- 193,000 miles of track laid by 1893 (4 fold increase from 1868, leads world)
- $5.1 Billion in debt in 1890
- $8.7 Billion in Assets in 1890
- Four transcontinental lines, all integrated; National time zones, 1883
- Major forward and backward linkage effects on economy: energy, steel, manufacturing, local businesses, and settlement
Key Force in the Transformation: Telegraph

The creation of the modern economy in the United States during the 1840s to the 1890s was due to:

- **Mass transportation** in the form of the **Railroads**
- **Mass communication** in the form of the **Telegraph**
- **Cheap Energy** in the form of **Coal**

Key inventors: Franklin, Field, Morse, and Vail
Key Force in the Transformation: Telegraph

Messages Handled by the Telegraph Network: 1870–1970

<table>
<thead>
<tr>
<th>Date</th>
<th>Messages Handled</th>
<th>Date</th>
<th>Messages Handled</th>
</tr>
</thead>
<tbody>
<tr>
<td>1870</td>
<td>9,158,000</td>
<td>1930</td>
<td>211,971,000</td>
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<tr>
<td>1880</td>
<td>29,216,000</td>
<td>1940</td>
<td>191,645,000</td>
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<tr>
<td>1890</td>
<td>55,879,000</td>
<td>1945</td>
<td>236,169,000</td>
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<tr>
<td>1900</td>
<td>63,168,000</td>
<td>1950</td>
<td>178,904,000</td>
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<tr>
<td>1910</td>
<td>75,135,000</td>
<td>1960</td>
<td>124,319,000</td>
</tr>
<tr>
<td>1920</td>
<td>155,884,000</td>
<td>1970</td>
<td>69,679,000</td>
</tr>
</tbody>
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Key Force in the Transformation: Telegraph

- **Forward Linkage Effects of the Telegraph**
  - Compared to the postal system or by personal carrier, telegraph revolutionized communication, making it nearly instantaneous
  - Railroad and Telegraph synergy
    - Especially important on single track lines
    - Use same right of way
  - Telegraph and Financial Markets (Commodity Prices)
  - Telegraph and War (Civil War, Spanish American War)
Key Force in the Transformation: Coal

- The creation of the modern economy in the United States during the 1840s to the 1890s was due to:
  - *Mass transportation* in the form of the *Railroads*
  - *Mass communication* in the form of the *Telegraph*
  - *Cheap Energy* in the form of *Coal* and, after the 1870s, *Electricity*
Key Force in the Transformation: Coal

- Coal is the most plentiful fuel in the fossil family and it has the longest and, perhaps, the most varied history.
- Coal was used to make steam to run steam engines.
- By 1875, coke replaced charcoal as the primary fuel for iron blast furnaces to make steel.

Note two major steel producing clusters around Gary, Ind. and Pittsburg, Pa.
Key Force in the Transformation: Coal

- Iron output experienced a 10X increase, 1860–1900 (920K tons to 10.3M tons)
- But Iron is brittle
- Mass production of steel has dramatic backward and forward linkage effects after 1875
  - Bridges
  - Buildings
  - Railroad Track
  - Tools
  - Barbed Wire
Key Force in the Transformation: Oil

- Output increased from 3M barrels in 1865 to 50M barrels in 1890 (one barrel is 42 gallons)
- Forward linkage effects
  - Refined into Kerosene for lamps after 1853
  - Improved refining produced naphtna, gasoline, lubricants, and waxes
  - Reduced the importance of whale oil to the American economy
- Note: Edison harnesses electricity for light in 1879
1859–1899: a period of rapid growth in Agricultural and Industrial Output

$1.8 Billion in 1859
$13 Billion in 1899

By 1899, US is world’s biggest manufacturing nation
Are the Leading Capitalists of the 19th Century Still Household Names?

<table>
<thead>
<tr>
<th>Name</th>
<th>Industry/Invention</th>
</tr>
</thead>
<tbody>
<tr>
<td>John D. Rockefeller</td>
<td>Oil Refining (Standard Oil)</td>
</tr>
<tr>
<td>Andrew Carnegie</td>
<td>Steel (Carnegie Steel Works)</td>
</tr>
<tr>
<td>Thomas A. Edison</td>
<td>Invention (Light bulb, motion pictures)</td>
</tr>
<tr>
<td>James Hill</td>
<td>Railroads (Northern Central)</td>
</tr>
<tr>
<td>Cornelius Vanderbilt</td>
<td>Railroads (New York Central)</td>
</tr>
<tr>
<td>William Vanderbilt</td>
<td>Railroads (New York Central)</td>
</tr>
<tr>
<td>Jay Gould</td>
<td>Railroads (Denver Pacific)</td>
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<tr>
<td>Jay Cooke</td>
<td>Railroads (Union Pacific)</td>
</tr>
<tr>
<td>Collis Huntington</td>
<td>Railroads (Southern Pacific)</td>
</tr>
<tr>
<td>Leland Stanford</td>
<td>Railroads (Southern Pacific)</td>
</tr>
<tr>
<td>Henry Villard</td>
<td>Railroads (Central Pacific)</td>
</tr>
<tr>
<td>Jim Fisk</td>
<td>Railroads (Central Pacific)</td>
</tr>
<tr>
<td>James C. Penny</td>
<td>Retail (J.C. Penny)</td>
</tr>
<tr>
<td>Montgomery Ward</td>
<td>Retail (Wards)</td>
</tr>
<tr>
<td>Sears and Roebuck</td>
<td>Retail (Sears)</td>
</tr>
<tr>
<td>Henry H. Havemeyer</td>
<td>Manufacturing (American Sugar Refining Company)</td>
</tr>
<tr>
<td>Phillip Armour</td>
<td>Meat Processing</td>
</tr>
<tr>
<td>James Duke</td>
<td>Cigarettes</td>
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<tr>
<td>J. P. Morgan</td>
<td>Banking (House of Morgan)</td>
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First Industrial Elite as a Cohort Group

• What is a Cohort?
  - A group of individuals who share specific temporal, social, ethnic, or cultural identities

• First Industrial and Financial Elite as a Cohort Group
  - Born
  - Economic and social backgrounds
  - Ethnicity or “race”
  - Cultural Values
Personal Determinates of Success

• Hard to be Precise
  - Family Connections
  - Sponsorship
  - School?
    - How Important was a Harvard MBA?
• Business Acumen
  - Social Vision
  - Ability to see strategic positions in an emerging market
• Organizational Skills
The First Industrial and Financial Elite are recipients of a New Structure of Opportunity*

- Growing Population
- Expanded Labor Force
- Consumer Demand
- Expanding Capital Markets
- Integrated National Market
- Government Paternalism

*A structure of opportunity are the social and economic conditions affecting rates of supply, production, exchange, and the accumulation of wealth.
Social Determinates of Success

Period from 1860 to 1900 is a time of rapid population increase as a result of both natural increase and immigration.

Population increases from 31M to 80M

What is their impact on Economic growth?
Between 1843 and 1921, 25 Million people come to US, most as adult sellers of their labor.

Between 1870 and 1920, 11 Million people move from the country to the city.

Their impact?
Expanding population and labor force meant more workers and more consumers, and hence greater ease in growing businesses.

Note the dual nature of the economic growth until 1910: both in Industry and Farming.
Expanding Capital Markets
- New enterprises involved massive increases in investment in capital stock per worker
  - In 1869, investment in capital stock per worker equaled about $2000
  - In 1919, investment in capital stock per worker equaled $5000
- Increasing capital investment required more capital, meaning an increase in capital formation from savings
  - Economists estimate Americans saved on average 24 to 28% of their incomes between 1865 and 1885. Why?
    - Improved capital markets like the NY Stock Exchange
    - US had an older population
    - A deflationary economy
A Deflationary Economy, 1866-1896

Deflation favors creditors over debtors

![Currency in Circulation vs. Population graph](image)
Social Determinates of Success

- Government Paternalism
  - High tariff protection policy for manufacturing
  - Subsidies
    - Government railroad land grants (223 million acres)
    - Government purchased railroad bonds ($64 million)
    - Geological Survey
  - Pre-worker, consumer, environmental protection laws
    - Business shifts costs of operation onto society
  - Pre-Income Tax Era in U.S. History made for dramatic accumulation of wealth
Accumulation of Wealth

- Cornelius and William Vanderbilt, father and son, founded and owned the New York Central Railroad
- Cornelius accumulated $94 million, which he left to his son
- William died in 1885, leaving an estate worth over $200 million
Accumulation of Wealth

- John D. Rockefeller, Sr. and John D. Rockefeller, Jr.
- John, Sr. accumulated over $1 billion in his lifetime
  - He officially retired in 1896 with a fortune of $200 million, but it increased to $1 billion as a result of a diversification of his portfolio into mining, railroads, banking, etc.
  - Between 1917 and 1921, he transferred to his son $500 million
Questions to Think About

- **Structure of opportunity raises the question of power**
  - The new structure allowed an economic elite to concentrate inordinate power into private hands
  - If economic power was concentrated in a few hands,
    - Had it been legitimately obtained?
    - Was it being legitimately exercised?
    - Should society accept the results of the accumulation?
  - What kind of social responses would the emergence of big business give rise to?
    - Stewardship of the wealthy (Carnegie’s giving $350M)
    - Populist
    - Socialist
    - Progressive
Changes in the Nature of the Market Economy

- What **Institutions** did the first industrial and financial elite create and why did they take the form they took?
- Throughout most of the 19th century, the US economy was **highly competitive**
  - Economic units were relatively small, no one company or handful of companies dominated markets
  - Markets were largely local or regional in nature
  - It was relatively easy from the standpoint of capital requirements to enter markets
  - Therefore, social and economic **power did not exist in a decentralized market system** because the influence of any single producer’s influence, relative to other producers, was infinitely small
Changes in the Nature of the Market Economy

• How did Capitalists respond to these circumstances?
  ▪ Some, like Gould and Fisk, exploited competition
  ▪ Some, like Hill and Rockefeller, dreaded it, and devised a set of strategies to overturn the ideal of a decentralized market. Why?
    ▪ From their perspective competition was an evil
    ▪ Competition was “ruinous” in their most commonly used language because they had to grapple with the changing composition of capital
    ▪ Fluid and mobile forms of capital investment typical of merchant capitalism were being replaced by massive fixed capital investments typical of industrial capitalism
Massive fixed capital required capitalists to protect their investment from competition by figuring out how to keep their fixed capital in use.

What was their answer?

- System building, coordination, and consolidation
- Their goal was to eliminate “ruinous” competition by growing the size of American businesses
- The result was the emergence of **monopoly** and **oligopoly** and the replacement of price competition with non-price competition.
Changes in the Nature of the Market Economy

• What were the specific strategies used to achieve consolidation, monopoly and oligopoly?
  - Horizontal Integration
    • A buyout strategy where a company purchases all firms who do the same thing they do in their industry
    • Oil refining and Sugar refining as examples
  - Vertical Integration
    • A system building strategy where a company consolidated all stages involved in the supply, production, and distribution of the companies product, thereby creating a coherent and efficient whole
    • Typically linked mass production and mass distribution
    • Steel and Railroad as examples
Market structure

- **Competition**
  - Many firms, free entry
  - One product

- **Monopolistic Competition**
  - Many firms, free entry
  - Differentiated product

- **Oligopoly**
  - Few firms, limited entry
  - One or differentiated product

- **Monopoly**
  - One firm, no entry
  - One product

- Philip Morris 49.8%
- Reynolds-American 21.6%
- Lorillard 9.2%


- Anheuser Busch: 49.4%
- SAB/Miller: 18.5%
- Molson-Coors: 10.7%

Social Meaning of Big Business

- Where coordination and supervision exceeded the ability of the creative entrepreneur to control the many separate units of the corporation
  - Turn to a managerial bureaucracy in the form of boards of directors, supervisors, managers, foreman, etc.
  - Entrepreneurial Capitalism changed into Managerial or Bureaucratic, or Corporate Capitalism

- Where dramatic increases in employment were required to carry out the multiple functions of the corporation
  - Turn to white collar, pink collar, and blue collar employees
  - Employment for others now a permanent feature of most working peoples’ lives
  - Beginning of the end of the Jeffersonian Ideal
Changes in the Nature of the Market Economy

- By 1900, US economy became less competitive
  - Economic units grew in size, and one company or a handful of companies dominated markets
  - Markets had become largely regional, national, and even international in nature
  - It became relatively harder from the standpoint of capital requirements to enter markets because of heavy technology investments
  - Hence, American capitalism had become **oligopolistic**, **centralized**, **bureaucratic**, and **technology intensive**
Critical Thinking Questions

• What were the causes of the growth in the scope and scale of American business?
• What were the strategies that produced big businesses?
• How does the history of economic development relate to the conventional wisdom today of celebrating competition and small business?
Conclusions

- Private corporations are engines of accumulation and privilege.
- In this era, corporations came to control the nation’s economic resources, determining investment, employment, production, distribution, and technological innovation.
- The result was dysfunction between economic institutions and cultural beliefs or ideology: “a ritual clash between an ‘anachronistic ideal’ and a modern need.”

Economic power translated into Political power
Role of the Finance Bankers

- Bankers emerged as a force in the transportation and manufacturing sectors of the late 19th century economy because both horizontal and vertical integration required large quantities of capital, which bankers provided through the sale of stocks and bonds.

JPM=J. Piermont Morgan Co.
Role of the Finance Bankers

The “Jupiter of Wall Street”

Got his start as the seller of securities for the first railroads before the civil war

Next played a crucial role in the sale of Civil War bonds

After 1865, his investment bank played a key role in the sale of securities for the new enterprises to raise capital

J. P. Morgan
Role of the Finance Bankers

In return for buying and selling corporate stocks and bonds, investment bankers like Morgan were allowed to place directors and advisors on corporate boards of directors.

By 1912, investment bankers held 341 directorships in 112 corporations worth approximately $22.2 billion, a fact which inspired fears of a “Money Trust”
Role of the Finance Bankers

The WASPs dominated the first banking elite coming from pre-industrial merchant houses in New York, Boston, and Philadelphia
- Hugginson, Forbes, and Perkins

Around 1900 a second group of investment capitalists emerged who were German-Jewish in New York
- J. and W. Seligman, Kuhn and Loeb, Guggenheim, and Jacob Schiff

In the 1920s a third investment banking group emerged from ethnic Catholics on the West Coast
- Bank of Italy became Bank of America
In 1879, Morgan’s banking house helped sell 250,000 shares of NY Central stock for the Vanderbilt's, for the service Morgan received a seat on the BOD of the NY Central RR.

Between 1879 and 1885, the NY Central suffered “ruinous” loses from competition with the Pennsylvania RR and verged on bankruptcy.
Morgan determined that what the roads needed was price fixing, but how to achieve it?

- He couldn’t turn to politics because the public was wedded to the ideal of competition
- In 1887, Congress passed the Interstate Commerce Act, creating the Interstate Commerce Commission
  - The Act outlawed pools, enforced competition, and forbid secret rebates
- In 1890, Congress passed the Sherman Anti-Trust Act outlawing Trusts and any other contracts or combinations in restraint of trade
Morgan: A Closer Look

Morgan’s first solution: price fixing

- He tried to get the competing railroads to agree not to compete with each other through a secret “Gentleman’s Agreement”
- The Gentleman’s Agreement was only as good as the word of each road President—this didn’t work everywhere (especially out west, but it worked for the NY Central and Pennsylvania RRs)

Morgan’s bulbous, strawberry nose
Bankers like Morgan did try to control transportation and industry because they wanted to protect their investments:

- They wanted to ensure their corporations were profitable.
- They attempted to influence and control corporate policies.
- Between 1895 and 1907, Morgan mounted a campaign to establish his direct control over the roads by buying stock in many of the roads and placing directors on their boards.
- Between 1899 and 1907, Morgan brought one-tenth of the total track of the U.S. under his control through mergers (horizontal integration).
- This created an effective oligopoly in the Middle Atlantic and Southeastern U.S.

Only one photo exists of his strawberry nose.
Morgan: A Closer Look

In the mid-1890’s, bankers applied the same strategy to manufacturing

- Led by Morgan, investment bankers increased control through their purchase of commercial banks
  - Commercial banks are the principal lenders to the nation’s businesses and control the supply of loans
  - Investment banks control the sale of securities
  - By taking possession of commercial banks, Morgan believed he could establish strategic control over many major corporations
  - But there were limits to such control because many U.S. corporations were self-financing (Ford Motor Corporation being the most famous)

- Between 1895 and 1904, bankers push a merger movement in which on average 266 firms were absorbed by competitors, creating oligopolies
  - Most famous: U.S. Steel and International Harvester

- Where bankers established control, they assumed they could manage the production and lending institutions of the modern economy
  - They imposed stability on an economy suffering from swings in the trade cycle and excessive competition
  - Thereby making profits predictable

Morgan refused to allow doctored Photos of his bulbous nose
Did American Bankers Achieve System Stability?

- No, the **financial panics** of 1893 and 1907 show bankers were not successful in taming the trade cycle or achieving financial market stability.
- Hence need for a government solution.
Critical Thinking Question

- What was the role of the Financial Elite?
- What are the issues posed by the separation of ownership from management under modern conditions?
Conclusions

Irony of US Business History:

A nation worshiped competition based on individualism and natural law.

- Monopoly/Oligopoly called into question the principle of competition and equal opportunity.
- If the market was rigged, then open social mobility was threatened.
- But Entrepreneurs viewed this tradition as obsolete and retrogressive.

- The laws designed to restore competition did nothing to stop consolidation.
- The laws to control business only created the illusion of democratic control.
- In fact, society had to find ways to accommodate to corporate power, not vice versa.

Points to dysfunction between traditional culture and the new economic realities of the modern marketplace.

Once America’s Favorite Game