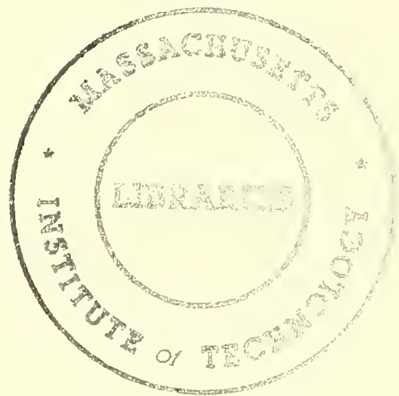

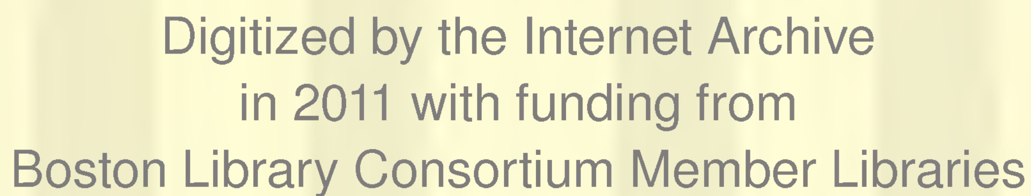
Digitized by the Internet Archive
in 2011 with funding from
Boston Library Consortium Member Libraries

http://www.archive.org/details/freelandfederali00temi

HB31
.M415
no. 481

Dewey

working paper
department
of economics

FREE LAND AND FEDERALISM:
AMERICAN ECONOMIC EXCEPTIONALISM

by

Peter Temin

No. 481 February 1988

massachusetts
institute of
technology

50 memorial drive
cambridge, mass. 02139

FREE LAND AND FEDERALISM:
AMERICAN ECONOMIC EXCEPTIONALISM

by

Peter Temin

No. 481 February 1988

M.I.T. LIBRARIES
JUL 1 5 1988
RECEIVED

Free Land and Federalism: American Economic Exceptionalism

Peter Temin
MIT

The American economy has seemed unique to generations of foreign observers. Its growth was a wonder of the Western world for more than a century. The organization of economic life provided a model for others to emulate. For a while after the Second World War, the United States even appeared capable of transforming the world economy into a larger version of itself.

These images all seem to be fading like an old photograph. Before they disappear completely, it is appropriate to take a closer look at the development of the American economy and ask how it was unique, if indeed it was. This paper is a contribution to that effort.

I shall argue that the American economic experience until very recently was unique. Its uniqueness derived from two characteristics of the economy. 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 English markets provided a hospitable setting for economic growth. The land, for example, was far better than the also largely vacant lands in Canada (too northerly) or Australia (too distant).

The second influence emanated from the federal system of American government created in the late eighteenth century that

limited the political power of large land holders. As in Germany, there was a struggle between the industrial areas and the regions of concentrated staple agriculture. But unlike Germany, the large land-owners were disenfranchised and restricted in control of their workers when the showdown came in the late nineteenth century. The settlement was not peaceful; the Civil War left far more scars than the process of resolution in Germany. But for all the draconian cost, the outcome was far different. (Gerschenkron, 1943)

This paper is composed of four substantive sections. The first section lays out a theory of "free land" and applies it to the American North. The second applies this framework to the South and discusses the defeat of Southern landowners in the Civil War. The third section focuses on the government and the economy. The fourth describes the effect of these factors on the growth of the American economy and assesses current prospects for a continuation of past patterns.

I

Domar (1970) proposed an impossibility theorem. He showed that it was not possible to have simultaneously free land, free labor, and a land-owning aristocracy. The reasoning is straightforward. 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 England. Ownership of the 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 not, it will disappear. Preservation of the aristocracy is incompatible with the maintenance of free labor.

The North American colonies were quintessentially the location of free land. When the young people in mid-seventeenth century Sudbury, Massachusetts, found their economic opportunities barred by their elders, they went off and founded their own town of Marlborough on lands granted to them by the General Court of Massachusetts. (Powell, 1963) The opportunity to move westward was present in the seventeenth century long before Horace Greeley called attention to it in the nineteenth.

The question, then is which of the other two characteristics would obtain, for only one was possible. No historical process gives a unique answer. It is part of the unusual character of American history that it was not even answered the same way throughout the North American colonies. In the North, the westward migration of free labor precluded the development of a landed aristocracy. In the South, by contrast, the enslavement of African laborers allowed the growth of a land-owning 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. Agricultural expansion was joined in the nineteenth century by industrial development, a development that seemed

peculiar and peculiarly American to many observers.

Alexander Hamilton (1791) found it necessary to argue the legitimacy of industrial development. He claimed modestly that his "suggestions are not designed to inculcate on opinion that manufacturing industry is more productive than that of Agriculture. They are intended rather to show that the reverse of this proposition is not ascertained." If it is not, then the Physiocratic argument for free trade fails, and tariffs to promote industry are legitimate and, Hamilton concluded, desirable. English visitors a half-century later were amazed at the progress of American manufacturing in the face of a prosperous agriculture. They asked themselves Hamilton's implicit question: how could 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." (Great Britain, 1854-55)

This has given rise to two related debates. The first asks why there was manufacturing in the American North. The second asks why that industry used labor-saving machinery. The two questions are close, 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 suffered some historical neglect after Hamilton. Habakkuk (1962), for example, analyzed at length the second of these two questions. He did not state explicitly its relation to the first, suggesting that manufacturing in America existed only because of the labor-saving machinery. But Habakkuk brought in the tariff to explain why there was manufacturing at all. He then tried to infer how this sector would work.

I think that Habakkuk was correct in this aspect of his argument; the tariff was a critical enabling factor in the growth of American manufacturing, as Hamilton knew it had to be. The tariff of course was imposed by government. A complete explanation of American industrial growth therefore has to include an account of government action. Let me defer this part of the story to the third section, below.

Returning to the second question, there is a paradox. American industry had to offer high wages to attract workers from agriculture. It seems logical that they used labor-saving machinery to do this. 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. While wages would have been higher in Britain, the interest rate would have been lower. But, alas for clarity in simple models, it was not. (Temin, 1966)

Many authors have proposed ways out of this paradox. Clarke and Summers (1980) used a very general model, in which all sorts

of cross effects were possible. It then was possible to raise the productivity of labor in manufacturing by several different means. But when the model was restricted to allow more 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 was not a resolution of the paradox; it only replaced one anomaly by another. Instead of having to reconcile free land with a high interest rate, one would have to reconcile it with low agricultural wages.

An alternate approach was tried by Field (1983). 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. This one has a lot of appeal. Single tracking on American railroads, hard driving in blast furnaces, flimsy wooden machinery, all can be interpreted as saving capital. But while 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 labor productivity. We observe both high interest rates and high wages.

This leads us back to back to Hamilton and Habakkuk: the tariff mattered. A protective tariff allowed profitable investment in American industry even with the high American wage.

It does not seem historically accurate, however, to think of the supply of capital in the United States as fixed. Americans borrowed from Britain throughout the nineteenth century, albeit at different rates at different times. In the 1840s, for example, the inability of English investors to understand the critical distinction between the United States and the several states--that is, the difference between U. S. and Michigan bonds--led to a temporary halt in the capital flow. But this was the exception rather than the rule. In more normal times, there was a relatively free flow of capital between England and America, and the interest rates moved together. (Temin, 1985)

Protected by the tariff and by transportation costs, American manufacturers created something that was known as the American System, emphasizing its unique character. There can be no doubt, I think, that the American System owed its origins to the factors just described: free land, free labor, hospitable conditions for industry. But Yankee culture, rampant Protestantism, and the universal education they gave rise to, were important as well. The mechanism by which these factors produced the American System is unclear, and the suspicion remains that economic variables reveal only part of the story.

The American System was based on the use of interchangeable parts. As the English visitors at mid-century noted, it was concentrated in light manufacturing: locks, clocks and small arms. This practice made it possible for Americans to produce goods in volumes and at prices unattainable in England. 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. English customs reserved the right to confiscate goods at their invoice valuation to protect themselves against undervaluation. The clocks were clearly undervalued by English standards, and they were confiscated. This was fine for Jerome; he had sold his shipment at full price quickly and easily. He sent another, larger load, which was duly confiscated. But when he sent a third, still larger load, the customs authorities dropped their English blinders and allowed it in. (Roe, 1916)

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

"drift." Hall introduced a third level. There had to be gauges for the gauges. These would be kept safely away where they would not wear. They would be brought out only periodically to recalibrate the gauges used to size the actual production. The gauges used in production then only would vary within limits set by the time period between recalibrations, assuring interchangeability. (Smith, 1977)

The American System spread throughout American manufacturing, but only slowly. The use of a three-tier set of gauges does not seem to be very complex, but it took a long time to be widely adopted. The Singer Sewing Machine Company, a leading producer of new products with new techniques, still needed to stamp the serial number of each machine on all its component parts in the 1860s. To assemble a machine, it was important to know when in the run the machine was made and to be able to match it to a part made at a similar stage. There must have been "drift" in the gauges used to make the parts in order for this to have been important. The pattern gauges were not yet stable. Singer sewing machines made in the 1880s, by contrast, did not have serial numbers stamped on all their parts; the standard of workmanship had become uniform enough to obviate the separate dating of each component of the machine. (Hounshell, 1984)

The use of interchangeable parts reduced manufacturing costs by reducing the cost of fitting the pieces together. Any saving in repair costs after the machine was in use was secondary to the

savings up front. Singer was never completely successful in eliminating the fitting stage, an expensive, labor-intensive process. Only in the manufacture of transportation equipment--bicycles and then Ford automobiles--was the system of mass production with interchangeable parts perfected. This _fin-de-siecle_ development was coincident with the rise of large business firms, of which more below.

Free land in the American North, then, led to free labor, which led in turn to the American System of manufactures. The last step in this progression is still obscure. But it is clear that mass production was at least partly the result of free land, free labor, and federal government policies. The role of the federal structure of the United States government and the policies it generated will be discussed below.

II

The economic history of the American South has been very different from that of the North. This contrast can be attributed to the different resolution of Domar's dilemma. Forced to choose between free labor and a land-owning aristocracy, Southerners chose the latter.

Southerners were able to make a different choice than Northerners because their labor force was drawn from a different location. 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 the society. Southern immigrants came from Africa and were not.

There were many differences between English and African immigrants. The importance of racism and xenophobia should not be underestimated as influences on attitudes toward African immigrants and thereby on the institutional forms into which they were placed. (Davis, 1975) But I want to focus here on the economic differences between European and African immigrants, that is, on differences that might have differentiated the choice of labor system in the North and South even if Africans had been English-speaking whites.

The critical economic difference between the Northern and Southern immigrants was who made the decision to immigrate. In the North, the European immigrant decided whether or not to come to the American colonies. He or she typically did not have the resources to finance the trip across the Atlantic. The immigrant therefore borrowed against his or her future earnings to pay for the journey; he or she became an indentured servant for a fixed term of years. It was not stated this way at the time, but we may see this interval as the time needed to pay off the immigrant's loan. As the demand for labor in America grew and the supply of labor from England shrank with a slower rate of population growth, wages in the colonies followed suit. It took less time for an immigrant to pay for his or her transportation. And, as this analysis suggests, the average term of indenture

fell from an average of more than five years to one of somewhat less. (Galenson, 1984)

The African immigrant was entirely different. He or she did not make the decision to emigrate. The emigrant instead was a captive, usually as a result of the tribal wars that were endemic in sub-Saharan Africa. The captor exchanged his captives for goods brought by European traders, and the captives became the property of the Europeans. They were taken initially to the West Indies, where they were sold again to sugar planters. Slaves were used to grow sugar both because the hard, simple tasks of sugar cultivation facilitated coercion and because the rapid growth of the demand for labor could not be accommodated by the free market. (Fenoaltea, 1984; Solow, 1987)

The rising demand for labor in America was not confined to the North. American planters were willing to pay more to get labor in both the North and the South. But they paid different people. In the North, as just noted, they paid the immigrant. In the South they found it cheaper to buy and use slaves from the West Indies. Africans were preferable to Europeans for growing rice for the same reasons as for sugar and additionally because many of them had prior experience with rice cultivation. Planters in South Carolina first imported slaves from Barbados. The slave trade spread throughout the South and grew to include direct importation from Africa. (Wood, 1974; Dunn, 1984)

The immorality of this 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 want to focus here on one small part of this issue, the effects of slavery on the Southern economy.

Slaves have far different incentives to work than free labor. Much ink has been spilled on the implications of this observation on the efficiency of the Southern economy. There seems little doubt that slaves were more or less as productive as free labor in unskilled agricultural activities. Hire prices of slaves rose with the wages of free men, and they approximated the same level. (Gray, 1932; p. 467) The picture is less clear when the region as a whole is described.

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. Southern expansion has been attributed to the vitality of slave institutions by some authors and to the availability of cotton-growing land by others. It has proven difficult to disentangle these two influences because the extent of American slavery in the nineteenth century and of cotton production were very much the same. (Fogel and Engerman, 1974; David, et al., 1976; Wright, 1978; David and Temin, 1979)

This question--albeit complex and fascinating--is not the relevant one here. The Northern experience was one of efficient

agriculture and a shift out of agriculture. The antebellum Southern experience was only the former. Was this the result of the peculiar institution?

Slavery inhibited the industrialization of the South in at least three distinct ways. First, as noted already, the incentives of slaves and free men were opposed. While the identification of slaves with the fortunes of their owners varied, there was far less than that of free workers and their employers. The American System, while encouraged by good management, seems to have 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. (Stampp, 1956)

Second, slavery was better able to fit the economy to the demands of agriculture. Ricardo asserted that land became poorer on the frontier, but the American experience was the opposite; land was more fertile as antebellum settlers moved West. 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 through these cities also were not pulled off into the West. They stayed to create an industrial labor force. In the South, by contrast, slaves--who again did not have the choice of 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 the movement out of agriculture. (Field, 1978; Goldin and Sokoloff, 1984)

Third, the political climate created by slavery was inimical to industrialization. The federal nature of the United States allowed these views to be embodied in state governments and expressed in state actions. The absence of large land owners 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, Domar's landed aristocracy. Economic policy in the South favored the growth of cotton agriculture.

The variation in local economic policies can be seen 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 therefore was in the North. (Goodrich, 1960; Taylor and Neu, 1956) 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. (Bailyn, 1972) And Southern Congressmen vehemently opposed tariffs, while 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).

The contrasting resolutions of Domar's dilemma 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, Italy, etc., went down one road with the adoption of heavy tariffs in the late 1870s and 1880s. England went down another by adhering to free trade. In each case, the decision was made peacefully. (Gourevitch, 1977)

The struggle came earlier in the United States than in Europe. And it was bloodier. The Civil War was precipitated by tariff disputes, even thought the morality of slavery was an underlying issue. (Stampp, 1950) From the perspective of this paper, these two disputes were expressions of the same underlying cause. Slavery was the cause of the Civil War, both directly (by arousing moral indignation in the North) and indirectly (by maintaining the Southern power structure favoring agriculture and therefore free trade). Slavery undoubtedly was the cause of the violence as well, making a peaceful resolution of the conflict impossible.

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.

It has proven difficult to quantify the cost of the war itself, both because of the variety of the its effects and because of its coincidence with other events--most notably a slowing in the world demand for cotton. The best estimates show the cost to the North to have been between 10 and 20 percent of consumption in the North throughout most of the 1860s and 1870s. The cost to the South was above 20 percent of hypothetical consumption (that is, the probable consumption in the absence of the war) from 1862 to 1874 and above 30 percent throughout the 1860s. This considerable cost surely is part of the burden of Southern history. (Goldin and Lewis, 1975; Temin, 1976)

The victory of the North in the Civil War showed the dominance of the society based on free labor. In contrast to Europe, the expression of industrial political power in the United States was high tariffs. The reason for this difference is clear. The United States was an agricultural exporter; western European countries, importers. Free trade therefore meant the destruction of agriculture in western Europe and its encouragement in the United States.

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. Equally important, the supply of labor to Southern agriculture dramatically decreased. Both slave men and women 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. And the men worked in the fields while the women brought up the family and worked closer to the house. Labor supply of 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). (Ransom and Sutch, 1977; pp. 44-46)

Black incomes rose after the war, but the gap between black and white incomes did not close. It is still present today. Research has tried to explain this persistent gap. One school maintains that it is the result of continuing discrimination. Black tenant farmers, for example, were said to be coerced into growing more cotton than they should have. Without the ability to dictate the use of labor, the merchants who replaced land and slave owners as Southern captains of agriculture had to fall back on costly methods of control. This argument seems overdrawn. There is no evidence that the cropping pattern of the post-bellum South was inefficient. The claim that farmers were coerced into inefficient patterns therefore loses its rationale. (Ransom and Sutch, 1977; Temin, 1979)

More evident patterns of coercion came late in the nineteenth century with the growth of segregation and Jim Crow laws. Perhaps the most important part of this discrimination for black economic opportunity was its effect on education. Slaves

had not been educated, and segregated schooling perpetuated the educational gap between blacks and whites. (Higgs, 1977)

Others have argued 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 no human assets (education, training) after the war. The argument from initial conditions asserts that this handicap was too great to be overcome in any short time. (DeCanio, 1974)

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, they were not helped to overcome their initial deficit by government policy. At worst, they were actively opposed. 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 this been a conscious policy, as distinct from reactions to national emergencies like wars and depression.

III

Although my main theme so far has been the varied but pervasive effects of free land, the government has reared its head at several points in the discussion. It is time to bring in

the American form of government as a separate compelling influence on American economic history.

Two characteristics of the United States government are of interest here. First is its popular nature, which ensured that political power conformed to the economic interests just described. Second is the federal nature of the government, which ensured that much of American politics is local politics. This in turn limited the power of the national government and left economic forces relatively free to operate. State governments were hardly divorced from economic activity. Rather they tended to be responsive to emerging economic interests. (Handlin, 1947; Hartz, 1948; Horwitz, 1977)

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 English crown. This slight wobble in the ideological gyroscope of the revolution does not seem to have attracted a lot of attention; it seems natural to us looking back--as it apparently did to the leaders at the time--that the American government should be organized by states. (Wood, 1969; Bailyn, 1967)

Slavery was a state institution, and the agreement to let the states go their own ways endured for a while. But as abolitionist morality grew, there had to be a series of

compromises at the national level limiting what states could do about slavery. This interplay between the state and federal governments is a continuing theme in American economic history.

The politics of the tariff, for example, illustrate the interaction. Francis Lowell, the founder of the Boston Manufacturing Company, found 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 English looms Lowell had seen on a visit to England. Given the primitive state of American power-loom technology, the Boston Manufacturing Company was designed to weave a coarse, heavy cloth. He designed the relevant part of the Tariff of 1816 to protect this end of the cotton market.

The tariff bill was a response to the influx of cheap British goods following the end of the war with Britain. It set a duty of 25 percent on cotton textiles, but--in response to an argument by Lowell--introduced a minimum valuation of 25 cents. The tariff, in other words, was a specific duty of 6.25 cents for all fabrics priced below 25 cents a yard and an _ad valorem_ duty for finer fabrics.

Lowell lobbied for a minimum in order to protect his nascent Waltham mill. His product was designed, in Nathan Appleton's words, "to imitate the yard wide goods of India, with which the country was then largely supplied." But even with the power loom, the Massachusetts mill could not compete with the Indian producers. Lowell needed a very high tariff to survive. But he

knew could not get 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 Indian cottons, but not the higher-priced English fabric. He sent a memorial to Congress to that effect. 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." The minimum, in other words, would exclude only Asian cloth made from Asian cotton; it would not affect either the demand for higher quality English cloth made from American cotton. This argument won the support of South Carolina, which saw the minimum as a measure to protect the domestic market for their raw cotton, and assured passage of the tariff. (Temin, 1988)

Lowell's successful efforts show the need to get a consensus between the states on tariff policy. This cooperative spirit was hard to maintain. South Carolina responded to the Tariff of 1828 by passing a Nullification Act, asserting that the federal government lacked power to dictate to the states. At a time when compromises over slavery seem to be holding, agreement on the tariff was eroding.

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 cotton market more than the top. It served to segment the American market between American and English producers by quality. With the tariff, the American producers could expand at the lower end. Without it, Lancashire would have supplied the entire range of American consumption. (Bils, 1984) The tariff on iron, considerably less controversial than the cotton duty, reached its antebellum peak in the Tariff of 1842, but iron producers were unable to maintain this high level. Econometric work has confirmed that the tariff rate had a strong effect on the growth of American iron production. (Fogel and Engerman, 1969)

More generally, the tariff promoted industrial growth in the North. It enhanced the return to industrial capital enough to offset the pull of agriculture. American manufacturing therefore owed its vigor partly to the characteristics of people and land in the North and partly to the structure of the federal government that 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 to move men and materiel around. The prosperity of the North had drawn immigrants from Europe to provide a basis for production and the

army. And the will of free labor proved very strong as well.

These factors are not enough to explain why the American resolution of the agrarian-industrial conflict was so different from the German or French. Other factors--like the success of Charles Francis Adams in keeping England out of the war--mattered too. But whatever the cause, 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 for the rest of the century. The Fourteenth Amendment (guaranteeing due process) 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 mob. (Fogelson, 1988)

One aspect of public policy was particularly important for the economy and peculiarly American. The transition from the American System to mass production has been described already. This change in the technique of manufacturing was coincident with and connected to the emergence of what Chandler has called the 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.

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 like meat, beer, and butter, required manufacturers to get involved with distribution. For while the wholesaler might not be affected by the spoilage of goods from one producer, the manufacturer concerned about the reputation of his product easily could be hurt. Still other industries produced products like sewing machines or agricultural machinery that needed customer service. The retailer could not be trusted to give enough service to promote the use of new products, and manufacturing firms expanded all the way into the retail distribution and support of their products. The Singer Sewing Machine Company, which appeared earlier for its manufacturing techniques, was cited as well by Chandler for its marketing and service operations. (Chandler, 1977; quote on p. 298)

These large firms were an American phenomenon. There were large companies in Europe, to be sure, but they were limited to a much narrow spectrum of industries than in the U. S. 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. (Chandler and Daems, 1980; Chandler, 1988)

This American phenomenon grew out of the technology developed in the hospitable conditions of the northern United States. It also 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.

The _Knight_ decision confirming the legality of the Sugar Trust was the first under the new law. The Supreme Court said the trust was engaged in production, not commerce, and therefore was beyond the reach of the law. This decision can only be understood in the context of the federal nature of American government. For 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 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 the result of the federal structure of American government as much as a deliberate policy to promote business. (McCurdy, 1979)

The tilt of government toward business also had implications for labor. Jacoby (1987) argues that the government's toleration

of business combination and expansion contributed to managerial hostility toward collective bargaining. This 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.

The orientation of American government also had consequences for the organization of what are called public utilities in America. Railroads, telephones, power generation and distribution, are private in the United States and public elsewhere. The government drew back from these activities--although it took over some utilities, like municipal transport, when private companies failed. Instead of direct government control, the government opted for indirect control through regulatory commissions. The record of economic regulation has been spotty, but the American reaction has been to deregulate the private companies, rather than to nationalize them. (McCraw, 1981; McCraw, 1984; Derthick and Quirk, 1985)

One prominent recent example shows the continuing importance of American federalism. 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 cross-subsidizing its competitive activities to illegally

restrain competition. This tangled issue was misunderstood by most of the actors in the law suit, in large part because they saw only the federal government and ignored the states. For the cross-subsidies actually ran the other way, from competitive to monopoly activities. They ran that way to satisfy the demands of state regulators for low local service rates. The federal antitrust suit in this case overwhelmed the states' influence through 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. (Temin, 1987)

The exceptional 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 favored mass production and the modern business enterprise in turn. As usual, both parents have affected the appearance and behavior of the offspring.

IV

The phenomena I have described comprise only a partial description of the American economy. There were other activities and other influences coexisting with these trends. It is appropriate to ask if the factors analyzed here have left their

traces in the aggregate record. Was the aggregate growth of the American economy in any way exceptional?

Some data collected by Kuznets provide the answer. I have selected a subset of the countries he described, and I have placed them into three "tiers," as seen in Table 1. The United Kingdom and the Netherlands 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. The second tier includes the first group of large follow countries. Despite the well-known and much-discussed differences between France, Germany, and the United States, their average per-capita growth rates were all higher than the countries in the first tier and practically identical. The third tier of more recent follower countries exhibited even faster growth in per-capita income.

The United States fits comfortably within this scheme; there seems little that is exceptional about its long-run economic growth. Closer inspection, however, reveals one important uniqueness. While the United States is in the middle 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 rate of population growth while keeping pace with its industrializing peers in per-capita income.

This high rate of population growth was the result of a high

rate of 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 its actual size. (Davis, et al., 1972; p. 126) The emphasis on the nature of immigration in this exposition therefore is not misplaced. The exceptional quality of aggregate American economic growth was its simultaneous absorption of massive immigration and rapid growth in income.

Baumol (1986) has asserted that countries' per-capita incomes converge to a common level, that is, that their rate of growth in the century before 1979 was inversely proportional to their 1870 income. If he is correct, then no country's growth will show a unique pattern. But his claim cannot be sustained. Baumol used a sample of sixteen countries, taken from Maddison (1982), who reported in many cases the same data as Kuznets. There are two problems. First, underestimates of income in early years will bias upward 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. (Hanley, 1983) Second, Maddison's sample included only those countries that have industrialized. If one

takes a sample of countries identified by their characteristics in 1870--rather than in 1979--then the tendency toward convergence disappears. (De Long, 1987)

There are real differences between countries, even in their rate of growth. But the sense that <u>industrial</u> countries are becoming more homogeneous remains. America was unique in the nineteenth and early twentieth centuries. Is it still exceptional?

I think not, at least on the dimensions analyzed here. Let me comment briefly on them by turn. Free land disappeared long ago; twentieth-century America is a fully settled country. And while 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. (Piore and Sabel, 1984; Horwitch, 1988)

Slavery of course is long gone, even though the social problems attendant on racial integration still remain. They are not, however, Southern problems. The South has become integrated into the national economy. Both economic problems and achievements have become national in scope; the sharp regional differentiation that was such a feature of nineteenth-century America is no longer economically significant. (Wright, 1986)

Federalism, while still very much alive, seems 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 they have ever been. I do not want to say that state do not matter--they do--but only that economic policy formation today shows less effect of federalism than it did at earlier times.

In short, American was exceptional. Its history is unique, both in the aggregate and in its composition. 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 aggregate growth with immigration and of managerial forms for corporate economic life. In our generation, however, the distinctive quality of American economic life is fast disappearing.

Table 1

Country	National Income	Population	Income per Head	Years in Sample
First Tier				
U. K.	23	8	13	106
Netherlands	28	13	13	100
Second Tier				
France	21	3	17	99
Germany	31	11	18	110
U. S.	39	19	17	105
Third Tier				
Italy	31	7	23	68
Japan	48	12	32	88
Sweden	37	6	29	100

Source: Kuznets (1971), pp. 11-19

References

Bailyn, Bernard, The Ideological Origins of the American Revolution (Cambridge: Harvard University Press, 1967).

Bailyn, Bernard, Education in the Forming of American Society (New York: Norton, 1972).

Baumol, William J., "Productivity Growth, Convergence, and Welfare: What the Long-Run Data Show," American Economic Review 76: 1072-85 (December, 1986).

Bils, Mark, "Tariff Protection and Production in the Early U. S. Cotton Textile Industry," Journal of Economic History 44: 1033-46 (December, 1984).

Chandler, Alfred D., Jr. , The Visible Hand: The Managerial Revolution in American Business (Cambridge: Harvard University Press, 1977).

Chandler, Alfred D., Jr., Scale and Scope (Cambridge: Harvard University Press, 1988).

Chandler, Alfred D., Jr., and Herman Daems, Managerial Hierarchies: Comparative Perspectives on the Rise of the Modern Industrial Enterprise (Cambridge: Harvard University Press, 1980).

Clarke, Richard N., and Lawrence H. Summers, "The Labour Scarcity Controversy Reconsidered," Economic Journal 90: 129-39 (March, 1980).

David, Paul A., and Peter Temin, "Explaining the Relative Efficiency of Slave Agriculture in the Antebellum South: Comment," American Economic Review 69: 213-18 (March, 1979).

David, Paul A., et al., Reckoning with Slavery (New York: Oxford University Press, 1976).

Davis, David Brion, The Problem of Slavery in the Age of Revolution: 1770-1823 (Ithaca, NY: Cornell University Press, 1975).

Davis, Lance E., et al., American Economic Growth (New York: Harper and Row, 1972).

DeCanio, Stephen J., Agriculture in the Postbellum South: The Economics of Production and Supply (Cambridge: MIT Press, 1974).

De Long, Bradford, "Have Productivity Levels Converged? Productivity Growth, Convergence, and Welfare in the Very Long Run," (NBER Working Paper 2419, October, 1987)

Derthick, Martha, and Paul J. Quirk, The Politics of Deregulation (Washington: Brookings, 1985).

Domar, Evsey D., "The Causes of Slavery or Serfdom: A Hypothesis," Journal of Economic History 30: 18-32 (March, 1970).

Dunn, Richard S., "Servants and Slaves: the Recruitment and Employment of Labor," in Colonial British America: Essays in the New History of the Early Modern Era, edited by Jack P. Greene and J. R. Pole (Baltimore: Johns Hopkins Press, 1984).

Fenoaltea, Stefano, "Slavery and Supervision in Comparative Perspective: A Model," Journal of Economic History 44: 635-68 (September, 1984).

Field, Alexander, "Sectoral Shifts in Antebellum Massachusetts: A Reconsideration," Explorations in Economic History 15: 146-71 (April, 1978).

Field, Alexander J., "Land Abundance, Interest/Profit Rates, and Nineteenth Century American and British Technology," Journal of Economic History 43: 405-32 (June, 1983).

Fogel, Robert W., and Stanley L. Engerman, "A Model for the Explanation of Industrial Expansion during the Nineteenth Century: with an Application to the American Iron Industry," Journal of Political Economy 77: 306-28 (May/June, 1969).

Fogel, Robert W., and Stanley L. Engerman, Time on the Cross: The Economics of American Negro Slavery (Boston: Little-Brown, 1974).

Galenson, David, "The Rise and Fall of Indentured Servitude in the Americas: An Economic Analysis," Journal of Economic History 44: 1-26 (March, 1984).

Gerschenkron, Alexander, Bread and Democracy in Germany (Berkeley: University of California Press, 1943).

Goldin, Claudia G., and Frank D. Lewis, "The Economic Cost of the American Civil War: Estimates and Implications," Journal of Economic History 35: 299-326 (June, 1975).

Goldin, Claudia, and Kenneth Sokoloff, "The Relative Productivity Hypothesis of Industrialization: The American Case, 1820 to 1850," Quarterly Journal of Economics 99: 461-87 (August, 1984).

Goodrich, Carter, Government Promotion of American CAnals and Railroads, 1800-1890 (New York: Columbia University Press, 1960).

Gourevitch, Peter A., "International Trade, Domestic Coalitions, and Liberty: Comparative Responses to the Crisis of 1873-96,"

Journal of Interdisciplinary History 8: 281-313 (Autumn, 1977).

Gray, Lewis C., History of Agriculture in the Southern United States (Washington: Carnegie Institution, 1932).

Great Britain, "Report of the Committee on Machinery of the United States of America," Parliamentary Papers 50: 1- (1854-55).

Habakkuk, H. J., American and British Technology in the Nineteenth Century: The Search for Labour-Saving Inventions (Cambridge, England: Cambridge University Press, 1962).

Hamilton, Alexander, Report on Manufactures (1791, reprinted in Jacob E. Cooke (ed.), The Reports of Alexander Hamilton (New York: Harper and Row, 1964)).

Handlin, Oscar, and Mary F. Handlin, Commonwealth, A Study of the Role of Government in the American Economy: Massachusetts, 1774-1861 (New York: New York University Press, 1947).

Hanley, Susan B., "A High Standard of Living in Nineteenth-Century Japan: Fact or Fiction?," Journal of Economic History 43: 183-92 (March, 1983).

Hartz, Louis, Economic Policy and Democratic Thought: Pennsylvania, 1776-1860 (Cambridge: Harvard University Press, 1948).

Higgs, Robert, Freedom and Coercion: Blacks in the American Economy, 1865-1914 (Cambridge, England, and New York: Cambridge University Press, 1977).

Horwitch, Mel, Post-modern Management: Its Emergence and Meaning for Strategy (Detroit: Free Press, 1988).

Horwitz, Morton J., The Transformation of American Law, 1780-1860 (Cambridge: Harvard University Press, 1977).

Hounshell, David A., From the American System to Mass Production, 1800-1932 (Baltimore: Johns Hopkins University Press, 1984).

Jacoby, Sanford M., "American Exceptionalism Revisited: The Importance of Management," (UCLA, Anderson Graduate School of Management, 1987).

Kuznets, Simon, Economic Growth of Nations: Total Output and Production Structure (Cambridge: Harvard University Press, 1971).

Maddison, Angus, Phases of Capitalist Development (Oxford: Oxford University Press, 1982).

McCurdy, C. W., "The Knight Sugar Decision of 1895 and the Modernization of American Corporate Law, 1869-1903," Business

History Review 53: 305-342 (Autumn, 1979).

Piore, Michael J., and Charles F. Sabel, The Second Industrial Divide: POssibilities for Prosperity (New York: Basic Books, 1984).

Powell, Sumner C., Puritan Village: The Formation of a New England Town (Middletown, CT: Wesleyan University Press, 1963).

Ransom, Roger L., and Richard Sutch, One Kind of Freedom: The Economic Consequences of Emancipation (Cambridge, England, and New York: Cambridge University Press, 1977).

Roe, Joseph W., English and American Tool Builders (New Haven: Yale University Press, 1916).

Smith, Merritt Roe, Harpers Ferry Armory and the New Technology (Ithaca, NY: Cornell University Press, 1977).

Solow, Barbara L., "Capitalism and Slavery in the Exceedingly Long Run," Journal of Interdisciplinary History 17: 711-37 (Spring, 1987).

Stampp, Kenneth M., And the War Came: The North and the Secession Crisis (1950).

Stampp, Kenneth M., The Peculiar Institution: Slavery in the Ante-Bellum South (New York: Knopf, 1956).

Taylor, George R., and Irene D. Neu, The American Railroad Network, 1861-1890 (Cambridge: Harvard University Press, 1956).

Temin, Peter, "Labor Scarcity and the Problem of American Industrial Efficiency in the 1850s," Journal of Economic History 26: 361-79 (September, 1966).

Temin, Peter, "The Post-Bellum Recovery of the South and the Cost of the Civil War," Journal of Economic History 36: 898-907 (December, 1976).

Temin, Peter, "Freedom and Coercion: Notes on the Analysis of Debt Peonage in One Kind of Freedom," Explorations in Economic History 16: 56-63 (January, 1979).

Temin, Peter, "Labor Scarcity and Capital Markets in America," (Paper prepared for Festschrift Conference in honor of Sir John Habakkuk, 1985).

Temin, Peter, The Fall of the Bell System: A Study in Prices and Politics (Cambridge, England, and New York: Cambridge University Press, 1987).

Temin, Peter, "Vertical Integration and Product Quality in the Early Cotton Textile Industry," (MIT, 1988).

Wood, Gordon S., The Creation of the American Republic, 1776-1787 (Chapel Hill: University of North Carolina Press, 1969).

Wood, Peter H., Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion (New York: Knopf, 1974).

Wright, Gavin, The Political Economy of the Cotton South: Households, Markets, and Wealth in the Nineteenth Century (New York: Norton, 1978).

Wright, Gavin, Old South, New South: Revolutions in the Southern Economy Since the Civil War (New York: Basic Books, 1986).

5582 091

Date Due

OC 23 '88

NO22 '88

JUN 1

JUN 15 1990

APR. 27 199[illegible]

MAY 26 1998

Lib-26-67

MIT LIBRARIES
3 9080 005 336 760