

## Free Land and Federalism: A Synoptic View of American Economic History



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Peter Temin

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## **Free Land and Federalism: A Synoptic View of American Economic History**

Generations of foreign observers have considered the American economy unique. Its growth was a wonder of the Western world for more than a century (1850–1950). The organization of American economic life provided a model for other nations to emulate. For a while after World War II, the United States even appeared capable of transforming the world economy into a larger version of itself. This article offers a synoptic view of this remarkable performance.

The American economic experience until very recently was shaped by the interaction of two factors that were uniquely American. The first was the pervasive effect of “free land.” The abundance of rich American farmland in favorable climates and close (in terms of the cost of transportation) to British markets provided a hospitable setting for economic growth.

The second influence—which emanated from the federal system of American government developed in the late eighteenth century—was the limitation of the political power of large land holders. As in Germany, there was a struggle between the industrial and agricultural regions in the United States. But unlike Germany, the large land-owners were disenfranchised and restricted in the degree to which they could control their workers. The showdown between the industrial and agricultural sectors occurred in the late nineteenth century. The settlement of the interregional conflict was not peaceful; the Civil War left far more scars than the process of resolution in Germany. But for all the draconian costs, the outcome was far different.<sup>1</sup>

**THEORY AND THE NORTH** Domar proposed an impossibility theorem over twenty years ago. He argued that it was not possible

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1 See Alexander Gerschenkron, *Bread and Democracy in Germany* (Berkeley, 1943).

simultaneously to have free land, free labor, and a land-owning aristocracy. If there is no land available for the taking at a moderate cost, then it is possible to have free labor and a landed aristocracy, as in Britain. Ownership of scarce land gives the aristocracy its power. But if land is freely available, then the aristocracy needs another source of power. If it can, it will subjugate the populace as serfs or slaves. If it cannot, it will disappear. Preservation of the aristocracy when land is free is incompatible with the maintenance of free labor.<sup>2</sup>

The North American colonies were quintessentially the locus of free land. But which of the other two characteristics would obtain, for only one was possible? No theoretical argument gives a unique answer. In fact, this question was not even answered the same way throughout the North American colonies. The federal nature of the United States government permitted different economic structures within its various regions. In the North, the westward migration of free labor precluded the development of a landed aristocracy. In the South, the enslavement of African laborers allowed the growth of a landowning and slave-owning aristocracy.

Expansion in the North in the eighteenth century was accomplished by what would be called in England yeoman farmers. They were both prosperous and, as the British learned, independent. The land was more productive the farther west the settlers moved, and northern agriculture amply supported a growing urban population. Prairie farmers even began to supply wheat to Europe during the Crimean War (1854–1856).

Agricultural expansion was joined in the nineteenth century by industrial development—a phenomenon that seemed peculiar and peculiarly American to many observers. British visitors in the aftermath of Crystal Palace were amazed at the progress of American manufacturing in the face of agricultural prosperity. They asked themselves: How can manufacturing be as productive as agriculture? They answered: “On account of the high price of labour, the whole energy of the people is directed to improving and inventing labour-saving machinery.”<sup>3</sup>

2 Evsey D. Domar, “The Causes of Slavery or Serfdom: A Hypothesis,” *Journal of Economic History*, XXX (1970), 18–32.

3 “Report of the Committee on Machinery of the United States of America,” *Parliamentary Papers*, L (1854/55), 539–633.

This observation has given rise to two related debates. The first inquires why manufacturing developed in the American North. The second asks why it used labor-saving machinery. The two questions are similar, but not identical. If, as the mid-nineteenth-century visitors asserted, American manufacturing existed because it used labor-saving machinery, then answering the second question also answers the first. But if American manufacturing grew in the early nineteenth century for other reasons, then it is necessary to answer the second in the context of those reasons.

The first question has suffered from historical neglect. Although Habakkuk, for example, analyzed at length why industry used labor-saving machinery, he did not address explicitly why manufacturing developed in the American North. However, his presumption that manufacturing in America existed only because of labor-saving machinery has crept into the literature.<sup>4</sup>

The second question presents a paradox. If American industry had to offer high wages to attract workers from agriculture, it is logical that manufacturers used labor-saving machinery to do so. But if they raised the productivity of labor by increasing the quantity of machinery used per worker, then the rate of return on machinery should have gone down. Although wages would have been higher than in Great Britain, interest rates would have been lower. But, they were not.<sup>5</sup>

Many authors have proposed ways out of this paradox. Clarke and Summers used a very general model, in which it was possible to raise the productivity of labor in manufacturing by several different means. But when the model was restricted to allow concrete conclusions to be drawn, the paradox reappeared. Clarke and Summers then suggested that the demand for agricultural goods was inelastic, so that the large supply of land depressed the price of agricultural goods and therefore agricultural wages. This procedure did not resolve the paradox; it only replaced one anomaly by another. Instead of having to explain away a high interest rate, one has to deny the existence of high agricultural wages.<sup>6</sup>

4 Hrothgar John Habakkuk, *American and British Technology in the Nineteenth Century: The Search for Labour-Saving Inventions* (Cambridge, 1962).

5 Temin, "Labor Scarcity and the Problem of American Industrial Efficiency in the 1850s," *Journal of Economic History*, XXVI (1966), 361-379; *idem*, "Labor Scarcity in America," *Journal of Interdisciplinary History*, I (1971), 251-264.

6 Richard N. Clarke and Lawrence H. Summers, "The Labour Scarcity Controversy Reconsidered," *Economic Journal*, XC (1980), 129-139.

An alternate approach was tried by Field. In order to accommodate the high American interest rate, he argued that industry in the United States used capital-saving rather than labor-saving practices. Like Clarke and Summers, Field replaced one anomaly with another. Single tracking on American railroads, hard driving in blast furnaces, and flimsy wooden machinery can all be interpreted as saving capital. But, although there is some evidence of capital scarcity in the United States, the distinctive feature of American economic growth is the massive investment in transportation and production facilities that raised the productivity of labor.<sup>7</sup>

Notice of this investment leads us back to the first question: why was there American manufacturing at all? The answer, as Habakkuk acknowledged briefly, is that a protective tariff allowed profitable investment in American industry despite high American wages. The trade-off between wages and interest rates that has posed so many problems for historians depends on product prices. The preceding paradoxes have all been based on the assumption that the prices for American products were the same as for the British. But the tariff raised industrial prices, allowing American industry to pay both high interest rates and high wages. High industrial wages drew labor from agriculture and encouraged industry to grow.<sup>8</sup>

Protected by the tariff and high transportation costs, American manufacturers created a production process known as the American System, based on the use of interchangeable parts. This practice made it possible for Americans to produce light manufactures in volumes and at prices unattainable in Britain. Chauncy Jerome, a Connecticut Valley clock maker, introduced a one-day brass clock for less than fifty cents about 1840. He exported some to England in 1842. British customs officials reserved the right to confiscate goods at their invoice valuation to protect themselves against undervaluation. The clocks were clearly undervalued by British standards, and they were confiscated. This transaction was

7 Alexander J. Field, "Land Abundance, Interest/Profit Rates, and Nineteenth Century American and British Technology," *Journal of Economic History*, XLIII (1983), 405-432.

8 Habakkuk, *American and British Technology*; Ronald W. Jones, "A Three-Factor Model in Theory, Trade and History," in Jagdish N. Bhagwati et al. (eds.), *Trade, Balance of Payments and Growth: Papers in International Economics in Honor of Charles P. Kindleberger* (New York, 1971).

fine for Jerome; he had sold his shipment at full price quickly and easily. He sent another, larger load to England, which was duly confiscated. But when he sent a third, still larger load, the customs authorities dropped their blinders and allowed the clocks to enter Great Britain.<sup>9</sup>

The American System did not, however, emerge from the private economy. It began in arms production at United States government armories. The first step was taken by Thomas Blanchard at the Springfield Armory. He introduced a sequence of fourteen special-purpose lathes and machines to make gun stocks out of sawn lumber. These lathes, which demonstrated the potential of the sequential use of special-purpose machines, were noted prominently by the British visitors in the 1850s.

The next step was taken by John Hall at the Harpers Ferry Armory. Hall realized that the problem in making interchangeable parts was to keep the gauges (patterns) used to make individual parts from getting worn away through use. The thousandth piece needed to be matched against a gauge that was the same as the gauge used for the first piece. But the action of comparing and sizing gradually wore away the gauges, causing the patterns to “drift.” Hall therefore introduced a second level, gauges for the gauges. They would be kept where they would not wear and would be brought out only periodically to recalibrate the gauges employed in the actual production. Those gauges, therefore, would vary only within the limits set by the time period between recalibrations, assuring interchangeability.<sup>10</sup>

The American System spread slowly throughout American manufacturing. The use of a two-tier set of gauges does not seem to be very complex, but it took a long time to be adopted widely. Only with the manufacture of transportation equipment—bicycles and then Ford automobiles—was the system of mass production with interchangeable parts perfected. This *fin-de-siècle* development was coincident with the rise of large business firms.<sup>11</sup>

THE SOUTH AND THE CIVIL WAR      The economic history of the American South is very different from that of the North. Free

9 Joseph W. Roe, *English and American Tool Builders* (New Haven, 1916).

10 Merritt Roe Smith, *Harpers Ferry Armory and the New Technology* (Ithaca, 1977).

11 David A. Hounshell, *From the American System to Mass Production, 1800–1932* (Baltimore, 1984).

land in the American North led to free labor, which led in turn to the American System of manufacturers. Forced to choose between free labor and a landowning aristocracy, Southerners chose the latter.

Southerners were able to make a different choice than Northerners both because the federal system allowed a high degree of autonomy and because their labor force was drawn from different areas. In both regions, the demand for labor rose rapidly in the seventeenth and eighteenth centuries, too rapidly to be accommodated by the rate of natural increase of the population. Northern immigrants came from Europe—predominantly England in the Colonial period—and were absorbed into society. Southern immigrants came from Africa and were not.

The critical economic difference for this discussion between the Northern and Southern immigrants was who made the decision to immigrate. In the North, European immigrants decided whether or not to come to the American colonies. They typically did not have the resources to finance their trip across the Atlantic. Immigrants therefore borrowed against their future earnings to pay for the journey; they became indentured servants for a fixed term of years. This interval of servitude represented the time needed to pay off the immigrants' loans. As the demand for labor grew, wages in the colonies followed suit. It took less time for immigrants to pay for their transportation; as a result, the average term of indenture fell from more than five years to somewhat under five.<sup>12</sup>

The African immigrants were different. They did not make the decisions to emigrate. They instead were captured. Captors exchanged their captives for goods brought by European traders, and the captives became the property of the Europeans. They were taken to America, where they were sold again to American planters. The rising demand for labor in America affected this market also. American planters were willing to pay to get more labor in both the North and the South. But they paid different people. In the North they paid the immigrants themselves. In the South they paid the ship captains, who controlled the flow of African immigrants. In order to pay higher prices to captains,

12 David Galenson, "The Rise and Fall of Indentured Servitude in the Americas: An Economic Analysis," *Journal of Economic History*, XLIV (1984), 1–26.

planters had to extract more labor from the immigrants. The Southern term of servitude therefore grew longer as the Northern term grew shorter. The limit of this process was soon reached: the Southern immigrants were in servitude for their entire lives, as were their offspring. African immigrants, in short, became slaves.<sup>13</sup>

Africans were taken initially to the West Indies, where they grew sugar. Slavery proved suitable for sugar cultivation because the hard, simple tasks needed to produce sugar facilitated coercion. Planters in South Carolina first imported slaves from Barbados to grow rice. Many Africans had prior experience in rice cultivation, which—like sugar—involved harsh, simple tasks. The slave trade spread throughout the South and eventually included direct importation from Africa. After the invention of the cotton gin and mechanical spinning at the end of the eighteenth century, American slaves were increasingly used to grow cotton. But, although cotton cultivation provided the economic base for nineteenth-century American slavery, it was hardly involved in its inception.<sup>14</sup>

The immorality of African enslavement has haunted American history. It was a major factor in antebellum politics; it was a critical factor in the Civil War. The role of blacks in American society continues to be an issue today. I focus in this section on only one small part of this issue: the effects of slavery on the Southern economy.

The South grew rapidly first on the basis of a diversified agriculture and then on the basis of cotton. The voracious appetite for cotton in Lancashire was matched by the growing cotton production of the South, even after the slave trade was abolished in 1808. Some authors have attributed Southern expansion to the vitality of slave institutions and others to the availability of fine cotton-growing land. It has proven difficult to disentangle these

13 Oscar and Mary F. Handlin, "Origins of the Southern Labor System," *William and Mary Quarterly*, VII (1950), 199–222.

14 Peter H. Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York, 1974); Richard S. Dunn, "Servants and Slaves: The Recruitment and Employment of Labor," in Jack P. Greene and Jack R. Pole (eds.), *Colonial British America: Essays in the New History of the Early Modern Era* (Baltimore, 1984); Barbara L. Solow, "Capitalism and Slavery in the Exceedingly Long Run," *Journal of Interdisciplinary History*, XVII (1987), 711–737.

two influences because the extent of American slavery and cotton production in the nineteenth century were very much the same.<sup>15</sup>

The Northern experience was one of efficient agriculture and a shift out of agriculture into manufacturing. The antebellum Southern experience was only the former—in large part because of the “peculiar institution.” Slavery inhibited the industrialization of the South in at least three distinct ways. First, the incentives of slaves and free men were opposed. Although the identification of slaves with the fortunes of their owners varied, there was far less than that of free workers with the success of their employers. The American System originated in the efforts of machinists to make a better and cheaper product. There was little scope for a Blanchard or a Hall in the antebellum South.<sup>16</sup>

Second, slavery was better able to fit the economy to the demands of agriculture. Agriculture in both the North and South moved westward as the nineteenth century progressed. But even though many Northerners followed Horace Greeley’s advice to move West, there was a substantial pool of labor in eastern cities for industrial growth. Many of the European immigrants who came to America remained in the East, becoming a part of the industrial labor force. In the South, by contrast, slaves—who could not choose where to live—were moved West as the price of slaves in the West rose. The fate of old cotton states was depopulation, not industrialization. Paradoxically, the South’s very success in adapting itself to cotton production inhibited its shift from agriculture to manufacturing.<sup>17</sup>

15 Robert W. Fogel and Stanley L. Engerman, *Time on the Cross: The Economics of American Negro Slavery* (Boston, 1974), 2 v.; Paul A. David et al., *Reckoning with Slavery* (New York, 1976); Gavin Wright, *The Political Economy of the Cotton South: Households, Markets, and Wealth in the Nineteenth Century* (New York, 1978); David and Temin, “Explaining the Relative Efficiency of Slave Agriculture in the Antebellum South: Comment,” *American Economic Review*, LXIX (1979), 213–218.

16 Kenneth M. Stampp, *The Peculiar Institution: Slavery in the Ante-Bellum South* (New York, 1956); Stefano Fenoaltea, “Slavery and Supervision in Comparative Perspective,” *Journal of Economic History*, XLIV (1984), 635–668.

17 “Go West” was not actually Greeley’s advice. It came from John B. Soule, writing in the *Terre Haute, Indiana, Express*, in 1851. Greeley spent his later years in an unsuccessful attempt to disassociate himself from Soule’s exhortation. Field, “Sectoral Shifts in Antebellum Massachusetts: A Reconsideration,” *Explorations in Economic History*, XV (1978), 146–171; Claudia Goldin and Kenneth Sokoloff, “The Relative Productivity Hypothesis of Industrialization: The American Case, 1820 to 1850,” *Quarterly Journal of Economics*, XCIX (1984), 461–487.

Third, the political climate created by slavery was inimical to industrialization. The federal nature of the United States allowed agrarian views to be embodied in state governments and expressed in state actions. The absence of large landowners in the North allowed industrialists to acquire political power in Northern states. Government activity therefore favored urban industrial growth. Southern state governments were dominated by large slave owners, what Domar has termed the landed aristocracy. Economic policy in the South favored the growth of cotton agriculture.<sup>18</sup>

Variations in local economic policies developed in several areas. The growth of transportation facilities was encouraged far more by Northern states than by Southern. Most canal and railroad building in the antebellum United States was in the North. Education was widespread in the North, but restricted to whites in the South. Slaves had no more choice in their education than they had in their location or occupation. From the slave owners' viewpoint, slaves had no need for learning, and learning might foment rebellion as well. Southern congressmen vehemently opposed tariffs, whereas their Northern counterparts favored them. Northerners wanted tariffs to encourage the growth of industry; Southerners wanted free trade to encourage the export of raw cotton (and the importation of English cotton textiles).<sup>19</sup>

The contrasting resolutions of Domar's impossibility theorem in the North and South thus led to increasing tension between the regions as the free-labor economy and polity diverged ever more strongly from the landed-aristocracy system. Sooner or later, there had to be a struggle for supremacy, as there was in many Western European countries. Germany, France, and Italy, for example, adopted heavy tariffs in the late 1870s and 1880s, whereas Great Britain adhered to free trade. In each case, the decision was made peacefully.<sup>20</sup>

18 Domar, "Causes of Slavery," 18–32.

19 Carter Goodrich, *Government Promotion of American Canals and Railroads, 1800–1890* (New York, 1960); George R. Taylor and Irene D. Neu, *The American Railroad Network, 1861–1890* (Cambridge, Mass., 1956); Bernard Bailyn, *Education in the Forming of American Society* (New York, 1972).

20 Peter Alexis Gourevitch, "International Trade, Domestic Coalitions, and Liberty: Comparative Responses to the Crisis of 1873–1896," *Journal of Interdisciplinary History*, VIII (1977), 281–313.

The struggle was earlier and bloodier in the United States than in Europe. The victory of the North in the Civil War showed the dominance of the society based on free labor. In contrast to Europe, high tariffs were the expression of industrial political power in the United States. And high tariffs were not the only problems facing Southern agriculture after the Civil War. The demand for cotton grew more slowly after the war as the expansion of the British cotton industry slowed and other sources of supply emerged.<sup>21</sup>

Equally important, the supply of labor to Southern agriculture dramatically decreased. Both male and female slaves had worked in the fields before the war. After the war, freedmen and women could make their own choices. They opted for the pattern shown by free American labor. They did not work as hard as they had under the coercion of slavery. The men worked in the fields while the women brought up their families and worked closer to their houses. Labor supply provided by black farm workers was reduced by about 30 percent. The decline in Southern incomes therefore was partly a fall in welfare (due to the lower demand for cotton) and partly a voluntary shift of consumption (toward leisure).<sup>22</sup>

Black incomes rose after the Civil War, but the gap between black and white incomes did not close. It is still present today. Researchers have tried to explain this persistent gap. Some maintain that it is the result of continuing discrimination. Others argue that the persistent gap is the result of the poor conditions of freedmen after the Civil War. Radical Republicans wanted to give each freedman “40 acres and a mule,” but their program did not pass. Freedmen were left with no physical assets and few human assets (education and training) after the war. The argument from

21 The Civil War placed an enormous burden on the American economy. In addition to diverting resources to the conduct of the war, it also destroyed people and the capital accumulated by them. Even though the resolution of the political conflict effected by the war was desirable, the war itself was a tragedy. See Goldin and Frank D. Lewis, “The Economic Cost of the American Civil War: Estimates and Implications,” *Journal of Economic History*, XXXV (1975), 299–326; Temin, “The Post-Bellum Recovery of the South and the Cost of the Civil War,” *ibid.*, XXXVI (1976), 898–907; Wright, *Political Economy of the Cotton South*.

22 Roger L. Ransom and Richard Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York, 1977).

initial conditions asserts that this handicap was too great to be overcome in a short time.<sup>23</sup>

There is no need to choose between these alternatives. The history of American blacks contains both elements. Freedmen and women drew a bad hand after the war, albeit better than they had held before. At best, government policy did not help them to overcome their initial deficits. At worst, it actively opposed them. Only in the twentieth century has the balance of government policy shifted clearly toward integrating blacks into the national economy on an equal footing. And only in the second half of the twentieth century has racial integration been a conscious policy, as distinct from reactions to national emergencies like wars and depression.

THE ROLE OF GOVERNMENT      The American form of government, like the effects of free land, had a compelling and distinct influence on American economic history.

Two characteristics of the United States government are pertinent. First is its popular nature, which ensured that political power conformed to economic interests as they expanded. Second is the federal nature of our government, which ensured that much of American politics is local politics. This fragmentation in turn limited the power of the national government and left economic forces relatively free from bureaucratic interference. State governments were hardly divorced from economic activity; they were responsive to emerging economic interests.<sup>24</sup>

Despite the volume of writing on American political thought, there has been little attention to the origins of federalism in the United States. Sovereignty was located in the people, according to the founding fathers. But the individual colonies also retained some of the sovereignty granted them by the British crown. This slight wobble in the ideological gyroscope of the revolution has

23 Stephen J. DeCanio, *Agriculture in the Postbellum South: The Economics of Production and Supply* (Cambridge, Mass., 1974); Ransom and Sutch, *One Kind of Freedom*; Temin, "Freedom and Coercion: Notes on the Analysis of Debt Peonage in One Kind of Freedom," *Explorations in Economic History*, XVI (1979), 56-63.

24 Oscar and Mary F. Handlin, *Commonwealth: A Study of the Role of Government in the American Economy: Massachusetts, 1774-1861* (New York, 1947); Louis Hartz, *Economic Policy and Democratic Thought: Pennsylvania, 1776-1860* (Cambridge, Mass., 1948); Morton J. Horwitz, *The Transformation of American Law, 1780-1860* (Cambridge, Mass., 1977).

not attracted much attention; it seems natural to us today—as it apparently did to the leaders at the time—that the American government should be organized by states.<sup>25</sup>

The politics of the tariff illustrate the interaction between the state and federal governments. Francis Lowell, the founder of the Boston Manufacturing Company, discovered himself in need of protection for his nascent cotton mill at the close of the War of 1812. The mill employed power looms copied after looms that Lowell had seen on a visit to England. Given the primitive state of American power-loom technology, the Boston Manufacturing Company specialized in weaving a coarse, heavy cloth.

Lowell designed the relevant part of the Tariff of 1816 to protect this segment of the cotton market. He needed a very steep tariff to survive, and he knew that he could not convince Congress to levy a high enough *ad valorem* rate. Southern cotton growers sold most of their output on the British market, and they refused to agree to anything that would decrease the demand for English cotton textile products or that might provoke retaliation.

Lowell therefore proposed a tariff structure that would discriminate against coarse Indian cottons, but not the higher-priced cotton fabrics from Great Britain. He sent a memorial to Congress to that effect. A minimum valuation would exclude only Asian cloth made from Asian cotton; it would not affect the demand for higher quality English cloth made from American cotton. In Lowell's words, "The articles, whose prohibition we pray for, are made of very inferior materials, . . . No part of the produce of the United States enters into their composition. They are the work of foreign hands on foreign materials." This argument won the support of South Carolina, which saw the minimum as a means of protecting the domestic market for their raw cotton, and assured passage of the tariff.<sup>26</sup>

The tariff was more than a political symbol; it had an important impact on American manufacturing. Not only the minimum, but the whole structure of the cotton tariff, protected the bottom end of the market more than the top. It divided the American cotton market between American and English produc-

25 Gordon S. Wood, *The Creation of the American Republic, 1776–1787* (Chapel Hill, 1969); Bailyn, *The Ideological Origins of the American Revolution* (Cambridge, Mass., 1967).

26 Temin, "Product Quality and Vertical Integration in the Early Cotton Textile Industry," *Journal of Economic History*, XLVIII (1988), 891–907.

ers on the basis of quality. With the tariff, the American producers could expand at the lower end. Without it, Lancashire would have supplied the entire range of cotton goods for American consumption.<sup>27</sup> In general, the tariff promoted industrial growth in the North. It enhanced the return to industrial capital sufficiently to offset the pull of agriculture. American manufacturing therefore owed its vigor partly to the characteristics of the people and land in the North and partly to the structure of the federal government which could support a favorable commercial policy.

The growth of industry in the North strengthened its hand in the military contest with the South. Industrial growth enhanced the North's ability to provide war materiel for the conflict. State policies had encouraged the expansion of railroads which could be used to transport both men and materiel. The prosperity of the North had drawn European immigrants, who provided a workforce for manufacturing and manpower for the army. And the will of free labor proved very strong as well.

These factors do not explain fully why the American resolution of the agrarian-industrial conflict was so different from the German or French. Other factors—for example, the success of Charles Francis Adams in keeping Britain out of the war—mattered too. But the North's victory in the Civil War placed a federal government in power that was strongly sympathetic to the growth of industry. The Republican tariff introduced during the war remained in force after its end. It was a losing partisan issue for the Democrats during the rest of the century. The Fourteenth Amendment, which guaranteed due process and was introduced to provide for freed slaves during the war, was reinterpreted after the war to provide legal growing room for corporations. The state militias turned from sectional divisions to preparation for the anticipated class war in which they would have to defend property against the working-class mobs.<sup>28</sup>

One aspect of public policy was especially important for the economy and was peculiarly American. The transition from the American System to mass production was coincident with and connected to the emergence of what Chandler has called the

27 Mark Bills, "Tariff Protection and Production in the Early U.S. Cotton Textile Industry," *ibid.*, XLIV (1984), 1033–1046.

28 Robert M. Fogelson, *America's Armories* (Cambridge, 1989).

modern business enterprise. These multi-layered industrial corporations and their managerial hierarchies made their appearance in the 1880s as firms integrated mass production and mass distribution.<sup>29</sup>

Chandler identified three types of industries in which these large firms were most likely to appear. In some industries, the invention of new machines created the capacity for continuous production from a few plants large enough to saturate the market. The need to manage the large volume of production and the returning cash flow led to the growth of administrative networks that provided “the pioneering enterprises their greatest competitive advantage.” In other industries, the centralized production of perishable products, such as meat, beer, and butter, required manufacturers to become involved with distribution. For, although wholesalers might not be affected by the spoilage of goods from one of their producers, the manufacturers, concerned about the reputation of their products, easily could be hurt. Still other industries produced products like sewing machines or agricultural machinery that needed customer service. Retailers could not be trusted to give enough service to promote the use of new products, and manufacturing firms expanded all the way into distribution and support of their products at the retail level.

These large firms were an American phenomenon. There were large companies in Europe, to be sure, but they were limited to a much narrower spectrum of industries than in the United States. An increasing number of them also were connected with their American counterparts; the United States exported managerial expertise at the turn of the twentieth century.<sup>30</sup>

This American phenomenon flourished in the favorable legal environment of America. The Sherman Antitrust Act was passed in 1890 to restrain the trusts and holding companies that were the legal forms of the large firms. But its effect was swiftly blunted by judicial decisions restricting its applicability. In the *Knight* decision, the first on the new law, the Supreme Court said that

29 Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, 1977).

30 *Idem* and Herman Daems, *Managerial Hierarchies: Comparative Perspectives on the Rise of the Modern Industrial Enterprise* (Cambridge, 1980); Chandler, *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, Mass., 1990).

the Sugar Trust was engaged in production, not commerce, and therefore was beyond the reach of the law.<sup>31</sup>

This decision can be understood only in the context of the federal nature of American government. The issue in front of the Court was jurisdictional: Should antitrust be a policy of the states or of the federal government? The Court reaffirmed the power of the states by reserving antitrust policy to them. This decision had the perverse effect, however, of gutting antitrust policy as the states competed with each other for the charters of new firms. This unintended reaction therefore was as much the result of the federal structure of American government as the consequence of a deliberate policy to promote business.<sup>32</sup>

The tilt of government toward business also had implications for labor. The government's toleration of business combination and expansion contributed to managerial hostility toward collective bargaining. This animosity in turn restricted the options open to American labor unions, opposed by management and unsupported by government. Finding themselves unable to reach the broader institutional goals of their European counterparts, the American labor unions adopted the conservative emphasis on jobs and pay that has characterized them ever since.<sup>33</sup>

The orientation of American government has had continuing consequences as well for the organization of public utilities. A recent example shows the continuing importance of American federalism. American Telephone and Telegraph (AT&T) had managed the American telephone network for a century as a private, regulated utility. It was broken up into eight pieces in 1984 in the resolution of an antitrust suit that provides a curious counterpoint to *Knight*. A primary accusation against the telephone company was that it was illegally restraining competition by cross-subsidizing its interstate competitive activities. This tangled issue was misunderstood by most of the actors in the law suit because they saw only the federal government and ignored the states. The

31 *United States v. E. C. Knight Co.*, 156 U.S. 1 (1895).

32 Charles W. McCurdy, "The Knight Sugar Decision of 1895 and the Modernization of American Corporate Law, 1869-1903," *Business History Review*, LIII (1979), 305-342.

33 Sanford M. Jacoby, "American Exceptionalism Revisited: The Importance of Management," in *idem*, (ed.), *Masters to Managers: Historical and Comparative Perspectives on American Employers* (New York, 1990), 173-200.

cross-subsidies actually ran in the opposite direction—from interstate competition to intrastate monopolies—to satisfy the demands of state regulators for low local-service rates. The federal antitrust suit in this case overwhelmed the states' influence on the regulatory process, leading to the dismembering of AT&T and—not surprisingly—rising local telephone rates. If AT&T had not been forced to accede to the wishes of state regulators and judges over many years, it might well have avoided its unhappy fate.<sup>34</sup>

The extraordinary growth of American industry therefore has twin roots. Its mother, so to speak, was the abundant and fertile American soil. The accessible land tenure system of the North gave rise to manufacturing and the American System. The father was the federal form of American government that created the permissive legal setting that encouraged mass production and the modern business enterprise in turn. As usual, both parents have affected the appearance and behavior of their offspring.

**GROWTH OF THE ECONOMY**      The phenomena that I have examined comprise only a partial description of the American economy. Other activities and other influences coexisted with these trends. It is appropriate to ask if the factors analyzed here have left their traces in the aggregate record.

Table 1 contains data collected by Kuznets on long-run growth for several major countries, organized into three “tiers.”<sup>35</sup> The United Kingdom and the Netherlands, which form the first tier, were the richest countries of the eighteenth century and the source of modern commerce and industry. In the century or so prior to 1970, their per-capita incomes grew at an average rate of 13 percent per decade (about 1.2 percent a year). The second tier includes the first large follower countries. Despite the well-known and much discussed differences between France, Germany, and the United States, their average per-capita growth rates were practically identical and were all higher than the countries in the first tier. The third tier of more recent follower countries exhibited even faster growth in per-capita income.

34 Temin, *The Fall of the Bell System* (New York, 1987).

35 Simon Kuznets, *Economic Growth of Nations: Total Output and Production Structure* (Cambridge, Mass., 1971), 11–19.

Table 1 Long-Run Growth Rates for Eight Countries (Average Percent Increase per Decade)

COUNTRY	NATIONAL INCOME	POPULATION	INCOME PER HEAD	YEARS IN SAMPLE
<b>First Tier</b>				
United Kingdom	23	8	13	106
Netherlands	28	13	13	100
<b>Second Tier</b>				
France	21	3	17	99
Germany	31	11	18	100
United States	39	19	17	105
<b>Third Tier</b>				
Italy	31	7	23	68
Japan	48	12	32	88
Sweden	37	6	29	100

NOTE All series end around 1970.

SOURCE Simon Kuznets, *Economic Growth of Nations: Total Output and Production Structure* (Cambridge, Mass., 1971), 11–19.

The United States fits comfortably within this scheme, and there seems to be little that is exceptional about its long-run economic growth. Closer inspection, however, reveals one unique aspect that is important. Although the United States conforms to the pattern of these countries in the long-run growth of per-capita income, it is an outlier in the long-run growth of population. No other country even comes close to the American rate. The United States was able to absorb the highest population growth while keeping pace with its industrializing peers in per-capita income.

This high rate of population growth was the result of both natural increase and the extraordinary immigration to the United States, in roughly equal proportion. Had there been no immigration after the Revolution and the same rate of natural increase in the colonial population as there was in the presence of immigration, then the population in 1920—roughly the end of immigration—would have been one half of its actual size.<sup>36</sup> The emphasis on the nature of immigration in this article is thus not misplaced. The exceptional quality of aggregate American economic growth

36 Lance E. Davis et al., *American Economic Growth* (New York, 1972), 126.

lay in its simultaneous absorption of massive immigration and rapid growth in income.

Baumol has asserted that countries' per-capita incomes converge to a common level, that is, that their rates of growth in the century before 1979 were inversely proportional to their 1870 income. If he were correct, then no country's growth would show a unique pattern. But his claim cannot be sustained. Baumol used a sample of sixteen countries, as described by Maddison, who reported in many cases the same data as Kuznets. There are two problems. First, underestimates of income in 1870 give an upward bias to the estimated rate of growth, producing a negative correlation between initial income and growth that reflects errors in the variables rather than the path of history. Japan, for example, may appear as the most rapidly growing country in Table 1 because we have underestimated its income at the Meiji Restoration. Second, Maddison's sample included only those countries that have industrialized. If the countries in the sample are identified by their characteristics in 1870—rather than in 1979—then the tendency toward convergence disappears.<sup>37</sup>

Nevertheless, the factors identified here as part of a uniquely American story have, for the most part, passed into history. Free land disappeared long ago; twentieth-century America is a fully settled country. And, although the modern business enterprises that grew from this fertile soil are still dominant economic institutions, there is a suspicion that they are becoming obsolete. Economic growth in our day may be generated more easily by alternate forms of organization. Flexible specialization and matrix management have replaced management hierarchies as the hallmark of the new organizations.<sup>38</sup>

Slavery is long gone, even though the social problems attendant on racial segregation still remain. They are not, however, exclusively Southern problems. The South has become integrated

37 William J. Baumol, "Productivity Growth, Convergence, and Welfare: What the Long-Run Data Show," *American Economic Review*, LXXVI (1986), 1072–1085; Angus Maddison, *Phases of Capitalist Development* (Oxford, 1982); Susan B. Hanley, "A High Standard of Living in Nineteenth-Century Japan: Fact or Fiction?" *Journal of Economic History*, LXXXIII (1983), 183–192; J. Bradford De Long, "Productivity Growth, Convergence, and Welfare: Comment," *American Economic Review*, LXVIII (1988), 1138–1154.

38 Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York, 1984); Mel Horwitch, *Post-Modern Management: Its Emergence and Meaning for Strategy* (Detroit, 1988).

into the national economy. Both economic problems and achievements have become national in scope; the sharp regional differentiation that characterized nineteenth-century America is no longer economically significant.<sup>39</sup>

Federalism, although still very much alive, is ever more tenuous in its economic effects. Government regulation and its support for economic activities emanate chiefly from Washington, D.C. Despite the volume of rhetoric about the independence of the states, they are less independent of Washington and smaller relative to large corporations than ever before. I do not want to make the extreme claim that states do not matter, only that economic policy formation today shows less effect of federalism than it did at earlier times.

American economic growth was unique, both in its composition and in its results. The contradictions of the early nineteenth century, resolved bloodily in the Civil War, gave rise to a distinctive American economy that provided an example to the world both of rapid growth with massive immigration and of managerial forms for corporate economic life. In our generation, however, the special quality of American economic life is fast disappearing.

39 Wright, *Old South, New South: Revolutions in the Southern Economy Since the Civil War* (New York, 1986).