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0521663474 - Big Business and the Wealth of Nations

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# Part I



## Overview

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## 1

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## Historical and comparative contours of big business

ALFRED D. CHANDLER, JR., FRANCO AMATORI,  
AND TAKASHI HIKINO

This book aims to understand how “The Wealth of Nations” during the past century has been influenced by the dynamics of big business. All the authors recognize big business, particularly large industrial enterprises, as a key microeconomic agent that employs such productive assets as raw materials, machinery and equipment, human resources, and technological knowledge on a vast scale. How such firms emerged and evolved in various economic, political, and social settings constitutes a significant part of the modern development of international as well as national economies (whose “wealth” we consider as equivalent to “national income” in modern economic terms). This historical review of the contributions of large industrial enterprises seems particularly valuable at this time when significant scholarly work has analyzed the role of small firms, networks, and alliances. The essays in this collection help to relate such analyses to the contributing and complementary roles and functions of the large firm, past and present.

The collection consists of an introductory part (Part I), the central section on country experiences (Part II), and a segment of commentaries on the country papers (Part III). The introductory part consists of this overview (Chapter 1) and a chapter on the contributions of the large industrial enterprises to modern economic growth (Chapter 2). The two chapters provide a point of reference, a setting to which the reader can relate the narratives told, the interpretations made, and the insights offered in this wide-ranging, perceptive set of chapters that deal with the historical evolution of large firms and their place in national economies. Subject to the overall goals of the project, the contributors of the country chapters (3 to 14) of Part II wrote to reflect their own viewpoints as

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well as the different experiences of individual nations. Part III consists of five short subject chapters (15 to 19), which, in the form of commentary on the chapters of Part II, deal with critical economic and institutional issues related to the functions and operations of large industrial enterprises.

The chapters on the national experiences of Part II fall into four groups, each related to the timing of the coming of industries based on the new capital-intensive, scale-dependent technology that large firms dominated. First are the chapters on the United States, Britain, and Germany, nations that made up the initial core of the modern industrial global economy dating from the late nineteenth century, and the smaller countries whose economies were closely related to their large neighbor, Germany – Switzerland, Holland, Belgium and the Scandinavian nations (Chapters 3 to 6). The second group deals with three European countries – France, Italy, and Spain (Chapters 7 to 9) – where the emergence of large industrial enterprises was slower compared with that in the first set of nations. The third group then takes up three of the late-coming non-European countries – Japan, South Korea, and Argentina (Chapters 10 to 12) – in which the development of large firms, particularly those in capital-intensive industries, was further behind relative to the first and second groups. The fourth group reviews the impact of the transformation from market to planned economies in the USSR and Czechoslovakia (Chapters 13 to 14) on the functions and, therefore, the organizations of the large industrial enterprises, and the effect of that impact on economic growth.

The twelve chapters that make up Part II on the national experiences provide the historical data for the five commentaries of Part III, “Economic and Institutional Environment of Big Business.” The first, Chapter 15, relates the historical stories to economic theory by focusing on the impact of the evolution of organizational competences through organizational learning on different nations’ abilities to produce and accumulate wealth. Chapter 16 analyzes the key role of learned organizational knowledge from different perspectives of large industrial enterprises and capital markets. Chapter 17 concentrates on the comparable impact of organizational learning on the formation of work force skills. Chapter 18 deals more with the broader environment in which the force of government policies influences the performance of large enterprises and their national economies. The final chapter considers the corporation as a cultural expression of broader national attitudes and values and how the enterprise or enterprise system is conceived as a unified whole.

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## THE CHRONOLOGY OF ECONOMIC GROWTH

This overview of the diverse experiences of large enterprises – big business – in twelve chapters must first be placed in the briefest of reviews of the broader macroeconomic developments during the century covered in this book. From the 1880s to the 1980s the national income of all twelve countries grew thanks to rapid technological change and rising economic efficiency, particularly industrial productivity.<sup>1</sup> As is illustrated in Table 1.1 and Table 1.2, each one of those nations has enjoyed a substantial level of economic growth which was historically unprecedented, although growth performance varied by individual countries and fluctuated by time periods.<sup>2</sup> Growth economists and historians concerned with the evolution of national economies agree that technological change has been a major force in the sustained economic growth of nations' wealth during the century covered by these essays.<sup>3</sup> Large industrial enterprises have thus been a substantial part of this economic achievement mainly through the

<sup>1</sup> For diverse viewpoints of modern industrialization processes in general, see Jonathan R. T. Hughes, *Industrialization and Economic History: Theses and Conjectures* (New York: McGraw-Hill, 1970); Simon S. Kuznets, *Economic Growth of Nations: Total Output and Production Structure* (Cambridge, Mass.: Harvard University Press, 1971); Charles P. Kindleberger, *Economic Response: Comparative Studies in Trade, Finance, and Growth* (Cambridge, Mass.: Harvard University Press, 1978); Sidney Pollard, *Peaceful Conquest: The Industrialization of Europe, 1760–1970* (Oxford: Oxford University Press, 1981); Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic Books, 1984); Nathan Rosenberg and L. E. Birdzell, Jr., *How the West Grew Rich: The Economic Transformation of the Industrial World* (New York: Basic Books, 1986); Angus Maddison, *Dynamic Forces in Capitalist Development: A Long-Run Comparative View* (Oxford: Oxford University Press, 1991); William J. Baumol, Richard R. Nelson, and Edward N. Wolff, eds., *Convergence of Productivity: Cross-National Studies and Historical Evidence* (New York: Oxford University Press, 1994).

<sup>2</sup> For the detailed statistical data of various aspects of economic growth, see Brian R. Mitchell's compilations: *International Historical Statistics: Europe, 1750–1988*, 3rd ed. (New York: Stockton Press, 1992); *International Historical Statistics: The Americas, 1750–1988*, 2nd ed. (New York: Stockton Press, 1993); *International Historical Statistics: Africa and Asia* (New York: New York University Press, 1982).

<sup>3</sup> For the relationships between technology and industrialization, see David S. Landes, *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present* (Cambridge: Cambridge University Press, 1969); David F. Noble, *America by Design: Science, Technology, and the Rise of Corporate Capitalism* (New York: Knopf, 1977); Joel Mokyr, *The Lever of Riches: Technological Creativity and Economic Progress* (New York: Oxford University Press, 1990); Thomas P. Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm, 1870–1970* (New York: Viking, 1989); Giovanni Dosi, Renato Giannetti, and Pier Angelo Toninelli, eds., *Technology and Enterprise in a Historical Perspective* (Oxford: Oxford University Press, 1992); Nathan Rosenberg, Ralph Landau, and David C. Mowery, eds., *Technology and the Wealth of Nations* (Stanford, Calif.: Stanford University Press, 1992); Nathan Rosenberg, *Exploring the Black Box: Technology, Economics, and History* (Cambridge: Cambridge University Press, 1994).

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Table 1.1. *Economic growth of nations, 1820–1992 (Gross domestic product per capita in 1990 international dollars)*

	1820	1870	1913	1950	1973	1992
<i>Prime drivers in North America and Western Europe</i>						
United States	\$1,287	\$2,457	\$5,307	\$9,573	\$16,607	\$21,558
Great Britain	1,756	3,263	5,032	6,847	11,992	15,738
Germany	1,112	1,913	3,833	4,281	13,152	19,351
Belgium	1,291	2,640	4,130	5,346	11,905	17,165
The Netherlands	1,561	2,640	3,950	5,850	12,763	16,898
Sweden	1,198	1,664	3,096	6,738	13,494	16,927
Switzerland	—	2,172	4,207	8,939	17,953	21,036
<i>Followers in Western Europe</i>						
France	1,218	1,858	3,452	5,221	12,940	17,959
Italy	1,092	1,467	2,507	3,425	10,409	16,229
Spain	1,063	1,376	2,255	2,397	8,739	12,498
<i>Late industrializers in East Asia and South America</i>						
Japan	704	741	1,334	1,873	11,017	19,425
South Korea	—	—	948	876	2,840	10,010
Argentina	—	1,311	3,797	4,987	7,970	7,616
<i>Centrally planned economies in Eastern Europe</i>						
USSR/Russia	751	1,023	1,488	2,834	6,058	4,671
Czechoslovakia	849	1,164	2,096	3,501	7,036	6,845

Source: Compiled from Angus Maddison, *Monitoring the World Economy, 1820–1992* (Paris: Development Centre, OECD, 1995), table 1.3, p. 23.

commercialization of new products and processes which embodied innovating technologies.<sup>4</sup>

<sup>4</sup> Useful previous volumes of comparative perspectives on the rise of big business in developed market economies include Herman Daems and Herman van der Wee, eds., *The Rise of Managerial Capitalism* (Louvain: Louvain University Press, 1974); Keiichiro Nakagawa, ed., *Strategy and Structure of Big Business: Proceedings of the First Fuji Conference* (Tokyo: University of Tokyo Press, 1975); Harold F. Williamson, ed., *Evolution of International Management Structures* (Newark: University of Delaware Press, 1975); Leslie Hannah, ed., *Management Strategy and Business Development: An Historical and Comparative Study* (London: Macmillan, 1976); Norbert Horn and Jürgen Kocka, eds., *Law and the Formation of the Big Enterprises in the 19th and Early 20th Centuries: Studies in the History of Industrialization in Germany, France, Great Britain, and the United States* (Göttingen: Bandenhoek & Ruprecht, 1979); Alfred D. Chandler, Jr., and Herman Daems, eds., *Managerial Hierarchies: Comparative Perspectives on the Rise of Modern Industrial Enterprise* (Cambridge, Mass.: Harvard University Press, 1980); Kesaji Kobayashi

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Table 1.2. *Rates of economic growth of nations, 1820–1992*  
 (Average compound annual growth rate of GDP per capita  
 in 1990 international dollars)

	1820–1870	1870–1913	1913–1950	1950–1973	1973–1992
<i>Prime drivers in North America and Western Europe</i>					
United States	1.3%	1.8%	1.6%	2.4%	1.4%
Great Britain	1.2	1.0	0.8	2.5	1.4
Germany	1.1	1.6	0.3	5.0	2.1
Belgium	1.4	1.0	0.7	3.5	1.9
The Netherlands	1.1	0.9	1.1	3.4	1.4
Sweden	0.7	1.5	2.1	3.1	1.2
Switzerland	—	1.5	2.1	3.1	0.8
<i>Followers in Western Europe</i>					
France	0.8	1.5	1.1	4.0	1.7
Italy	0.6	1.3	0.8	5.0	2.4
Spain	0.5	1.2	0.2	5.8	1.9
<i>Late industrializers in East Asia and South America</i>					
Japan	0.1	1.4	0.9	8.0	3.0
South Korea	—	—	−0.2	5.2	6.9
Argentina	—	2.5	0.7	2.1	−0.2
<i>Centrally planned economies in Eastern Europe</i>					
USSR/Russia	0.6	0.9	1.8	3.4	−1.4
Czechoslovakia	0.6	1.4	1.4	3.1	−0.1

Source: Compiled from Angus Maddison, *Monitoring the World Economy, 1820–1992* (Paris: Development Centre, OECD, 1995), table 3.2, p. 62.

and Hidemasa Morikawa, eds., *Development of Managerial Enterprise: Proceedings of the Fuji Conference* (Tokyo: University of Tokyo Press, 1986); Alice Teichova, Maurice Levy-Leboyer, and Helga Nussbaum, eds., *Multinational Enterprise in Historical Perspective* (Cambridge: Cambridge University Press, 1986); Mansel G. Blackford, *The Rise of Modern Business in Great Britain, the United States, and Japan* (Chapel Hill: University of North Carolina Press, 1988); Alfred D. Chandler, Jr., with the assistance of Takashi Hikino, *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, Mass.: Harvard University Press, 1990); William Lazonick, *Business Organization and the Myth of the Market Economy* (Cambridge: Cambridge University Press, 1991); Geoffrey Jones, ed., *Transnational Corporations: A Historical Perspective* (London: Routledge, 1993). Important journal articles on the development of big business are collected in several volumes in Geoffrey Jones, series editor, *The International Library of Critical Writings in Business History* published by Edward Elgar, Aldershot, Hants., England. Particularly relevant are Mira Wilkins, ed., *The Growth of Multinationals* (1991); Barry E. Supple, ed., *The Rise of Big Business* (1992); Geoffrey Jones, ed., *Coalitions and Collaboration in International Business* (1993); William Lazonick and William Mass, eds., *Organizational Capability and Competitive Advantage* (1995); Steven W. Tolliday, ed., *The Rise and Fall of Mass Production* (forthcoming).

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During the later decades of the nineteenth century, the completion of the new transportation and communication systems based on steam power and electricity led to a recurrent wave of technological innovations in the industrial processes and their products. The potential of these technologies for growth rested on the unprecedented volume of production and distribution made possible by the new railroads, steamships, telegraphs, and cable networks. The new industrial technologies, in turn, brought impressive increases in productivity, value-added in manufacture, and other indices of economic growth. In this sense, this transformation of technologies and their impact on national and international economies have been aptly labeled the “Second Industrial Revolution,” whose economic effects became even more pervasive than those of the First Industrial Revolution of the late eighteenth and early nineteenth centuries.<sup>5</sup>

The commercialization of the new high-volume, capital-intensive industrial technologies transformed existing industries and created new ones. The effective exploitation of those technologies demanded new forms of production and distribution and of management and business organization. They called for much greater investment in physical capital than had earlier industrial technologies. So the resulting industries became more capital-intensive, that is, they had a higher ratio of capital per worker than their predecessors. The commercializing of these technologies required the creation of industrial enterprises to mobilize the necessary capital and employ the large number of workers and managers needed. It also demanded the corporate structures essential to coordinate the flow of goods through the processes of production and distribution and to monitor the different functional activities involved.

The significant impact of those new technologies was not narrowly limited to the industrial centers of the United States and Western Europe, where the Second Industrial Revolution originated. The large industrial enterprises commercializing the new technologies critically affected the rest of the world economy by playing a dual role. They functioned as

<sup>5</sup> Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass.: Harvard University Press, 1977), and Chandler with Hikino, *Scale and Scope*, give an overall perspective of the Second Industrial Revolution which constitutes a starting point of the present book. For different European outlooks, see Alan S. Milward and S. B. Saul, *The Development of the Economies of Continental Europe, 1850–1914* (Cambridge, Mass.: Harvard University Press, 1977); T. Ivan Berend and Gyorgy Ranki, *The European Periphery and Industrialization, 1780–1914* (Cambridge: Cambridge University Press, 1982); Leslie Hannah, *The Rise of the Corporate Economy* (London: Methuen, 1983); Tom Kemp, *Industrialization in Nineteenth-Century Europe* (London: Longman, 1985).

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technology transfer agents through diverse diffusing mechanisms, such as the export of manufactured goods embodying new knowledge, the licensing of technology to foreign firms, and the establishment of overseas manufacturing facilities. For emerging indigenous industrial firms, on the other hand, those large enterprises from the global industrial centers often created entry barriers in international markets. The Second Industrial Revolution thus transformed the ways in which industrial firms interacted with each other and how the industrial nations dealt with the rest of the world.<sup>6</sup>

The timing and extent of the development of large industrial enterprises and their commercialization of the new capital-intensive technologies varied from nation to nation. Because the United States was favored by an abundance of raw materials and a large and growing population, it took the lead in commercializing the new technologies as its railroad system and telegraph networks neared completion. In the smaller West European nations where resources were less abundant and markets of more modest size, capital accumulation of new corporate organizations came more slowly and in fewer industries than in the United States. By 1914 American firms had become the leaders in technological innovation

<sup>6</sup> Foreign business activities and relations of large enterprises have been extensively researched. Particularly useful theoretical examinations in the context of the present book include Charles P. Kindleberger, *American Business Abroad: Six Lectures on Direct Investment* (New Haven: Yale University Press, 1969); Raymond Vernon, *Sovereignty at Bay: The Multinational Spread of U.S. Enterprises* (New York: Basic Books, 1971); Stephen Hymer, *The International Operations of National Firms: A Study of Direct Foreign Investment* (Cambridge, Mass.: MIT Press, 1976); Richard E. Caves, *Multinational Enterprise and Economic Analysis* (Cambridge: Cambridge University Press, 1982); John H. Dunning, *Multinational Enterprises and the Global Economy* (Wokingham: Addison-Wesley, 1993). A few examples of empirical works are Mira Wilkins and Frank E. Hill, *American Business Abroad: Ford on Six Continents* (Detroit: Wayne State University Press, 1964); John P. McKay, *Pioneers for Profit: Foreign Entrepreneurship and Russian Industrialization, 1885–1913* (Chicago: University of Chicago Press, 1970); Mira Wilkins, *The Emergence of Multinational Enterprise: American Business Abroad from the Colonial Era to 1914* (Cambridge, Mass.: Harvard University Press, 1970); Mira Wilkins, *The Maturing of Multinational Enterprise: American Business Abroad from 1914 to 1970* (Cambridge, Mass.: Harvard University Press, 1974); D. K. Fieldhouse, *Unilever Overseas: The Anatomy of a Multinational, 1895–1965* (London: Croom Helm, 1978); Charles E. Harvey, *The Rio Tinto Company: An Economic History of a Leading International Mining Concern, 1873–1954* (Penzance, Cornwall: A. Hodge, 1981); Fred V. Carstensen, *American Enterprise in Foreign Markets: Studies of Singer and International Harvester in Imperial Russia* (Chapel Hill: University of North Carolina Press, 1984); Mark Mason, *American Multinationals and Japan: The Political Economy of Japanese Capital Controls, 1899–1980* (Cambridge, Mass.: Harvard University Press, 1992); Geoffrey Jones and Harm G. Schröter, eds., *The Rise of Multinationals in Continental Europe* (Aldershot, Hants.: Edward Elgar, 1993); Geoffrey Jones, ed., *Transnational Corporations: A Historical Perspective* (London: Routledge, 1993).



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particularly in those markets which stimulated the new capital-intensive industries. But in several of such industries European enterprises were not far behind, and in some they had taken the lead.

Then came World War I followed by a sharp recession, a temporary economic recovery with continuing political instabilities, the Great Depression, and finally World War II – events that radically dissipated the opportunities for growth based on technological advance in Europe and also in Japan where initial large-scale industrialization had only begun.<sup>7</sup> As a result, in the words of Moses Abramovitz and Paul David, “During the 37 years from 1913 to 1950 the forces making for catch-up and convergence vis-à-vis the United States were overwhelmed.”<sup>8</sup>

A dramatic period of catch-up came in the 1950s. Indeed, this unique “Golden Age of Capitalism” was universal for all industrial-advanced economies.<sup>9</sup> During this phase, as Moses Abramovitz and Paul David point out, “the pace of catch-up was achieved in spite of rapid American productivity growth which was at least as fast, it may have been even faster, than in any previous period of comparable duration.”<sup>10</sup> Much of this American growth rested on the exploitation by large industrial firms of the new knowledge-intensive as well as capital-intensive technologies in chemistry, pharmaceuticals, aircraft, and electronics – technologies that had been force-fed by wartime demands.

Europe, in particular, reflected the dynamics of the utilization of the technological backlog which had resulted from macroeconomic and

<sup>7</sup> For a survey of this turbulent period, see Ingvar Svennilson, *Growth and Stagnation in the European Economy* (Geneva: United Nations Economic Commission for Europe, 1954); Milton Friedman and Anna J. Schwartz, *The Great Contraction, 1929–1933* (Princeton: Princeton University Press, 1965); Herman van der Wee, *The Great Depression Revisited* (The Hague, Leuven University Press, 1972); Derek H. Aldcroft, *From Versailles to Wall Street, 1919–1929* (Berkeley: University of California Press, 1977); Alan S. Milward, *War, Economy, and Society, 1939–1945* (Berkeley: University of California Press, 1977); Charles P. Kindleberger, *World in Depression, 1929–1939*, rev. and enl. ed. (Berkeley: University of California Press, 1986); Peter Temin, *Lessons from the Great Depression* (Cambridge, Mass.: MIT Press, 1989).

<sup>8</sup> Moses Abramovitz and Paul David, “Convergence and Deferred Catch-Up: Productivity Leadership and the Warning of American Exceptionalism,” Center for Economic Policy Research, Stanford University, Working Paper no. 401, August 1994, p. 10.

<sup>9</sup> For a balanced survey of the growth of the international economy since the 1950s, see Herman van der Wee, *Prosperity and Upheaval: The World Economy, 1945–1980* (New York: Viking, 1986). For a different view, see Stephen A. Marglin and Juliet Schor, eds., *The Golden Age of Capitalism: Reinterpreting the Postwar Experience* (Oxford: Oxford University Press, 1990).

<sup>10</sup> Abramovitz and David, “Convergence and Deferred Catch-Up,” pp. 9–10. Their observation is based on Angus Maddison’s data, the latest and most comprehensive version of which is published in his *Monitoring the World Economy, 1820–1992* (Paris: OECD Development Centre, 1995).

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microeconomic disturbances in the interwar years. Indeed, according to Angus Maddison, “The post-war boom in Western Europe was not due to an acceleration of technical change but was in large part the extent of a catch-up phenomenon. . . . The long post-war boom in Europe was due, in large part, to the exploitation of once-for-all opportunities that had been missed earlier because of two wars and the protectionist, dirigiste, and otherwise defensive policies of the interwar years.” The boom was propelled by the Marshall Plan, increasingly liberal trade policies, the coming of the European Economic Community in 1958, and comparable international institutions for economic cooperation, and overall macro-economic stability. “By the end of the boom the productivity gap between the advanced European countries and the United States was considerably reduced.”<sup>11</sup>

Then, in the 1970s, came the breakdown of the postwar international monetary system, an unprecedented jump in energy costs, a period of a leveling-off of productivity and growth that reflected a basic slowdown in technological innovations, and intensified domestic and international competition, particularly in the capital-intensive industries. Since 1973, Abramovitz and David note, “Catch-up has been distinctly slower – only 1.3 percent a year in spite of the severe slowdown in the United States, growth rates in Europe and Japan fell even more (in percentage points) than in this country.”<sup>12</sup>

Even during the Golden Age of capitalism, however, the convergence of productivity among national economies and the resulting catch-up to the world economic frontier was not uniform or even across countries. Particularly beyond a small set of advanced industrial nations which William Baumol has called “the Convergence Club” the catch-up process remained confined and irregular.<sup>13</sup> Only a few East Asian countries managed to achieve a notable performance in terms of industrial development and export through the successful exploitation of the Gerschenkronian economies of backwardness. These represented the extensive commercialization, in large part by large industrial enterprises, of the accumulated and

<sup>11</sup> Angus Maddison, “Explaining the Economic Performance of Nations, 1820–1989,” in William Baumol, Richard R. Nelson, and Edward N. Wolff, eds., *Convergence of Productivity: Cross-National Studies and Historical Evidence* (New York: Oxford University Press, 1994), p. 34.

<sup>12</sup> Abramovitz and David, “Convergence and Deferred Catch-Up,” p. 9.

<sup>13</sup> William J. Baumol, “Productivity Growth, Convergence, and Welfare: What the Long Run Data Show,” *American Economic Review* 76 (1986): 1072–1085. For a comprehensive summary of the convergence controversy see Baumol et al., *Convergence of Productivity*.