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Economics 303Y1

THE ECONOMIC HISTORY OF MODERN EUROPE TO 1914

(The Industrialization of Modern Europe, 1750 to 1914)

OUTLINE OF THE LECTURES AND OTHER TOPICS for 2012 - 2013

This economic history course is an historical study of European economic development, with a particular focus on the processes and consequences of modern urban industrialization, up to the eve of World War I. Because Great Britain was the homeland of the 'industrial revolution' and the first modern industrial state, it will receive a disproportionate share of attention in this course. Engaging in comparative history, we shall then seek to determine the extent to which industrialization in the major continental countries -- France, Germany, and Russia -- followed, was influenced by, and/or differed from this British model.

At the same time, we shall also seek to determine the various influences, direct and indirect, that changes in other economic sectors -- regional, national, and international -- had upon these processes of modern industrialization: in the agricultural, commercial, and financial sectors. For that reason, an analysis of industrialization in each country will normally follow analyses of changes in the other economic sectors.

Our study of European economic development will also consider the broader roles of other factors, economic and non-economic: in particular, the macro-economic forces of demographic and monetary/price changes; of institutional, social, political, and cultural factors; and most especially the role of the state. Finally, from examining all these forces, economic and non-economic, we shall also seek to understand the nature and role of the physical sciences and of technological change in modern European economic development.

While the time-span for this course is 1750 to 1914, we cannot possibly understand the origins and nature of modern European economic development without at least some brief references to prior economic developments, and most especially to previous technological changes. The modern 'industrial revolution,' which most historians consider to be more an evolutionary than a revolutionary phenomenon, did not suddenly begin in 1750, independently of past events.

The following is an outline for the course as a whole. In the 52 lecture hours allotted, it is not possible to cover all of the topics listed here, even if such a total lecture coverage were desirable. Some topics are much better handled by essays and independent readings.

You will note that the organization of this course is not chronological, but rather national (the Netherlands, Great Britain, France, Germany, and Russia) and topical. But obviously within each topic, the progression of the analysis is basically chronological. If the first term covers the late 17th, all of the 18th, and early 19th centuries, the second term, with some exceptions, runs basically from the end of the Napoleonic Wars in 1815 to the outbreak of the First World War in 1914. But some first term topics in fact go up to 1914, and some second term topics (especially concerning France) begin before the Napoleonic Wars.

FIRST SEMESTER: September to December 2012

I. THE ECONOMY OF THE NETHERLANDS: DUTCH ECONOMIC HEGEMONY in the European Economy during the 17th and 18th Centuries (to c. 1780)

[**Note:** None of these topics will be given in the oral lectures, but the written lectures have been posted: and thus these topics are provided only as a guide to these online lecture notes and related essay topics. Much as I would like to present such lectures, and much as I would stress the importance of these topics for modern European economic history, and thus for this course, there is regrettably no time to do so, especially with only 12 lecture weeks per semester. Furthermore, many of these topics are fully covered in ECO 301Y, whose posted lectures remain online, for your benefit.]

A. The Netherlands and the Modern Industrial Revolution

1. **Introduction: the Role of the Dutch in the Modern European Economy**
2. **The Dutch and the Macro-Economic Trends of the 16th, 17th, and 18th Centuries**
3. **The Dutch Commercial Empire as a Case Study in European Economic Development**

B. The Dutch Overseas Commercial Empire: Its Chief Foundations

1. **The Herring Fisheries: the first pillar of Dutch Supremacy**
2. **The Baltic Sea region and northern Europe: the heart of the empire**
3. **Overseas Colonialism: the East and West Indies and North America**

C. Dutch Supremacy in Shipbuilding and Shipping

1. **The Economics of Low Cost Shipbuilding**
2. **Transaction Costs and the Economics of the Carrying Trades**

D. Dutch Supremacy in Banking and Finance: the Wisselbank van Amsterdam

1. **Bills of Exchange or Acceptance Banking**
2. **Private Banking Institutions**
3. **The Role of the Wisselbank van Amsterdam**

E. The Economic Decline of the Netherlands in the Later 18th Century: Relative or Absolute?

1. **Internal Factors**
2. **External Factors**
3. **The Role of the State and Warfare**
4. **The Dutch as Free Traders in an Era of Mercantilism**

F. The Dutch, Great Britain, and the Origins of the Modern Industrial Revolution

1. **Dutch Capital Investments in Britain**
2. **The Dutch Challenge**

II. GREAT BRITAIN AS THE HOMELAND OF THE INDUSTRIAL REVOLUTION, 1750-1815

- A. Introduction: The Historical Significance of Modern Industrialization: is the term 'revolution' justifiable?**
- B. Science, Technology, Education and Social Attitudes in the Industrial Revolution**
 - 1. **Technology and the Industrial Revolution: Inventions and Innovations**
 - 2. **Science and Technology in Britain and France, 1660-1760: 'The Scientific Revolution'**
 - 3. **Religion and Society in Great Britain: the Protestant Dissenters**
 - 4. **Theories to Explain the Economic Importance of Dissenters**
 - 5. **British Social Structure and Political Freedom**
- C. The Government, State Finance, and Warfare, during the Industrial Revolution, 1760 - 1815**
 - 1. **State Intervention:** and laissez-faire in the Industrial Revolution.
 - 2. **Monetary and Fiscal policies:** the burden of taxation.
 - 3. **Warfare, 1715-1783:** costs and benefits.
 - 4. **The French Revolutionary and Napoleonic Wars, 1792-1815:** costs and benefits.
 - 5. **Warfare:** and industrial technology.
- D. Population Growth and Expansion of the Market: The Role of Demographic Changes before and during the British Industrial Revolution era: 1680 - 1820**
 - 1. **Demand and Supply in the Industrial Revolution**
 - 2. **Population Growth and Industrialization:** Causes and Consequences, 1750 - 1820
 - 3. **The European Marriage Pattern**
 - 4. **Population Growth and the Industrial Revolutions: Causes and Effects**
 - 5. **The Role of Population in the Industrial Revolution: Demand and Supply Factors**
- E. Expansion of the Market: Domestic Trade**
 - 1. **Importance of the Domestic Market during the Industrial Revolution**
 - 2. **Factors Promoting Growth of the Domestic Market in 18th Century**
 - a) Population Growth
 - b) Market Size and the Act of Union of 1707.
 - c) Urbanization and Transaction Costs
 - d) Say's Law: Supply Creates its Own Demand
 - e) Living Standards and Real Wages
 - f) Warfare and Taxation
 - 3. **The First Transportation 'Revolution': Canals and Highways**
- F. Expansion of the Market: Foreign Trade**

1. **Foreign Trade: The ‘Commercial Revolution,’ or The Era of ‘New Colonialism’, 1660 - 1760**
2. **Mercantilism: Policies of State Intervention in Foreign Trade, Economic Nationalism and Protectionism:**
3. **British Foreign Trade during the Industrial Revolution era, 1760-1820:** contributions to British economic growth.

G. The ‘Agricultural Revolution’ of the 18th and 19th Centuries

1. **The Agricultural Revolution in Perspective:** The General Character of Agricultural Change Since the 17th Century
2. **The Agrarian Recession of 1660 - 1750** and Innovations
 - a) Falling Grain Prices: causes and consequences
 - b) the spread of agricultural innovations
 - c) Land consolidation and the decline of the smallholders
3. **The Completion of the Enclosure Movement:** 1750-1830
 - a) the debate about trends in enclosures
 - b) rising grain prices and inflation: causes and consequences
 - c) Inflation and Interest Rates: the capital costs of enclosure
 - d) the Enclosure Movement after 1750: parliamentary enclosures
 - e) industrialization as a stimulus to enclosures
4. **Contributions of Agricultural Change** to Industrialization
 - a) the debate about agricultural productivity
 - b) Agricultural Productivity and Enclosures: the Pessimists’ Case
 - c) Agricultural Productivity and Enclosures: the Optimists’ Case
 - d) Enclosure, population, and the food supply
 - e) The Supply of Industrial Raw Materials
 - f) Enclosures and the Labour Supply for Industrialization
 - g) Agriculture and Capital Investment: from Rents and Profits

H. Banking and Finance: Problems of Capital Formation

1. **English Business Organization during the 18th Century:** Partnerships, Family Firms, Joint-Stock Companies and the English ‘Bubble Act’ of 1720
2. **The Structure of English Banking in the 18th Century: the London Commercial Deposit Banks (‘Goldsmith’ Banks)**
3. **The Role of the Bank of England** in the 18th-Century British Economy:
4. **The Bank of England and the National Debt** in the 18th Century
5. **Contributions of the Bank of England to the Industrial Revolution:** positive and negative features
6. **English ‘Country Banking’ in the Industrial Revolution:** positive and negative features
7. **Scottish Banking in the Industrial Revolution:** its Advantages over English Banking
8. **Financial Institutions and the Mechanics of Capital Formation** during the Industrial Revolution

I. The Revolution in Mechanical Power: the Steam Engine (Capital Goods)

1. **Ancient and early-modern experiments:** with steam.
2. **The Early 'Steam' Engines:** The Savery and Newcomen Engines, 1698-1712.
3. **James Watt's Steam Engines:** 1763-1785.
4. **The Economic Significance of Steam Power:** economizing on land, labour, and capital.
5. **Applications of steam power:** mining, metallurgy, textiles, and transportation; and its limitations.

J. The Revolution in Metallurgy: Iron Production with Coke and Steam (Capital Goods and Consumer Goods)

1. **The Iron Industry in the 17th and early 18th Century: Organization and Technology under a 'Tyranny of Wood and Water'**
 - a) The Basic Technology of Iron-Making
 - b) The Blast Smelter and the 'Indirect' Process
 - c) Uses for a New Metal: Cast Iron
 - d) Iron-Refining and Finery Forges
 - e) Industrial Capitalism in Metallurgy
 - f) Technological Problems: 'Tyranny of Wood and Water'
 - g) English Dependence on Iron Imports from the 1680s
2. **General Characteristics of the Industrial Revolution in Iron Manufacturing**
3. **The Revolution in Coke-Smelting:** the First Stage in Transforming the British Iron Industry
 - a) Breaking the tyranny of wood and water
 - b) Coke-Smelting: Darby's successes and failures
 - c) The Slow Adoption and Final Victory of Coke-Smelting
 - d) Steam-powered Blast Furnaces
 - e) Neilsen's 'Hot Blast' of 1829
 - f) Economic Consequences: for Capital and Consumer Goods
4. **The Revolution in Iron Refining:** the Second Stage of Industrial Change
 - a) The Traditional Processes of Iron Refining
 - b) Initial Advances in Refining: The Wood Brothers and 'Potting and Stamping'
 - c) Cort and Onions: 'Puddling and Rolling'
 - d) The Application of Steam Power
 - e) Industrial Scale: the leap forward
5. **The Economic Consequences** of the Revolution in Iron Manufacturing: for Capital and Consumer Goods
 - a) The importance of coal in ending the tyranny of wood and water
 - b) Scale economies: vertical and horizontal integration, and oligopolistic competition
 - c) The industrial importance of cheap metals

K. The Revolution in Textiles: Cottons and Woollens (Consumer Goods)

1. **Introduction: Quantity vs Quality in the Industrial Revolution**
2. **The Economic Importance of the Industrial Revolution in Cottons**

3. **The Early History of the British Cotton Industry:** the Fustian Manufactures in Lancashire and Scotland in the 17th and early 18th centuries
 - a) industrial location: why rural
 - b) rural handicraft technology: spinning and weaving
 - c) the rural 'putting-out' or 'domestic' system of production
 - d) Protection: the home market, and the growth of the fustians industry in the 18th century.
4. **The Mechanization of Cotton Spinning:**
 - a) Supposed causes and origins of the Industrial Revolution in Cottons: the supply factors
 - b) The Wyatt and Paul Spinning Roller (1738-40).
 - c) Hargreaves 'Spinning Jenny' (1764-70)
 - d) Arkwright's 'Water Frame' (1768-69)
 - e) Arkwright's Carding Engine (1775).
 - f) Crompton's Mule (1774-79).
 - g) Robert's Self-Actor Mule (1825).
 - h) Thorp's Ring Spinning (1830): the American industry.
 - i) The economic and social consequences of the revolution in spinning
5. **The Mechanization of Weaving in Cottons:**
 - a) Kay's Flying Shuttle (1733).
 - b) Production Bottlenecks: the mechanization of spinning
 - c) Cartwright's Power Loom (1785-87).
 - d) Improvements to the power loom: Horrocks (1813-21), Roberts (1822-30), Kenworthy and Bullough (1842).
 - e) Power looms, handloom weavers, and enclosures.
6. **The Mechanization of Raw Cotton Production: Whitney's Cotton Gin**
7. **The Economics of the Factory System of Production in Textiles:**
 - a) Early factories in textiles: silks, wool-knitting, cottons.
 - b) Arkwright's water-frame and carding-engine of the 1770s.
 - c) Centralized power: rural water-mills and urban steam-mills.
 - d) Industrial scale and integration of spinning and weaving: some contrasts with the iron industry.
8. **Why the Industrial Revolution occurred first in cottons and not in woollens-worsted:** demand and supply factors.
9. **The Mechanization of Woollen and Worsted Production from 1840:** the final changes in industrial modernization
- . **Contributions of the Textiles to British Industrialization and Economic Growth**

L. The Revolution in Other Manufacturing Industries (Independent Reading Only)

1. **The Pottery Industry:** Josiah Wedgwood.
2. **The Knitting-Goods Industry.**
3. **Metalwares:** Birmingham and the Midlands.
4. **The Mining Industries.**
5. **The Chemicals Industries.**
6. **Food and Beverage Industries:** brewing and distilling.

III. GREAT BRITAIN AS THE UNCHALLENGED INDUSTRIAL POWER, 1815 - 1873

A. Trends and Business Cycles in the British Economy, 1815 - 1873

[not given in the oral lectures; but the written lecture has been posted]

1. **Significance of Business Cycles** in this era
2. **Brief Survey of the Trends and Cycles:**
 - a) 1815 - 1842: uneven expansion with overall growth
 - i) deflationary trends in the cycles
 - ii) real and monetary factors
 - b) 1842 - 1873: economic growth 'by leaps and bounds'
 - i) character of the 'Great Victorian Boom'
 - ii) inflationary trends
 - iii) real and monetary factors
3. **Changing Character of the Business Cycles, 1815 - 1873**
 - a) The inventory and investment cycles
 - b) financial speculation and banking crises
 - c) the role of agriculture in the business cycles

B. Banking, Finance, and Commercial Organization

1. **Weaknesses in English Banking in the early 19th Century:** the post-Napoleonic War crises in England and Scotland
2. **The Bank Acts of 1826-1832:** English joint-stock banking adopted
3. **The Bank Charter Act of 1844 and the Bank of England:** advances and setbacks in British central banking to the 1870s
4. **The Bank of England and the independent rediscount rate** in the 1870s: the beginnings of modern Central Banking in Britain.
5. **Joint-Stock Banks, Discount Houses, and the Bank of England:** their functions and contributions to 19th Century British Industrialization.
6. **Corporate Business Organization in Great Britain:**
 - a) Repeal of the Bubble Act in 1825: joint-stock companies.
 - b) Joint-stock companies under partnership law.
 - c) The coming of Limited Liability, 1855-57.
 - d) Factors promoting larger scale corporations.
7. **Other Financial Institutions**

C. The Nineteenth-Century Revolution in Transportation: Railroads and Steam Shipping

1. **The International Transport Revolutions:** the Importance of the 19th-century transportation revolutions for British and continental industrialization.
2. **The Origins and Development of the Revolution in Railroads**
 - a) Britain's Canal System: an impediment to growth?

- b) George Stephenson and the first railroads.
 - c) The railway building booms, 1830-1865.
 - d) Major problems with British railways in the mid-19th century
 - d) The role of the state: the British government and railways.
- 3. **The Economic Impact of the Railroad**
 - a) Capital markets and capital financing.
 - b) Its role in fostering larger-scale forms of industry
 - c) Impact of the railway on the coal, iron, and steel industries.
 - d) Impact of the railway on agriculture.
 - e) Impact of the railway on urbanization and industrial location.
- 4. **The Revolution in Shipping: Steam and Iron**
 - a) Its significance for world and British economic development
 - b) On the eve of the revolution: the supremacy of New England in an age of wood and sail
 - c) Early (American) Innovations: the Paddle Wheelers
 - d) The Development of Iron Built Ships
 - e) British innovations in steam shipping: the screw propeller and compound steam engines.
 - f) British steamships v. Yankee Clippers.
 - g) the British hegemony in ship-building, shipping, and world trade, 1870 - 1914
 - h) Application of Diesel power from 1900.

D The Age of Free Trade: Finance, Trade, and Capital Exports

- 1. **Importance of Foreign Trade** to the British Economy in the 19th Century
- 2. **The Intellectual and Political Origins of Free Trade: Adam Smith, the Classical School**
- 3. **Hindrances to Free Trade: The Corn Laws and British Politics, 1815 - 1840s**
- 4. **Government Finances and the Coming of Free Trade: to the 1840s**
 - a) Problems of Government Finance and Taxation
 - b) The Fiscal Reforms of the Peel government in the 1840s
 - c) Famine and Repeal of the Corn Laws: 1846
 - d) the Whigs (Liberals) and the Adoption of Free Trade
- 5. **The International Expansion of Free Trade, 1846 to the 1870s**
- 6. **The Economic Consequences of Free Trade: For Britain and Europe**
- 7. **The Return to Protectionism in Continental Europe: Britain as the lone proponent of Free Trade, 1880s to World War I.**
- 8. **British Capital Exports and Foreign Trade**
 - a) the nature of Britain's balance of payments after 1815
 - b) capital exports, 1815 - 1846
 - c) capital exports, 1846 - 1873
 - d) capital exports after 1873 and the 'New Imperialism'

E. The Maturation of the British Industrial Economy (independent reading)

- 1. **The Cotton Industry:** further innovations and foreign competition
- 2. **The Woollens and Worsted Industries:** delayed mechanization
- 3. **The Coal-Mining Industry:** slow mechanization and stagnation
- 4. **Other Metallurgical Industries**

5. Advances in the Mechanical Engineering industries

SECOND SEMESTER: January to April 2013

F. British Agriculture in the 19th Century: Expansion and Contraction

1. **Main trends in 19th-century British Agriculture**
2. **Farming in the era of the Corn Laws, 1815-1846:** falling prices and innovation: completion of the 'Agricultural Revolution'.
3. **Repeal of the Corn Laws and the era of 'High Farming': 1846 - 1873**
 - a) Demand and supply factors promoting prosperity.
 - b) Mechanization of agriculture and rural migration.
 - c) Chemical fertilizers and technical advances.
4. **The 'Agricultural Depression' of 1873-1914:** agricultural contraction and diversification under Free Trade.
 - a) The end of 'High Farming': the transportation revolutions and free trade
 - b) contraction and restructuring in British agriculture: the shift to livestock and specialized farming
 - c) Economic consequences

G. Changes in Living Standards and the Social Consequences of Urban Industrialization, 1780 - 1850: For Independent Reading and Essays

1. **Enclosures during the Industrial Revolution:** cottagers and village poverty: the social consequences.
2. **The English Poor Laws:** before and after 1832.
3. **The Cotton Industry:** and the rural handloom weavers.
4. **Urban Industrialization** and the factory system: the social consequences.
5. **The role of labour, labour unions, and labour strife in the Industrial Revolution:** the case of the Luddites.
6. **Social Welfare and Factory Legislation:** female and child labour.
7. **The Family as an economic and social unit:** before and after the Industrial Revolution.
8. **The Standard of Living Debate, 1770-1850:** did real incomes of the workers rise or fall?

H. The Revolution in Steel-Making: The Age of Steel, from 1856

1. **The Importance of Steel in modern Industrialization:** its physical properties.
2. **Steel-making in the 18th and early 19th centuries:**
 - a) Cementation and Blister steel.
 - b) Huntsman's Crucible Process (1842).
 - c) 'Puddled Steel' from the 1820s.
3. **The Bessemer Converter of 1856:** the first revolution.
4. **The Siemens-Martin Open Hearth Process (1861):** high quality steel.
5. **The Gilchrist-Thomas 'Basic Process' (1879):** the revolution in steel-making completed.
6. **The Economic Consequences:** of cheap, mass-produced steel.
7. **International Competition:** in steel-making.

I. The 'Second Industrial Revolution' in Mechanical Power

For Independent Reading only:

1. **Importance of Steel:** for the 'Second Industrial Revolution'
2. **The Steam-Turbine** of Charles Parsons (1883): its application in industry and transportation
3. **Electricity:** and Electric Power
4. **Internal Combustion:**
 - a) the petroleum industry
 - b) development of internal combustion engines for transport and industry
 - c) development of the automotive industries
 - d) the Diesel engine: industry and transport
5. **The Revolution in Chemicals:** coal, petrochemicals, and cellulose chemicals in the 19th century
6. **Technological Changes and Power:** Larger-Scale Forms of Industry.

On this topic, read in particular David Landes, *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750* (Cambridge, 1969), pp. 249 - 326. The steel revolution is covered on pp. 249-69; chemicals, on pp. 269-76; the revolution in power (steam, electrical, internal combustion), on pp. 267-90, with the remainder devoted to economic consequences.

IV. THE SPREAD OF MODERN INDUSTRIALIZATION: THE 'SLOW INDUSTRIALIZATION' OF FRANCE, 1789 - 1914

A. Barriers to French Economic Development in the 18th and 19th Centuries

B. The Economic Consequences of the French Revolution and Napoleonic Wars, 1789 - 1815

1. **Political and Economic Unification**
2. **Fiscal and Tax Reforms:** positive and negative aspects
3. **The economic consequences** of the Revolutionary and Napoleonic Wars: 1789 - 1815
4. **Napoleon's Economic Policies**

C. Transportation in the French Economy

1. **The State and French Railways to the 1840s**
2. **French Railway Construction, 1850 - 1870**
3. **French Railway Expansion, 1870 - 1914**

D. French Agriculture: the Revolutionary Reforms and Peasant Conservatism

1. **The Structure of French Agriculture on the Eve of the Revolution: the Feudal Heritage**
 - a) geographic divisions: north and south of the Loire
 - b) deficiencies in French farming, north and south
 - c) the social and economic classes of French Peasantry in the 18th Century
 - d) the grievances of the peasantry before the Revolution
2. **The French Revolution and the Revolutionary Land Reforms, 1789 - 1795: abolition of manorialism and feudalism**
3. **The Economic and Social Consequences of the Revolutionary Land Reforms**
4. **The French Inheritance Law, Demography, and Peasant Farming:**
 - a) the 1795 Inheritance Law
 - b) The Pessimists' Case: the Negative Consequences of 'Morcellement'
 - c) The Evidence for demographic stagnation in the 19th century
 - d) Labour Scarcity: the labour supply for agriculture and industry.
 - e) the distribution of land ownership: large estates and peasant farms in the late 19th century
5. **Growth and Stagnation in French Agriculture, 1775 - 1914: Consequences for French Industrialization**
 - a) Phases of Growth and Decline, 1815-1914.
 - b) Was there an 'Agricultural Revolution' in France?
 - c) Agricultural Productivity Comparisons: France, Britain, and Germany
 - d) Some Disasters in 19th-Century French Agriculture
 - e) French Agriculture in 1914

E. Business Organization and Banking in 18th and 19th Century France

1. **Conservatism and Business Organization:** Société en commandite and société anonyme.
2. **The Financial Heritage of the 18th Century: Banking Disasters**
 - a) John Law's royal bank of 1720
 - b) Turgot (Finance Minister) and the Caisse d'Escompte of 1776
 - c) Banking and Finance under the Revolutionary Régimes, 1789 - 1800
3. **The Bank of France in the 19th Century: positive and negative aspects**
4. **Private Commercial Banks:**
 - a) the Paris 'Haute Banque' and the Rothschilds
 - b) Beginnings of Investment Banking in the 1830s
 - c) the 1848 Revolution and the Banking Crisis
5. **'The New Banks' and Credit Mobilier: Investment Banking, 1852 - 1867**
6. **French Commercial Banking after 1860: Domestic and Foreign Banking**
 - a) Crédit Lyonnais and Société Générale de Banque
 - b) French banking and foreign capital investments: reasons for capital exports

F. French Industrialization

1. **General Phases: Did France Undergo an 'Industrial Revolution'?**
2. **The Problem of Coal in the French Economy**
3. **The French Steel Industry: an exceptional success.**
4. **The Textile Industries: woollens, linens, cottons, and silks.**

5. **Other Industries: Food Processing**
6. **The Structure of French Industry in 1914:** and the French Economy on the eve of World War I

G. French Foreign Trade and Colonialism: independent readings and tutorials.

H. A Review of French Economic Growth in the 19th Century: Success or Failure?

1. **The Debate about French Industrialization and Economic Growth**
2. **The Evidence for French Economic Growth**
3. **International Comparisons and Comparative Advantage**

V. THE RAPID INDUSTRIALIZATION OF GERMANY, 1815 - 1914

A. Barriers to German Economic Development in the 18th and 19th Centuries:

B. Unification of the Market: the Zollverein and the Reich

1. **Prussia and the German States** After the Napoleonic Wars
2. **Prussia's Maassen Tariff of 1818:** beginnings of unification
3. **The German Zollverein of 1834:** market unification
4. **The Creation of the German Empire (Reich):** Free Trade and the Return to Protection, 1871 - 1914.

C. Transportation: Railways, Steam Shipping, and Economic Development

1. **The Early Railway Era:** why railways were so crucial to German economic growth
2. **The State Governments and the Railroads: the Role of Prussia**
3. **Economic Consequences** of German Railroads
4. **Steam Shipping** and German Foreign Trade

D. German Agriculture: Peasant Emancipation, 'Land Reform' and Modernization

1. **German Agriculture on the eve of the French Revolution:** East and West of the Elbe River
2. **'Land Reforms' and Peasant Emancipation:** from the Stein-Hardenberg Reforms of 1807 to the Emancipation Law of 1850
3. **The Economic and Social Consequences of Peasant Emancipation:**

- a) East of the Elbe: the Junker estates
 - b) West of the Elbe: peasant farms and enclosure
- 4. **Technological Advances in German Agriculture:**
 - a) crop rotations: nitrogen-fixing
 - b) chemical agriculture and chemical fertilizers
 - c) productivity increases: international comparisons
- 5. **Contributions of the Agricultural Sector to Industrialization:**
 - a) the food supply and population growth
 - b) the provision of an industrial labour force
 - c) raw materials and industry

E. German Banking and Financial Organization

- 1. **Development of commercial joint-stock banking:** 1815 to 1830s
- 2. **The 'D Banks' or 'Great Banks':** Joint-Stock Investment Banks
 - a) formation of the eight 'D' banks, 1848 - 1881
 - b) nature of the German capital market: reasons for investment banking
- 3. **Functions of the German Investment Banks:** short term credit and long-term lending: financing industrialization
- 4. **The Reichsbank: and Central Banking in Germany**

F. German Industrialization

- 1. **The German 'Take-Off':** into Industrialization, 1850 - 1870
- 2. **Chief Features of German Industrial Leadership, 1870 - 1914**
- 3. **The Steel Industry:** German leadership?
 - a) mastery in Bessemer steels
 - b) comparisons with the British and American steel industries: comparative advantage
- 4. **The Chemicals Industry:** mastery in coal-based chemicals
- 5. **The Electrical Industry:** world mastery in production and trade
- 6. **The State and the Development of Industrial Cartels, 1870 - 1914:** the debate

G. German Foreign Trade, Capital Exports, and Colonialism:

- 1. **German Foreign Trade** to the 1880s
- 2. **Foreign Trade from the 1880s:** the Return to Protectionism
- 3. **Factors in German Trade Expansion:** transportation and banking
- 4. **German Capital Exports**
- 5. **German Colonialism** in the age of 'New Imperialism', 1870 - 1914

VI. RUSSIA: THE BEGINNINGS OF INDUSTRIALIZATION TO 1914

A. Barriers to Economic Growth: Russia's Advantages and Disadvantages

1. **Geography and Natural-Resource Endowments**
2. **The Agrarian Barriers to Economic Development**
2. **'The Late-Starter':** advantages and disadvantages
3. **The Gerschenkron Model and Its Critics**

B. Russian Serfdom and Agriculture

1. **The Problem of Serfdom in Russian Economic Development**
2. **The Abolition of Serfdom in 1861, and Its Aftermath:** Regional Variations
3. **Russian Agriculture after Emancipation:** the State, the Mir-Obshchina System, and Its Consequences
4. **Subsequent Agricultural Reforms:**
 - a) Abolition of the Poll Tax, 1885
 - b) The Redistribution Law of 1897
 - c) the 1905 Revolution and the Stolypin Land Reforms, 1906-10
 - d) War and the Russian Revolution, 1914-17
5. **Agrarian Change:** Costs and Benefits for Russian Industrialization

C. Russian Railways and Economic Development

1. **The Beginnings of Russian Railway Construction:** from the 1850s
2. **The Russian Railway Boom of the 1880s**
 - a) The Trans-Caucasian Railway: and the petroleum industry
 - b) The Trans-Caspian Railway: and cotton production
 - c) The St. Catherine's (Ekaterinoslav) Railway: and the industrialization of the Ukraine (coal, iron, steel)
3. **Russian Railways, 1890 - 1914, and their Consequences**

D. Russian Banking and Financial Organization

1. **Introduction: Russian Banking and Finance in the mid-19th century:** the nobility and barriers to the capital market
2. **The Gosbank:** the Imperial State Bank of Russia, from 1862
3. **Gosbank and Russian Monetary Policy:** the debate about the Gold Ruble, 1894-97.
4. **Private Joint-Stock Commercial Banking in Russia**
5. **The Russian Investment Boom of 1906 to 1914**
6. **Foreign Capital Investments in Russia, 1890-1914:** the problem of a 'dual economy'.

E. Russian Industry: the Uneven Foundations of Modern Industrialization

1. **Chief Phases** of Russian Industrialization
2. **The Role of the Government:** in Russian Industrialization

3. **The Textiles Industry:** Cottons and Linens
4. **Metallurgy:** Coal, Iron, Steel, and the Industrialization of the Ukraine
5. **The Petroleum Industry:** and the Industrialization of the Caucasus
6. **Cartelization and Foreign Investments in Russian Industry**
7. **The State of Russian Industry:** on the Eve of War and Revolution.

VII. PROBLEMS OF THE BRITISH AND INTERNATIONAL ECONOMIES, 1870 - 1914:

A. Economic Trends, 1870 - 1914: 'The Great Depression and After'

1. **The Current Debate About the Performance of the British Economy after 1870**
 - (1) 'Industrial Retardation'
 - (2) Failures in Entrepreneurship?
 - (3) Capital Exports and British 'Imperialism'
 - (4) The 'Great Depression'
2. **Was There a 'Great Depression'?**
3. **The Course of Prices, 1873 - 1914:**
 - a) The Period of the 'Great Depression', 1873 - 1896: Deflation
 - b) The Period of the Pre-War 'Boom', 1896- 1914: Inflation
4. **Industrial Trends and the 'Retardation' Question**
5. **The Statistics on Productivity :** Feinstein and Lewis
7. **The Question of Industrial Scale:** positive and negative factors
8. **Britain's Pre-War Strengths: Continued Supremacies and Living Standards**

B. British Banking: the Response to Continental Investment Banking

1. **Features and Faults of the British Banking System, 1870 - 1914**
2. **British Forays into Investment Banking, 1860 - 1914**
3. **Chapman's Conclusions on British Merchant Banking in the later 19th Century:**
4. **Summary of Reasons why British investment banking so limited in scale: Some Recent Views**
5. **Capital Exports:** and the Gold Standard system.

C. The Varieties of Industrial Experiences: The Old Industries

1. **The Coal Mining Industry and Coal Fuels:** hidden problems.
2. **The Iron and Steel Industries:** adaptations to foreign competition, and the 'Law of Comparative Advantage'.
3. **Cotton Textiles:** continued supremacy and hidden problems.
4. **Shipbuilding, Shipping, Trade and Finance:** British supremacy.

D. The Varieties of Industrial Experiences: Advances and Setbacks in the New Industries, 1870 - 1914

1. **The Consumers Goods ‘Revolution’:** the Production and Distribution of Consumers Goods
 - a) Demand factors: rising real wages, urbanization, literacy.
 - b) Newsprint and publishing industries.
 - c) Distribution and retailing: chain and department stores; newspaper advertising.
 - d) New consumer goods for a mass market: bicycles, sewing machines, and automobiles; machine-made footwear and clothing; canned and packaged foods; plastic goods.
2. **The Electrical Industries:** ‘Missed chances’.
3. **The Chemicals Industries:**
 - a) Coal-based chemicals: achievements and failures.
 - b) Wood-based cellulose chemicals: British successes.
4. **The Automobile Industry:** from sewing machines to bicycles to automobiles: the new transportation industries
5. **The British and European Industrial Economies in the Early Twentieth Century:** the Nature of Technological and Economic Changes during the ‘Second Industrial Revolution’
6. **World War I:** and the end of British Hegemony.

E. The Era of ‘New Imperialism’ or ‘Capitalist Imperialism’, 1870-1914: Marxist and non-Marxist Theories of Imperialism (Optional Topic for Independent Reading and Essays)

1. **Lenin's ‘Imperialism as the Highest Stage of Capitalism’:** and other Marxist theories of ‘capitalist imperialism’.
2. **Other Theories of British and Continental European Imperialism:** economic and political theories.
3. **Foreign Trade, International Capital Flows, and Overseas Colonies:** international trade and finance under the Gold Standard
4. **The Creation of the 19th-century British Empire:**
 - a) ‘The imperialism of Free Trade,’ 1850-1875.
 - b) The ‘New Imperialism,’ 1875-1914: colonial acquisitions.
 - c) British colonies, British foreign trade and capital exports? myths and realities.
5. **The French and German colonial empires.**
6. **Nineteenth-century European Imperialism:** its economic and historical significance.
7. **World War I and the End of an Era**