The American Economy: Colonial Days Through The Civil War

This Prologue consists of three chapters. The first chapter traces the changes in the American economy from the early settlement through the Civil War. The second chapter discusses the development of an advanced economy over the past century. The third chapter emphasizes the interdependence of economic activities and sketches briefly the interregional and international commodity flows that characterize mid-century America.

Economic theory is not only more palatable but also better understood when well mixed with examples that are relevant to the student. It is hoped that a review of development and regional specialization in the United States will provide a useful background for the theoretical models that constitute the main body of this book. However, Part I is not a prerequisite for an understanding of the material that follows. It may be omitted where time is a limitation, where students have a good grasp of the process of the growth of the American economy, or where examples drawn from another setting are more appropriate. This review is necessarily brief and incomplete but suggestions for additional reading have been provided for those students who wish to pursue in more depth some of the ideas that are presented.
1.1 THE COLONIAL POWERS IN NORTH AMERICA

From the beginning of the 16th century through the 18th century, the major European powers engaged in a struggle for colonial control of the North American continent. The drive for colonies had many motives, but central among them were economic considerations. Spain's great explorers of the late 15th century were searching for new routes to India and the Orient—routes that would circumvent Arabian control of the profitable trade in spices, silk, and gold. With the discovery of the Americas, objectives turned to the monopolization of trade and, under the mercantilist philosophy, the development of colonies that rounded out supplies of raw materials and guaranteed overseas markets within largely self-sufficient empires.

Spain's approach was primarily through military conquest, with plundering and exploitation to obtain gold and silver for the mother country. France moved largely by infiltration, developing friendly relations with many native tribes and capitalizing on the rich fur trade. England, on the other hand, began its colonization in North America through an extension of its fishing activities in the Grand Banks south of Newfoundland, coupled with a continuing search for a passageway through or around North America to northern China. Prominent, too, was the hope of developing important raw material sources and markets for manufactured goods. British long-range policies, therefore, contemplated several stages of development: (1) the establishment of outposts for exploration and experimentation; (2) the shipment of readily obtained native materials such as fish, furs, herbs, minerals, and naval stores; (3) the settlement of agricultural communities to produce sugar, wine, hides, and dyes; (4) the further development of industries based on forest and mineral resources; and (5) the eventual creation of a significant market for manufactures—especially woolen cloth—among the colonists and the Indians.

Spain led the race for American possessions by establishing a stronghold at Haiti at the beginning of the 16th century. From here the conquistadores spread out, and by 1536 they had established themselves in Puerto Rico, Jamaica, Cuba, Mexico, Peru, Bolivia, and Florida. In North America, however, they did not penetrate far inland, and their hold over these colonies by the end of the century depended mainly on sea power. This was broken by the English and Dutch in 1588 with the destruction of the Spanish Armada. But Spain continued to be an important colonial power in the New World, especially in South and Central America. In North America, its missions and settlements were pushed north of the Rio Grande and along the Pacific Coast to San Francisco until it was halted in 1821 by Mexico's declaration of independence.
With the seas cleared of the Spanish threat, France and England began a struggle for domination of North America. The French mounted a two-pronged attack—along the St. Lawrence River and the Great Lakes in the north and through the Mississippi River system from the south. Quebec was established in 1608 and Champlain had reached Georgian Bay on Lake Huron by 1615. The French policy of friendly relations with the Indians was largely successful, although Champlain’s alliance with the Hurons against the powerful Iroquois proved to be a costly mistake in later conflicts between the French and the English. La Salle began his expeditions up the St. Lawrence and through the Great Lakes in 1669, by 1680 had reached the headwaters of the Mississippi, and within two years had moved down to the Gulf of Mexico. Outposts were established throughout all of this region by 1700, and the “west” was definitely French. Shortly thereafter, the Acadians were settling in Nova Scotia, Cape Breton Island, and the Gulf of St. Lawrence, and by 1755 the population of these settlements numbered approximately 9000. Meanwhile, the southern approach was not neglected: Fort Biloxi was established in 1699, New Orleans in 1718, and by 1731 the Louisiana country had a population of about 7000 Frenchmen. Mention should also be made of the migrations of the French Huguenots, especially after the Edict of Nantes in 1685. These Protestants were not welcome in the French colonies, however, and so for the most part served to swell the migration from England and the Low Countries to the British colonies.

After experiments during the 1580’s in Newfoundland and North Carolina, England established its first permanent American colonies in Virginia in 1607 and Massachusetts in 1620. By the middle of the century, these settlements stretched in an almost continuous line along the Atlantic coast. With British stress on the colonies as sources of agricultural products and other raw materials and as markets for English manufactured goods, a policy of permanent settlement and of population growth was essential. This policy was implemented by aggressive promotional schemes emphasizing economic opportunity and political and religious freedom.

However, the Navigation Acts of 1651, 1660, and 1663 imposed three major restrictions on the American colonies. First, all trade between England and America had to be carried in English or colonial ships with English or colonial crews—this barred foreign ships from colonial ports. Second, all colonial imports, except wine and salt from southern Europe, had to come from England—this assured the colonial market for English traders and manufacturers. Third, certain colonial products that were enumerated or listed could be shipped only to England—this was designed to give England the products needed to round out her own economy, and
also to give English traders the profits from reexporting surpluses to other European markets.

The number of settlers increased rapidly, and England soon had more settlers in North America than any other power. By 1750, the population of the English colonies exceeded 1,200,000, while France had managed to settle only 80,000. Growing rivalry and conflict with the French for the fisheries and fur trade were finally resolved by military power, with England the victor. By the Peace of Paris in 1763, France ceded Canada to the English and relinquished claims to territory west to the Mississippi River. By this same treaty, French claims beyond the Mississippi (including the Louisiana settlements and New Orleans) were turned over to Spain. As part of the implementation of the treaty, Britain deported approximately 6000 Acadians to the colonies to the south.

1.2 THE AMERICAN COLONIAL ECONOMY

Development of the English colonies, like the exploitation of the westward-moving frontier in the generations to follow, was in essence a gigantic speculation in natural resources. Here was a virgin and largely unexplored territory, with untold potential in terms of rich farming lands and mineral and forest resources. But to acquire value, these resources needed to be developed and connected with markets, and this required massive investments of capital and labor. To attract these investments, there had to be prospects of profits to pay returns on capital and to provide labor income for the purchase of European goods essential to existence as well as to a hoped-for increase in living standards in America. This meant that the colonial ventures needed exportable surpluses of goods keyed to the demands of European markets. Also, they had to contribute a maximum amount to their own subsistence and, especially in the early stages, to devote perhaps half of their energies to the creation of new capital through land improvement.

The dominant characteristic of colonial enterprise was its dependence on agriculture—perhaps 90 percent of the colonists made their living from farming, supplemented as well as possible by hunting and trapping, and this pattern persisted throughout the colonial period. Moreover, there was a high degree of economic self-sufficiency, with most households growing a large proportion of their food supplies and also weaving cloth, making clothes, curing meats, and carrying on crude manufacturing operations. Commercial agriculture soon developed, however, if defined in terms of the production of exportable surpluses. In this development, the production and trade patterns varied widely among the southern, middle, and northern colonies.
The tidewater regions of the southern colonies were well suited to large-scale farming, and soil and climate favored the production of crops such as tobacco, rice, and indigo. Commercial production quickly developed through the plantation system, with crops loaded directly on ships for the English market. England wanted these crops, so most of the products of the southern colonies were enumerated under the Navigation Acts. The South was thus restricted in its choice of markets, but it was able to build up a profitable "shuttle" trade with England by exchanging farm products and naval stores for British goods usually with a favorable balance of trade (Table 1.1). These colonies fit well into the British empire scheme, supplying needed products with surpluses for profitable reexport to other European markets. Tobacco was especially important and dominated exports in the colonial period. The southern colonial planters complained because the channeling of their crop through England returned them only a fraction of the world market price, but they also profited from the prohibition of tobacco production in southern England and from bounties paid on indigo and naval stores.

The middle and northern colonies needed the manufactured goods of England, but produced few products demanded by the mother country. Shipments to England included items such as furs and potashes from the middle colonies and masts and complete ships from New England. Fortunately, markets for the major products of these colonies were available in the "sugar islands" of the West Indies, where specialization on sugar

<table>
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<th>Region</th>
<th>1701 to 1710</th>
<th>1761 to 1770</th>
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<td>Exports</td>
<td>Imports</td>
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<td>150</td>
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<tr>
<td>Total</td>
<td>278</td>
<td>273</td>
</tr>
</tbody>
</table>

production had been carried to the point that imports of foods, horses, and lumber products were required. This gave rise to multilateral or triangular trade, the returns from which offset the unfavorable direct balances of the northern colonies with England. The middle colonies shipped flour and salted pork and beef to the Islands, while New England's contributions were fish and lumber. Cargoes of sugar were then moved to England, and manufactured goods returned to the colonies.

Rhode Island developed its own version of the sugar triangle—rum to Africa, slaves from Africa to the Islands, and molasses to Rhode Island to make more rum. At the peak of the rum and slave trade in 1763, about 150 vessels were bringing 14,000 hogsheads of molasses annually to 30 distilleries in Rhode Island—much of this from non-English sources to avoid payment of the duty. Other trade triangles linked the colonies with Spain and Portugal, permitted by the Navigation Acts for nonenumerated articles: fish, flour, and staves for wine casks were shipped to southern Europe with return trips through England or, perhaps, direct to the colonies with salt and wine. Finally, a coastal trade connected the tidewater regions of the colonies themselves, with movements of flour and livestock from the middle colonies, fish and lumber from New England.

Economic enterprise in the colonies was by no means limited to farming and foreign trade. Local communities were developing a considerable degree of specialization through craft shops, saw mills and grist mills, breweries and distilleries, and even iron furnaces. Near the end of the colonial period, real industries were developing. Mention has been made of shipbuilding; the colonies built 24,000 tons of sailing vessels in 1771 and by the Revolutionary War approximately one-third of all vessels in the British registry were of colonial build. Shoemaking and the textile industry developed under the "putting-out" system, with materials supplied to home workers. Blast furnaces, paper mills, tanneries, and glass works were not only established but were growing in size. These activities came increasingly in conflict with British policies, as did the competition of New England fishing fleets and the growing evasion of the Navigation Acts by colonial ships and traders. A series of new acts and proclamations attempted further to restrict colonial trade, to limit industrial development, and to prevent the expansion of the frontier beyond the Appalachian Mountains. They led to colonial agreements to boycott imports of British goods and, finally, to war.

1.3 TERRITORIAL EXPANSION OF THE NEW NATION

Open hostilities between England and the colonists started at Lexington and Concord in April of 1775, and on July 4th of the following year the
members of the Continental Congress signed the Declaration of Independence. By 1778, the new United States had enlisted the aid of a number of European powers, particularly, through the treaty of alliance with France against England and the formation of the League of Armed Neutrality by Russia, Prussia, Denmark, Sweden, and Portugal to resist British sea power. The fighting ended with the defeat of the British at Yorktown in 1781, although the war was formally terminated with the signing of the Treaty of Paris in 1783. By this treaty, England granted the United States independence and title to all lands west to the Mississippi River and north to the Great Lakes. Spain still claimed Florida, the Gulf Coast, and the lands west of the Mississippi. Spanish control of the mouth of the Mississippi restricted the development of river traffic and trade with the region west of the Appalachian Mountains, but this was corrected by the Pinckney Treaty of 1795.

The United States thus controlled a far larger territory than it was immediately able to exploit. France had ceded the Louisiana territory to Spain after the French and Indian War, but Napoleon regained possession in 1800. This vast region was added to the United States through the Louisiana Purchase in 1803. English claims to the Red River basin in what is now Minnesota and North Dakota were relinquished about 1818. In the following year, Spain ceded Florida and a coastal strip in Louisiana. Russia, which had been developing the fur trade in Alaska and down the Pacific coast into California, agreed in 1824 to stay north of 54° 40'. The treaty of 1842 with England settled the northeastern boundary between the United States and Canada.

Meanwhile, Mexico had declared its independence from Spain in 1821, and Texas in turn gained its independence from Mexico in 1836. The Texas territory was annexed by the United States in 1845. In the northwest, the Oregon compromise of 1846 fixed the western boundary between the United States and Canada. Mexico ceded the southwestern territory including California in 1848, and the Gadsden Purchase (a small strip of land in southern Arizona) rounded out the borders of the nation in 1853.

The settlement of this vast territory was a much slower process, of course, involving exploration, the pushing back of the Indians, the growth and migration of population, the clearing and improvement of the land, and the development of transportation and marketing systems. At the end of the colonial period, the frontier of settlement followed the eastern slopes of the Appalachian Mountains with minor extensions through the Cumberland Gap to the Kentucky-Tennessee territory and through Pennsylvania to the Ohio River. The rough mountain country created an almost insurmountable barrier to transportation, and the bypassing of this
barrier by "water-level" routes was blocked by the warlike Iroquois Indians in western New York and by the no less formidable Cherokees in the Georgia-Alabama district. But these restraints were overcome as the irresistible flood of population spilled over into the western territory.

By 1815 the frontier (defined as a settled population of two persons per square mile) had pushed well into eastern Ohio and down the Ohio River to the Wabash. Migration through the Cumberland Gap had settled Kentucky and much of Tennessee. To the south the Indians were still troublesome, but most of Georgia and the northern part of Alabama had been won. Also, the Louisiana Purchase had added an important southern beachhead that spread out from New Orleans (Figure 1.1). By 1840, the frontier was in southern Michigan and Wisconsin and, generally, extended across the first tier of states west of the Mississippi River. Progress through the Civil War period was relatively slow, but the frontier moved across Iowa and into eastern Nebraska, Kansas, and Texas. The gold rush created a rapidly growing population in California, and a new frontier was pushing eastward from the Pacific coast.

The twenty-five years from 1865 to 1890 carried agriculture into the semiarid prairie country and brought the settlement of Oregon and the Northwest. This was the period of rapid disposal of the Public Domain—through sale at low prices, through "free land" under the Homestead Act.
of 1862, and through land grants to the states for the support of education and to the railroads for their development. By the end of the 19th century, the government had no more good land to give away and the frontier period had come to an end. There remained large areas in the mountain states where population density was less than two persons per square mile. With limited economic opportunities, low population density has persisted in much of the intermountain area of the West until the present time.

With minor departures, such as the creation of West Virginia by the subdivision of Virginia in 1863, the formation of states closely followed the advancing frontier (Figure 1.1). The original thirteen states had ratified the Constitution by 1790, and by 1820 all states east of the Mississippi except Florida and Wisconsin had been admitted. Approximately 100,000 gold miners provided the basis for admitting California in 1850. Most of the mountain states were admitted about 1890, and the process was completed when Arizona and New Mexico became states in 1912.

The expansion of the frontier of settlement and the formation of states, however, by no means indicate the complete development of available resources. The westward movement was primarily agricultural, but only a small portion of the farmland was developed as the frontier advanced. This may be illustrated by comparing the improved land in farms in 1850 with the total cropland in 1950 (Figure 1.2). In the region between the original states and the Mississippi River, only 36 percent of the present cropland was improved in 1850, while in the first tier of states west of the river the ratio was less than 10 percent. Also, western competition resulted in decreases in cropland between 1850 and 1950 of more than 60 percent in New England and more than 20 percent in the New York to Virginia region.

1.4 TRANSPORTATION AND COMMUNICATION

At the close of the Revolutionary War, the United States found itself with a fairly well developed water transportation system along the coast and navigable rivers. Inland transportation was difficult and expensive, however, for the road network was little more than a collection of trails for pack horses and cattle. Where over-the-road transportation was available, service was slow and undependable.

With high freight costs, trade movements between inland points and seaports were limited to concentrated and valuable products such as furs, gunpowder, iron, salt, and whiskey. Animals provided their own transportation, and so could be moved economically for relatively long distances. Cattle and hogs were driven from west of the mountains in
FIGURE 1.2 The improved land in farms in 1850 as a percent of 1950 cropland. [Calculated from data in Reports of the United States Bureau of the Census. ("Less than one-half of one percent.")]

Ohio, Kentucky, and Tennessee to Baltimore, Philadelphia, and New York, and this practice continued well into the 19th century until the railroads served these areas and meat-packing developed along the Ohio River.

Several attempts were made to commit the federal government to a program of improved transportation—including the proposals of Secretary of the Treasury Gallatin and the "Bonus Act of 1816"—but they were rejected on constitutional grounds or because of diverse sectional interests. For the most part, road building was left to private initiative or to the states. Pennsylvania led the way by chartering private companies to construct toll roads. The success of the Philadelphia-Lancaster Turnpike—completed in 1794 and the first surfaced road in the Nation—led to the creation of literally thousands of such corporations. Private construction and operation under state charter and with supervision of tolls was typical in Pennsylvania and the states to the north, although in the southern states the fear of exploitation by private monopolies led to highway development by state and local governments. The federal government finally participated by constructing the National Pike or Cumberland Road from Cumberland Maryland to Wheeling in what is now West Virginia; this route was to connect with the Mississippi River at St. Louis
and, actually, was extended as far as Vandalia, Illinois. These activities eventually linked together the eastern and northern states by a system of surfaced roads. By 1820 nearly 10,000 miles of surfaced roads had been completed, and this increased to 64,000 in 1840 and 88,000 in 1860.

A number of canals were constructed by private enterprise in the early years of the 19th century, but in 1817 the state of New York entered the field and began the construction of a comprehensive system connecting the Hudson River with Lake Champlain, with Lake Ontario, and with Lake Erie. The Erie Canal extended 363 miles from Albany to Buffalo, surmounting an altitude of 500 feet with 84 locks. When completed in 1825, the canal reduced the time required to move freight between Buffalo and New York City from 20 to eight days, and cut freight charges about 90 percent. It was an immediate financial success, and low-cost access to the hinterland did much to develop New York as the dominant city and seaport of the Atlantic Coast. By the same token, it was an immediate stimulus to commercial agriculture—and to land values—in the Great Lakes area, and the western competition profoundly influenced the agriculture of the Northeast.

Success of the Erie Canal coupled with the rivalry among New York, Philadelphia, and Baltimore as leading ports soon brought Pennsylvania and Maryland-Virginia into the canal-building ventures. The Pennsylvania Canal connected Philadelphia with the Ohio River at Pittsburgh in 1834 by a route that crossed the Allegheny Mountains at an elevation of 2300 feet.

The Chesapeake and Ohio Canal was the third major attempt to reach the West by canal. It was completed only to Cumberland over a route that covered 184 miles with 73 locks and had a maximum elevation of 609 feet. Meanwhile the Lake states and especially Ohio were completing a series of canals that joined the Ohio and Mississippi Rivers with the Great Lakes. By mid-century, the United States had nearly 4000 miles of canals in operation. But by that time the railroads were emerging as the major factor in inland transportation. Even the successful Erie Canal was surpassed by the railroads in volume of freight handled in New York by the end of the Civil War.

The first railroad in the United States was built in 1826 to haul stone for the Bunker Hill monument; the first common carrier was the Baltimore and Ohio Railroad, started in 1830. These and other early railroads were horse-drawn, but within several years steam was the universal traction power. Rail mileage increased to 2800 in 1840 and to 9000 in 1850. Early lines were built to complement water transportation, but the superiority of rail service was soon evident, and the building of a major network began. Track mileage increased to 31,000 by 1860 and to 53,000
by 1870. By the end of the Civil War, there existed a fairly comprehensive rail system in the northern states west to the Mississippi. The war had retarded construction in the South, but even there the major components of a network had been built. Finally, in 1869, a line was pushed across the continent to San Francisco.

The development of the system in this period and in the decades to follow was greatly stimulated by federal and state aid, particularly in the form of land grants. Between 1850 and 1871, when the practice was discontinued, the federal government granted nearly 160,000,000 acres of land to the railroad companies; approximately 130,000,000 acres were eventually patented by the railroads. In return for these grants, the companies agreed to construct roads in designated territories, primarily in the South and the West, and they also gave the government preferential rates on mail, troops, and government property.

The growing railroads by no means displaced coastal trade and inland water commerce on the Mississippi River and the Great Lakes. In 1807, Fulton’s Clermont demonstrated the practicality of steam power for water transportation. The Pinckney Treaty with Spain in 1795 had opened up the Mississippi as a major trade route for the central regions of the United States, but this was almost entirely one-way, downstream traffic. However, the exploitation of steam power changed this and also greatly speeded the movement of traffic: the time from Louisville to New Orleans was reduced from 25 to less than five days. The first steamers were operating on the Mississippi shortly after 1810, and it has been estimated that 500 to 600 steamers were on the river by 1850. About 70 percent of outbound traffic from the Midwest flowed through the Mississippi system, while the balance went east by canal, railroad, and highway. Imported products were less bulky and more valuable, and riverboats handled considerably less than half of this trade. Meanwhile, coastal trade continued to expand and by the middle of the century still far exceeded the combined commerce of canals, railroads, and riverboats. The total gross tonnage of vessels in coastal and internal trade exceeded that in American foreign commerce in 1831 and remained well in the lead until World War I. In 1860, as a result of the growth of regional specialization and the rise of New York as the leading port, the value of commodities in the coastal trade was six times the value of American foreign trade.

Even a brief discussion of American transportation must mention the western trails, since they carried the bulk of the pioneers and early settlers. Routes through the Appalachian Mountains have already been described; there were several trails through western Pennsylvania and Maryland to the Ohio River and the “Wilderness Road” through Cumberland Gap to Kentucky and Tennessee. They were well developed by the end of the
colonial period but were little used until the westward migrations after the Revolutionary War. As the frontier pushed across the Mississippi River, the great trails extended to the Far West. The Santa Fe Trail from St. Louis to New Mexico was developed during the 1820's as American traders began to supply the Spanish-Mexican outpost at Santa Fe (Figure 1.3). Later this was extended to southern California as the Spanish Trail. The first large migrations of settlers by the Oregon Trail came in the 1840's, and by the end of that decade the gold rush had created the California Trail as a southern branch. Salt Lake City was founded in 1847 and the Mormon Trail, roughly paralleling the Oregon Trail, brought settlers to the Utah area. Finally, the Butterfield Overland Mail swung south near the Mexican area: coaches carried mail and passengers to California in 25 days, until the trail was made obsolete by the completion of the transcontinental railroad in 1869.

Not all of the trails were for settlers, since many famous routes developed as cattle paths. Cattle droving was common practice in the colonies, and many special trails or roads were developed for this purpose. An example is the Ten Rod Road in Rhode Island—a tract 165 feet wide that extended from the western part of the colony to the Narragansett Bay. Cattle and hog drives across the Appalachian Mountains to the

seaports were well established in the early 19th century. But it remained for Texas to develop the major trails of the 19th century, a good example of a frontier region reaching for adequate markets.

Cattle were first introduced north of the Rio Grande in the 1580's. The early Texas settlers from the United States crossed the "native" cattle with stock imported from northern Europe to develop the famous long-horned steer. It is estimated that there were more than 300,000 cattle in the area when Texas was admitted to the Union. They had increased to 1,400,000 in 1855 and to 3,800,000 in 1860. But the country was cattle-poor, since there were few markets except for hides and tallow. Sporadic drives were made between 1842 and 1861 in search for buyers in New Orleans, Shrevesport, and even in Ohio and New York. Several herds were driven to California during the gold rush; steers worth $10 in Texas brought $30 in California. Herds were also driven east to the Mississippi to provision the Confederate army until Grant captured Vicksburg in 1863.

The big drives started after the Civil War, and in the early years the movements were to railhead points in Kansas for shipment to markets and to the growing Union Stock Yards at Chicago. As the railroads were extended and as crop agriculture became established and forced the trail herds to the west, the major markets moved from Sedalia to Abilene, to Ellsworth, to Newton, to Wichita, and finally to Dodge City (Figure 1.4). Abilene was the northern terminus of the Chisholm Trail and between

FIGURE 1.4 The Texas cattle trails. (Based on Paul I. Wellman, The Trampling Herd, Garrick and Evans, Inc., New York, 1939.)
1867 and 1871, approximately 5,000,000 head of cattle passed through this outlet. Dodge City was the major center from 1875 to 1885—as a railhead shipping point on the Santa Fe Railroad; as the headquarters for the buffalo hunters and, finally, as a major point on the Dodge City-Western Trail along which moved stocker cattle for the range in the Northwest territory. Probably 6,000,000 head of cattle and horses moved north through Dodge. Total shipments from Texas between 1867 and 1890 are estimated at 12,000,000 head with a total value of $250,000,000.

The economic incentive behind these trail drives was direct and simple. Cattle could be bought in Texas for $5 to $10 per head and sold at the market or railhead for $20 to $30. A drive from Texas to Montana would cover 3000 miles and take about six months—at a cost of about $1 per head. This left a profit sizable enough to fill the trails in spite of the risks of floods, blizzards, and the Comanche and Sioux Indians. Herds kept moving north until the frontier was closed and the land was covered with wheat ranches and fenced ranges.

The importance of communications was recognized in the Constitution, and Congress was given power to improve the postal service. A dependable mail service required dependable transportation, however, so improvement came slowly. Letter rates amounted to eight cents for 30 miles in 1820, but they were reduced to five cents for 300 miles by 1845 and to three cents for 3000 miles by 1851.

During this period, Samuel Morse invented the telegraph and in 1844 the first experimental line was completed between Washington and Baltimore. Telegraph lines connected New York with Chicago and Washington with New Orleans in 1850. In 1861, the first transcontinental line was completed and the first trans-Atlantic cable was laid. Immediately after the Civil War, the Western Union Company had 46,000 miles of pole lines and cables, 85,000 miles of wire, 2600 offices, and carried on an annual business in excess of $6,500,000.

The transportation and communication systems were far from complete, but substantial progress had been made in tying together the Nation. Dependable and low-cost mail service was a reality, and the telegraph provided almost instantaneous communications among all parts of the United States and with Europe. The transportation system of surfaced highways, canals and improved inland waterways, and railroads served all parts of the northeastern quarter of the country and was being extended rapidly in the southern and western sections. Transportation charges were a small fraction of the costs at the beginning of the 19th century (Table 1.2). From the standpoint of economic development, it was now possible to know of market opportunities, and it was economical to ship raw materials and finished products for long distances.
TABLE 1.2 Approximate Freight Rates in the United States during the 19th Century

<table>
<thead>
<tr>
<th>Type of Transportation</th>
<th>Period</th>
<th>Freight Rates or Costs</th>
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<td></td>
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*Based on fragmentary reports from a variety of sources.

1.5 THE GROWTH OF ECONOMIC SPECIALIZATION

As settlement pushed westward, areas on the frontier evolved through a rather typical sequence. First came the hunters, explorers, fur traders, and the missionaries. Then came the "professional" pioneers—fighting Indians, clearing small plots for corn, and raising a few cattle. They were followed by the farmers, who frequently bought out the pioneers and settled down to occupy and to improve the land on a subsistence-farming basis. Villages developed as more settlers came to the area, and economic specialization had its start. Farming was by far the dominant occupation and a considerable degree of self-sufficiency persisted. But each community had men who specialized in the handcrafts (cabinetmaking, blacksmithing, harness and shoemaking) as well as millers, carpenters, printers, teachers, and merchants. In the days of high transport cost, each inland community was largely self-sufficient, and commercial contacts among these communities and with the seacoast was not extensive. Improving transportation made specialization possible on a larger scale and, by the mid-19th century, there was growing competition between "local" and "imported" products. Flour provides an excellent example: when local wheat production was important, flour making was in the hands of small grist mills. As transportation opened the western lands, wheat production moved more and more to the Great Lakes, large milling companies developed, and most eastern communities obtained their supplies from the west. By the Civil War, the monopoly of small industries in local markets had largely disappeared except in storekeeping and the service trades.
The growth of economic specialization during this period can best be summarized by considering the changes that were taking place in population and in employment. In 1790, only five percent of the population lived in urban communities with populations in excess of 2500 inhabitants; perhaps 90 percent of total gainful employment in the United States was in agriculture. By 1870, 26 percent of the population was urban and nearly half of the gainful employment was in nonagricultural lines. Data on the distribution of nonagricultural employment are not available for the earlier period, but in 1870 approximately 21 percent of the employed persons worked in manufacturing, the hand trades, and construction. 10 percent were involved in transportation and trade, and 13 percent in domestic and other service occupations. In terms of private income realized from production, the proportions originating in agriculture declined significantly from 40 percent in 1799 to 24 percent in 1869, while the proportions from manufacturing, trade, and service occupations increased. These changes are typical of growth in an advancing economy.

The effective British blockade during the War of 1812 did much to stimulate manufacturing in the United States. These new industries found it difficult to meet intense foreign competition following the War, however, and this led to the first protective tariff in 1816. Duties on imported goods averaged 20 percent, and rates were raised still further by 1833. The southern states were primarily interested in export markets for their major agricultural products rather than in manufacturing and, hence, generally opposed high tariffs. These differences in sectional interests resulted in rate reductions in 1833, increases in 1842, and reductions in 1846 and 1857. Duties averaged about 19 percent in 1861, but with southern opposition made ineffective by the Civil War, rates were raised to an average of 47 percent in 1864. With a growing and protected domestic market, manufacturing developed rapidly in the northern states and, especially, in the Northeast.

Iron smelting had developed in the early colonial period, but furnaces used wood and charcoal for fuel and were small in scale until the 1820's. The period from 1830 to 1870 saw a tenfold increase in the output of pig iron while coal production increased from virtually nothing to more than 33,000,000 tons per year. Textile mills were established in New England at the turn of the century, and soon they were producing cotton as well as woolen cloth. By 1860, more than 5,000,000 cotton spindles were operating, utilizing 845,000 bales or 22 percent of United States cotton production.

Agriculture was also keyed to the "industrial revolution" by becoming more specialized and commercialized. The urban and industrial population provided a growing market. In fact, the production of food supplies
and agricultural raw materials were essential to industrial growth. The states in the Great Lakes region and the upper Mississippi Valley became the major grain producers (Figure 1.5). Livestock production moved to the rangelands, with "feeder" cattle often shipped from the range to the grain belt for fattening and finishing for market. Productive western lands and low freight rates forced northeastern farmers to turn to perishable and bulky products where closeness to urban markets gave them a real advantage—milk and dairy products, eggs, fruits and vegetables, and hay for the horses used in city transportation. The margin of cultivation in the Northeast retracted after 1850, and many acres that had been used as cropland reverted to forests.

Western competition was also a major influence on southeastern agriculture. Tobacco continued to be an important cash crop for foreign and domestic markets, but production increased little between 1800 and 1850. Indigo had been an important crop before the Revolution, but it disappeared quickly with the removal of the British subsidy. The big
change came in cotton after Eli Whitney invented the gin in 1793. Production expanded rapidly to meet the demands of European and domestic markets—from less than 100,000 bales in 1800 to 1,350,000 in 1840 and more than 4,000,000 bales in 1870. Cotton rapidly depleted the soil, however, and soon the southeastern states were being displaced by new lands in Alabama, Mississippi, and Texas. With little opportunity to shift to market crops for the few urban centers in the area, agriculture declined while land eroded and was abandoned.

1.6 THE SITUATION AT THE CLOSE OF THE CIVIL WAR

In 250 years the American settlements had grown from a handful of isolated colonies clinging to the Atlantic Coast to a nation stretching from the Atlantic to the Pacific with a population of 35,000,000. Although still an agricultural economy, farm employment had declined to less than 60 percent of total employment. Manufacturing, construction, and trade were contributing increasingly large proportions to the national income. The transportation network had been developed through interconnected systems of highways, waterways, and railroads in the northeastern quarter of the country, and was rapidly expanding in other sections. Inland transportation costs (the big barrier to western growth and to interregional trade) had been reduced from 20 to 40 cents per ton-mile in the days of primitive roads to one to two cents per ton-mile on canals and railroads. Communication by mail and telegraph was helping to tie the country together and—which greatly improved information—was contributing to the growth of a market economy.

Agriculture had moved into the fertile lands of the Midwest, and regional specialization was developing to take advantage of favorable soil, climate, and location factors. Farm mechanization was underway, making more effective use of human and animal power. Household industries declined as farmers purchased more and more of their clothes, tools, furniture, and even food with money obtained from the sale of “cash” crops. Industrial cities were growing, particularly in the Northeast, and the migration of excess population from farms to cities and manufacturing occupations had started. International trade, though important, had declined somewhat in relative terms and was beginning to show the patterns characteristic of industrial instead of agricultural economies—increased imports of raw materials and exports of manufactured articles.

The stage had been set for this interrelated development of industry and commercial agriculture early in the 19th century. The United States had an abundance of unexploited natural resources, the necessary tech-
nology was being created by the industrial and agricultural revolutions, and the population and the labor supply were growing rapidly. This development would have been impossible, however, without the simultaneous advance of transportation, communication, and of the many occupations that make up the marketing system. By the close of the Civil War, these facilitating industries had been greatly improved and the evolution of a market-oriented enterprise economy was well under way.

SELECTED READINGS

The Early American Economy


