OUTLINE OF THE U. S. ECONOMY

2009 EDITION

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This edition of *Outline of the U.S. Economy* has been completely revised by Peter Behr, a former business editor and reporter for the *Washington Post.* It updates several previous editions that were issued first by the U.S. Information Agency and then by the U.S. Department of State beginning in 1981.

CONTENTS

Outline of the U.S. Economy

PREFACE

"The panic itself was felt in every part of the globe," *The Wall Street Journal* reported. "It was as if a volcano had burst forth in New York, causing a tidal wave that swept with disastrous power over every nation on the globe." One of the aftereffects: "an accumulation of idle money in the banking centres." The date of this item? January 17, 1908.

Given the sobering news that of late has arrived with distressing frequency, preparing this edition of *Outline of the U.S. Economy* has been a real challenge. We have tried to approach the task with a sense of historical consciousness. In addition to the 1908 events depicted above, the United States has endured a Great Depression (began 1929), a Long Depression (began 1873), a Panic of 1837—"an American financial crisis, built on a speculative real estate market," says Wikipedia—and assorted other recessions, panics, bubbles, and contractions, and emerged from each with its economic vigor restored and its republican institutions vibrant.

We hope that our readers will find this new entry in our *Outline* series frank, informative, and above all useful. We offer it in the spirit of optimism embedded deeply in American life.

—The Editors


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1

CHAPTER

The Challenges of this Century

The world's largest and most diverse economy currently faces the most severe economic challenges in a generation or more.

Above: From left, Vice President-elect Joe Biden and his wife, Jill, President-elect Barack Obama and his wife, Michelle, stop in January 2009 on their way to inauguration and big challenges. ***Previous spread:*** Times Square in New York City, the U.S. financial capital, is reeling from the global financial collapse but still pulsating with economic energy.

The United States "continues to surprise… It continues to renew itself."

SECRETARY CONDOLEEZZA RICE
U.S. Department of State
2008

The financial crash of 2008 brought a sudden, traumatic halt to a quarter-century of U.S.-led global economic growth. The final consequences of this shock for the U.S. and world economies remain uncertain at this writing. But in the midst of the crisis, Americans chose new national leadership in a peaceful transfer of power that demonstrated again the strength of the country's democratic process and the people's confidence in the ultimate resilience of the American economy.

Since the election of Ronald Reagan as president in 1980, the United States had championed globalization of trade and finance. It opened its doors wider to foreign products and investment than any other major economy. America's entrepreneurial culture was the world's model. The synergy of U.S. political freedoms and free markets appeared vindicated by the Soviet Union's collapse in 1991. At home, a bipartisan consensus emerged in favor of further economic deregulation, which, in turn, spurred a freewheeling expansion of new types of investments that helped fuel a vast increase in international finance and commerce.

But America's growth came to rely increasingly on debt. Consumers, businesses, home buyers, and the U.S. government itself borrowed heavily in the belief that the value of their investments—including, fatefully for many, their homes—would continue to grow. The ready availability of credit on easy terms drove home prices, in particular, ever higher.

When the housing boom finally collapsed in 2007, it exposed a fragile layer of high-risk home loans made over a decade to families that could not afford them, particularly if the economy weakened. Some borrowers had purchased homes they could not afford, trusting that in a rising market they could always sell their properties at a profit. As housing prices fell, homeowners who no longer could keep up with their mortgage payments were unable to pay their debt by selling their homes. These home

loans thus were the unstable foundation for a massive but largely invisible speculation on mortgage securities and financial contracts sold around the world.

Triggered by the housing collapse, this edifice toppled in 2008. Foreclosures grew, and panic followed. Giant Wall Street financial firms fell, reorganized, or were combined with larger competitors. Stock markets plunged, and the world's economies headed into the worst crisis since the Great Depression of the 1930s.

The catastrophe revealed weaknesses unheeded during the boom. U.S. consumption had for too long outpaced savings. Financial regulators' faith in the efficiency of economic markets led them to underestimate the mounting risks. Optimism and ambition among many Americans bred excess and recklessness. Lessons from past booms and crashes were ignored as many focused only on the present.

But the crisis also revealed the ability of the American government to respond quickly and decisively to the challenge. Even at a peak of the crisis in the last two months of 2008, foreigners viewed the United States as among the most economically safe and politically stable investment arenas. So eager were they to purchase U.S. Treasury securities that the return on these investments dropped nearly to zero: Once again, the dollar was a refuge in financial storms.

Washington officials responded with unprecedented measures to head off a global collapse of lending. The federal government and the Federal Reserve central bank seized control of the two largest U.S. home mortgage firms and bailed out leading banks and a major insurance company, actions that would have been politically unthinkable before the crisis. An initial $700 billion bank rescue plan won bipartisan support in the U.S. Congress.

Since the start of the global crisis in 2008, U.S. government agencies and the central bank had pledged an astonishing $12.8 trillion—equal to nearly the entire U.S. annual economic output—in loans, loan purchases, and credit guarantees seeking to halt the financial freefall. The Federal Reserve also promised to buy more than $1 trillion in bonds backed by devalued home mortgages. A leading economist observed that "no one else—not even China—had a big enough balance sheet" to mount such a response.

The crisis erupted in the midst of the 2008 presidential election and helped clinch victory for Senator Barack Obama, the Democratic Party candidate. Many interpreted the electoral triumph of the United States' first African-American president, a man who rose rapidly from humble origins, as an affirmation of the nation's signature traits of optimism and faith in this country. As President George W. Bush's secretary of state, Condoleezza Rice, put it, one can "go from

modest circumstances to extraordinary achievement."

This edition of the *Outline of the U.S. Economy* is a primer on how the U.S. economic system emerged, how it works, and how it is shaped by American social values and political institutions. Always present, given the trying times during which this edition neared completion, is a sense of how all these factors may guide the nation's responses to the extraordinary economic challenges that lie ahead.

This chapter offers a brief over-view of the U.S. economy today. Chapter 2 follows the historical evolution of the economy from colonial times to the present. Chapter 3 concerns the beliefs, traditions, and values that underpin the United States' representative democracy and its economy. Chapter 4 profiles the makeup of the U.S. economy—what it produces, exports, and imports. Chapter 5 focuses on the major regions of the country whose cultures are responsible for much of America's diversity, and the linkages of infrastructure and education that have tied the country together. Chapter 6 describes the ongoing debate over the government's role in the economy. Chapter 7 examines the impact of globalization and trade on the U.S. economy, its companies, and its workers. And Chapter 8 sums up the hurdles that confront the American economy in a fast-changing and less-predictable world.

An Economy Driven by Competition

Many economists agree that an understanding of the American economy begins with Adam Smith's concept of the "invisible hand." Smith, considered the father of economics, wrote in his 1776 book *The Wealth of Nations* that an economy performs best when buyers and sellers seek the best outcome for themselves, as if guided by an unseen hand. The sum of their many independent transactions is the most efficient use of a nation's resources, he reasoned. In freely operating markets, prices are determined by the interactions of buyers and sellers. Competition results in better products and wider prosperity on average than a government-run economy could deliver—as the failure of communism in Russia so clearly attests, market economists say.

An American version evolved from Smith's doctrine and other features of Britain's merchant economy. Its centerpiece remains a matrix of laws, institutions, and traditions that have shaped the American economy. The framers of America's 1776 Declaration of Independence from Britain and 1789 U.S. Constitution had given the new United States "stars to steer by," in historian David McCullough's words, meaning the basic political freedoms and restraints on governmental power that Americans have prized—and debated—since the country's founding.

But even the strongest supporters of market capitalism acknowledge that it does not provide all the answers. "For various reasons, the invisible hand sometimes does not work," said economist N. Gregory Mankiw, a former member of President George W. Bush's Council of Economic Advisers. A manufacturer won't pay the environmental and health costs of the pollution emitting from its smokestacks unless government requires that it do so. A monopolist or group of dominant companies can charge higher prices than a competitive market would allow. Another former White House adviser, Nobel Prize winner Joseph E. Stiglitz, says, "The reason that the invisible hand often seems invisible is that it is often not there."

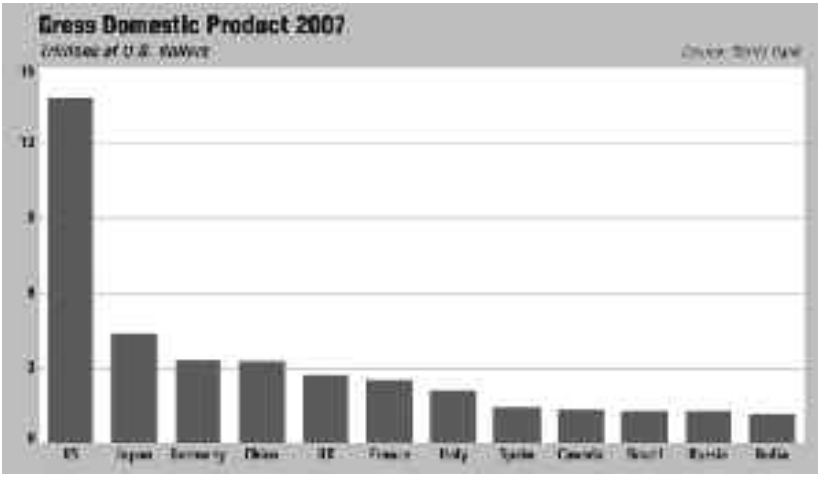
Every generation of Americans has produced critics of the nation's economic arrangements. Historian Henry Steele Commager, writing in the 1950s, said that "whatever promised to increase wealth was automatically regarded as good, and the American was tolerant, therefore, of speculation, advertising, deforestation, and the exploitation of natural resources, and more patient with the worst manifestations of industrialism."

Others have pointed to numerous contradictions both seeming and real in the American economic formula: a consumer-led society long on materialism but short on saving for the future; a nation of abundant natural resources that has at times abused this bounty; a political system grounded in civic equality but reliant on income inequality to motivate citizens to work hard and invest in learning; a nation with astonishing wealth at the top and more relative poverty than in many of the world's rich countries.

But the large majority of Americans subscribes to the idea of a dynamic economy that embraces competition, invites striving and invention, heaps rewards on winners, and gives second chances to those who fail. With all its contradictions, the United States has achieved a highly flexible economic system that arguably offers more choices and opportunities than any other, and one that has displayed repeatedly its capacity to repair mistakes and adapt to recessions, wars, and financial panics, gaining strength from its trials. The United States "continues to surprise," Secretary Rice said, following Obama's election. "It continues to renew itself."

The U.S. Economy Today

Even in crisis, the America's economy remains the world's largest and most diverse. The total output of U.S. goods and services—the gross domestic product—stood at $14 trillion in 2007, nearly three times the size of Japan's economy and five times China's, based on the purchasing power of each country's currency. With just 5 percent of the world's population, the United States is



responsible for 20 percent of total economic output.

The U.S. gross domestic product per person was nearly $45,000 in 2007, compared to a worldwide average of $11,000. The economy poured out $40 billion a day in goods and services that year, drawing its fuel from the know-how of the 150 million Americans who make up the workforce. Capital provided more fuel: the $5.5 billion in nongovernmental funds that Americans invested daily in their businesses and homes. And there are the nation's resources of minerals, energy, water, forests, and farmland.

The productivity of American working men and women remains a standard for the world. The average American worker produced more than $92,000 worth of products and services in 2007. This is nearly 20 percent more than that of the average of a dozen leading European countries and 85 percent higher than that of China, according to the U.S. Conference Board. U.S. productivity expanded by an average 2 percent a year from 2000 through 2006, twice the gain in most of Europe. In one study of 16 major industrial economies, only South Korea, Sweden, and Taiwan had higher productivity growth than the United States over the same years. These increases in productivity have helped the United States maintain relatively low unemployment and inflation.

The World Economic Forum, whose annual conferences are a gathering of top international government and corporate leaders, has regularly ranked the United States as the world's most competitive economy. Major U.S. companies have stayed atop international markets through a determined focus on innovation, cost reduction, and the return of profits to shareholders. Of the 2007 *Fortune* magazine list of the 500

largest corporations worldwide, 162 were headquartered in the United States. Japan was second with 67, and France third with 38.

American technology leadership continues to expand from current foundations in computers, software, multimedia, advanced materials, health science, and biotechnology into the frontiers of nanotechnology and genetics. Although the euro is gaining support as a currency of choice, the American dollar remains the centerpiece of international commerce.

When Barack Obama took office as president in January 2009, the immediate crisis dominated his agenda, and beyond that lay grave, longer-range challenges. Record federal budget deficits stemming from the government lending in the crisis could challenge the stability of the U.S. dollar. The federal government's

Above: U.S. companies keep their technological edge at places such as this nanotechnology center at Bell Labs in New Jersey.

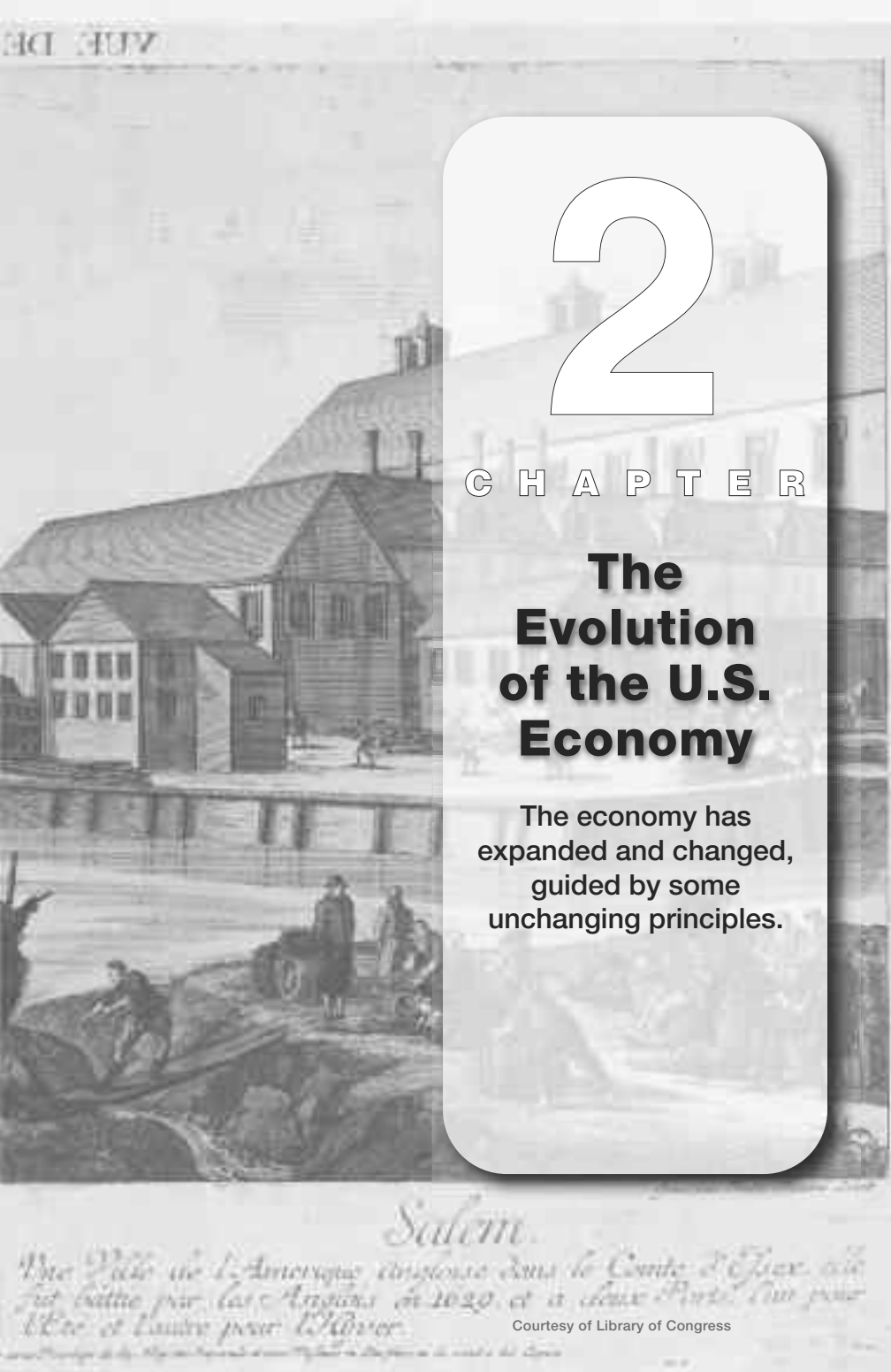
rising retirement and health care commitments to an aging population will test the government's ability to pay for itself. American businesses, shareholders, and consumers could face heavy costs in adapting processes and products to conserve natural resources and meet the challenges of climate change. Disparities in educational attainment could increase. Foreign competition and technological change could displace more U.S. jobs.

Harvard University economist Benjamin Friedman and others warn that America's continued political support for a free flow of trade and finance and its openness to the world hinge critically on a continued prosperity for the large majority of its citizens.

President Obama acknowledged the severity of the challenge in a speech shortly before his inauguration. But he also reminded the nation of its heritage and of its inherent strengths. "We should never forget that our workers are still more productive than any on Earth. Our universities are still the envy of the world. We are still home to the most brilliant minds, the most creative entrepreneurs, and the most advanced technology and innovation that history has ever known. And we are still the nation that has overcome great fears and improbable odds."

Salem.

Eine Stadt im Engellandischen Amerika, in der Grafschaft Essex welche von den Engellandern 1629 erbauet worden und 2 Häfen hat einen für den Sommer und einen für den Winter.



Courtesy of Library of Congress

2

CHAPTER

The Evolution of the U.S. Economy

The economy has expanded and changed, guided by some unchanging principles.

Courtesy of Library of Congress

Above: *Harper's Weekly* published scenes of U.S. farm life in the 1860s, years when America was poised to become a world manufacturing power. ***Previous spread:*** Salem, Massachusetts, in New England, was one of the most important seaports in the American colonies at the time of the Revolutionary War.

"Those who labor in the earth are the chosen people of God, if ever he had a chosen people."

THOMAS JEFFERSON
1787

By the time that General George Washington took office as the first U.S. president in 1789, the young nation's economy was already a composite of many diverse occupations and defined regional differences.

Agriculture was dominant. Nine of 10 Americans worked on farms, most of them growing the food their families relied on. Only one person in 20 lived in an "urban" location, which then meant merely 2,500 inhabitants or more. The country's largest city, New York, had a population of just 22,000 people, while London's population exceeded one million. But the handful of larger cities had a merchant class of tradesmen, shopkeepers, importers, shippers, manufacturers, and bankers whose interests could conflict with those of the farmers.

Thomas Jefferson, a Virginia planter and principal author of America's Declaration of Independence, spoke for an influential group of the country's Founding Fathers, including many from the South. They believed the country should be primarily an agrarian society, with farming at its core and with government playing a minimal role. Jefferson mistrusted urban classes, seeing the great cities of Europe as breeders of political corruption. "Those who labor in the earth are the chosen people of God, if ever he had a chosen people," Jefferson once declared.

Opposing Jefferson and other supporters of a farm-based republic was a second powerful political movement, the Federalists, often favored by northern commercial interests. Among its leaders was Alexander Hamilton, one of Washington's principal military aides in the American Revolutionary War (1775-1783), in which the American colonies had won recognition of their sovereignty from Britain. Hamilton, a New Yorker who was the nation's first secretary of the Treasury, believed that the young, vulnerable American republic required strong central leadership and federal policies that would support the spread of manufacturing.

In 1801, Jefferson became the third U.S. president and headed the Democratic-Republican political party, later to be called the Democratic

Party. In 1828, war hero Andrew Jackson from Tennessee won election as the candidate of Jefferson's wing, becoming the first U.S. president from a frontier region. His combative advocacy for "ordinary" Americans became a main theme of the Democrats. He declared in 1832 that when Congress acts to "make the rich richer and the potent more powerful, the humble members of society—the farmers, mechanics, and laborers" who lack wealth and influence—have the right to protest such treatment.

Hamilton argued that America's unbounded economic opportunities could not be achieved without a system that created capital and rewarded investment. Hamilton's Federalists evolved into the Whig Party and then the Republican Party. This major branch of American politics generally favored policies to spur the growth of U.S. industry: internal infrastructure improvements, protective tariffs on the import of goods, centralized banking, and a strong currency.

A Balancing of Interests

The U.S. Constitution, ratified in 1788, sought to ground the new nation's experiment in democracy in hard-won compromises of conflicting economic and regional interests.

"The framers of the Constitution wanted a republican government that would represent the people, but represent them in a way that protected against mob rule and maximized opportunities for careful deliberation in the best interests of the country as a whole," says professor Anne-Marie Slaughter of Princeton University. "They insisted on a pluralist party system, a bill of rights limiting the power of the government, guarantees for free speech and a free press, checks and balances to promote transparent and accountable government, and a strong rule of law enforced by an independent judiciary."

The lawmaking power was divided between two legislative houses. The Senate, whose membership was fixed at two senators from each state (and until 1914, who were chosen by the state legislatures rather than by direct election), was assumed to reflect business and landholder interests. The Founders created the House of Representatives, with membership apportioned among the states by population and elected directly by the people, to adhere more closely to the views of the broader public.

Another essential constitutional feature was the separation of powers into three governmental branches: legislative, executive, and judicial. James Madison, a primary author of the Constitution and, beginning in 1809, the nation's fourth president, said that "the spirit of liberty…demands checks" on government's power. "If men were angels, no government would be necessary," he wrote, in defense of the separation principle. But Madison also be-

lieved that the separations could not be absolute and that each branch ought properly to possess some influence over the others.

The president thus appoints senior government leaders, chief federal prosecutors, and the top generals and admirals who direct the armed forces. But the Senate may accept or reject these candidates. Congress may pass bills, but a president's veto can prevent their becoming law unless two-thirds of each congressional house votes to override the veto. The Supreme Court successfully claimed the right to strike down a law as unconstitutional, but the president retains the ability to nominate new Supreme Court justices. The Senate possesses an effective veto over those choices, and the Constitution assigns to Congress the power to fix the size of the Supreme Court and to restrict the court's appellate jurisdiction.

The Constitution outlined the government's role in the new republic's economy. At Hamilton's insistence, the federal government was granted the sole power to issue money; states could not do so. Hamilton saw this as the key to creating and maintaining a strong national currency and a creditworthy nation that could borrow to expand and grow.

There would be no internal taxes on goods moving between the states. The federal government could regulate interstate commerce and would have sole power to impose import taxes on foreign goods entering the country. The federal government was also empowered to grant patents and copyrights to protect the work of inventors and writers.

The initial U.S. protective tariff was enacted by the first Congress in 1789 to raise money for the federal government and to provide protection for U.S. manufacturers of glass, pottery, and other products by effectively raising the price of competing goods from overseas. Tariffs immediately became one of the young nation's most divisive regional issues.

Hamilton championed the tariff as a necessary defensive barrier against stronger European manufacturers. Hamilton also promoted a decisive federal hand in the nation's finances, successfully advocating the controversial federal assumption and full payment of the states' Revolutionary War debts, much of which had been acquired at low prices by speculators during the war. These measures were popular among American manufacturers and financiers in New York, Boston, and Philadelphia, whose bonds paid for the country's industrial expansion.

But the protective tariff infuriated the predominantly agricultural South. It raised the price of manufactured goods that southerners purchased from Europe, and it encouraged European nations to retaliate by reducing purchases of the South's agricultural exports. As historian Roger L. Ransom observes, western states came down in the middle, object-

ing to high tariffs that raised the prices of manufactured goods but enjoying the federal tariff revenues that funded the new roads, railroads, canals, and other public works projects that their communities needed. The high 1828 barriers, dubbed the "Tariff of Abominations" by southern opponents, escalated regional anger and contributed to sectional tensions that would culminate in the U.S. Civil War decades later.

By 1800, the huge tracts of land granted by British kings to colonial governors had been dispersed. While many large landholdings remained, particularly the plantations of the South, by 1796 the federal government had begun direct land sales to settlers at $2 per acre ($5 per hectare), commencing a policy that would be critical to America's westward expansion throughout the 19th century. The rising tide of settlers pushed the continent's depleted Native American inhabitants steadily westward as well. President Jackson made the displacement of Indian tribes government policy with the Indian Removal Act of 1830, the forced relocation of the Choctaw tribe to the future state of Oklahoma over what came to be called "the trail of tears."

The first regional demarcations followed roughly the settlement patterns of various ethnic immigrant groups. Settlers from England followed the path of the first Puritans to occupy New England in the northeastern part of the country. Pennsylvania and other Middle Colonies attracted Dutch, German, and Scotch-Irish immigrants. There were French farmers in some of the South's tidewater settlements while Spain provided settlers for California and the Southwest. But the sharpest line was drawn by the importation of African slaves, which began in America in 1619.

In the South, slave labor underpinned a class of wealthy planters whose crops—first tobacco, then cotton, sugar, wool, and hemp—were the nation's principal exports. Small farm holders were the backbone of many new settlements and towns and were elevated by Jefferson and many others as symbols of an "American character" embodying independence, hard work, and frugality.

Some of the Founding Fathers feared the direction in which the unschooled majority of Americans, a "rabble in arms" in one author's famous description, might take their new country. But the image that prevailed was that of the farmer-patriot, once captured by the 19th-century philosopher Ralph Waldo Emerson's depiction of the "embattled farmers" who had defied British soldiers, fired "the shot heard round the world," and sparked the American Revolution.

President Jefferson's purchase of the Louisiana territory in 1803 from France doubled the nation's size and opened a vast new frontier that called out to settlers and adventurers.

The South and Slavery

The South's economy relied on the labor of slaves, a fundamental contradiction of the principle of equality on which America was founded. Congress outlawed the importation of slaves in 1808 but not slavery itself, and the domestic slave population kept expanding. American politics in the half-century preceding the Civil War (1861-1865) were increasingly dominated by the South's tenacious defense of its "peculiar institution" and growing northern demands for slavery's abolition. In 1860, in the 11 southern states that would secede from the Union, create their own Confederacy, and launch the Civil War, four out of 10 people were slaves, and they provided more than half of all agricultural labor.

One crop stood out above all others in the region. "Cotton is king," declared James Henry Hammond, a South Carolina senator and defender of slavery, in 1858. Cotton was the nation's most important export, vital to the economies of North and South. The low cost of slave-produced cotton benefited U.S. and British textile manufacturers and provided cheaper clothing for the urban centers. Southerners bought the output of northern manufacturers and western farmers.

The Civil War's devastating economic impact widened the disparities between the victorious North and a defeated South. An earlier generation of historians argued that the war stimulated the great manufacturing and commercial expansion of the decades that followed. More recent research asserts that the U.S. economy would have expanded greatly with or without the war. The victorious North, in any case, moved to new heights, stumbled during a series of financial panics, but recovered and continued to advance.

The South mostly adopted a system of tenant farming that effectively broke up the plantation system on which the region's economy had previously depended. While the Reconstruction years immediately following the Civil War saw real efforts to improve the lot of former slaves, the political will to see through these reforms ebbed, especially after 1877. The promised political and economic freedoms thus were not delivered. Instead the repressive system of "Jim Crow" segregation took hold throughout the South. By the end of the 19th century, poverty was widespread among blacks, as it was among many rural whites.

The Civil War marked the greatest threat to the Union's survival, but it was also an opportunity for the war-time Congress—in the absence of representatives from the rebellious southern states—to expand the power of the national government. The first system of national taxation was passed; a national paper currency was issued; public land-grant universities were funded; and con-

struction of the first transcontinental railroad was begun.

A Spirit of Invention

Across the country, a flow of inventions sparked dramatic increases in farm output. Jefferson himself had experimented with new designs for plow blades that would cut the earth more efficiently, and the drive to improve farming equipment never slackened. In Jefferson's time, it took a farmer walking behind his plow and wielding his sickle as many as 300 hours to produce 100 bushels of wheat. By the eve of the Civil War, well-off farmers could purchase John Deere's steel plows and Cyrus McCormick's reapers, which cut, separated, and collected farmers' grain mechanically. Advanced windmills were available, improving irrigation.

In the next 40 years, steam tractors, gang plows, hybrid corn, refrigerated freight cars, and barbed wire fencing to enclose rangelands all appeared. In 1890, the time required to produce 100 bushels of wheat had dropped to just 50 hours. In 1930, a farmer with a tractor-pulled plow, combine, and truck could do the job in 20 hours. The figure dropped to three hours in the 1980s.

Eli Whitney's cotton gin, introduced in 1793, revolutionized cotton production by mechanizing the separation of cotton fibers from sticky short-grain seeds. Cotton demand soared, but the cotton gin also multiplied the demand for slave labor. Whitney, a Massachusetts craftsman and entrepreneur, fought a long, frustrating battle to secure patent rights and revenue from southern planters who had copied his invention, one of the earliest legal struggles over the protection of inventors' discoveries.

Whitney did succeed on another front, demonstrating how manufacturing could be dramatically accelerated through the use of interchangeable parts. Seeking a federal contract to manufacture muskets, Whitney, as the story was told, amazed Washington officials in 1801 by pulling parts at random from a box to assemble the weapon. He illustrated that the work of highly trained craftsmen, turning out an entire product one at a time, could be replaced with standardized processes involving simple steps and precision-made parts—tasks that journeymen could handle. His insights were the foundation for the emergence of a machine tool industry and mass production processes that made U.S. manufacturing flourish, eventually producing "a sewing machine and a pocket watch in every home, a harvester on every farm, a typewriter in every office," journalist Harold Evans notes.

The 19th century delivered other startling inventions and advances in manufacturing and technology, including Samuel Morse's telegraph, which linked all parts of the United States and then crossed the Atlantic, and

Alexander Graham Bell's telephone, which put people in direct contact across great distances. In 1882, Thomas A. Edison and his eclectic team of inventors introduced the first standard for generating and distributing electric energy to homes and businesses, lighting offices along New York's Wall Street financial district and inaugurating the electric age.

And a transportation revolution was launched with the completion of the first transcontinental railroad, when converging rail lines from the East and the West met in Utah in 1869.

"The American economy after the Civil War was driven by the expansion of the railroads," writes historian Louis Menand. During the war, Congress made 158 million acres (63 million hectares) available to companies building railroads. Railroad construction fed the growth of iron and steel production. Following the first connection, other lines linked the country's Atlantic and Pacific coasts creating a national economy able to trade with Europe and Asia and greatly expanding U.S. economic and international political horizons.

Convulsive Changes

Convulsive changes caused by industrialization and urbanization shook the United States at the end of the 19th century. Labor movements began and vied for power, with immigrants helping to adapt European protest ideologies into American forms.

By the 1880s, manufacturing and commerce surpassed farm output in value. New industries and railroad lines proliferated with vital backing from European financiers. Major U.S. cities shot up in size, attracting immigrant families and migration from the farms. A devastating depression shook the country in the first half of the 1890s, forcing some 16,000 businesses to fail in 1893 alone. The following year, as many as 750,000 workers were on strike, and the unemployment rate reached 20 percent.

Farmers from the South and West, battered by tight credit and falling commodity prices, formed a third national political organization, the Populist Party, whose anger focused on the nation's bankers, financiers, and railroad magnates. The Populist platform demanded easier credit and currency policies to help farmers. In the 1894 congressional elections, Populists took 11 percent of all votes cast.

But American politics historically has coalesced around two large parties—the Republican and Democratic parties have filled this role since the mid-1800s. Smaller groupings served mostly to inject their issues into either or both of the main contenders. This would be the fate of the 1890s Populists. By 1896, the new party had fused with the Democrats. But significant parts of the Populist agenda subsequently found their way into law by way of the trans-party Progressive move-

The Richest Man in the World

Andrew Carnegie. *ca. 1886*

In the post-Civil War Gilded Age, a generation of immensely wealthy industrialists rose to prominence. Hailed as "captains of industry" by admirers and as "robber barons" by critics, these titans dominated entire sectors of the American economy. By the end of the 19th century, oil had its John D. Rockefeller, finance its J. Pierpont Morgan and Jay Gould, and tobacco its James B. Duke and R. J. Reynolds. Alongside them were many others, some born into wealthy families, and some who personified the self-made man.

None climbed further than Andrew Carnegie. He was the son of a jobless Scottish textile worker who brought his family to the United States in the mid-1800s in hopes of better opportunities. From this start, Carnegie became "the richest man in the world," in the words of Morgan, who along with his partners would in 1901 purchase what became U.S. Steel. Carnegie's personal share of the proceeds was an astonishing $226 million, the equivalent of $6 billion today, adjusted for inflation, but worth much more than that as a percentage of the entire U.S. economy then.

Carnegie's life exemplifies how an industrializing America created opportunities for those smart and fortunate enough to seize them. As a teenager in Pennsylvania, Carnegie taught himself the Morse code and became a skilled telegraph operator. That led to a job as assistant to Thomas A. Scott, a rising executive in the Pennsylvania Railroad, one of the nation's most important lines. As Scott advanced, becoming one of the most powerful railroad leaders in the country, his valued protégé Carnegie advanced too, sharing lucrative financial investments with Scott before going into business himself to build iron bridges for the railroad. By the age of 30, Andrew Carnegie was a wealthy man.

After quitting the railroad, Carnegie also prospered in oil development, formed an iron and steel company, and shrewdly concentrated on steel rails and steel construction beams as railroad, office, and factory construction soared. His manufacturing operations set standards for quality, research, innovation, and efficiency. Carnegie also availed himself of secret alliances and advance knowledge of business decisions, practices forbidden by today's securities laws as "insider" transactions but legal in Carnegie's era.

Andrew Carnegie was a study in contrasts. He fought unionization of his factories. As other industry leaders did, Carnegie imposed hard, dangerous conditions on his workers. Yet his concern for the less fortunate was real, and he invested his immense wealth for society's benefit. He financed nearly 1,700 public libraries, purchased church organs for thousands of congregations, endowed research institutions, and supported efforts to promote international peace. When his fortune proved too great to be dispensed in his lifetime, Carnegie left the task to the foundations he had created, helping to establish an American tradition of philanthropy that continues today.

Above: (Detail) A 1910 panoramic photograph of a Carnegie steel plant in Youngstown, Ohio.

ment of the 20th century's first two decades. Among the innovations were direct popular election of senators and a progressive national income tax.

American Progressivism reflected a growing sense among many Americans that, in the words of historian Carl Degler, "the community and its inhabitants no longer controlled their own fate." Progressives relied on trained experts in the social sciences and other fields to devise policies and regulations to reign in perceived excesses of powerful trusts and other business interests. Writing in 1909, Herbert Croly, author of the hugely influential *The Promise of American Life* and first editor of the *New Republic* magazine, expressed the Progressive's credo in this way: "The national government must step in and discriminate, not on behalf of liberty and the special individual, but on behalf of equality and the average man."

The influence of Progressive thought grew rapidly after the assassination of President William McKinley in 1901 thrust Vice President Theodore Roosevelt into the White House. Adventurer, naturalist, and scion of wealth, "Teddy" Roosevelt believed the most powerful corporate titans were strangling competition. Businesses' worst excesses must be restrained lest the public turn against the American capitalist system, Roosevelt and his allies argued.

The *New York World* newspaper, owned by the influential publisher Joseph Pulitzer, editorialized that "the United States was probably never nearer to a social revolution than when Theodore Roosevelt became president." Roosevelt responded with regulations and federal antitrust lawsuits to break up the greatest concentrations of industrial power. His administration's antitrust suit against the nation's largest railroad monopoly, Northern Securities Company, was a direct attack on the nation's foremost financier, J.P. Morgan. "If we have done anything wrong," Morgan told Roosevelt, "send your man to my man and they can fix it up." Roosevelt responded, "That can't be done." The Supreme Court's ultimate decision against Northern Securities was a beachhead in the government's campaign to restrict the largest businesses' power over the economy.

A Modern Economy Emerges

Electric power surged throughout the U.S. economy in the first decades of the 20th century, steadily replacing steam and water power in industrial plants. It lit offices and households, illuminated department stores and movie theaters. It reshaped cities, lifting elevators in new skyscrapers and powering street cars and subways that enabled people to work farther from home. By 1939, electricity provided 85 percent of the primary power for U.S. manufacturing. The ability to transfer power easily over thin electric wires spurred totally new

manufacturing processes favoring automation, the use of specialized parts, and the rise of skilled labor.

But the Great Depression of the 1930s brought economic expansion to a devastating halt. Its causes were complex. After a decade of increasingly reckless stock speculation, the stock market crash of 1929 wiped out millions of investors and crippled confidence among business executives and consumers.

The United States and other economic powers waged a destructive battle over trade, raising tariff barriers against each other's imports and pushing their currency values down in an unsuccessful effort to make their exports more competitive. Prices collapsed, impoverishing businesses and families. Drought and poor planting practices led to dust storms in the U.S. farming heartland and drove thousands of farmers from their homes. The nation's worst banking crisis shut down 40 percent of the banks doing business at the Depression's beginning. The national unemployment rate exceeded 20 percent.

Some desperate and disillusioned Americans looked to communism and socialism as better alternatives, others eyed the fascist alternative pioneered in Italy by Benito Mussolini, and many feared the United States was approaching a breaking point politically.

The New Deal

The inability of President Herbert Hoover (1929–1933) to meet demands for economic relief set the stage for the 1932 election of Democrat Frank-lin D. Roosevelt as president and the enactment the following year of the first of his "New Deal" economic programs. The president, known by his initials, FDR, was a wealthy patrician from New York State with a gift for communicating his message to Americans in those hard times. He used the new medium of radio to do so directly. In his inaugural speech upon assuming the presidency, Roosevelt assured the country, "The only thing we have to fear is fear itself."

Roosevelt then launched a tide of new laws and programs to halt the paralyzing banking crisis and create jobs. New agencies such as the Civilian Conservation Corps, the Works Progress Administration, and the Public Works Administration put millions of unemployed Americans to work on government projects. The Agricultural Adjustment Administration worked to support farm prices by reducing output, fining farmers in some cases for excess production. Overall, the programs marked "the return of hope," said long-time Democratic congressman Emanuel Celler of New York.

FDR was far more an improviser than an ideologue, historians agree. His budget policies were inconsistent: Spending cuts in the middle of his presidency probably extended the Depression. Some New Deal measures proved contradictory or hugely

Courtesy of Library of Congress

Above: The Social Security retirement pension system was part of President Franklin Roosevelt's New Deal.

controversial. The National Recovery Administration negotiated a series of industry-wide codes establishing minimum prices, wages, and other particulars. Many small businesses complained that the codes favored larger competitors. Others saw in the close NRA-engendered ties between government and big business a "corporatist" outlook fundamentally at odds with America's traditionally looser, more free-wheeling economic arrangements. The Supreme Court agreed, declaring the law establishing the NRA unconstitutional, an exercise of Congress delegating power to the president beyond that granted by the Constitution's commerce clause.

But other New Deal measures proved long lasting. The federal government tightened regulation of banking and securities, and it provided unemployment insurance and retirement, disability, and death benefits for American workers under a social security program funded by payroll taxes on employees and employers. The New Deal established a federal social safety net that has helped Americans through hardships, but whose costs today pose huge future financial challenges for the government.

Before Franklin Roosevelt's administration, the federal government had taken a predominantly hands-off attitude toward business, except for its regulation of banking and the railroads, and the campaigns against the monopolistic trusts. FDR took the country far in the other direction, injecting the federal government into economic activities previously deemed the domain of the private sector. One notable example was his creation in 1933 of the Tennessee Valley Authority, a federally chartered corporation formed to control flooding and generate electric power in an impoverished region of the South.

Roosevelt and his supporters saw the government-run TVA as a way to set a benchmark for fair pricing of electricity that would show whether customers were being overcharged by electric power companies. The TVA stood for the New Deal's confidence in government's ability to define and solve society's problems. David Lilienthal, whom Roosevelt appointed as a TVA director and later its chairman, once said, "There is almost nothing, however fantastic, that a team of engineers, scientists, and administrators cannot do."

To its opponents, the TVA was socialism, violating the basic principles of free enterprise. Roosevelt's Republican predecessor, Herbert Hoover, had opposed earlier proposals for government power projects and economic development programs in the Tennessee Valley, saying it would "break down the initiative and enterprise of the American people.… It is the negation of the ideals upon which our civilization has been based."

Americans differed as well over more practical questions: How could any private power company compete with the virtually unlimited resources of the federal government? And once a federal agency determined to act, what would be the check on its authority? The same hand of government that built dams to produce power and limit floods also uprooted thousands of people from their farms. Although the TVA complex of dams was built and the TVA remains the largest U.S. public power producer, Roosevelt's efforts to adopt the TVA model in other parts of the country were shelved by growing political opposition and by World War II.

American industry and offices mobilized to fight Germany, Japan, and the other World War II Axis powers. The last U.S.-made automobile of the war years left its factory in February 1942. In its place, industry produced 30,000 tanks in 1943 alone, nearly three per hour around the clock, more than Germany could build in the entire war. A piano manufacturer produced compasses, a tableware company turned out automatic rifles, and a typewriter company delivered machine guns, author Rick Atkinson notes. The weight of U.S. industrial might was irresistible. American factories supplied armed forces in both the European and Pacific theaters, with more to spare for the British, the Soviets, and other Allied armies.

At the war's end, much of Europe and Asia were in ruins, and America stood alone as the world's economic superpower.

Organized Labor: Prosperity and Conflict

The end of wartime economic controls unlocked pent-up demands by American workers for better wages, leading to a series of major labor strikes that polarized American attitudes toward unions, as in the 1890s. In 1935, the Democratic-controlled Congress had enacted the National Labor Relations Act of 1935 establishing the right of most private-sector workers to form unions, to bargain with management over wages and working conditions, and to strike to obtain their demands. A federal agency, the National Labor Relations Board, was established to oversee union elections and address unfair labor complaints. The Fair Labor Standards Act of 1938 established a national minimum wage, forbade "oppressive" child labor, and provided for overtime pay in designated occupations. It declared the goal of assuring "a minimum standard of living necessary for the health, efficiency, and general well-being of workers." But it also allowed employers to replace striking workers.

After World War II, a Republican-controlled Congress passed the Taft-Hartley Act of 1947, which reduced union power in organizing disputes, strengthened the rights of employees who didn't

want to join a union, and allowed the president to order striking workers back on the job for an 80-day "cooling-off" period if he determined a strike could endanger national health or safety. United Mine Workers president John L. Lewis called it a "slave labor" law. President Harry S. Truman vetoed it, but was overridden by the required two-thirds congressional majorities.

Together, the Fair Labor Standards Act and the Taft-Hartley Act established the broad legal parameters within which organized labor contended with business leadership and union opponents for economic and political influence. In 1950, when American automobile companies enjoyed substantial global market share, General Motors Corporation and the United Auto Workers union negotiated a contract affording workers extensive health care and retirement benefits. From the employer's perspective, generous pay and benefits ensured freedom from strikes and motivated the employees. The costs of these benefits, the companies reasoned, could be passed on to consumers. With the rise of competition from Japanese, European, and other foreign auto-makers, American industry became less willing or able to pass through such labor costs.

These issues played out in the political realm as well. As a generalization, labor unions mostly supported Democratic candidates with money and manpower, while businesses backed Republicans. Each side hoped that electoral victories would secure more favorable treatment. But global economic developments intervened. With the recovery of industry in other nations, U.S. industrial unions generally declined in membership. At the end of World War II, one-third of the workforce belonged to unions. In 1983, it was 20 percent. By 2007, the figure had dropped to 12 percent, with union membership totaling 15.7 million.

Union growth today is mostly in arenas less susceptible to foreign competition: the services sector, particularly among public services employees such as teachers, police officers, and firefighters. In 2007, just over one-third of public-services workers belonged to unions, only 7.5 percent of private-sector workers were in unions, and union membership among workers under 24 years of age was less than 5 percent.

One symbol of organized labor's relative decline came in 1981, when President Ronald Reagan fired striking air traffic controllers. Public employees such as the controllers typically enjoyed great job security but, in turn, were prohibited from striking "against the public." This is not to say that public employees never struck: Sometimes they did, and usually the illegality of the strike was forgiven as part of the settlement. Not this time. Reagan ordered the controllers back to work, citing the federal law against government em-

ployee strikes. He then fired more than 11,000 controllers who refused to return, replaced them with new workers, and broke the union.

Even as unions gained, then lost, influence, other major currents helped shape the postwar American workforce. The civil rights movement began in the mid-1950s with demands to end state and local laws in the South that segregated schools, public facilities, and public transportation, separating blacks and whites, as well as restrictions on African-Americans' voting rights. After a strife-filled decade, the non-violent campaign for racial justice led by the late Dr. Martin Luther King Jr. led to passage of federal laws to combat racial discrimination and poverty. A wide-ranging series of laws that Democratic President Lyndon Johnson called his Great Society program followed. Education and employment opportunities for minorities expanded. While Americans have debated the fairness of "affirmative action" preferences for minorities in hiring and college admissions, the 1960s' laws opened increasing workplace opportunities for minorities.

The 1960s civil rights movement also led to laws forbidding discrimination in employment against women, emerging from a far-reaching movement by women to gain equal status with men in the economy and society. Only one-third of adult women had jobs in 1950, but by the end of the century three of every five women were in the workforce. Female chief executive officers have led such major corporations as technology giant Hewlett-Packard and the Ogilvy & Mather advertising firm. Other women have built careers in virtually every arena, from academia, politics, and medicine to manufacturing, the construction trades, and the military. A wage gap between men and women is shrinking, but still remains. In 2000 women working full time earned 77 cents for every dollar paid to men throughout the workforce, while 20 years earlier women earned just two-thirds of what men received.

Another major impact was the arrival of the "baby-boom" generation in the workforce. Between the end of World War II and 1964, 76 million Americans were born, an unprecedented surge that may have reflected the nation's postwar optimism. This population bulge, in the midst of a long upward economic trend, triggered a sustained boom in housing construction and the expansion of a consumer-focused economy.

The Political Pendulum Swings

The 1960s Great Society legislation, comprising 84 different new laws, was the crest of a wave of political action begun by Franklin Roosevelt to use government's power to set economic and social agendas. Voting rights for minorities, employment opportunity, public education, the safety of con-

sumers and motorists, environmental protection, and health insurance for the elderly and poor all were addressed by the new laws.

The adoption of Lyndon Johnson's agenda was based on his landslide victory in the 1964 presidential election and the decisive majorities his Democratic Party achieved in Congress that year. But Johnson's policies energized opposition from conservatives who felt the government had intruded too far in the lives of private citizens and had put too great a burden on employers, threatening the vitality of the economy. The civil rights measures Johnson championed embittered many southern whites, whose allegiance shifted to the Republican Party.

The 1970s was a trying decade for the U.S. economy. In the middle of his first term in office, President Richard M. Nixon was confronted with rapidly rising prices, triggered in part by the costs of the Vietnam War waged during his and Johnson's administrations. Nixon broke with his Republican Party's traditional support for balanced budgets to accelerate federal spending to stimulate economic growth, even though that swelled federal budget deficits.

Nixon similarly embraced wage and price controls in an effort to halt an inflationary cycle in which rising wages led corporations to increase prices, and higher prices then led to new demands for higher pay by workers. "Now, I am a Keynesian," Nixon said in 1971, putting himself in the camp of British economist John Maynard Keynes, who had advocated deficit spending during times of slow economic growth.

Nixon's wage-and-price control program failed. To cite just one example, the price of cotton was not controlled because of the political influence of cotton farmers. But the price of plain cotton fabric was regulated, and when fabric manufacturers' profits were squeezed, they cut back on production, causing shortages, according to former Federal Reserve Chairman Alan Greenspan.

The lesson from Nixon's experiment was a lasting one: The U.S. economy was far too complex, chaotic, and fast moving to be managed in any detail by government officials. A new consensus formed that controls could not overcome inflationary forces, but instead stifled innovation, risk taking, and competition.

Two oil price shocks that followed the Arab-Israeli War of 1973 and the Islamic Revolution in Iran in 1979 battered U.S. economic performance. Oil prices tripled. Long lines formed at gasoline stations. At the end of the decade, inflation was higher than at any time since World War I, and unemployment had jumped to more than 9 percent. The impact hit hardest during the administration of President Jimmy Carter, a Democrat elected in 1976. The U.S. economy was gripped in a "malaise," as Carter's advisers put

it, and nothing government did seemed an answer to high unemployment, high prices, and stagnant stock markets.

During economic travails, American voters have often punished the party in power, and 1980 was a case in point. Polls that year showed two-thirds of the public believed the country was faring badly. Many Americans sought a change in direction, and they found it in the candidacy of California's former Republican governor, Ronald Reagan. At the campaign's only televised presidential debate, Reagan asked the viewers simply, "Are you better off than you were four years ago?" Analysts called it Reagan's knock-out punch.

Reagan's election to the presidency marked another directional change in government's role in the economy. Reagan declared in his 1981 inaugural address that "in this present crisis, government is not the solution to our problem; government is the problem." He added, "It is time to check and reverse the growth of government."

"Reaganomics" sought to cut U.S. tax rates, even if one result was growing federal budgetary deficits. Critics protested that this was an indirect way of forcing cuts in domestic social spending and to programs of which the new administration disapproved.

Reagan and his advisers argued that lower marginal tax rates would revive the economy. It was better, they believed, to leave more money in the hands of business and consumers, whose savings, spending, and investment choices collectively would generate more economic growth than would government spending. This theory, called supply-side economics, held that the resulting economic growth also would generate more revenue than would be lost through the lower tax rates, and that the federal budget could be balanced in this manner.

The Reagan tax cuts did help lift the U.S. economy, but contrary to the supply-siders' predictions, federal budget deficits persisted and grew. Nevertheless, the "Reagan revolution" was a political turning point toward smaller government and individualism, and Reagan left office as one of the most popular U.S. presidents.

Deregulating Business

The 1980s tax cuts were only one part of a broad movement to reduce government's economic role. Another was deregulation.

During the 1970s, a number of thinkers attributed some of the nation's economic sluggishness to the web of laws and regulations that businesses were obliged to observe. These regulations had been put in place for sound reasons: to prevent abuse of the free market and, more generally, to achieve greater social equity and improve the nation's overall quality of life. But, critics argued, regulation came at a price, one measured by fewer competitors in a given industry, by higher prices, and by lower economic growth.

During the economically trying 1970s and early 1980s, many Americans grew less willing to pay that price. President Gerald R. Ford, a Republican who succeeded Richard M. Nixon in 1974, believed that deregulating trucking, airlines, and railroads would promote competition and restrain inflation more effectively than government oversight and regulation. Ford's Democratic successor, Jimmy Carter, relied heavily on a key pro-deregulation adviser, Alfred E. Kahn. Between 1978 and 1980, Carter signed into law important legislation achieving substantial deregulation of the transportation industries. The trend accelerated under President Reagan.

The intellectual and political trends favoring deregulation were not limited to the United States. Movements to empower private businesses and reduce government's influence gained momentum in Great Britain, Eastern Europe, and parts of South America. In the United States, courts and legislators continued to carve away government regulations in important industries, including telecommunications and electric power generation.

The most dramatic step was the 1984 breakup of the American Telephone and Telegraph Company, the nationwide telephone monopoly. Prior to the government's action, AT&T dominated all phone service, both local and long-distance, and it argued that admitting new service providers would threaten network reliability. AT&T obliged Americans to rent their telephones from its Western Electric subsidiary, a monopoly that stifled the development of innovative types and styles of phones. A far smaller rival, MCI Communications, contended that technology advances would enable competition to flourish, benefiting consumers.

The federal government took up MCI's cause, filing an antitrust suit asking a federal judge to end AT&T's monopoly. AT&T capitulated, agreeing to split off its local telephone service into seven new regional phone companies. This began an era of intense competition and innovation around the convergence of phones, computers, the Internet, and wireless communications. (AT&T maintained its long-distance network, but in 2005 the company was purchased by one of its former local phone subsidiaries.) While many American consumers found the changes in phone service confusing, they eagerly snapped up a speedy parade of new communications products.

The loosening of regulations on electric power service in the 1990s has been far more controversial, and its benefits disputed. For a century following Thomas Edison's time, most Americans purchased electricity from companies that operated legal monopolies in their regions. State commissions regulated these utilities' local rates, while federal regulators oversaw wholesale sales

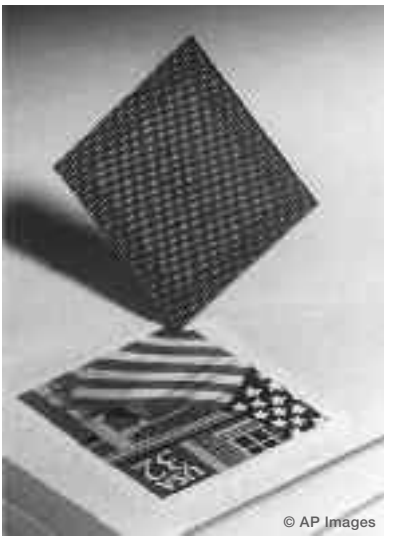
across state lines. Prices were generally based on the costs of making electricity, plus a "reasonable" profit for the utility.

About half of the U.S. states chose to open electric service to competition in the hope that new products and lower prices would result. But these moves coincided with sharp increases in energy prices beginning in 2000. A political backlash against electricity deregulation ensued, worsened by a scandal surrounding the failure of Enron Corporation, a Texas-based energy company that had been a key promoter of competitive electricity markets.

The deregulation movement stopped in midstream after 2000, leaving an electricity industry partially regulated and partially deregulated, and divided by divergent regional agendas. Some areas of the country rely on coal to generate electric power. Elsewhere, natural gas turbines, hydro-dams, or nuclear plants are important sources of electricity, and in the 2000s, wind-generated power began to grow. These differing regional interests slowed movement toward a national response to climate change issues, including such possible measures as the development of renewable electricity generation and an expanded power transmission grid. Instead, state governments have been the principal policy innovators.

Technology's Upheaval

Technology is changing the fundamentals of economic competition, and often faster than government, political leaders, and the public can keep pace. The computer age grew out of a confluence of discoveries on many fronts, including the first computer microprocessor, created in 1971. This breakthrough combined key functions of computer processing that had been separate operations—the movement of data and instructions in and out, the processing of data, and the electronic storage of results—onto a single silicon chip no bigger than a thumbnail. It was the product of scientists at Intel Corporation, a three-year-old start-up technology company that had attracted the support of wealthy venture capitalists willing to bet large investments on new, unproven entrepreneurs. The raw material



Above: The microprocessor combines movement of data, processing of data, and storage of results on a single chip.

for semiconductors gave the name Silicon Valley to the California region south of San Francisco that became the center of U.S. computer innovation.

Before the invention of the silicon computer chip, computers were massive devices serving government agencies and large businesses, and operated by specialists. But in 1976, two secondary school dropouts, Steve Jobs and Steve Wozniak, developed a small computer complete with microprocessor, keyboard, and screen. They called it the Apple I, and it began the age of personal computing and the dispersal of computer power to every sector of the economy.

The personal computer rapidly became an indispensable communications, entertainment, and knowledge tool for homes and offices. IBM, the computer giant that had dominated mainframe computers since the 1950s, produced a personal computer in the 1980s that quickly overtook Apple's lead. But IBM, in turn, was driven from PC manufacturing by competitors in the United States and Asia who outsourced component fabrication to lowest-cost manufacturers and minimized production costs of an increasingly low-margin item.

The biggest winner in this competition was Microsoft, a Redmond, Washington-based start-up

Above left: Apple's Steve Jobs, shown in 1984, was a pioneer in personal computing.
Above right: Mainframe computer manufacturer IBM joined the personal computer competition for a while.

grounded in software, not manufacturing. Its founder, Bill Gates, had seized on the importance of dominating the internal operating software that made the personal computer work. As rival computer manufacturers rushed to copy the IBM model, Microsoft's software became the standard for these machines, and they steadily and relentlessly gained market share at the expense of other operating system vendors. Gates's company wound up collecting half of every dollar of sales by the PC industry.

Gates moved into a realm of wealth comparable to that of John D. Rockefeller and Andrew Carnegie, two titans of an earlier age of dynamic economic growth. Like his two predecessors' companies, Gates's Microsoft was attacked by competitors and governments for its dominance. And Gates, like Rockefeller and Carnegie, became one of history's most generous philanthropists, committing billions of dollars to long-term campaigns to fight illnesses in Africa, improve education in America, and support other humanitarian causes.

Rivaling the impact of the personal computer was another epochal breakthrough. The Internet, including the searchable World Wide Web, accelerated a global sharing of information of every form, from lifesaving technologies to terrorists' plots, from dating services to the most advanced financial transactions.

Like much American innovation, the Internet had roots in U.S. government science policy. The idea of a self-standing highly redundant network to link computers was conceived as a way to defend government and research computers against a feared nuclear attack on the United States. But despite its ties to government, the Internet achieved its global reach thanks to pioneering scientists such as Sir Tim Berners-Lee and Vinton Cerf, who insisted that it must be an open medium that all could share.

The New Economy

The personal computer and the Internet were building blocks for the new economy that took form in the 1990s. Technology's potential to create global markets, to make production and distribution more efficient, and to expand financial flows attracted hoards of innovators. At first, business's introduction of computer technology did not measurably increase American economic productivity, to the bewilderment of government policy makers. By the end of the 1990s, however, productivity was increasing, giving hope that a new, sustained period of economic growth was at hand for most Americans.

The sense of optimism drew substantially on the astonishing gains of technology companies on U.S. stock markets—particularly start-up companies linked to commerce over the Internet. American and foreign investors threw money at untested Internet companies at the end of the

Unlocking the Internet

In 1998, two graduate students at Stanford University in California thought they saw how to unlock the Internet's rapidly expanding universe of information. A decade later, Google—as they called their invention—had become the dominant Internet search engine in most of the world. Its revenue topped $20 billion in 2008, half from outside the United States, and its employees numbered 20,000. Its computers could store, index, and search more than one trillion other Web site pages. So ubiquitous had this search engine grown that its very name had become a verb: When most people want to find something on the Internet, they "google" it.

Although this astonishing success has rarely been matched, its ingredients are a familiar part of the U.S. economic story. Google illustrates how ideas, entrepreneurial ambition, university research, and private capital together can create breakthrough innovations.

Google's founders, Sergey Brin and Larry Page, started with particular advantages. Brin, born in Moscow, and Page, a midwesterner, are sons of university professors and computer professionals. "Both had grown up in families where intellectual combat was part of the daily diet," says David Vise, author of *The Google Story.* They met by chance in 1995 at an orientation for new doctoral students at Stanford University's graduate school, and by the next year they were working together at a new Stanford computer science center built with a $6 million donation from Microsoft founder Bill Gates.

As with other Internet users, Brin and Page were frustrated by the inability of the existing search programs to provide a useful sorting of the thousands of sites that were identified by Web queries. What if the search results could be ranked, they asked themselves, so that pages that seemed objectively most important were listed first, followed by the next most important, and so forth? Page's solution began with the principle that sites on the Web that got the most traffic should stand at the top in search reports. He also developed ways of assessing which sites were most intrinsically important.

At this point, Stanford stepped in with critical help. The university encourages its PhD students to use its resources to develop commercial products. Its Office of Technology Licensing paid for Google's patent. The first funds to purchase the computers used for Google's

searches came from a Stanford digital library project. Their first users were Stanford students and faculty.

The linkages between university research and successful business innovation have not always thrived in regions where technology industries are not well rooted. But Stanford, in Palo Alto, California, stands at the center of Silicon Valley, a matrix of technology companies, investment funds, and individuals with vast personal fortunes that evolved during the decades of the computer industry's evolution.

In 1998, Brin and Page met Andy Bechtolsheim, a co-founder of Sun Microsystems, an established Silicon Valley leader. Bechtolsheim believed that Brin and Page could succeed. His $100,000 personal check helped the pair build their computer network and boosted their credibility. A year later, Google was handling 500,000 queries a day and winning recognition across the Internet community. Google's clear advantages over its rivals and the inventors' commitment attracted $25 million in backing from two of Silicon Valley's biggest venture funds. And the founders got the money without having to give up control of the company.

A decade after its founding, Google's goals have soared astronomically. As author Randall Stross, author of *Planet Google,* puts it, the company aims to "organize everything we know." Its initiatives include an effort to digitize every published book in the world.

Google has emerged as a metaphor for the openness and creativity of the U.S. economy, but also for the far-ranging U.S. power that so worries foreign critics. Human rights advocates and journalists blasted Google's 2006 agreement to self-censor its search engine in China at the direction of Beijing's government. Google answers that these kinds of restrictions will fade with the spread of democracy and individual freedoms. If that proves true, this example of American entrepreneurship will have been an agent of that change.

Above: Google's agreement to self-censor its search engine in China has raised objections from human rights groups. *Opposite:* This Google logo commemorates the visit by Britain's Queen Elizabeth II to Google's London office.

1990s in search of what author Michael Lewis called "the new, new thing."

Entrepreneurs perceiving a niche for a new software strategy or product might determine to create a business to meet that need. They might charge initial costs to their personal credit cards. Friends and families would be asked to help. And with the right connections, such as a degree from a leading U.S. university, the entrepreneurs might get an audience with some of the small, critically influential group of financiers called venture capitalists. These investors typically had made great wealth from earlier successes in technology markets and were on the lookout for new prospects. If they liked an entrepreneur's idea, they would invest millions of dollars in advance funding in exchange for part ownership in the company.

If all continued to go well, the company would be launched. If it enjoyed early success—or even if it was only well promoted—the entrepreneur and the financial backers might be able to "take the company public," selling shares of the company to the public on the stock market through an initial public offering (IPO).

Low interest rates helped the start-up companies gather headway. The most fabulous of the success stories—such as the rise of Microsoft, Apple, America Online (AOL), and, later, eBay, Yahoo, and other "dot-coms" (so named for the ".com" terminology incorporated in commercial Internet addresses)—created a euphoric mood among investors, who seemed willing to bet on any plausible "e-commerce" strategy, however chancy.

Federal Reserve Board Chairman Alan Greenspan warned of "irrational exuberance," but that did not deflate the dot-com stock market bubble. In March 2000, the NASDAQ Composite Index, a measure of the U.S. stock market specializing in technology stock listings, had soared to over 5,000—twice its level the year before. Typical of the new breed of companies was one called Pets.com, which offered cheap prices to customers ordering pet food online in the hope that growing numbers of consumer visits to its Web site would attract paying advertisers.

Opportunism and Credulity

The dot-com boom was a characteristically opportunistic expression of American economic optimism and credulity. Americans' fascination with potential stock market windfalls was not a new phenomenon. America's Founding Fathers had relied on lotteries to raise money for the Continental Army, and today Americans wager more than $50 billion annually in state-run lotteries whose proceeds help fund education and other programs. Investment manias sprouted in every generation, from colonial-era land speculation, to railroads in the 19th century, to biotech and computers in the late 20th century.

In March 2000, the dot-com bubble burst. The immediate cause is debated, although rising interest rates and a downturn in technology investments by major companies hurt the investing climate. Investor confidence was battered by investigations showing that some prominent Wall Street securities experts had misled the investing public about the prospects for some of the Internet stocks. The NASDAQ Index fell close to 1,000 in 2002, wiping out $5 trillion in investors' "paper" profits. The value of Pets.com fell from $11 per share in February 2000 to $0.19 the day it closed its doors at the end of that year.

The fallout claimed two of the highest-flying companies of the time. One was WorldCom, which had used an aggressive acquisitions strategy funded by stock issues to claim a leading position in telecommunications, taking over competitors such as MCI. The other was Enron, originally a provider of natural gas and electricity, but later an online trader of energy services and commodities. Government investigations led to indictments and convictions of top executives of both companies for defrauding investors through the release of false financial information.

The dot-com bust was followed by another massive flood of speculative investment into U.S. real estate and the home mortgage market. Two-thirds of American families own their homes, which are by far their most important investment, absorbing one-third of their spending and supplying an average $75,000 in homeowner equity, a significant retirement cushion. Home ownership was a crucial part of the American dream, promoted by government leaders across the political spectrum.

Lower interest rates early in the 2000s decade encouraged a surge in lending by banks and nonbank mortgage companies and in borrowing by home buyers. The U.S. government urged banks to make more mortgages available to lower-income families, increasing financial risks for both borrowers and lenders. Mortgages sold to these families with lower-than-average incomes or shaky financial histories were called subprime mortgages (contrasted with standard, or prime, loans to families with average or better financial positions). In the quarter century before 2007, Americans' household debt including mortgages rose from 45 percent of U.S. gross domestic product to 98 percent.

But the federal government took no serious actions to regulate the surge in mortgage lending that followed. Nor did regulators move to restrain abusive sales tactics by lenders that left unsophisticated home buyers with home loans they could not afford. Home loans were sold by brokers whose fees rose with each sale, motivating them to push lower-income families into home purchases that strained their finances

to the limit. Often, low "teaser" interest rates were offered for the first years of a mortgage, but the rates would increase dramatically in later years. Studies later showed that many new home buyers did not understand the financial risks they were taking on.

The mortgage industry sought to manage these risks through a process called securitization. Riskier loans were bundled with conventional home loans into packages and divided into units that were sold to investors, like bonds. These mortgage-backed securities paid higher than standard interest because they entailed more risk, and they were eagerly snapped up by investors in the United States and, later, around the world. In 2005, for example, sales of mortgage-backed securities exceeded $1 trillion. Wall Street financial "engineers" developed a series of increasingly more complex and speculative investments linked to the mortgage-backed securities. These also sold well with investors. The result was a sharp global expansion of speculative investments financed heavily by debt.

As long as housing values kept growing, the process continued apace, and housing sales flourished not only in the United States, but also in Britain, Spain, and other nations. But when the overbuilt U.S. housing market crashed in 2007, many individual homeowners found themselves owing more money on their mortgage than their home was worth. As teaser-rate periods expired, borrowers were faced with sharply higher monthly payments, higher in many cases than they could afford. When home prices seemed as if they would continue to rise without limit, borrowers willingly assumed these debts, secure in the belief that they could always sell the home at a profit or refinance against the home's increased value. Once home prices began their decline, however, these calculations were exposed as gambles gone bad.

These individual mortgage debts had been packaged into increasingly exotic securities and sold worldwide, causing the mortgage crisis to become a global epidemic. The United States and major European and Asian nations committed trillions of dollars to rescue impacted banks and investment funds. As fearful, capital-short lenders stopped making even the short-term and overnight loans woven deeply into the everyday workings of the world economy, government treasuries and central banks became the lenders of last resort on a massive scale, pouring tax dollars into the fractured financial sector and taking direct control or major ownership positions of banks and funds in a stunning reversal of decades of deregulation and reliance on markets.

To some experts, the devastating turn of events was a familiar one in the American economic chronicle. "Booms and busts play

a prominent role" throughout U.S. history, the late Federal Reserve Board member Edward M. Gramlich had observed. "In the 19th century, the United States benefited from the canal boom, the railroad boom, the minerals boom, and a financial boom. The 20th century saw another financial boom, a stock market boom, a postwar boom, and a dot-com boom.

"The details differ, but each of these cases feature initial discoveries of breakthroughs, widespread adoption, widespread investment, then a collapse where prices cannot keep up and many investors lost a lot of money," Gramlich said. "When the dust clears, there is financial carnage, [but] the canals and railroads are still there and functional, the minerals are discovered and in use, the financing innovations stay, and we will have the Internet and all its capabilities."

The carnage from the 2008 financial crisis has reached staggering proportions and has fueled widespread demands for closer government regulation of lending and securities markets and far more accountable disclosure of investment risk. European and Asian leaders have insisted that oversight of U.S. and other banking and financial sectors be a global responsibility. It is impossible at this writing to determine how the United States and other nations will resolve these issues. But American history chronicles an ongoing debate over regulation. Today's Americans and tomorrow's must determine how best to balance dynamism and order, growth and safety, innovation and stability.

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Above: Workers celebrate May 10, 1869, at completion in Utah of first U.S. transcontinental railroad track.

Opposite page—clockwise from top: Alexander Hamilton, pictured standing, fought for policies aimed at strengthening manufacturing and finance, including protective tariffs on imports and federal assumption of the states' Revolutionary War debts; slaves pick cotton in the deep South; slaves load cotton aboard a steamship on the Alabama River in 1857; and colonial settlers plant crops in South Carolina.

Below: 1888 Republican Party election campaign poster advocates protective tariffs, a divisive issue throughout U.S. history.

© Roger Viollet/Getty Images

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Above: Railway tunnel is under construction in Washington, D.C., circa 1904-1905.

Opposite page—clockwise from top left: Thomas Edison, circa 1883, holds incandescent lightbulbs, one of his many inventions; in New York City, telephone inventor Alexander Graham Bell makes the first long-distance call January 1, 1892; a jumble of electric power lines hover over pedestrians on Broadway in New York City, circa 1900.

Below: A steam-powered tractor pulls a plow through Minnesota farmland.

Above: During the Great Depression, men line up for soup offered by a charitable organization called the Salvation Army.

Left: Florence Thompson, destitute migrant worker mother of seven children, comforts some of her children on a farm in California in 1936.

Below: In a wide region of the U.S. South and Midwest called the Dust Bowl, drought and poor farming practices created dust storms such as this one in Arkansas in 1936.

Above: Construction projects went on even during the Depression, including work on the RCA Building at Rockefeller Center in New York City, where workers are shown taking a lunch break September 29, 1932.

Left: Workers lay catwalks for construction of the Golden Gate Bridge in San Francisco September 19, 1935.

Below: Completion is near July 22, 1935, on Norris Dam in Tennessee for the controversial government-owned and -operated Tennessee Valley Authority electric power utility.

Above—clockwise from top left: Women at a plant in Cincinnati, Ohio, in 1942 assemble shells in an aluminum factory converted to production of weapons for World War II; 1948 aerial image shows Levittown, New York, a prototypical mass-produced suburban development; Dr. Martin Luther King Jr., third from right, leads a 1965 civil rights march in Alabama; the search for energy goes on in 1953 at a shale oil mine.

Opposite page—clockwise from top left: Advertisement for a 1964 Ford Thunderbird represents a time of prosperity; motorists lined up for fuel in New York during the 1973-1974 gasoline shortages; President Ronald Reagan pushed for tax cuts; a nanotechnology lab at the University of Michigan represents potential economic activity ahead; mortgage foreclosure sign stands before a house in Shaker Heights, Ohio, in July 2008; farmer Gary Wagner in Crookston, Minnesota, uses satellite technology to map his fields; early Macintosh computers come down the assembly line at an Apple Computer Inc. plant in Milpitas, California, in 1984.

Courtesy of Ford Motor Company

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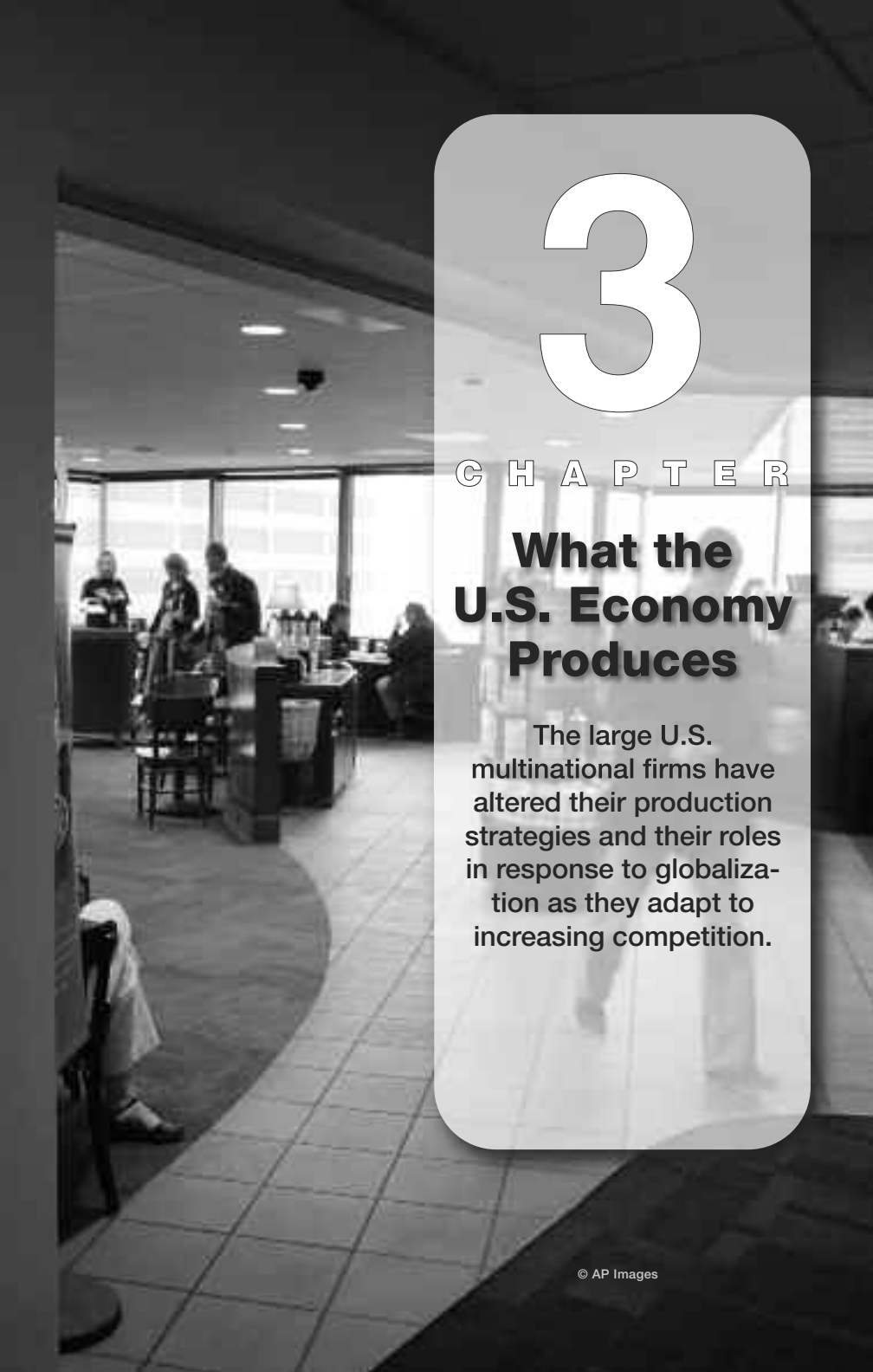
STARBUCKS
COFFEE



3

CHAPTER

What the U.S. Economy Produces

The large U.S. multinational firms have altered their production strategies and their roles in response to globalization as they adapt to increasing competition.

Above: Robotic welders operate an auto van assembly line in Baltimore, Maryland. ***Previous spread:*** Starbucks has spread far and wide to nearly 50 countries since its first store opened in Seattle in 1971. The corporation announced plans to close 600 shops when the economic downturn struck in 2008.

Standing by itself, U.S. manufacturing would be the eighth largest economy in the world.

U.S. MANUFACTURING INSTITUTE
2006

The U.S. economy is in the midst of its second radical conversion. The first represented a shift from agriculture to manufacturing. The past quarter-century has witnessed a further evolution toward finance, business services, retailing, specialized manufacturing, technology products, and health care. The first revolution mated European capital to America's burgeoning 19th-century expansion, while the current transition reflects Americans' response to unprecedented global competition in trade and finance.

Like other economies, the U.S. economy comprises a circular flow of goods and services between individuals and businesses. Individuals buy goods and services produced by businesses, which employ individuals and pay them wages and benefits, providing the income that individuals use to make new purchases of goods and services and investments, or to save.

The most common measure of the U.S. economy is the federal government's report on the gross domestic product (GDP). GDP records the value in dollars of all goods and services purchased in the United States by individuals and businesses, plus investments, government spending, and exports and imports from abroad. (It does not include sales by foreign companies located in the United States or by American companies operating in foreign countries.)

GDP is made up both of goods and services for final sale in the private-sector market and nonmarket services, such as education and military defense, provided by governments. In principle, the value of goods and services in the market reflects an exchange between willing buyers and sellers and is not fixed by government, with some notable exceptions such as government farm and energy subsidies.

In 2006, the $13.1 trillion U.S gross domestic product comprised approximately $9.2 trillion in personal spending by American consumers;

$2.2 trillion in private investments for homes, business equipment, and other purposes; and $2.5 trillion spent by governments at all levels, minus an international deficit of $700 million—the difference between what the United States imported and exported and its net financial transactions with the rest of the world.

Looked at another way, governments collected $2.7 trillion in taxes, roughly half of that on personal in-come and the rest on production and business profits. Governments paid out $1.6 trillion in benefits, primarily to individuals, and $370 billion in interest to holders of government debt. (The United States places near the bottom of major economies in its overall tax burden, ranking 22nd out of 26 nations surveyed in 2006 by the Organization for Economic Cooperation and Development.)

GDP sources are broken down into major economic sectors such as manufacturing and retail sales. Comparing the 2006 output of these sectors with 1980 shows the magnitude of the shift from goods to services over the past quarter-century. In 2006, manufacturing provided 12 percent of total U.S. domestic output of goods and services. In 1980, its share was 20 percent. Finance and real estate services overtook manufacturing, contributing 21 percent of the U.S. economic output in 2006 versus 16 percent in 1980. Suppliers of professional business services, including lawyers and consultants, contributed as much value as manufacturing—12 percent of the domestic economy. This figure was only 7 percent in 1980. Retail and wholesale trade, at 12 percent, was slightly lower than in 1980. The category of health care and private educational services was 7 percent in 2006, compared to 4 percent in 1980. Government at all levels accounted for 13 percent of the country's economic output in 2006, essentially unchanged from 1980. Oil and gas production dropped to just over 1 percent of the nation's output in 2006, from 2 percent in 1980.

Excluding government's share of the economy, goods-producing companies made up 20 percent of total private-sector output in 2006, down from 34 percent in 1980. The services sector climbed from 67 percent to 80 percent during that period.

Manufacturing Faces Competition

Manufacturing's share of the U.S. economy peaked in the 1950s, when Europe and Asia were still struggling to recover from the devastation of World War II. By 1980, Japan and Western Europe were ready to challenge U.S. industrial leadership, and in the new century they have been joined by China, India, and many other nations around the globe.

American producers have responded to rising competition and higher labor and benefits costs by moving operations offshore, purchasing foreign parts and components, and concen-

trating on higher-value products where innovation offers a competitive advantage. Only 10 percent of the U.S. workforce holds manufacturing jobs today, down from 20 percent plus in 1980.

Even so, high U.S. worker productivity and technological leadership enabled the United States to rank as the world's leading manufacturer in 2006, with $1.5 trillion in products in 2006, or about one-quarter of total worldwide production. "Standing by itself, U.S. manufacturing would be the eighth largest economy in the world," the U.S. Manufacturing Institute has said. U.S. manufacturers employ more than 14 million workers, and another 6 million work in related industries. According to the institute's 2006 report, manufacturing jobs pay about 25 percent more in wages and benefits than nonmanufacturing jobs in the United States. The country's manufacturers produced more growth and more productivity gains between 2001 and 2005 than any other sector of the U.S. economy.

Five manufacturing groups had more than $1 billion each in sales in 2006: fabricated metal parts, a key product for the construction industry; machinery; computers and electronic equipment; motor vehicles; and food and beverages. U.S. manufacturing output that year included 4,500 civil aircraft, 11 million cars and light trucks, 87 million metric tons of raw steel, 27 million computers, $127 billion worth of pharmaceutical preparations (excluding biological products), and $120.6 billion in semiconductors and electronic components.

Retail businesses contributed about 6 percent to 2006 economic output. Wholesale businesses, which buy from producers and then supply retailers, added another 5 percent. Together, these sectors produced about $1.6 trillion for the U.S. economy, and their share of the total in 2006 was slightly less than in 1980.

The retail sector's makeup illustrates the great diversity of stores in the American economy. More than 95 percent of all retailers are single-store business, the traditional "mom-and-pop" operations that populate America's Main Streets.

But revenues taken in by single-store businesses account for only half of all retail sales. In the sprawling malls and shopping centers on the outskirts of U.S. cities are the "big-box" retail stores and "supercenter" warehouses that compete for consumers' dollars through relentless price competition. The largest of these major retailers, Wal-Mart, seemed to be everywhere, with 4,100 U.S. stores and 3,100 stores abroad.

Amazon.com, which ranked No. 32 in retailing revenues in 2007, had no stores—all of its sales are made on-line. The company is by far the most durable survivor of the 1990s dot.com retailing boom. The shifts in rankings of leading U.S. retailers each year show evidence of the con-

53

Retailing's Competitive Battlefield


Courtesy of Wal-Mart

The story of Wal-Mart's stunning rise within a single generation from a commonplace, low-price variety store in Arkansas to the world's largest and most powerful retailer illustrates many fundamental shifts taking place in the U.S. economy. Wal-Mart's fixation on beating competitors' prices and squeezing its operating costs to the bone year after year has proved to be a potent strategy. By 2006, *The Wal-Mart Effect* author Charles Fishman reported, more than half of all Americans lived within eight kilometers of a Wal-Mart store.

Although Wal-Mart typically sought out U.S. manufacturers to stock its shelves, as the company grew, Wal-Mart management accelerated their search for lower-cost products and components in overseas markets. Today, Wal-Mart has become the most important single conduit for foreign retail goods entering the U.S. economy.

Wal-Mart's spread across the American landscape has provoked intense opposition from critics, led by labor organizations fighting what they view as the company's anti-union policies. Wal-Mart workers make half the wages of factory workers, or less, and have sometimes had wages capped to hold down store costs. Personnel turnover is relatively high, but the company reports it routinely gets 10 applications for every position when a new store opens. The company is using its economic clout to promote energy-efficient products, solar energy installations at its stores, and fuel conservation by its truck fleet, and has urged employees to support its "green" strategies. Its "big box" stores, exceeding 13,000 square meters in size, have been vilified by some for overwhelming nearby small-town merchants.

However, retailing in the United States has always been intensely competitive, with losing technologies and strategies falling by the wayside. The spread of electricity in cities and the invention of the elevator in the 1880s enabled retailing magnate John Wanamaker and imitators to create the first downtown department stores. Then Sears and other catalog stores opened a new retailing front—shopping from home. The movement of Americans who followed the Interstate Highway System to ever more distant suburbs undermined local merchants long before Wal-Mart reached its leviathan size. And Wal-Mart's recent U.S. growth has slowed, as it and other big retailers face competition from Internet shopping and specialty marketers.

The older, simpler U.S. retail model of a century ago, when community-based merchants sold largely made-in-America products, might have provided a more stable economic base for some communities. But this static model often failed to adapt to new conditions generated by the nation's dynamic economic, social, and political institutions.

Courtesy of Wal-Mart

Above: An emblem of the cost-cutting attraction of Wal-Mart.
Top left: A "greeter" awaits customers entering one of the stores of the chain Wal-Mart, the largest private employer in the United States.

stant struggle among large stores to win and hold the loyalty of U.S. consumers.

The Rise of Finance

The first decade of the 21st century marked the "ascendancy of finance," in the words of Joseph E. Stiglitz, chairman of President Bill Clinton's Council of Economic Advisers. The finance, insurance, and real estate industry category of gross domestic product, which includes giant securities funds, small regional banks, and insurance companies, contributed $2.7 trillion to the economy in 2006, or 21 percent of the total. Its share in 1980 was 16 percent. Between 1998 and 2006, the revenues of U.S. finance and insurance companies shot up by 71 percent, capitalizing on the U.S. leadership in rapidly growing global financial markets.

The growth in international credit markets in the 2000s decade showed both the sophistication and dynamism of the U.S. investment industry. The crash that followed in 2008 revealed a lack of restraint that led many in the industry to assume dangerous risk by accumulating too much debt, much of it not clearly visible to their shareholders.

A category of industry called "business and professional services" added about $1.5 trillion in output to the economy in 2006, or 12 percent, compared to 7 percent in 1980. This encompasses the growing economic role played by lawyers and consultants. The American Bar Association reported that more than 1.1 million lawyers were practicing in the United States in 2008, or one out every 300 Americans, a far higher proportion than in any other country.

Health care came to $900 billion, or just under 7 percent of economic output, reflecting the expansion of high-priced health care technologies and the medical needs of an aging U.S. population. In 1980, health care accounted for 4 percent of the economy.

Americans today travel more for business and pleasure than a generation ago, and this has fed the growth of the hotel and restaurant industries, whose output totaled $350 billion in 2006, or 2.7 percent of the gross domestic product. This is slightly higher than in 1980.

Where Americans Work

Details about where Americans work provide another view of the economy. On a typical workday in 2005, just over 141 million full- and part-time employees went to work in the United States. Not a single one of them was truly an "average American," not in a nation of 300 million people with roots in virtually every nation and culture in the world, living in huge metropolitan cities or out-of-the-way hamlets, and in every sort of community in between.

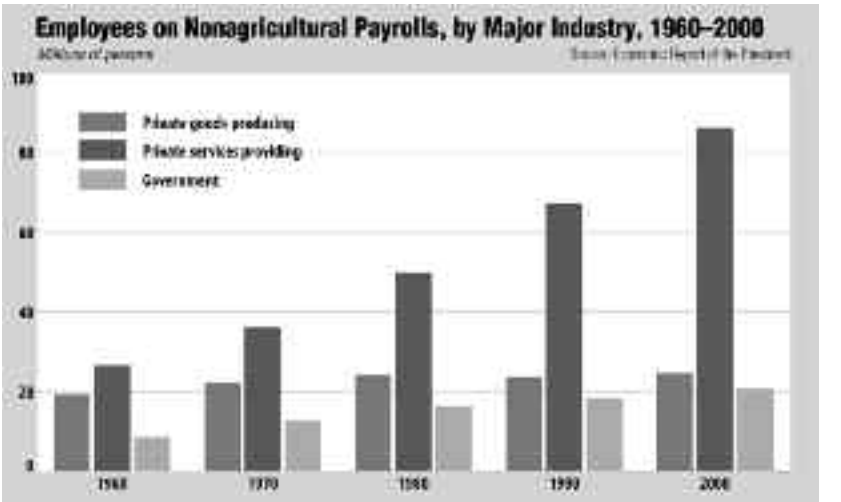
Just 1 percent of the workforce was engaged in farming, forestry, and fishing. Construction, trans-

portation, mining and utilities provided work for 10 percent. Ten percent worked in manufacturing; 4 percent in wholesale trade; 11 percent in retail trade; 12 percent in professional and business services; 2 percent in information, media and software; 6 percent in finance, insurance and real estate; 13 percent in education and health care; 9 percent in arts, entertainment, accommodations and food services, and 5 percent in other services. Government employed 17 percent of the workforce.

In 2005, American workers received $7 trillion in wages or salaries, by far the largest source of income for the nation's 117 million households. These households also received $1.5 trillion in dividends and interest payments from their savings and investments, $1.3 trillion in employer benefits, and $1.5 trillion in government social benefits, for which they contributed $880 billion in social insurance payments.

The United States has the world's most open borders based on the volume of trade that enters and leaves the country. In 2006, the United States was the largest importer and second largest exporter of merchandise goods and led all nations in the import and export of commercial services. In that year, the United States exported $1.45 trillion in goods and services, but imported $2.2 trillion, producing a record trade deficit of $750 billion. The United States had a surplus in the trade of commercial services such as airline travel and financial services, but it had a deficit of $838 billion in traded goods.

The strongest U.S. export goods are manufactured capital goods, including motor vehicles, civil aircraft, semiconductors, industrial machinery, and computer accessories. Pharmaceuticals, gem diamonds, household goods, sporting goods, games, and toys are the leading con-



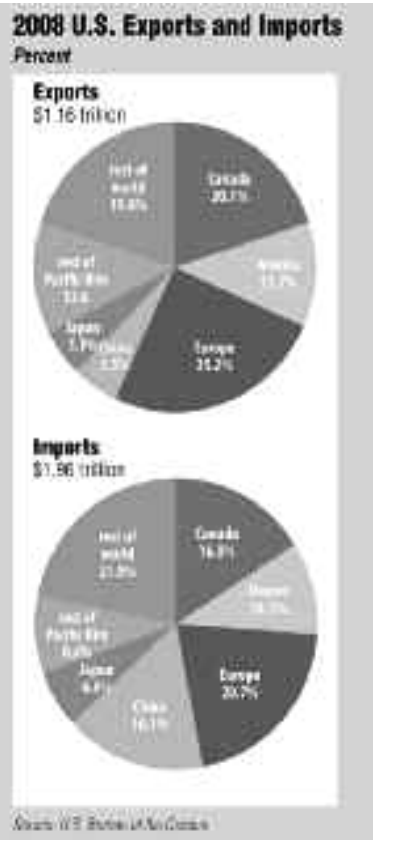
sumer products exports. Chemicals and plastic products are the largest categories of industrial materials exports.

Manufactured goods make up nearly two-thirds of total exports, with agricultural products far behind, at 5 percent of all outbound shipments. Although traditional U.S.customers—Canada, the European Union, and Japan—are the top recipients of American exports, China, India and developing countries receive nearly half of U.S. shipments.

Imports have risen much faster than exports. In 2004, for example, more than one-third of all manufactured products purchased by U.S. consumers were imported. In 1972, the figure was just 11 percent.

The value of the dollar compared to other leading world currencies has been a critical factor in U.S. manufacturing competitiveness. In two periods—the mid-1980s and 1997-2002—the dollar's value was high, making U.S. exports relatively more expensive and imports cheaper. In both periods, the country's trade deficit grew sharply. The dollar's decline during 2002-2008 helped boost U.S. exports.

But apart from currency issues, a rising tide of global competition, particularly from countries with lower labor costs, has pushed American manufacturers to new competitive strategies. A 2005 study by the U.S. Bureau of Economic Analysis disclosed a trend among U.S.- headquartered major multinational corporations. U.S.-based divisions cut employment and capital investments at home but increased jobs and investments significantly at their foreign units. The annual output of the foreign affiliates that year increased by more than twice that of the parent company in the United States. The study suggests that U.S. multinationals were relying increasingly on bringing in foreign-made components, including those from their overseas affiliates, and then including them in their final products.



Investing in Research and Education

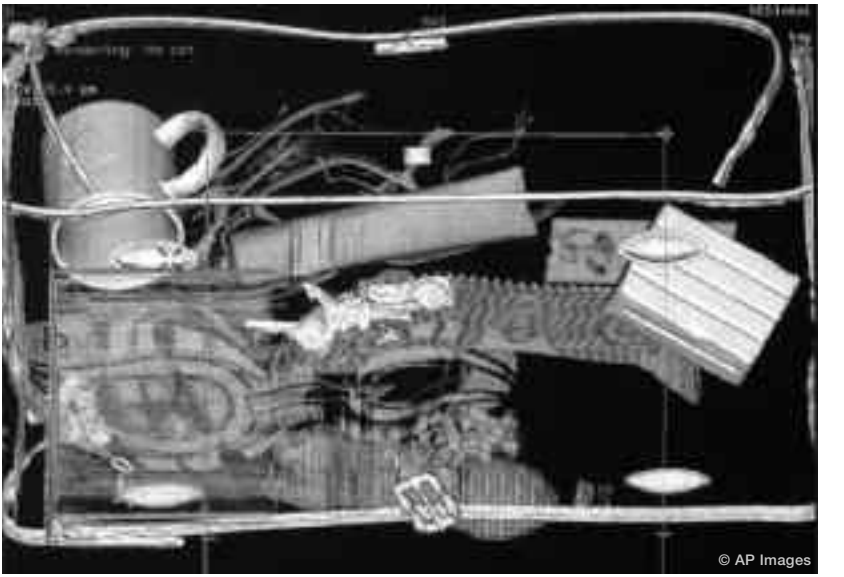
American investments in research and development (R&D) and education have been a bulwark of U.S. trade competitiveness. The U.S. Manufacturing Institute has listed important new technologies on which U.S. companies rely, including computer-aided design, robotics, just-in-time inventory controls, and radio frequency identification technology used in tracking the flow of goods from factories or warehouses to stores.

The institute also reports that U.S. manufacturers are leaders in applying the new science of nanotechnology, which harnesses the distinctive physical properties of individual molecules to create improved products. Nanotechnology is producing lighter, stronger, and more rustproof motor vehicle components. It creates stainproof clothing and military armor, and it greatly extends the shelf life of bottled products.

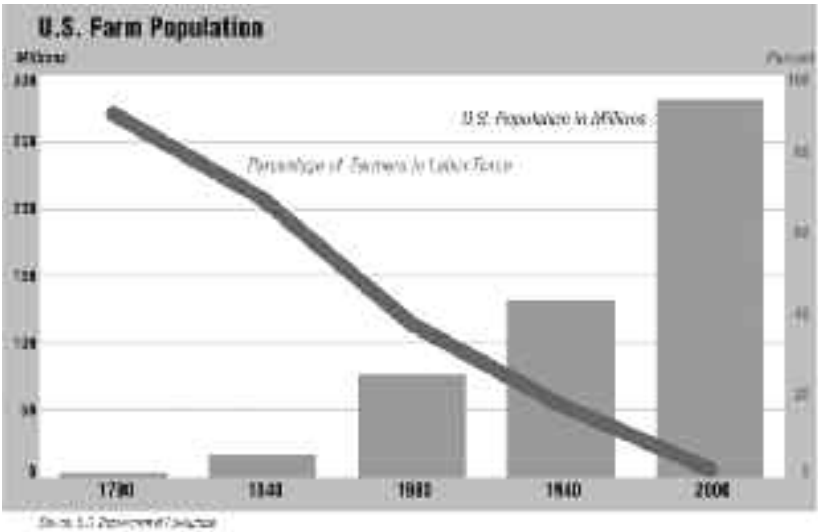
But U.S. industry leaders warn that the long-standing U.S. lead in R&D spending is shrinking. Total R&D spending by China, Ireland, Israel, Singapore, South Korea, and Taiwan is expected to exceed the U.S. total before 2010. The United States increased R&D investments by nearly 40 percent between 1995 and 2005, but China's investments tripled during those years, albeit from a much smaller base.

Support for Farmers

In the early 20th century, according to the U.S. Department of Agriculture, more than half of the U.S. workforce was employed by



Above: U.S. manufacturers are leaders in applying nanotechnology, as in this luggage screening device developed by the General Electric Company.



the small, diversified, rural, and family-run farms responsible for most of the nation's foodstuffs. Today, U.S. agriculture is concentrated on a small number of very large, specialized farms employing less than 1 percent of U.S. workers. The acreage of the average farm has tripled since 1940, and half of U.S. farm sales come from the largest 2 percent of all farming operations. American farmers received $285 billion for their crops and livestock, plus $12 billion in direct government payments in 2007. Farm imports totaled $70 billion, while exports came to $82 billion.

Federal programs to shore up farmers' incomes arose in the Great Depression of the 1930s. The goals were to assure minimum farm prices for specific farm commodities and to further support farm prices by paying farmers to limit production. Although consumers bore the cost of the resulting higher food prices, many considered this approach reasonable when most farms were small and farmers' incomes were relatively low.

Federal policies began to change in the 1970s as foreign export markets grew in importance and U.S. agriculture shifted away from predominantly small farms to large family holdings and corporate farming. Federal legislation in 1996 replaced price supports on specific commodities with direct payments to farmers based on historical production, but gave farmers flexibility on how much of their land to farm.

Until the 1980s, half of the U.S. farm exports were major bulk commodities such as wheat, corn, soybeans, cotton, and tobacco. Livestock accounted for 10 percent of exports. Horticulture products, led by fruit and vegetables, accounted for 9 percent. Today, livestock makes up 16 percent of

Above: Corn is a major crop for human and livestock consumption domestically and for export as well as a source of biofuel.

farm exports; horticulture products, 21 percent; and bulk commodities, 36 percent.

As with manufactured goods, fluctuations in the dollar's value against other currencies produced shifts in agricultural trade. But the changing tastes of American consumers played an important part, too. In the early 1980s, an American consumed, on average, 810 kilograms of food a year, of which 72 kilograms was imported, according to the U.S. Agriculture Department. In 2002, consumption had climbed to 900 kilograms and imports per person averaged 118 kilograms. As U.S. household wealth increased in the late 1990s and early 2000 decade, consumers spent more on imported high-value farm products, from wine and beef to cut flowers. American wheat, corn, and other bulk exports remained competitive because of the high productivity of farmland, the expansion of large-size family and corporate farming, and agricultural technologies. Ethanol, most of it refined from corn, made up nearly 3 percent of U.S. motor fuel in 2005.

U.S. farmers have readily adopted genetically altered crops since their introduction in 1996. Genetically altered soybeans and cotton require less herbicide to control weeds. These varieties now make up more than 70 percent of all soybean and cotton acreage planted in the United States. Cotton and corn have been engineered to resist insects by producing their own toxins, and these varieties are also gaining rapid acceptance in the United States.

But genetically engineered crops remain controversial because of critics' concerns about their environmental impact and some public misgivings about the technology generally. The ultimate response of consumers and governments around the world to this science will have major consequences for U.S agriculture.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4

CHAPTER

Competition and the American Culture

Competition has remained a defining characteristic of the U.S. economy grounded in the American Dream of owning a small business.

Above: Some of the wealth amassed in the economy goes to good causes. Microsoft founder and billionaire Bill Gates, shown here with a Mozambique vaccine trial patient, has made philanthropy his new job. ***Previous spread:*** Small businesses, such as this restaurant in Kansas, account for a vast majority of U.S. job creation.

"Americans…are also hustlers in the positive sense: builders, doers, go-getters, dreamers, hard workers, inventors, organizers, engineers, and a people supremely generous."

WALTER MCDOUGALL
2004

Joseph Schumpeter, an Austrian-born economist, coined the term "creative destruction" in 1942 to describe the turbulent forces of innovation and competition in Western economies. He called it the "essential fact about capitalism." The "incessant gales" of markets cull out failing or underperforming companies, clearing the way for new companies, new products, and new processes, as he put it.

Creative destruction was a philosophy that appealed to critics of the New Deal social and economic intervention that took hold during the Great Depression, and it maintains an influential following today. "I read Schumpeter in my 20s and always thought he was right," said former Federal Reserve Chairman Alan Greenspan, "and I've watched the process at work through my entire career." Today "destructive technology" is the label for change-forcing innovation and technology.

The juxtaposition of creation and destruction captures the ever-present tension between gains and losses in the American market economy. The process has never been without critics and political opponents. But because the winners have substantially outnumbered the losers, the churn of competition remains a defining characteristic of the U.S. economy.

Outsiders often equate the U.S. economy with its largest corporations and what they make and do. They may be surprised, then, by the vital part that small businesses play. Napoleon is said to have dismissed England as "a nation of shopkeepers." The phrase could also be applied in considerable degree to the United States, whose shop owners and other small businesses account for over half of the private-sector U.S. workforce and economic output, excluding farming. ("Small" businesses, according to an official definition, have fewer than 500 employees.)

A typical American town or suburb of more than 10,000 people is populated with individual business owners and small firms—car dealers; accountants and lawyers; physicians and therapists; shoe repairers and cleaning establishments; flower and hardware stores; plumbers, painters, and electricians; clothing boutiques; computer repair shops; and restaurants of a half-dozen ethnic flavors. Many of the small retailers compete with national chains boasting billions of dollars in revenue and thousands of employees.

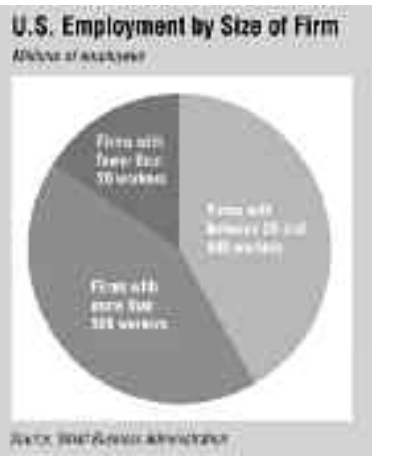
Despite the odds against them, small businesses account for a vast majority of job growth, particularly as major manufacturing companies trim employment in the face of stiff global competition. In 2004, for example, the number of jobs in small businesses grew by 1.9 million overall from the year before. Larger companies with 500 employees or more lost 181,000 net jobs. (Economists point out that many small businesses provide goods and services to large companies and thus are tied to their fortunes.)

Small Businesses at the Economy's Core

American entrepreneurs remain eager to risk their own savings to start small businesses despite the potential for failure that Schumpeter's model predicts. The widely published and sometimes embroidered story of American Founding Father Benjamin Franklin was a potent symbol of aspiration and perseverance for generations of Americans, "defining our image of ourselves, shaping our sense of possibility," says author Peter Baida.

The 15th child of a Boston soap and candle maker, Franklin quit school after two years to work in his brother's printing business. He learned the printing trade and accounting, became the American colonies' most noteworthy publisher and inventor, and then played his storied role in the struggle for national independence. Since Franklin's time, Americans have hailed leading inventors and entrepreneurs as icons of opportunism, from Thomas Edison to Apple's Steve Jobs.

Millions of entrepreneurs try to create their own versions of success. Government data show that, in 2006, an estimated 650,000 new employer-owned businesses were started up and



565,000 went out of business, out of a total of around six million such businesses nationwide. Similar ratios of births and deaths among small businesses are repeated year after year.

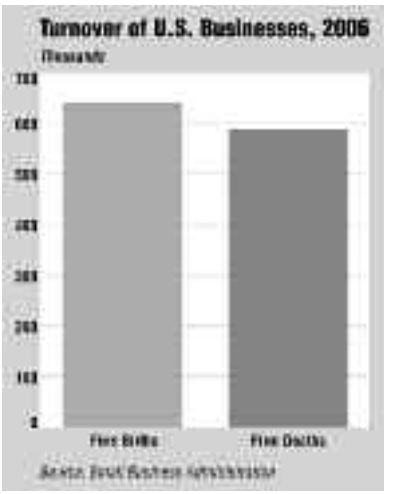
One obvious reason why so many Americans choose this path is the relative ease of starting a business. Professions such as law, medicine, and accounting have stiff licensing requirements. But compared to other Western economies, the United States offers an open road to a would-be business owner. The contrast with some Third World economies is monumental. A study by the Peruvian economist Hernando de Soto found that it took 289 days to open a small garment workshop in Lima, Peru. The absence of a vibrant small-business class is not due to a lack of entrepreneurs, he argued. In 1993, an estimated 150,000 vendors worked the streets of Mexico City, to cite but one example. But these vendors were blocked from becoming full-fledged business owners by many hurdles, de Soto says, including rigid class barriers, laws that discourage property ownership, and bureaucracies intent on preserving the status quo. In the United States, change is a way of life.

The Chance to Start Again

If it is easy to launch a business in America, it is also relatively simple to try again after a failed attempt. The philosopher Erich Fromm said that the "freedom to fail" was essential to overall freedom, and the adage is often cited as a basic tenet of American economic life.

U.S. bankruptcy laws govern business failures. The U.S. Congress has tried to strike a balance that recovers as much of a failed company's assets as possible for lenders and creditors, while providing financial protections that can allow some entrepreneurs to gain a fresh start. The bankruptcy process may differ for individuals, small enterprises, and large, publicly owned corporations.

A small business that cannot pay its bills usually will go through what is called a liquidation, selling all of its assets to pay what it can to its creditors. Some of the business's debts are paid ahead of others, and a bankruptcy court appoints a trustee to see that the process follows the rules. Banks and other "secured" lenders are high on the repayment list, as are most employee wages. But if there are public



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shareholders, these owners—who have assumed more risk in exchange for greater potential reward—are on the bottom and often get nothing as the business closes its doors.

Large companies that can't cope with their debts may choose what is called a Chapter 11 bankruptcy process, which allows a company to stay in business while it tries to recover. If the company still has valuable assets or some cash coming in, and if its crisis seems temporary, creditors may choose to take less than full repayment of their claims initially to let the business survive and continue repaying its creditors. In this case, too, shareholders might be wiped out, but the business can survive.

Bankruptcy law also enables individuals to escape unmanageable debts and start over, although they may lose their homes. This escape route can be crucial for people who lose their jobs or for families facing heavy medical bills, for example.

The bankruptcy laws are part of the American cultural belief in the second chance. This story is woven deeply into the national fabric of migration and settlement that began with the first boatloads of European arrivals and never stopped. French political thinker Alexis de Tocqueville found in the 1830s an innate restlessness among Americans, who were constantly changing course "for fear of missing the shortest road" to success and happiness.

The historian Frederick Jackson Turner, marking the 400th anniversary of Columbus's 1492 landing in the New World, defined the American frontier as an integral cultural catalyst. The steadily changing frontier, lying ever west of existing settlements, was a magnet for migration, pulling footloose Americans ever westward, Turner wrote in 1893. He attributed distinctive aspects of the predominant American character—individualism, risk-taking, suspicion of authority, and optimism—to this frontier experience.

Creative Destruction at the Top of the Economy

Creative destruction is evident at the top of the economy in the rise and decline of the largest, most powerful U.S. corporations.

One measure is the survey of the 50 largest industrial companies published annually by *Fortune* magazine. In 1990, the top-50 list featured companies with household names and an international reach, many dating back to the early 20th century, including General Motors, Ford Motor Company, DuPont, Eastman Kodak, and the predecessors of Exxon Mobil. These businesses similarly reflected the heyday of U.S. manufacturing: Manufacturers held 31 of the 50 places, followed by 12 energy companies and seven consumer products suppliers.

The 2007 rankings document the consequences of globalization, the decline of goods pro-

duction in favor of services, and the rise of health care as a major need for an aging population. On the 2007 *Fortune* list, the largest U.S. non-financial company was Wal-Mart Stores. Its $351 billion in revenue narrowly exceeded revenues of energy giant Exxon Mobil. The number of manufacturers among the 50 largest industrial firms was down to 20. Mergers had reduced the energy companies to eight in all.

Taking the place of the displaced manufacturing and energy firms were 10 retailers, including Wal-Mart, its rival Target, and Home Depot and Lowes, the leading home improvement and construction materials retailers. Also in the top 50 were six health industry companies and three companies focused on moving a steadily growing volume of food, goods, and documents around the country—United Parcel Service, FedEx, and Sysco, the largest distributor of food products. Kodak, Xerox, International Paper, Goodyear Tire & Rubber, and Bristol-Myers Squibb had fallen far out of the top 50 in 2007.

The global economic expansion has profoundly altered U.S. business. But so have domestic forces of change. At the beginning of the 20th century, some of America's dominant businesses were called to account by reformers crusading for better working conditions and pure food. The movement was revived in the 1960s through a one-man attack on the safety of American-built automobiles by Ralph Nader, an attorney and activist. Nader's 1965 book, *Unsafe at Any Speed*, singled out the small General Motors Corvair sedan. GM retaliated by investigating Nader's private life in an apparent effort to discredit him. GM's chairman called Nader "one of the bitter gypsies of dissent who plague America." But Nader's campaign against the nation's No. 1 automaker registered with the

Above: Author Ralph Nader shakes the hand of President Lyndon Johnson at the 1966 signing of auto safety legislation boosted by Nader's book.

American mood. Congress passed the National Traffic and Motor Vehicle Safety Act of 1966 to set automobile safety standards.

Corporations Push Back

"Ambition must counter ambition," James Madison wrote in 1788 in *Federalist 51*, an effort to defend the proposed U.S. Constitution he had done so much to shape. American businesses and their opponents actively play the role Madison anticipated, presenting and defending their interests in Washington and state capitals.

The word "lobbying" as a name for these campaigns dates back at least to 18th-century Britain. In the Gilded Age of rapid U.S. economic expansion after the Civil War, lobbying by railroad promoters took the form of outright bribes "where it will do most good," as one railroad trustee put it, spent on congressmen who could determine railroad routes. Today, lobbyists who contact members of Congress for their clients must register and publicly disclose their activities. Their direct contributions of money to members of Congress are limited and must be revealed.

Critics of lobbying say it represents a corruption of the democratic process, giving large contributors the strongest voice. Defenders reply that the lobbyist is exercising a constitutionally guaranteed right to petition the government and that lawmakers cannot properly perform their duties without understanding the various sides of controversial issues—details that lobbyists are eager to provide.

In any event, lobbying is a growth industry. In 1975, lobbyists reported spending $100 million to make their cases in Washington. In 2005, the U.S. Capitol had 17,000 registered lobbyists (200 of them former members of Congress), and their spending totaled $2.5 billion. There is hardly a cause of any size that is not part of this campaign, but business groups lead the list of registered lobbyists. Between 1998 and 2006, five U.S. industries reported spending a total of $1 billion or more on lobbying.

A profound internal challenge to America's business establishment in the past quarter-century came not from regulators or "gypsies of dissent," but from investors. In the 1980s, an industry sprang up centered on Wall Street and focused on taking over underperforming publicly owned corporations. In 1981, DuPont, a diversified manufacturer of chemical-based products, made a bid to purchase the oil giant Conoco. A bidding frenzy followed as Canada's Seagram liquor distiller and Conoco rivals Texaco and Mobil sought to beat DuPont's price. Conoco's $7.8 billion merger with DuPont equated to a purchase price of $98 for each share of Conoco stock, twice the share price before DuPont made its move. The largest corporate

merger to that time, it created stunning financial gains not only for Conoco stockholders, but also for speculators who purchased the oil company's shares and for the Wall Street investment bankers and lawyers who worked on the deal.

The acquisition of Conoco opened a wild new chapter in U.S. business history. Bidding wars broke out to seize control of companies whose low stock prices left them vulnerable. New tactics appeared, such as "greenmail" by investors and speculators who bought significant shares of a company and then threatened a takeover unless the company repurchased their shares at a higher price. Corporate "raiders" such as T. Boone Pickens, Carl Icahn, and Sir James Goldsmith became celebrities. Corporate leaders accused them of financial piracy. The raiders countered that by purchasing shares of "mismanaged" companies, they made rightful claims on behalf of all shareholders to the companies' true value.

Junk Bonds and Takeovers

Adding to the turmoil was an explosive increase in leveraged buyouts, or LBOs. The targets of this strategy were companies whose stock prices appeared depressed because of poor management or because of Wall Street's misreading of the companies' potential. Outside investors or a company's top managers would seek to buy a company from public shareholders by offering an above-market price. The leverage in this case was debt. The typical LBO was financed primarily by loans that would be issued by the company once the new owners had succeeded in taking it over. Interest payments on these loans were tax deductible, lessening both the cost and financial risk of the LBO and encouraging LBO organizers to offer their bonds at relatively high yields to investors.

Traditionally, high-yielding but riskier debt securities were offered by companies in trouble and so were known as "junk bonds," but LBO promoters argued that these bonds were not as risky as many investors had assumed. A 1978 change in federal rules permitted regulated corporate pension funds to invest in LBO debt, opening a vital source of financing to the LBO movement. Insurance companies, mutual funds, and savings and loan banks were other major buyers of junk bonds.

In the first half of the 1980s, LBO transactions increased sixfold. In 1988, an estimated $200 billion in junk bonds had been issued, a boom in Wall Street dealmaking not seen since J.P. Morgan's day, said *Business Week* magazine. Shareholders benefited from the premium prices on LBO offers. Wall Street investment and law firms collected handsome fees, and LBO owners stood to profit enormously if the plans succeeded. It was the "great, infallible money-making

machine" of the decade, said finance professor Roy C. Smith.

The downside was the destructive half of Schumpeter's creative destruction model. To meet debt payments, new owners often had to sell off poor-performing divisions or shrink payrolls, and then employees lost jobs. Companies that had been fixtures of communities for years were sold or dismantled. A top executive of a leading U.S. automobile tire company said that the LBO was "created in hell by the devil himself."

The LBO process depended on a healthy economy with buyers eager to purchase the unwanted parts of LBO companies, on investors' confidence in junk bonds, and on a permissive regulatory climate. But the economy slowed at the end of the 1980s, and investor confidence was jarred by scandal. The billion-dollar deals tempted some of Wall Street's best-known bankers and lawyers to cheat, violating federal securities laws by tipping off one another on upcoming but unannounced deals, manipulating stock prices, and issuing fraudulently false financial statements. The Wall Street firm Drexel Burnham Lambert, the leading junk bond financier, admitted felony securities violations in 1988, paid a record $650 million fine, and wound up in bankruptcy court.

The corporate raiding frenzy subsided in the 1990s after Drexel's demise was followed by heavy losses for junk bond investors generally. The 1990s boom in technology stocks absorbed larger and larger amounts of investors' money until that speculative stock surge collapsed in 2000. After a few years, however, a new wave of corporate acquisitions swelled up. It was led by private investment funds whose clients pooled their capital and borrowed additional funds to purchase companies whose profits and stock market prices had slumped, creating possible bargains for the investors.

Unlike some takeovers by 1980s raiders, investment funds such as the Blackstone Group and the Carlyle Group aimed not just to cut costs, but to improve the company's results. The private managers sought to take a company public, selling shares on U.S. stock markets. If the company was performing better than during its last public incarnation, the share prices would be correspondingly higher and the private investors would reap extraordinary gains. The list of companies acquired by such private equity funds included the Hertz Corporation car rental company, Metro-Goldwyn Mayer movie studios, Burger King, Chrysler, and TXU, the largest electric utility in Texas.

In 1992, private equity investments totaled just $21 billion. In 2006, private equity firms bought control of 654 U.S. companies for a total of $375 billion, evidence of the constant turnover in Amer-

ican business that Schumpeter would have instantly recognized.

Competition and the American Culture

How did competition and disruptive change become accepted as part of the American economic culture?

The first European settlers in the New World braved the perilous Atlantic crossing for varied reasons. Some sought a new land where their religious beliefs would escape persecution. Others sought gold or the fountain of youth or the passage to India. Many simply dreamed of a new chance in life. But most shared the reality that they would have to build their new world from the bottom up.

From the first fragile settlements, Americans pushed westward, inventing and reinventing their society in the face of constantly changing opportunities and hazards. Historian Walter A. McDougall has called the United States "the most dynamic civilization in history," adding, "nowhere else has more change occurred in so short a span. America was not just born of revolution, it is one."

Many Americans believed that God, the Creator, the Almighty—whom they saw in many different ways—blessed their struggle to create a new nation. In 1630, John Winthrop, the governor of the Massachusetts Bay Colony, had called his settlement a "city on a hill. The eyes of people are upon us." President Woodrow Wilson, in 1915, told a group of new American citizens, "you have taken an oath of allegiance to a great ideal, to a great body of principles, to a great hope of the human race." And Winthrop's metaphor became a favorite of President Ronald Reagan, as the 20th century neared its close.

This sense of mission fortified the willingness of many Americans to seize the land and build a new country and a strong economy. And it helped instill in the American people a lasting streak of optimism.

"With optimism went a sense of power and of vast resources of energy," said the historian Henry Steele Commager. "The American had spacious ideas, his imagination roamed a continent, and he was impatient with petty transactions, hesitation, and timidities. To carve out a farm of a square mile or a ranch of a hundred square miles, to educate millions of children, to feed the Western world with his wheat and his corn, did not appear to him remarkable."

Idealism and self-interest prevailed alongside one another. McDougall argues that stripped to essentials, America was, and remains, a nation of hustlers. In *Freedom Just Around the Corner,* McDougall described his dilemma: "Shall I portray Americans as individualists or community builders, pragmatists or dreamers, materialists or idealists, bigots or champions of tolerance, lovers of liberty and justice for all, or his-

tory's most brazen hypocrites?" In fact, all of these traits have been obvious throughout the American experience, he said.

The common denominator McDougall saw was a scrappy drive to hustle, to get ahead and improve one's circumstances. "Americans take it for granted that 'everyone's got an angle,' except maybe themselves," he wrote. "Politicians, lawyers, bankers, merchants, and salesmen are considered guilty until proven innocent." Americans were "hustlers in the sense of self-promoters, scofflaws, occasional frauds, and peripatetic self-reinventors," he said. But he added, "They are also hustlers in the positive sense: builders, doers, go-getters, dreamers, hard workers, inventors, organizers, engineers, and a people supremely generous."

The first American settlers brought with them the principles of Britain's complex, diverse, and opportunistic market economy, and applied them on the new soil. But the British model was changed by the ideals of liberty and democracy that promised opportunity. As Princeton University's Anne-Marie Slaughter put it, "From nothing to something is what we mean by the American Dream—from rags to riches, from a log cabin to the White House, from a Kansas farm to a Hollywood studio. It is a story of making and remaking ourselves as far as luck and hard work will carry us."

Praising Work

The original contours of the American economy were defined by a culture that elevated conscientious work into a national value. "In the beginning America was the land and the land was America," wrote anthropologist and businessman Herbert Applebaum. Unlike Britain, the New World offered the promise of landownership to the typical settler, at least once the Native American peoples had been driven off. But the land was useless without an investment in "backbreaking and continuous work," Applebaum added. The farmer had to master a dozen tradesman's skills. The tradesman had to farm. Necessity bred a deep strain of individualism within the communal settlements that spread across the land.

As the American colonies prospered and then combined in their unlikely Revolutionary War victory, Americans increasingly viewed work not merely as a requisite of survival but as the path to success.

"Significant numbers of Americans believe that anyone, high or low, can move up the economic ladder as long as they are talented, hardworking, entrepreneurial, and not too unlucky," wrote Yale University law professor Amy Chau. This belief helps explain the relative weakness of class-based political movements in the United States and the acceptance—however grudgingly—

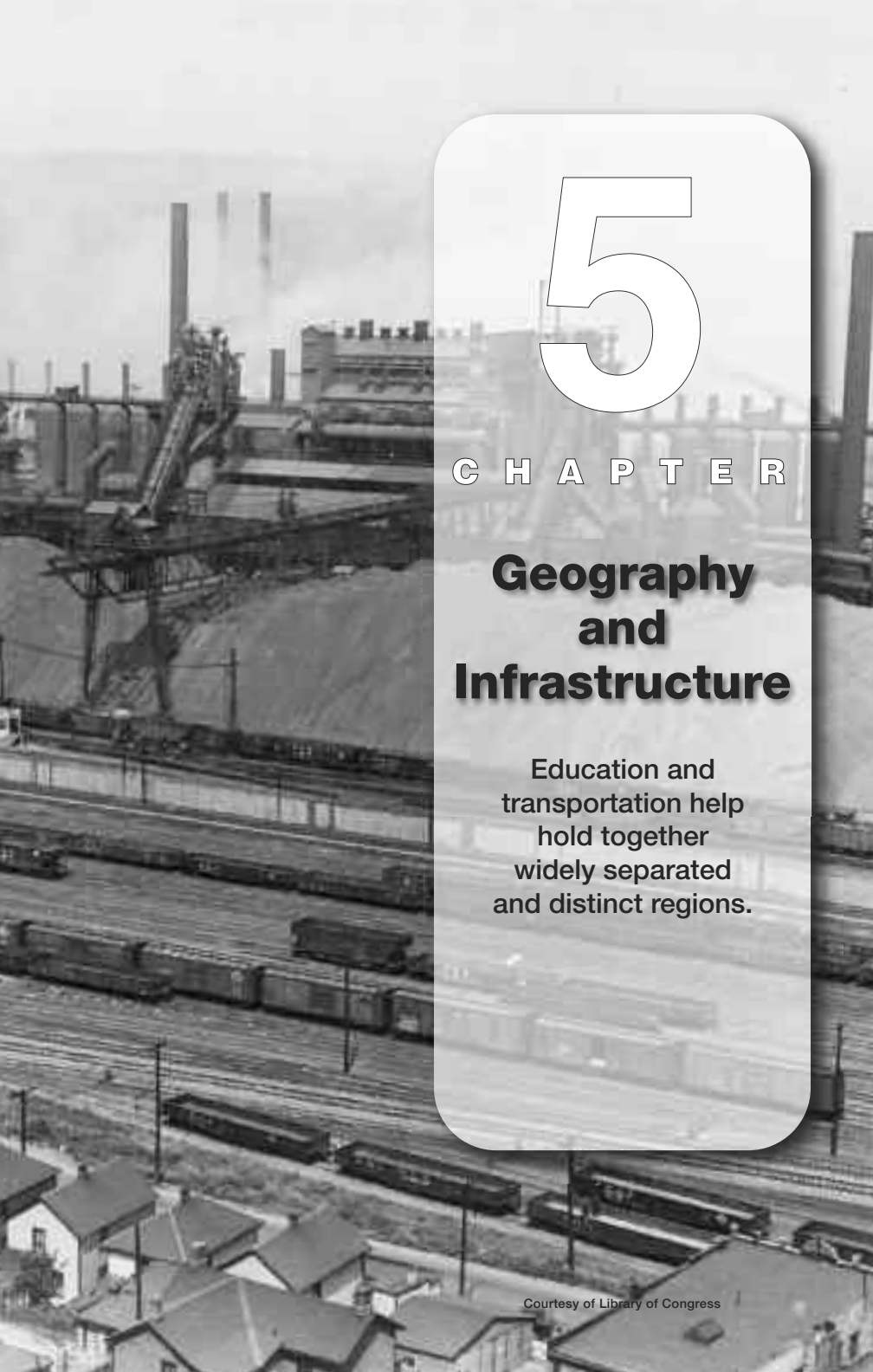
by most Americans of greater disparities in wealth than are found in other developed nations, Chau and other commentators say.

The sociologist and political economist Max Weber, writing a century ago in his influential *The Protestant Ethic and the Spirit of Capitalism,* argued that Protestant religions helped build capitalism's foundation by endorsing hard work, honesty, and frugality. That spirit survives, but in changing forms, says the urban studies theorist Richard Florida.

In his 2005 book, *The Flight of the Creative Class,* Florida argues that the protest movements of the 1960s and 1970s eventually sparked new perceptions of work. Increasingly not just hard work, but fulfilling, interesting, fun work became the goal of the baby-boom generation that dominated the U.S. economy in the last third of the 20th century.

But even this cultural turn reflected traditional American traits. A streak of pragmatism, skepticism, and contrariness runs deep in the American character, historians say. "The American's attitude toward authority, rules, and regulations was the despair of bureaucrats and disciplinarians," writes Commager.

American history suggests that whatever future form it takes, the individualism and contrariness that seem wired into the national culture will continue to fuel Americans' hustling, striving nature.



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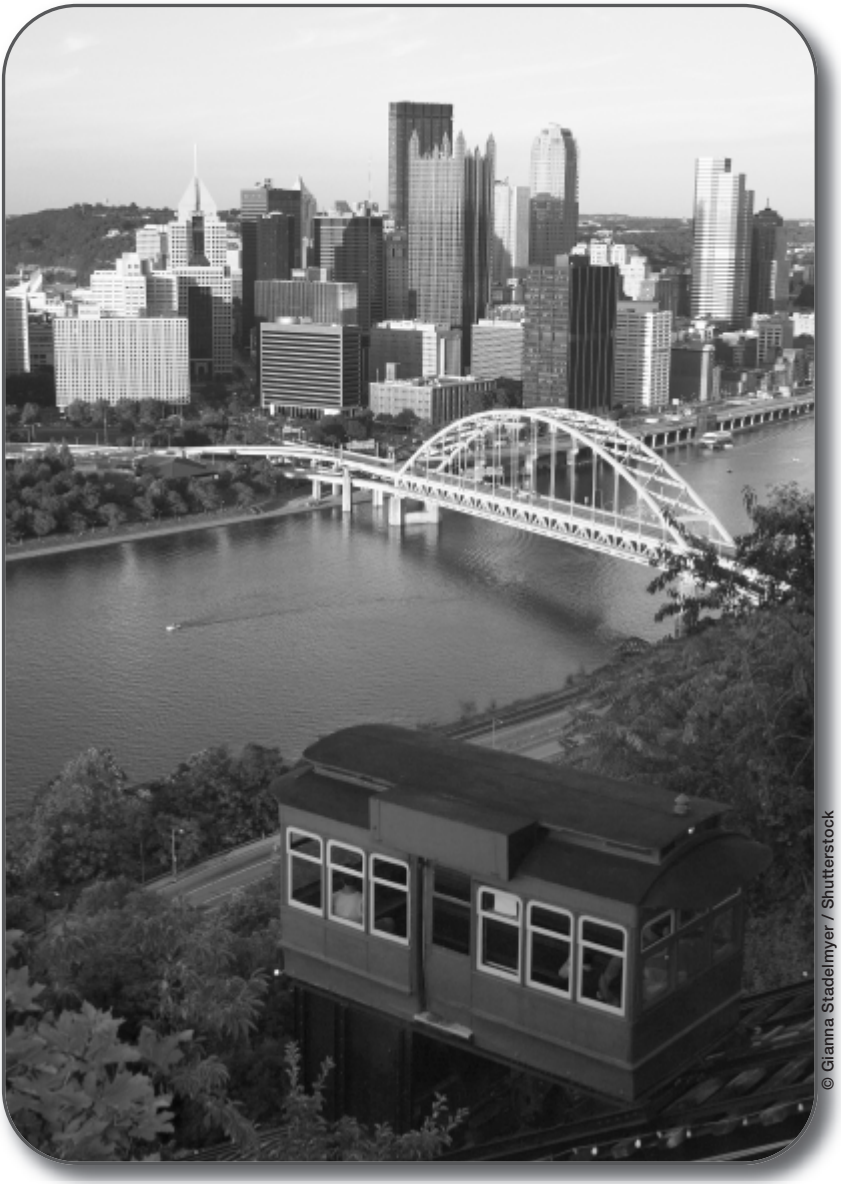
CHAPTER

Geography and Infrastructure

Education and transportation help hold together widely separated and distinct regions.

Courtesy of Library of Congress



Above: Pittsburgh, Pennsylvania, became a steelmaking center at the confluence of rivers, coal beds, and rail. ***Previous spread:*** The Jones & Laughlin Steel Company plant along the Ohio River in Aliquippa, Pennsylvania, in 1938, operated near Pittsburgh.

"It is one of the happy incidents of the federal system that a single courageous state may… serve as a laboratory and try novel social and economic experiments…"

JUSTICE LOUIS BRANDEIS
U.S. Supreme Court
1932

As a continental nation spanning much of the territory between two great oceans, the United States is blessed with tremendous natural resources: a treasure of forests, seacoasts, arable land, rivers, lakes, and minerals. School atlases of North America once located important economic resources with simple icons placed on a map: office skyscrapers marking the Eastern Seaboard's metropolitan centers; factories flanking the Great Lakes industrial belt; stacks of wheat and grazing livestock on the Great Plains; cotton in the Old South and eastern Texas; coal in the Appalachian Mountains of the East and on the eastern slopes of the Rocky Mountains; iron ore in Minnesota's Mesabi Range; oil wells in the Southwest, California, and Alaska; timber and hydropower in the Southeast and Northwest.

Of course these resources were found in many places. The area around Pittsburgh, Pennsylvania, became a center of steelmaking because of the nearby coal deposits and its rail and river connections to the rest of the country. Gary, Indiana, and Birmingham, Alabama, were big steel cities, too. John D. Rockefeller's oil fortunes were made in Pennsylvania, but Texas's plains, the coastal states along the Gulf of Mexico, southern California, and Alaska also sheltered large oil preserves. Even so, those old schoolbook maps correctly pinpointed the different centers of America's resource wealth from which the economy grew.

A similar 21st-century economic map would look very different. Old manufacturing cities around the Great Lakes have lost hundreds of thousands of production jobs over the past two decades. Other metropolitan

areas have grown on the strength of their technology and finance sectors. Even so, the American economy retains its strongly regional character.

A Nation of Regions

Distinct regions emerged in America's first century as immigrants from different lands moved to parts of the country where their skills might best be suited and their families welcomed. Scandinavian farmers landed in Minnesota; Jewish immigrant tradesmen from Europe's cities settled in New York and other major northern cities; Mexican farm workers beat a path to California's orchards and fields.

Settlers followed kinsmen, creating clusters of common customs that took root in each region. Journalist Dan Morgan has observed that orderly New England "Yankees" moving from their homes in the northeastern United States to Ohio laid out plans for future towns with schools and courthouses "before the first harvest was in." German immigrants erected sturdy dairy barns in Pennsylvania, built to last, and they did, as one generation followed another. Farmers and townspeople in the East sought land or fortune on western frontiers, braving life-threatening challenges. Those who made it implanted a strong individualistic strain that still characterizes the western outlook.

This clustering of people, skills, and resources fostered the emergence of distinct regional identities and personalities. Journalist Joel Garreau, in his book *The Nine Nations of North America,* suggests that the United States, Canada, Mexico, and the Caribbean contain separate North American regions with different, defining characteristics. The U.S. regions are New England; the old industrial states around the Great Lakes; the South with its historical legacies and new economic dynamism; the breadbasket of farmlands from the Midwest to the Great Plains; the thinly settled wilderness and desert regions along the Rocky Mountains; the center of Latino presence in Texas and the Southwest; the nucleus of environmental activism along the Pacific Coast; and the tip of Florida with its ties to the Caribbean.

"Some are close to being raw frontiers; others have four centuries of history. Each has a peculiar economy; each commands a certain emotional allegiance from its citizens. These nations look different, feel different, and sound different from each other," Garreau wrote. "Some are clearly divided topographically by mountains, deserts, and rivers. Others are separated by architecture, music, language, and ways of making a living. Most importantly, each nation has a distinct prism through which it views the world."

Differences in character affected how each region developed. An example is water. The first settlers reaching America

from Britain brought with them the traditions of English common law. Owners of "riparian" property—on the banks of lakes and rivers—had the right to claim use of the "natural flow" of water past their lands. But this principle was tested by economic competition. Mill owners, key players in the northern colonies' economy, could claim competing rights to the same river.

To settle these disputes, American courts created the doctrine of "reasonable use." It is, in effect, a requirement that users fairly share water resources. What was reasonable in these disputes varied from state to state and region to region, but it often meant that a bigger mill or factory could make a greater claim on a river's flow than a smaller one. The factory cities that sprung up along the rivers of the northeastern United States owed their existence to shared water supplies.

The California gold rush of 1848 led to an entirely different doctrine, one that met the miners' needs and would shape the uses of water throughout the West. A miner finding a gold seam would claim the land and water from the nearest creek to wash dirt away from the precious nuggets. The miner's claim established a "first-in-time, first-in-use" priority allowing him to take as much water as he required.

After the gold rush ended, the miners' approach to water rights became an established custom. Unlike the principle of shared resources in the East, the miners' "prior appropriation" doctrine, as it became called in the West, allowed pioneering developers to claim vast amounts of water to support the expansion of cities in arid Southern California and other southwestern states and to help western farmers grow crops on dry land by tapping immense underground water aquifers without limitations. Los Angeles and Las Vegas exist as metropolitan cities today because of the western water rights doctrine.

The example of water rights illustrates the variety of regional policies, laws, and practices that emerged within a diverse Union. U.S. Supreme Court Justice Louis D. Brandeis framed the case for the diversity of state policies in a widely noted dissenting opinion on a 1932 case before the court: "It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory, and try novel social and economic experiments without risk to the rest of the country." States remain laboratories of policy innovation in education, energy supply, and public transportation.

Unifying Forces

The landscape of U.S. history is covered with travelers' paths. The economic blight throughout the South after the U.S. Civil War sent thousands of Scotch-Irish immigrants and their children drifting westward to find open farms in Texas and native American

Indian territory. "When conditions became intolerable, they exercised their ultimate right as Americans—the right to move on," Dan Morgan wrote. They chalked "GTT" on abandoned front doors and departed. Their neighbors knew the initials meant "Gone to Texas."

The Great Depression and dust storms of the 1930s forced the greatest migration in the nation's history, as 300,000 people from Oklahoma, Texas, Missouri, and Arkansas headed for California's fertile central valley. Fearful California authorities raised a sign in Tulsa, Oklahoma, warning, "No Jobs in California. If you are out of work keep out!" But the Okies, as they were called, went anyway.

The movement of people was triggered by both opportunity and necessity. A long-running migration of African Americans out of the South continued throughout the 20th century as farm mechanization displaced hand labor. The greatest transition began during World War II, when northern steel and auto factories offered jobs to African Americans to fill wartime vacancies. Economic necessity prevailed over traditions of racial bias.

New England's textile industry over the past century gradually moved to the South, where land was cheaper and labor unions weaker. In recent decades, foreign auto and truck companies have set up factories across the South, welcomed by growth-

Above: The 1930s Great Depression and dust storms led 300,000 people from the plains states to migrate to California looking for work on farms.

minded business and civic leaders. Today, once-empty towns in Wyoming are filling up with newcomers taking jobs in the state's expanding coal industry.

The mobility of American workers is well documented. One study in the past decade reported that, on average, U.S. college graduates would work for 11 employers before retirement. The U.S. Bureau of Labor Statistics calculated that college graduates would hold 13 different job positions, counting promotions and changes of employers, before reaching 38 years of age.

The willingness of Americans to "get up and go" is recorded by the national census taken every 10 years. The 1990 U.S. census found that just 60 percent of the country's people were living in the same state where they were born. And that average concealed considerable variations among the states. Eighty percent of Pennsylvanians surveyed in that census, and more than 70 percent of residents of other states, including Iowa, Louisiana, Michigan, Minnesota, and Mississippi, were living in their birth state. But only 30 percent of Florida's residents could say the same.

Migration continued in the beginning of the 21st century. From 2000 to 2004, the northeastern United States lost a net average of 246,000 residents a year, and the Midwest's population declined by an average 161,000 people a year. But the South gained 352,000 people a year on average. In the West, Pacific Coast states lost an average 75,500 residents a year, but the Rocky Mountain states gained an average 130,000.

Unifying Forces and Infrastructure

Even as immigration, resources, and culture helped define regional differences, other economic and cultural forces worked to break down regional barriers and integrate more closely the nation's regional economies. These included a common currency, a legal system that recognized the rights of property ownership, and federal laws creating uniform policies for commerce among the states. A crucial linkage was the development of the country's transportation infrastructure, which smoothed the flow of goods among all the regions.

The need for transportation networks was clear from the start. It was George Washington's dream to connect Virginia and other eastern states to the Ohio Valley—then the nation's frontier—through a canal from Washington, D.C., across the Appalachian Mountains to Ohio. But money was scarce, and construction did not begin until 1828. Before the canal's completion in 1850, hundreds of steamboats were working the Mississippi River and regional railroads crisscrossed the populated eastern states. Rail and steam had made the canal obsolete before its completion.

Samuel F.B. Morse's development of the telegraph received crucial funding from the federal government: a $30,000 grant enabled him to run a telegraph line from Baltimore, Maryland, to Washington, D.C., in 1844. The determined inventor triumphed when the line instantly and magically transmitted to Washington the results of the presidential nominating conventions held in Baltimore, using the dot-and-dash letter code Morse had created.

Morse's telegraph was an early demonstration of the key role that the U.S. government would play in promoting science and commerce, a role that has continued to the present through the funding of the U.S. space program, cancer research, and advanced energy systems. Morse believed that the government, having bankrolled the project, should build and run a nationwide telegraph network, just as it delivered the mails. But Washington officials were not interested, and Morse and his partners formed a private company to run telegraph wires between Washington and New York. Five years later, 19,000 kilometers of lines had been strung. That number was doubled by armies during the Civil War. Before Morse's death in 1872, telegraph lines extended 400,000 kilometers, opening a coast-to-coast communications capability that was indispensable to the economy's growth.

The federal government alone had the authority and capital to launch the 19th century's greatest infrastructure project—the transcontinental railroad. President Abraham Lincoln signed the legislation creating a nationally chartered corporation to undertake the immense project. Two companies got the task of building the lines, one starting in Omaha, Nebraska, the other in Sacramento, California. The hazardous project, which had to cross deserts and overcome western mountain ranges, employed 10,000 workers, including European settlers, freed slaves, and Chinese immigrants.

The railroad united the nation from coast to coast. Grain, coal to make steel and illuminating gas, copper, iron ore, petroleum, timber, clothing to supply new city department stores and consumer catalog businesses, foodstuffs—even fruit in newly created refrigerator cars—all could cross the country in search of markets. A trip from New York to China, which had taken 100 days around South America's forbidding Cape Horn, now could be completed in 30 days thanks to the continent-spanning railroad.

In 1912, the automobile was still a toy of the wealthy. But industrialist Carl G. Fisher, whose company made automobile headlights, saw the possibilities of a coast-to-coast highway and organized a campaign to create it with public contributions. The 5,456-kilometer route was called the Lincoln Highway, and by 1925 it ran from New York to San Fran-

cisco. At the project's start, improved highways covered less than half of the route. Sections of the route followed historic pathways blazed by Native Americans, colonial settlers, Civil War armies, and the Pony Express mail service. Called "America's Main Street," it forged the first connection between commerce and the automobile and inspired the construction of the Interstate Highway System beginning in the 1950s.

President Dwight D. Eisenhower had made the arduous cross-country trip by truck as a young Army officer in 1919 and conceived of a modern limited-access highway system that would buttress America's internal defenses. Strongly promoted by the influential automobile and oil industries, the government-funded highway network was under construction by 1956. Its initial route plan was completed in 1992 at a cost of $114 billion—10 times the projected budget—and paid for almost entirely by taxes on gasoline sales and other user fees.

By 2004, the road network covered 75,408 kilometers. It accelerated the movement of city dwellers to suburbs, encouraged the spread of industry from older commercial centers in the North into the

Above: The Interstate Highway System of limited-access roads like these in Los Angeles bolstered suburbs, drove shifts of manufacturing to different states, and promoted the trucking industry for shipping goods.

South and West, and established the trucking industry as a rival for railroads in shipping freight. It also put more Americans on the road, and the resulting increases in their already-expanding demands for oil-based motor fuels would dominate the country's energy policy debates.

Creating a National Audience

The United States is often considered a comparatively decentralized country, one with a federal government, and yet one in which individual citizens identify strongly with their regions, states, and municipalities. To some extent this was a function of the country's great size, and of technological limits. Nineteenth-century advances such as the telegraph and the transcontinental railroad helped to bridge this distance.

But it was broadcasting—radio, then television—that helped to create truly nationwide audiences, a more common culture, and a truly national economic market. Americans living thousands of miles apart could experience domestic and global events simultaneously. Radio news broadcasts from the 1920s on delivered momentous news happenings, President Franklin D. Roosevelt's "fireside chats," and popular sporting events.

Broadcasting in America mostly has evolved along a privately owned, publicly regulated model. While radio and television stations are licensed by the federal government and are required to serve the public interest, most also are run to generate profits for their private-sector owners, who achieve this by selling advertising time. These product pitches prime the pump of consumer spending. The country's top advertisers spent $150 billion promoting their wares in 2006, with 44 percent of that going to television, 40 percent to newspapers and magazine, 7 percent to radio, and nearly 7 percent more to fast-growing Internet advertising.

Advertising is the information source that underpins competition and promotes the consumer choice essential for a mass-market economy. Critics also charge that advertising promotes excessive materialism and unwise spending impulses.

The Power of Education

Benjamin Rush, a Philadelphia physician and signer of the Declaration of Independence, told all who would listen that winning the war of independence from England had been hard enough. Still harder would be the challenge of making democracy work. To fulfill that task, the new self-governing nation had to create a broad system of free public education.

"The form of government we have assumed has created a new class of duties to every American," Rush said in 1783. Believing that humankind was "improvable," Rush and other

founders wanted education to be useful. But it also had a central political purpose: Education was essential to equip citizens to use the power of the ballot wisely.

The question was *how,* and at first also *who.* In the nation's early decades, states followed many paths in expanding public education, at least to the sons of white Americans. Native Americans were excluded. African-American children in the North had separate schools; the children of slaves received no schooling. Young girls were typically taught homemaking skills.

The reforms that would make American education a model for the world got their strongest initial push from Horace Mann, who served as secretary of the Massachusetts State Board of Education beginning in 1837. He grew up in poor circumstances and could attend school only part time, but, with help from tutors, he attended college and then spent the rest of his life promoting a then-revolutionary educational philosophy.

Mann campaigned for free, taxpayer-supported public schools that both rich and poor children would attend together. While these public schools would be managed locally, Mann advocated an encompassing system of educational improvement to apply best-teaching methods and to assess schools' performance. Mann's preferred curriculum would seek to instill general Protestant moral, as opposed to religious, precepts, and it would aim to foster a nonpartisan patriotism. Beyond that, Mann argued that schools must strive for the highest scholarship, teaching students to educate themselves for roles in the economy and society.

States across the country gradually adopted Mann's ideas, thus raising the quality of broadly available public education. Schools in poor areas and the racially segregated parts of the South received substantially fewer resources than other school systems, a gap that has narrowed but not been fully eliminated since the start of federal antipoverty and educational programs in the 1960s.

While debates about education methods have persisted at least since Horace Mann's day, one precept widely shared by most Americans is that a nation's wealth includes not just its citizens' private property, but also those citizens' capacity to better themselves, says historian Lawrence A. Cremin. "Granting its flaws, its imperfections, and even its several tragic shortcomings," Cremin says, the U.S. education system stands "among the two or three most significant contributions the United States has made to the advancement of world civilization."

By the end of the 19th century, a wide range of colleges and universities had been opened. They included elite private universities, a group of colleges opened for African Americans,

and a system of land-grant universities established by Congress to provide education in "agriculture and mechanical arts." The land-grant schools have evolved today into state universities with tens of thousands of students.

Education was a cornerstone of U.S. economic success. The 1940 federal census reported that one-quarter of Americans over the age of 25 had attended high school and 4.6 percent had graduated from college. A 2007 census survey found 44 percent of Americans over age 25 had graduated from high school, 17 percent had attended college but not earned a degree, and 27 percent were college graduates.

At the end of World War II, Congress funded scholarships to help veterans attend college, and the percentage of men attending colleges climbed rapidly. The percentage of women over age 25 who had attended college did not increase significantly until after 1980. But by 2005, the percentage of women over 25 with some college education exceeded the percentage for men, reflecting the impact of the women's movement and the desire of, or need for, women to join the workforce.

As international competition and foreign trade became larger factors in the U.S. economy during the first decade of the 21st century, a shift of jobs away from the older centers of factory production accelerated. The regions gaining jobs have been regional centers where technology and finance are strongest, as shown by government data on job gains and losses for major U.S. cities from 2000 to 2007.

While job growth throughout the United States averaged less than 1 percent a year during those seven years, Huntsville, Alabama, a center of U.S. space technology, had a 42 percent increase in "professional, scientific, and technical" jobs. Austin, Texas, where semiconductor production has a strong footing, had a 22 percent gain in the same category of technology jobs. In Northern Virginia, whose economy is built on the presence of major contractors who work on the federal government's technology missions, jobs in the professional and scientific category expanded by 31 percent from 2000 to 2007, and computer system design jobs grew by the same percentage.

In contrast, Chicago, America's "second city" and the centerpiece of the old manufacturing Midwest, lost 19 percent of its goods-producing jobs over those seven years. South Bend, Indiana, another old factory city, lost 18 percent of its goods-producing jobs. Detroit, Michigan, home of the U.S. car industry, suffered a 35 percent drop in goods-producing jobs.

Well before the start of the 21st century, many had concluded that America's economy could no longer prosper simply by employing Yankee ingenuity to convert its wealth of natural re-

sources into products for sale at home and abroad. Nor could it rely on older industries that had been centerpieces of state and regional economies to hold their places in competitive markets.

Since the 1980s, many local officials have tried to stimulate their economies by investing in their region's education and technology resources. Some governors have created technology "greenhouses"—giving space in research facilities to help entrepreneurs develop new products and processes. Universities have developed courses to equip scientists and engineers with specific skills needed by local companies.

Such regional strategies lost momentum in the 2000s decade as the economy grew and unemployment shrank. But the steep recession that began in 2008 was expected to renew interest in these policies.

6

CHAPTER

Government and the Economy

Much of America's history has focused on the debate over the government's role in the economy.

Above: Rachel Carson, a government scientist, raised concerns about pesticide use that led to government environmental regulation. ***Previous spread:*** In 2009 the Federal Reserve was poised to gain even more power for regulating financial institutions.

"Then a strange blight crept over the area and everything began to change....There was a strange stillness....The few birds seen anywhere were moribund; they trembled violently and could not fly. It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of scores of bird voices there was now no sound; only silence lay over the fields and woods and marsh."

RACHEL CARSON
Silent Spring
1962

The United States was established on the mutually reinforcing principles of individual enterprise and limited governmental influence. The rage of the American colonists over a range of taxes imposed by the British Crown helped trigger the Revolutionary War in 1775. "Taxation Without Representation" was a battle cry. The new republic's first secretary of the Treasury, Alexander Hamilton, succeeded in establishing a national bank but lost his campaign for a federal industrial policy in which government would promote strategically important industries to strengthen the nation's economy and its military defense.

But this predisposition toward free enterprise was not absolute. From the beginning, the country's governments—federal, state, and local—have protected, regulated, and channeled the economy. Governments have intervened to aid the interests of regions, individuals, and particular industries. Just how far the government should go in doing this always has been a central political issue.

The legal justification for economic regulation rests on a few sections of Article I of the U.S. Constitution. These give Congress authority to collect taxes and duties, borrow on the credit of the nation, pay the federal government's debts, create and regulate the value of U.S. currency, and establish national laws governing bankruptcies and the naturalization of immigrants. States were barred from taxing trade with other states. The Constitution's authors recognized that the young country had far to go to match European scientific and industrial leadership;

in part for this reason, they empowered Congress to give authors and inventors exclusive rights to profit from their creations for a limited period.

The most general—and controversial—constitutional language on the economy lies in the 16 words of Article I, Section 8, which authorize Congress to "regulate commerce" with foreign nations, with the native American Indian tribes, and among the states. This application of the commerce clause to the states has been used during the past century to justify far-reaching government programs on issues the Founding Fathers could never have imagined.

Interpretation of the commerce clause divides Americans who want an activist federal government from those who advocate a more limited central authority. The U.S. Supreme Court has often been called on to resolve disputes over the reach of the commerce clause. Some of the important 19th-century decisions interpreted the clause narrowly, finding that, while shipments of goods along rivers that passed several states were covered by the commerce clause, manufacturing was a local activity and not covered.

But the court's decisions grew more expansive in the 20th century, upholding important New Deal programs affecting employment and agriculture. In the 1960s, the judiciary broadly interpreted the term "interstate commerce," as it held that Congress did possess the power to pass the landmark civil rights laws that forbade private businesses from engaging in racial discrimination. In these cases the courts carefully scrutinized the evidentiary record for ties to interstate commerce, in one instance finding it in the wheat used in the hot dog rolls served by a "private" club that practiced discrimination in membership. Beginning in the 1990s, a number of Supreme Court rulings sought to narrow those earlier decisions by focusing the commerce clause on controversies directly centered on economic activities.

Although economic regulation has diminished since the 1970s, its protections still play an essential role, affecting the health of workers; the safety of medicines and consumer products; protection of motorists and airline passengers, bank depositors and securities investors; and the impact of business operations on the environment.

The Reach of Economic Regulation

In the life cycle of an American business, the first step is the least regulated of all. An entrepreneur seeking to form a new business need only register the company and record it with state tax authorities. Those entering specific occupations may require licenses or certifications, but no permission is required to create a company.

Another set of laws and rules govern the balance of the rights of employees to keep their jobs and the rights of employers to fire

workers who aren't performing acceptably. The rules favor the employer. In most U.S. states, people are considered "at will" employees, meaning they can be discharged whenever the employer chooses, except under some specific situations where the workers' rights are protected. People may not be fired because of their race, religion, gender, age, or sexual preference, although terminated employees will need to show that they were wrongfully discharged if they want to recover their jobs. The federal Equal Employment Opportunity Commission, created in 1961, can sue employers to defend workers against unjust firing.

A federal whistle-blower law protects employees who disclose their employers' illegal activities. If an employer has cheated the federal government, a whistle blower may receive between 15 and 30 percent of the money recovered by the government because of the company's wrongful conduct. In one exceptional case, a former sales manager of a leading U.S. drug company received $45 million in 2008 as his share of the payment by the company that settled a federal investigation into alleged improper marketing of drugs widely used in the government's Medicaid program for low-income patients.

For more than a century, Americans have debated how far the federal government should go to prevent dominant companies from undermining economic competition. Regulation of businesses has usually been of one or two types. Economic regulations have tried to combat abuses by monopolies and, at times, establish "fair" prices for specific commodities. Social regulations aim to protect the public from unsafe food or drugs, for example, or to improve the safety of motorists in their cars.

Federal regulation arrived with the railroad age in the 19th century. The power of railroad owners to set interstate shipping rates to their advantage led to widespread complaints and protests about discriminatory treatment that favored some customers and penalized others. In response, the Interstate Commerce Commission, the United States' first economic regulatory agency, was created in 1887. Congress gave it the authority to determine "reasonable" maximum rates and require that rates be published to prevent secret rate agreements.

The ICC set a pattern that would be followed by other federal regulatory agencies. Its commissioners were full-time regulators, expected to make independent, fact-based decisions, and it played an influential role for nearly a century before its powers were reduced in the movement toward government deregulation. The agency was abolished in 1995.

Another early regulatory agency was the Federal Trade Commission, established in 1914. It shared antitrust responsibility with the U.S. Justice Department for preventing abuses by power-

The Changing Union Movement

When President Woodrow Wilson traveled to the 1919 Paris Peace Conference at the end of World War I, the U.S. delegation he assembled included Samuel Gompers, the slight, 69-year-old son of poor Jewish immigrants from Holland by way of Britain. Gompers had risen from an apprentice cigar maker in New York City to become president of the American Federation of Labor, the country's largest union organization.

Gompers's leadership of the AFL during the turbulent birth of the union movement defined the unique role of labor organizations in the United States. For most of the century that followed, despite periods of violent conflicts with company managements, U.S. labor leadership never frontally attacked the capitalist market structure of the nation's economy. Its goal was a greater portion of the economy's fruits for its members. "We shall never cease to demand more until we have received the results of our labor," Gompers often said. But he also held that "the worst crime against working people is a company which fails to operate at a profit."

Although these goals sound today to be within the boundaries of mainstream political debate, labor's efforts to organize railroad, mine, and factory workers a century ago produced constant confrontations, many of them violent and some deadly. The strike by steelworkers at Andrew Carnegie's Homestead, Pennsylvania, plant in 1892 caused a bloody fight pitting workers and their families and friends against company-hired guards, and ultimately state militia. The core of the dispute was a power struggle between workers and management over work rules governing the plant's operations. Although Carnegie said he favored unions, he backed the goal of his deputy, Henry Clay Frick, of regaining unchallenged control over the plant. After a series of assaults, gunfights, and an attempted assassination of Frick, the strike was broken. Gompers's AFL would not take the strikers' side, and the plant remained non-union for 40 years.

But over the following decades, labor's demand for a larger share of the economic pie and relief from often brutal working conditions were adopted increasingly by political reformers and then national political candidates. Even in the darkest years of the Great Depression, when a quarter of the nation's workforce was unemployed, American labor unions mostly concentrated on securing higher wages and better working conditions and not on assuming traditional management prerogatives to make fundamental business decisions. Nor did U.S. labor unions follow the example of European unions by embracing radical politics or forming their own political party. American labor instead typically used its financial and organizational clout, greatest in the industrial states of the Northeast and the Midwest, to back pro-labor political candidates.

The legitimacy of organized labor was guaranteed by the National Labor Relations Act of 1935, commonly known as the Wagner Act. Part of President Franklin D. Roosevelt's New Deal, the law established the rules under which workers could form unions and employers would be required to bargain with them, and also established a National Labor Relations Board to enforce those rules.

During the prosperous years following World War II, U.S. labor unions enjoyed their greatest success. Automobile manufacturers, to cite one example, found it preferable to negotiate generous wages and benefits, passing through the costs to American consumers.

But global and domestic developments gradually changed the economic climate in ways unfavorable to industrial unions. Many U.S. manufacturers expanded or shifted operations to southern states, where labor unions were less prevalent. Beginning in the 1980s, manufacturers turned increasingly to foreign sources of products and components. When steel and other manufacturing plants closed down across the northeastern and midwestern states, people started calling the region the Rust Bowl, an echo of the devastating 1930s' Dust Bowl erosion of mid-

Above: Organizers for the Office Workers Union stage a rally on Wall Street in New York City in 1936.

western farmland. In the southern Sun Belt, much domestic industrial job growth focused on new, nonunion factories established by foreign manufacturers, Japanese and German carmakers prominent among them.

One symbolic moment in the relative decline of organized labor occurred early in the first administration of President Ronald Reagan (1981–1989). Ironically, Reagan came from a union background; a successful actor, he rose to head the Screen Actors Guild, where he led a campaign to block communist efforts to infiltrate the union. In 1981, Reagan confronted a strike by the Professional Air Traffic Controllers Organization. The strike was illegal, as federal employees were by law permitted in many cases to unionize but prohibited from striking "against the public interest," as the commonly used phrase went. Reagan gave the controllers 48 hours to return to their jobs, then fired the 11,000-plus who refused to return, replacing them with new workers and breaking the union.

The outcome reflected the American public's lack of sympathy for public employee strikes, and it also reflected waning union membership. At the end of World War II, one-third of the workforce belonged to unions. By 1983, it was 20 percent, and by 2007, the figure had dropped to 12 percent

One bright spot for organized labor was growth in the services sector, particularly among public service employees such as teachers, police officers, and firefighters, whose jobs could not easily be outsourced. This trend is illustrated by the growth of the Service Employees International Union, whose ranks nearly doubled between 1995 and 2005 to reach 1.9 million members at a time when industrial union rolls were shrinking. The SEIU represents workers at the bottom of the income scale, including janitors, nurses, custodial workers, and home-care providers. Many of their jobs lack health insurance and other benefits that come with high-paid work. Another major union, the National Education Association, represents more than 3 million public school teachers and employees.

Labor organizations such as the AFL-CIO (an umbrella organization of many unions), SEIU, and NEA assisted President Barack Obama's successful 2008 election, helping staff his voter registration and turnout drives. The unions hoped that the incoming Obama administration would advance new legislation strengthening their efforts to organize workplaces.

ful companies that could dominate their industries either singly or acting with other companies. By the end of the 19th century, the concerns about economic power had focused on a series of dominant monopolies that controlled commerce in industries as diverse as oil, steel, and tobacco, and whose operations were often cloaked in secrecy because of hidden ownership interests. The monopolies typically took the form of "trusts," with shareholders giving control of their companies to a board of trustees in return for a share of the profits in the form of dividends.

More than 2,000 mergers were made between 1897 and 1901, when Theodore Roosevelt became president and began his campaign of trust-busting against the "malefactors of great wealth," as he called the business tycoons he targeted. Under Roosevelt and his successor, President William Howard Taft, the federal government won antitrust lawsuits against most of the major monopolies, breaking up more than 100, including John D. Rockefeller's Standard Oil trust; J.P. Morgan's Northern Securities Company, which dominated the railroad business in the Northwest; and James B. Duke's American Tobacco trust.

Congress in 1898 gave workers the right to organize labor unions and authorized government mediation of conflicts between labor and management. During the New Deal, Congress enacted the National Labor Relations Act of 1935 (usually called the Wagner Act after one of its sponsors), which legalized the rights of most private-sector workers to form labor unions, to bargain with management over wages and working conditions, and to strike to obtain their demands. A federal agency, the National Labor Relations Board, was established to oversee union elections and address unfair labor complaints. The Fair Labor Standards Act was passed in 1938, establishing a national minimum wage, forbidding "oppressive" child labor, and providing for overtime pay in designated occupations. It declared the goal of assuring "a minimum standard of living necessary for the health, efficiency, and general well-being of workers." But it also allowed employers to replace striking workers.

In the 1930s and the decades that followed, Congress created a host of specialized regulatory agencies. The Federal Power Commission (later renamed the Federal Energy Regulatory Commission) was created in 1930 as an independent regulatory agency which would oversee wholesale electricity sales. The Federal Communications Commission was established in 1934 to regulate the telephone and broadcast industries. The Securities and Exchange Commission in 1934 was given responsibility for overseeing securities markets. These were followed by the National Labor Relations Board in 1935, the Civil

Aeronautics Board in 1940, and the Consumer Product Safety Commission in 1975. Commissioners of these agencies were appointed by the president. They had to come from both major political parties and had staggered terms that began in different years, limiting the executive branch's ability to replace all the commissioners at once and hence its influence over the regulators.

The Antitrust Laws

The government's antitrust authority came from two laws, the Sherman Antitrust Act of 1890 and the Clayton Act of 1914. These laws, based on common law sanctions against monopolies dating from Roman times, had different goals. The Sherman Act attacked conspiracies among companies to fix prices and restrain trade, and it empowered the federal government to break up monopolies into smaller companies. The Clayton Act was directed against specific anticompetitive actions, and it gave the government the right to review large mergers of companies that could undermine competition.

Although antitrust prosecutions are rare, anticompetitive schemes have not disappeared, as economist Joseph Stiglitz says. He cites efforts by the Archer Daniels Midland company in the 1990s in cooperation with several Asian partners to monopolize the sale of several feed products and additives. ADM, one of the largest agribusiness firms in the world, was fined $100 million, and several executives went to prison.

But the use of antitrust laws outside the criminal realm has been anything but simple. How far should government go to protect competition, and what does competition really mean? Thinkers of different ideological temperaments have contested this, with courts, particularly the Supreme Court, playing the pivotal role. From the start, there was clear focus on the conduct of dominant firms, not their size and power alone; Theodore Roosevelt famously observed that there were both "good trusts" and "bad trusts."

In 1911, the Supreme Court set down its "rule of reason" in antitrust disputes, holding that only unreasonable restraints of trade—those that had no clear economic purpose—were illegal under the Sherman Act. A company that gained a monopoly by producing better products or following a better strategy would not be vulnerable to antitrust action. But the use of antitrust law to deal with dominant companies remained an unsettled issue. Federal judges hearing cases over the decades have tended to respect long-standing legal precedents, a principle known by its Latin name, *stare decisis*.

Court rulings at times have reflected changes in philosophy or doctrine as new judges were appointed by new presidents to replace retiring or deceased judges. And the judiciary tends also to re-

flect the temperament of its times. In 1936, during the New Deal era, Congress passed a new antitrust law, the Robinson-Patman Act, "to protect the independent merchant and the manufacturer from whom he buys," according to Representative Wright Patman, who co-authored the bill. In this view, the goal of antitrust law was to maintain a balance between large national manufacturing and retailing companies on one side, and the small businesses that then formed the economic center of most communities on the other.

This idea—that the law should preserve a competitive balance in the nation's commerce by restraining dominant firms regardless of their conduct—was reinforced by court decisions into the 1970s. At the peak of this trend, the U.S. government was pursuing antitrust cases against IBM Corporation, the largest computer manufacturer, and AT&T Corporation, the national telephone monopoly.

Protecting Competition, Not Competitors

In the 1980s, the Reagan administration adopted a different philosophy, one advocated by academics at the University of Chicago. The "Chicago school" economists argued that antitrust law should, above all, protect competition by putting consumers' interests first: A single powerful firm that lowers product prices may hurt competitors, but it benefits consumers and therefore should not run afoul of the antitrust law.

Robert H. Bork, an antitrust authority and federal appeals court judge, argued that "it would be hard to demonstrate that the independent druggist or the grocery man is any more solid and virtuous a citizen than the local manager of a chain operation." The argument that small businesses deserved special protection from chain stores "is an ugly demand for class privileges."

This shift in policy was reflected in a climactic antitrust case against the Microsoft Corporation. President Bill Clinton's Justice Department filed an antitrust suit in 1998 against Microsoft, which controlled 90 percent of the market for personal computer operating systems software. Microsoft allegedly had used its market power to dominate a crucial new application for computers—the browser software that links users to the Internet.

A federal judge ruled against Microsoft, but his decision was overruled by a higher appeals court judge. A key factor in the latter decision was that Microsoft offered its browser software for free. While that hurt its much smaller competitors, consumers benefited, and maximizing consumer interests served the larger interests of the economy, the court ruled. Competition and innovation would keep competition healthy, according to this theory. President George W. Bush decided not to continue

the Justice Department's case against Microsoft.

The Birth of Environmental Regulation

Widespread social regulation began with the New Deal employment and labor laws but expanded in the 1960s and 1970s. Both Democratic and Republican presidents joined with Congress to act on a wide range of social concerns.

Perhaps the most striking example of how public opinion affects U.S. government processes was the sudden growth of the environmental movement as a powerful political force in that period. Conservation of natural resources had motivated political activists since the late 19th century, when California preservationist John Muir led campaigns to protect wilderness areas and founded the Sierra Club as a grassroots lobbying organization for his cause.

The movement surged in new directions in the 1960s following publication of a best-selling book, *Silent Spring*, written by government biologist Rachel Carson. She warned that the growing use of chemical pesticides was causing far-reaching damage to birds, other species, and the natural environment. They could threaten human health as well, she said. The chemical industry attacked Carson as an alarmist and disputed her claims. But her warnings, amplified by media coverage, won powerful support from citizens and the U.S. government. The movement led to a ban on the widely used pesticide DDT and the formation of the U.S. Environmental Protection Agency in 1970 to enforce federal environmental regulation.

Unlike the independent agencies created in the 1930s, the EPA was made a part of the executive branch, subject to the president's direction. This approach was followed later with other new agencies, such as the Occupational Safety and Health Administration (OSHA) in 1970 to prevent workplace accidents and illnesses, and the Consumer Product Safety Commission in 1972 to regulate unsafe products. Because of the increased presidential control, these agencies' regulatory policies often change with the arrival of a new president.

Federal regulations have had profound impacts in reducing health risks facing industrial and shipyard workers; improving the safety of medicines, children's toys, and motor vehicles; and improving the cleanliness and quality of lakes, rivers, and the air. OSHA, for example, requires employers to create a workplace that is "free from recognized hazards" that cause or could cause death or serious harm. The OSHA legislation has been used by the government, often following demands by labor unions, to control workers' exposure to a range of industrial chemicals that cause or may cause cancer.

Debate about such regulation has often centered on whether there is adequate scientific evi-

dence to justify government action and whether compliance costs paid by businesses and their consumers are worth the environmental gain. Academic and business critics of Rachel Carson, for example, argued that eliminating DDT removed the most effective pesticide in the fight against mosquitoes that spread malaria. In her time, Carson—who urged that DDT be controlled, not eliminated—tipped the public debate in favor of precautionary government regulation that could address serious threats, even though some scientific or economic issues were still being debated. The current debate over climate change has reached a similar point.

As historians have observed, U.S. government priorities on economic and social issues have seldom taken a straight, unbroken path, but instead have followed the swings of public opinion between a desire for more regulation and one for unfettered economic growth. In the 1960s, a period when Americans challenged the status quo on a number of fronts, many were willing to discount the industry viewpoint in the debate over pesticide regulation and to support federal intervention to protect the environment. In the 1980s, opinion reversed direction again.

The Tide Turns Against Regulation

Historian Daniel Yergin sees a turning point in public support for regulation in America's economic stagnation of the 1970s, when oil prices and inflation soared, and employment and stock markets slumped. Critics of regulatory activism had long charged that regulation stifled economic growth, and they challenged government economic interventions as unwise and unfair.

With the economic malaise of the 1970s and early 1980s, more Americans and their political representatives were willing to give business a freer hand in order to enhance economic growth. "With time," wrote Yergin and Joseph Stanislaw in *The Commanding Heights,* "competition increasingly came to be seen as preferable to regulation." Stephen Breyer, an important U.S. Senate staff member in the 1970s, put it simply: "Why regulate something if it can be done better by the market?"

Breyer, later a U.S. Supreme Court justice, was targeting the regulation of commercial airline service by the federal Civil Aeronautics Board. The CAB set prices for air travel on all domestic routes and decided which airlines would serve the cities around the country. It was a regulatory tradeoff: In return for providing unprofitable air service to smaller cities, airlines were rewarded with high prices and profits on busy routes between large cities. By the 1970s, this seemed like an inefficient, costly approach. Competition could do better, Congress concluded, and in 1978, airline deregulation was enacted. The CAB was closed down in 1985.

Although the costs and benefits of airline deregulation continue to be argued, competition dramatically changed the industry. Prices did fall on heavily traveled air routes. New airlines sprang up to challenge the industry leaders. The new airlines paid lower wages to pilots, mechanics, and flight attendants and could charge less money for tickets. The older airlines lost ground, falling into damaging quarrels with their unionized pilots and other employees. Many failed. Others merged together to try to stay competitive. The number of people flying on domestic U.S. flights soared from 240 million in 1977 to 665 million in 2000. On the other hand, flights became more crowded, delays and lost luggage problems grew, and more questions surfaced about the airlines' safety and maintenance practices. But the restructuring of the airline industry marked a clear turning point toward a reliance on markets, not government, to make the economy work for the public.

The Regulation of Banking

Since the first years of the American republic, federal and state lawmakers and government officials have struggled to determine the right level of regulation and government control over the banking system. When banks can respond to market forces, innovation and competitive services multiply. But competition's downside has been a succession of banking crises and financial panics. Overly aggressive lending and speculative risk-taking that led to these crises have, in turn, led to political demands for tighter controls over interest rates and banking practices. A new chapter in this debate began in response to the 2008 financial crisis.

The U.S. banking and finance industries have been remade over the past quarter-century by globalization, deregulation, and technology. Consumers can draw cash from automated teller machines, pay bills and switch funds between checking and savings accounts over the Internet, and shop online for home loans. As services have expanded, the number of banks has contracted dramatically. Between 1984 and 2003, the number of independent banks and savings associations shrunk by half, according to one study. In 1984, a relative handful of large banks, with assets of $10 billion or more, held 42 percent of all U.S. banking assets. By 2003, that figure was 73 percent.

New computer systems to manage banking operations gave an advantage to large banks that could afford them. The dramatic expansion of world trade and cross-border financial transactions led the largest banks to seek a global presence. New markets arose in Asia and other regions as banking and investment transactions flowed instantly across oceans. These trends called for and were fueled by a steady deregulation of U.S. banking and finance rules.

Historically, the banking industry has been split between smaller, state-chartered banks that claimed close ties to their communities, and larger national banks whose leaders sought to expand by opening multistate branch offices, saying their size made them more secure and efficient. This split echoes in some ways the debates in America's early days between Alexander Hamilton and Thomas Jefferson over urban and rural interests.

Community banks prevailed early in the 20th century, but were devastated by the 1930s banking crisis; their limited assets left them particularly vulnerable. The country's urbanization after World War II reduced the political power of rural legislators, undermining their ability to defend smaller banks, and in 1980 banking deregulation got under way.

Until the 1980s, U.S. commercial banks faced limits on the levels of interest rates they could charge borrowers or pay to customers who deposited money. They could not take part in the securities or insurance businesses. And their size was restricted as well. All states protected banks within their borders by forbidding entry by banks headquartered in other states. Many states also protected small community banks with rules restricting the number of branch offices that big banks could open inside the state. Almost all of these regulations were removed after 1980, leaving a banking industry that was more competitive, more concentrated, more freewheeling and more risk-taking—and more vulnerable to catastrophic failures.

As banks expanded geographically, they sought also to enter new financial arenas, including ones forbidden to them by New Deal-era legislation that separated parts of the commercial banking and securities industries. Banks were permitted to reenter the securities business in 1999, and many major banks subsequently created unregulated divisions, called special investment vehicles, in order to invest in speculative mortgage-backed securities and other housing-related investments.

Congressional advocates of a looser regulatory regime argued that greater bank freedom would produce more modern, efficient, and innovative markets. For a time, it arguably did. The U.S. financial sector led the way during a period of unprecedented international expansion of banking and securities transactions.

A McKinsey Global Institute study reported that from 2000 to 2008, the sum of all financial assets—bank deposits, stocks, and private and government bonds—soared from $92 trillion to $167 trillion, an average annual gain of 9 percent and one that far exceeded the growth in world economic output. Alan Greenspan, chairman of the Federal Reserve Board during most of that period, said that global financial markets had grown too large and complex

for regulators adequately to oversee them. It was for Congress, he argued, to pass new laws should it wish closer oversight. But as economist Mark Zandi, author of *Financial Shock,* a book about the 2008 crash, says, "Legislators and the White House were looking for less oversight, not more."

At this writing, the 2008 financial crisis appears to have reversed the philosophical trend toward greater reliance on markets and the assumptions about financial deregulation that had increasingly held sway in the United States since the end of the 1970s. A public backlash against multi-million dollar bonuses and lavish lifestyles enjoyed by leaders of failed Wall Street firms fed demands for tighter regulation. Greenspan himself, who retired in 2006, told a congressional committee two years later that "those of us who have looked to the self-interest of lending institutions to protect shareholders' equity, myself especially, are in a state of shocked disbelief."

Above: Workers assemble a Boeing 787 Dreamliner at the company's Everett, Washington, plant in January 2009.

Opposite page—clockwise from top: Hills of corn in Kansas are reminders that agriculture remains an important part of the U.S. economy; Federal Express, which delivers goods here in San Francisco and a lot of other places around the world, started out as a small business; workers at a New Balance factory in Skowhegan, Maine, survive the brutal competition of the footwear industry; construction workers such as this one in New York prospered during the real estate boom early in the 21st century and suffered during the following bust.

Below: Chassis for Ford Motor Company autos roll down the assembly line at the company's Chicago assembly plant in June 2007, before the U.S. auto industry suffered its great contraction.

Above: Mario Escobar processes orders at this small draperies business in Calabasas, California.

Opposite page—clockwise from top: A Shell Oil Company refinery in Deer Park, Texas, produces some of the tens of millions of barrels of oil consumed in the United States every day; President Obama aims to encourage alternative energy sources, such as this wind power utility near Palm Springs, California; the 2008 global recession slowed down shipping at U.S. ports such as this one in Elizabeth, New Jersey.

Below: Coal mines, such as this one in Coulterville, Illinois, might supply even a bigger share of U.S. energy needs if clean-coal technology can be made to work efficiently.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Above: Entertainers Amy Adams, left, Meryl Streep, center, and Viola Davis represent an important U.S. services industry that accounts for a significant share of U.S. exports.

Left: Barbie, who reached age 50 in 2009, has become one of toy manufacturing's all-time hits.

Below: Tourists, such as these at the South Rim of the Grand Canyon in Arizona, contribute a significant share of the U.S. economy.


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Above: Andronico's Market in San Francisco represents retail sales, one of the service industries that account for the largest share of economic output.

Right: The New York Stock Exchange represents financial services, a sector of the service economy that was reeling in the global financial crisis that emerged in 2008.

Below: Another representative of retail is Lowe's, which sells hardware to builders and the millions of Americans who perform little jobs around the house.

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Above: Health care represents a growing share of U.S. economic output and a growing cost burden for American government and business.

Opposite page—from top: Holiday shopping at the end of the year can mean success or failure for retailers; U.S. exports to China include McDonalds restaurants.

Below: Education is viewed as one way to reverse a trend of income disparity in the United States.


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CHAPTER

A U.S. Economy Linked to the World

Despite political divisions, the United States shows no sign of retreat from global engagement in trade and investment.

Above: Rising imports from Asia such as these cargo containers unloaded in Tacoma, Washington, created political tension in the United States. ***Previous spread:*** The foreign exchange value of the U.S. dollar alternatively plunged and soared in the global financial crisis that began in 2008.

Open trade "dovetailed with peace; high tariffs, trade barriers, and unfair economic competition, with war.…"

Secretary Cordell Hull
U.S. Department of State
1948

Trade ties the United States' economy inextricably to the markets and economies of the rest of the world. In 2007, the U.S. gross domestic product—the output of U.S.-based workers and property—totaled nearly $14 trillion. One out of every eight dollars, or $1.6 trillion, came from exports to foreign destinations. Imports into the United States were significantly higher, totaling $2.3 trillion.

In addition to traded goods and services, huge tides of financial transactions flow across global borders. U.S. companies and individuals directly invest more than $2 trillion abroad annually, making the United States the world's largest direct investor in foreign economies. It also receives more investment from outside its borders than any other nation. As a world financial capital, New York is the center of an international hedge fund industry of private investors that amassed nearly $1.5 trillion in assets at the end of 2006.

While U.S. exports add to the nation's gross domestic product, the larger volume of imports reduces it. The trade imbalance over the past decade has created a politically sensitive tradeoff: The surplus of imports tended to lower prices paid by American consumers, but it also depressed wages for some workers in industries facing foreign competition. The U.S. trade deficits have also undermined the value of the U.S. dollar compared to other major currencies, increasing concerns about the stability of the world's financial markets, as described in chapter 8.

What does the United States export? The largest single category in 2006 was motor vehicles and their parts and engines, totaling $107 billion. Semiconductors ($52 billion), civilian aircraft ($41 billion), computer accessories ($36 billion), pharmaceuticals ($31 billion),

telecommunications equipment ($28 billion), chemicals ($27 billion), plastic materials ($25 billion), and medicinal equipment ($22 billion) followed on the list of major export industry categories.

U.S. oil and gas imports totaled $330 billion in 2006. Americans imported $257 billion worth of motor vehicles, engines, and parts that year, along with $100 billion in computers and computer accessories, $91 billion in various kinds of apparel and textiles, $64 billion in pharmaceuticals, $36 billion in televisions and VCRs, and $29 billion worth of toys and games. The variety of traded items spans virtually everything Americans make, wear, use, or consume.

The United States is the world's largest agricultural exporter, with one out of every three acres planted for export, according to U.S. government surveys. The value of U.S. exports of farm products, animal feeds, and beverages came to $66 billion in 2006. Imports were higher, at $74 billion. The total volume of U.S. farm exports rose by 17 percent between 1997 and 2007, and in that period American farmers exported 45 percent of their wheat, 33 percent of their soybean production, and 60 percent of their sunflower oil crops.

As economist Paul M. Romer has observed, imports rose from 12 percent of the U.S. gross domestic product in 1995 to about 17 percent a decade later. Foreign money provides about one-third of U.S. domestic investment, up from 7 percent in 1995. In other words, Romer says, "The U.S. is more open to the global economy than ever before, and the links run in both directions."

A commitment to expand global trade has been a cornerstone of U.S. policy since the final years of World War II, when the United States and other victorious nations adopted a series of international compacts to promote economic stability and growth. Trade restrictions and currency devaluations were widely considered to have worsened the 1930s Great Depression by stifling international commerce.

Through the formation of the United Nations and the agreements on international economic policies reached at the 1944 Bretton Woods Conference in the United States, the allied powers hoped to replace the militant nationalism that led to the war with cooperative economic policies. During the Cold War between the Soviet bloc and the West, trade liberalization with Europe and Asia became an instrument of U.S. foreign policy and a way to promote market capitalism in emerging nation economies.

Open Trade and Foreign Policy

U.S. Secretary of State Cordell Hull said in 1948 that open trade "dovetailed with peace; high tariffs, trade barriers, and unfair economic competition, with war.… If we could get a freer flow of trade…freer in the sense of fewer

discriminations and obstructions…so that one country would not be deadly jealous of another and the living standards of all countries might rise, thereby eliminating the economic dissatisfaction that breeds war, we might have a reasonable chance of lasting peace."

In 1948, the United States and 22 other nations signed the General Agreement on Tariffs and Trade, a set of international rules that significantly reduced tariffs and other barriers to the international flow of goods. Seven other rounds of trade negotiations followed as the GATT membership expanded, leading in 1995 to the creation of the World Trade Organization in Geneva, Switzerland, with the authority to oversee member nations' compliance with trade agreements. The GATT process has successfully lowered tariffs on most manufactured items, stimulating a vast increase in world commerce far beyond the vision of the Bretton Woods organizers. The exception has been agricultural tariffs, which have remained relatively high because of the political strength of the farming sector in both wealthy and developing nations and the desire to safeguard essential food production.

Government subsidies and tariffs on farm products have long been politically controversial. American farmers received $16 billion in various federal subsidies in 2004. U.S. agricultural tariff rates average 12 percent, raising the price of foreign farm products by that amount overall. In the U.S. Congress, representatives from urban areas tend to criticize the tariffs as an unjust tax on consumers that isn't necessary to support American farmers. Representatives from farm states counter that U.S. tariffs are far lower than average farm tariffs in Europe (30 percent), Japan (50 percent), and India (114 percent).

Subsidies affect farmers' decisions about which crops to plant. U.S. wheat production has fallen, for example, as many farmers have switched production to corn used in the manufacture of ethanol as a motor fuel. The U.S. government provides a cash subsidy to ethanol blenders, which, in turn, increases the price farmers receive for supplying corn. Farm subsidies are a confrontational issue with developing nations, which have resisted pressures to open their markets further until the United States agrees to lower its support for its farmers.

The theoretical argument for free trade, made more than two centuries ago by Scottish economist Adam Smith in *The Wealth of Nations,* holds that all nations prosper if each concentrates on manufacturing and trading goods where it has a particular advantage: France its wine, Britain its woolens. On the flip side, for Britain to put a high tariff on French wines raises the price of all wines for British consumers.

But theory and politics began to collide in the 1960s and early

1970s when the rising manufacturing prowess of Japan and Germany began seriously to erode U.S. production in many industries, including steel, automobiles, shoes, and textiles. The advantages of expanded trade would be enjoyed across the entire population, as foreign products afford consumers new choices and, often, lower prices. The costs of trade hit much more narrowly on particular industries and their employees whose businesses slumped or failed.

The AFL-CIO, America's largest and most influential labor organization, had initially supported the postwar consensus on trade expansion. But it changed direction in 1970. The threat to its union members from the spread of technology, the escalating flow of U.S. investments into foreign businesses, and unfair trade practices by foreign governments could no longer be ignored, said its chief lobbyist, Andrew Biemiller.

The greatest challenge to the United States in trade in the 1980s and early 1990s came from Japan. As the Japanese rebuilt from World War II, they steadily created an array of export-focused industries with world-class technologies and efficiencies. In steel, automobiles, consumer electronics, and semiconductors, Japan's successes were built on a cohesive cultural commitment to quality. But Japan's critics argued that its growing trade advantage also rested on unfair trade practices that restricted competing imports from the United States and other rivals, giving Japanese firms a safe haven in which to grow.

Responses to Foreign Competition

Competition from Japanese automakers, whose costs were lower and automation more advanced, pushed the American carmaker Chrysler Corporation to the edge of bankruptcy in 1979. Chrysler was the third largest U.S. auto manufacturer. Its collapse would have cost hundreds of thousands of jobs at its plants and those of its suppliers. It was saved by a $3.5 billion "bailout" by the U.S. government, a flood of orders from the U.S. military, and the exuberant salesmanship of its chief executive, Lee A. Iacocca. Two decades later, Chrysler was purchased by Germany's Daimler-Benz and then sold to a private-equity company. In 2009, Chrysler went through a bankruptcy reorganization, supported by federal financial assistance, and sold its assets to a new ownership group including the United Auto Workers retiree healthcare trust and Italy's Fiat automaker. The U.S. government had a temporary minority share.

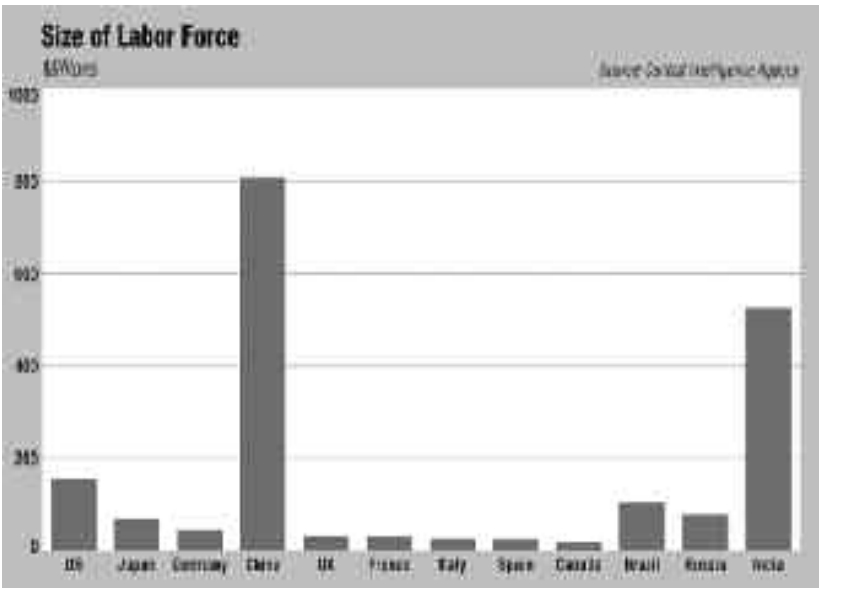
Chrysler's 1979 crisis opened a long debate over how the United States should advance its global trading interests. During the administrations of Presidents Ronald Reagan and George H. W. Bush, politicians, economists, business leaders, and labor leaders advanced different strategies

for strengthening America's international competitiveness. Some urged new initiatives, such as government-business partnerships to target research efforts at technological breakthroughs in leading-edge industries such as semiconductors. Others demanded stronger defenses against trading practices by Japan and other nations that U.S. businesses and labor unions attacked as unfair. The policy arguments often broke down on ideological lines, with liberal Democratic legislators calling for more intervention and Republicans protesting that the government would fail if it tried to pick winners among industries and interests.

In some sectors, notably steel production, U.S. firms faced foreign competitors that were owned or controlled by their governments. These foreign firms were expected to keep expanding steel production in order to build economic capacity and provide jobs—regardless of whether the steel industry's customers needed more output.

As a signatory to the WTO agreement, the United States seeks to re-solve such trade disputes through that organization's multilateral process.

But U.S. law permits unilateral actions against countries that are found to violate U.S. trade law—although such actions could expose the United States to retaliation by these countries. The 1974 Trade Act authorizes the U.S. trade representative—a presidentially appointed official—to investigate complaints of unfair trade practices and to impose penalties or sanctions against foreign companies that violate American law. In 1984, the act



A Lesson in Creative Destruction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The U.S. steel industry has faced a series of crises since the mid-1970s, when steel producers engaged in a global battle for market share, profitability, and survival. The industry's struggles graphically illustrate the impact—both positive and negative—of creative destruction on American manufacturing.

Benefits have accrued to the nation as a whole. The U.S. steel industry and its workers are three times more productive today than in the 1970s. American steel companies have invested in advanced processes that have dramatically boosted energy efficiency while reducing pollution and health threats to steelworkers. The sharp rise in coal and other energy prices since 2000 has helped U.S. steel producers that own their own raw materials.

On the ledger's other side, steel industry employment plunged from 531,000 in 1970 to 150,000 in 2008. Steelmaking cities in the American industrial heartland were battered over these decades. In a 2006 interview, Nobel Prize-winning economist Joseph Stiglitz recounted the impact of the industry's fall on his hometown of Gary, Indiana, a city founded by U.S. Steel Corporation a century ago. The city "reflects the history of industrial America. It rose with the U.S. steel industry, reached a peak in the mid-'50s when I was growing up, and then declined very rapidly, and today is but a shell of what it was."

In Europe and Asia, governments have directly intervened for more than a quarter-century to help fund a massive expansion of steelmaking capacity. They have supported both official and unofficial import barriers and turned a blind eye on secret market-sharing agreements, according to evidence before the U.S. International Trade Commission and the European Union's competition authorities.

While the United States has sporadically restricted imports, it has never developed a long-term policy to bolster the American steel industry's competitiveness.

International trade rules permit countries to defend domestic industries against the "dumping" of imports in their home markets at "less than normal" prices. When recessions and financial crises left world markets filled with surplus steel, the U.S. industry sought dumping penalties to combat low-priced imports. In response, U.S. presidents tended to impose temporary limits on imported steel, or arrange voluntary restraints, to ease the damage to American steel firms. But the U.S. steel industry rarely got the sustained protection it sought. For a range of political and economic reasons, U.S. policy has tended to resist tough trade sanctions. Cheaper steel imports benefited the auto industry and other steel users and helped restrain inflation. And Washington has been sensitive to the outcry from foreign governments against proposed U.S. trade penalties.

The result is a U.S. steel market that is more open to foreign ownership and imports than are any of its major rivals. In 2007, more than 30 percent of U.S. steel consumption was imported, a far higher import share than one finds in the markets of major U.S. steel competitors Japan, Russia, China, and Brazil.

U.S. Steel Corporation, the company that J.P. Morgan founded in 1901, remains the country's largest steel manufacturer and is ranked 10th in the world based on 2007 output. Nucor, the upstart U.S. producer that challenged "Big Steel" by fabricating new steel from scrap melted in high-efficiency furnaces, is third in the United States and 12th in the world.

Above: In February 2008 thousands of steelworkers rallied near the White House demanding protective tariffs and other measures to help their newly again troubled industry.

Opposite top left: The U.S. steel industry survives in a reduced size, continuing research and development as at this facility in Monroeville, Pennsylvania.

The other major U.S. steel concern is a collection of commonly owned historic companies headed by the former Bethlehem Steel, a major producer that sank into bankruptcy in the late 1990s. They were bought at severely discounted prices by an American investor, Wilbur L. Ross, a specialist in distressed asset acquisitions. Ross says his approach to buying failing companies and reclaiming the salvageable parts is "a Darwinian thing." He told *Fortune* magazine in 2003, "The weaker parts get eliminated, and the stronger ones come out stronger. Our trick is to figure out which is which, try to climb on to the ones that can be made into the stronger ones, and then try to facilitate the demise of the weaker ones."

In 2004, Ross sold the U.S. plants to India's Lakshmi Mittal and his Mittal Steel company, which then became part of the world's largest steel producer in 2006 when Mittal merged with Europe's leading steelmaker, Arcelor. Today, U.S. Steel, Arcelor Mittal, and Nucor control more than half of U.S. production. Ten percent is owned by Russian steel interests, another beneficiary of the relatively open U.S. steel market.

Following the late 1990s' financial crises, when low-cost foreign steel flooded the U.S. market, more than 40 steelmakers, distributors, and fabricators filed for bankruptcy. At that time, the U.S. steel industry owed more than $11 billion in "unfunded" pension obligations to a growing population of retirees, debts that it could not pay. Bankruptcy was a way out.

U.S. bankruptcy law allows companies to revoke certain contracts, including pension commitments, which can then be passed on to the Pension Benefit Guaranty Corporation, a federal agency that insures certain pension plans and pays promised benefits upon a company's failure. Steelworkers retired from the insolvent companies held on to most of their pension benefits thanks to the PBGC, but they lost the retiree health insurance coverage also promised by their former employees.

Trade restrictions imposed by former President George W. Bush, coupled with relief from some industry retiree health care commitments, helped the U.S. steel industry recover during the economic boom of the early 2000s. But the recession that began in 2008 has revived fears of steel surpluses, particularly with the growth of state-supported steelworks in Brazil, India, and China. Steelmaking capacity in those three countries now equals one-third of the world's total, and the debate over fair trade in steel is back on the world's agenda.

was amended to define failure to protect intellectual property as an unfair trade practice.

Threatened U.S. industries have lobbied Congress for protective quotas and tariffs and for relief from what they saw as unfair trade practices.

U.S. companies also bring complaints to the U.S. International Trade Commission, an independent U.S. government agency authorized to impose trade restrictions on foreign suppliers that violate fair trade laws. U.S. textile, shoe, specialty steel, consumer electronics, and color television manufacturers all demanded protection from import competition.

But U.S. foreign policy priorities often entered the picture. Rather than jeopardize relations with its allies, the United States under several presidential administrations sought voluntary agreements to limit imports of steel, for example, rather than unilaterally imposing sanctions.

A Boost for Trade Expansion

The case for trade expansion received a major, if unexpected, boost in the 1990s from the administration of President Bill Clinton. Clinton's predecessor, George H.W. Bush, had made a North American Free Trade Agreement a centerpiece of his economic program, and it awaited congressional action as the 1992 presidential campaign arrived. Some of Clinton's advisers urged him to back NAFTA to demonstrate his credentials as a "new Democrat" —one who embraced trade and technology and was not beholden to the labor leaders who adamantly opposed the agreement. Others warned

Clinton that supporting NAFTA could cost him precious electoral votes in a campaign that featured the independent candidacy of software billionaire H. Ross Perot, who predicted that NAFTA would send jobs flying to Mexico with a "giant sucking sound."

Stanley Greenberg, Clinton's pollster, argued that backing NAFTA might afford important political gains. Even though many voters were uneasy about the Mexican trade issue, they were not against trade itself, Greenberg said. Voters in "new economy" states such as California, he asserted, wanted an internationalist president. Clinton agreed, declaring he would seek to improve the agreement and then support its passage. He went on to defeat Bush in the 1992 election. Perot received 19 percent of the popular vote, a high-water mark for no-compromise opponents of trade expansion in a national election.

After becoming president, Clinton made congressional approval of the NAFTA agreement one of his administration's top priorities, gathering a coalition of Republicans and pro-trade Democrats in both the House of Representatives and the Senate to support it. An intense nationwide debate followed, with American labor unions warning that U.S. workers would lose jobs to Mexico, and with U.S. business leaders urging approval of the trade pact as a way of stimulating exports.

To win support from more Democrats, Clinton's negotiators pushed Mexico and Canada to accept two additions to the agreement designed to improve workers' rights and environmental protection in Mexico. These, it was

Opposite left, Above: Democratic presidential candidates Hillary Clinton, left, and Barack Obama, right, both campaigned in 2008 to make trade agreements fairer for U.S. workers but not to repeal any agreements.

thought, would help protect American labor by preventing Mexican producers from cutting their costs at the expense of labor and environmental standards. Congress approved the pact in 1993.

The debate about NAFTA's economic impact continues. During the 2008 Democratic presidential primary campaign in Ohio—a state that has lost 400,000 manufacturing jobs this decade—leading contenders Barack Obama and Hillary Clinton each said they favored amending NAFTA to make it fairer to workers. But they did not call for its repeal.

Following NAFTA's approval, the United States sought regional trade agreements with Central American nations and negotiated bilateral agreements with Israel, Jordan, Chile, and Singapore. But opposition grew in the House of Representatives as imports cut more deeply into U.S. manufacturing employment. Earlier trade agreements had succeeded in Congress largely because they could be handled under special fast-track parliamentary rules that specified firm deadlines and forbade amendments. U.S. officials said the rules preventing major congressional amendments were essential since they locked in the terms reached by negotiators at the bargaining table. Congress could approve or reject the pacts, but not change them. However, a renewal of the fast-track authority in 2002 passed by just three votes in the House, and the authority was not renewed when it expired in 2007.

When President George W. Bush in 2008 sought congressional approval of a pending trade agreement with Colombia, House Speaker Nancy Pelosi, a Democrat, blocked it, asserting the House would first have to consider measures to deal with the U.S. economy's slowdown and to "address the economic insecurity of America's working families."

Patents, Copyright, Trademarks

The innovation- and technology-driven information age has pushed the question of intellectual property to the top of the world's trade agenda. It is an issue with a long pedigree. Strict laws protected the trade secrets of medieval crafts guilds but facilitated knowledge sharing among guild members. By the 15th century, European rulers were granting patents to inventors and to foreigners willing to introduce new technologies.

Since those early times, the lines of debate have been clearly drawn: Invention of products is bolstered when inventors have a legal right to exploit their discoveries by gaining a monopoly on their use. But if the protection extends too long, competition suffers and improvements are held back. The question is how to strike the balance. The inventor can seek protection by securing a patent from the federal government, but he or she is required to describe the invention in detail.

Above: Celebrity Paula Abdul, center, Javier Benito, Coca-Cola chief marketing officer, left, and Don Knauss, president, Coca-Cola North America, introduce Coco-Cola C2 on May 24, 2004, in Los Angeles. According to Coca-Cola, it has half the carbohydrates, calories and sugar of the regular patented cola whose formula is a highly guarded secret.

The patent holder must be prepared to enforce it, in court if necessary, by compelling those who use the invention either to cease or else pay for their use. In some cases, inventors prefer to keep a process or formula secret and not disclose it by seeking a patent. Perhaps the most famous example is the formula for the ingredients of Coca-Cola, which has remained a business secret and is kept in the vault of an Atlanta, Georgia, bank.

Recognizing the importance of protecting inventions and encouraging innovation, the authors of the U.S. Constitution granted Congress sole authority to create patent and trademark laws. As President George Washington's first secretary of state, Thomas Jefferson, who had experimented with new designs for plows, reviewed the country's first patents until his diplomatic duties became too great. U.S. patent and trademark policies have evolved steadily since then.

To receive a patent, an inventor must satisfy basic requirements: The invention must be of a kind that can be patented, such as a machine or a manufacturing process; it must have a useful purpose, and it must mark a significant advance over earlier products or processes. The maximum length of patent protection is 20 years from the date of filing. Half of all U.S. patents are issued to foreign inventors. The United States appears by far more open to foreign inventions than its major trading partners: The Japanese Patent Office issued 90

percent of patents to Japanese inventors in 2002, for example.

The earliest intellectual property rights agreements were the 1883 Paris Convention on Patents and the 1886 Berne Convention, which covered artistic and written works. The Patent Cooperation Treaty of 1970, amended several times since then, creates a standard process for patent applications among more than 100 countries.

The most important recent agreement is the 1994 Trade Related Aspects of Intellectual Property Rights, or TRIPS, which sets out a minimum list of protections that signatories must provide and requires that whenever a signatory nation grants its own citizens any intellectual rights, it must extend the same rights to inventors from other signatory nations. "The problem of international [copyright] piracy has become more acute in the digital age," public policy scholar Suzanne Scotchmer says. Modern copyright piracy involves software, music, movies, even textbooks.

The theft of trademarks, the illegal copying of products, and the piracy of books, software, and recorded entertainment remain a serious and provocative issue for the United States, particularly in its trade relations with China. Nine of every 10 U.S.-content DVDs sold in China are pirated, the Motion Picture Association of America complained to Congress in 2007. Companies in China allegedly produce counterfeit auto parts and other products that are sold abroad under the name of well-known U.S. manufacturers, according to the U.S. Motor Equipment and Manufacturers Association. Similar protests have been made by U.S. pharmaceutical companies, who warn that counterfeit Chinese medicines pose potential serious health threats to unsuspecting purchasers.

Dan Glickman, a former U.S. congressman who heads the Motion Picture Association of America, told Congress that, at the national level, Chinese officials express concern and will take limited actions, but these actions don't extend to effective controls within China's provinces. Overall, trade violation enforcement is "selective, it's arbitrary, it's intentionally vague in some cases. And in some cases, it's just not very well developed," Glickman testified to a congressional committee.

When the United States supported China's membership in the WTO, the expectation was that the latter's trade policies would converge with international rules. From a U.S. perspective, the need to make the expectation a reality remains a major trade issue.

The economic interdependence of China and the United States symbolizes the sweeping growth of trade and cross-border financial flows as the new century began. Historian Niall Ferguson describes a symbiotic relationship between the two states he whim-

sically combined as "Chimerica." Inexpensive Chinese imports helped keep inflation low in the United States and helped put downward pressure on U.S. wages. China reinvested dollars received for its goods in the United States to fund U.S. deficits, helping keep U.S. interest rates low. "As a result, it was remarkably cheap to borrow money and remarkably profitable to run a corporation…The more China was willing to lend to the United States, the more Americans were willing to borrow."

Then the debt bubble burst in 2008, creating a financial crisis that is stirring the debate among Americans about the benefits of globalization and trade. A consensus favoring open trade has prevailed in the United States for more than half a century, buttressed by the belief that America's creative, entrepreneurial economy has much more to gain than lose through economic engagement with the world.

But these values are hardest to preserve during economic hard times, when foreign competitors become natural targets for the frustrations of a country's unemployed and foreign practices that appear unfair feed protectionist feelings.

America's continued political support for a free flow of trade and finance and its openness to the world may depend on a continued prosperity for the large majority of its citizens, many experts say. Federal Reserve Chairman Ben Bernanke said in 2007, "if we did not place some limits on the downside risks to individuals affected by economic change, the public at large might become less willing to accept the dynamism that is so essential to economic progress." But America could not turn its back on the rest of the world's economy, even if it somehow chose to, and as the control of the U.S. government changed hands in 2009, there was no sign of a retreat from global engagement.


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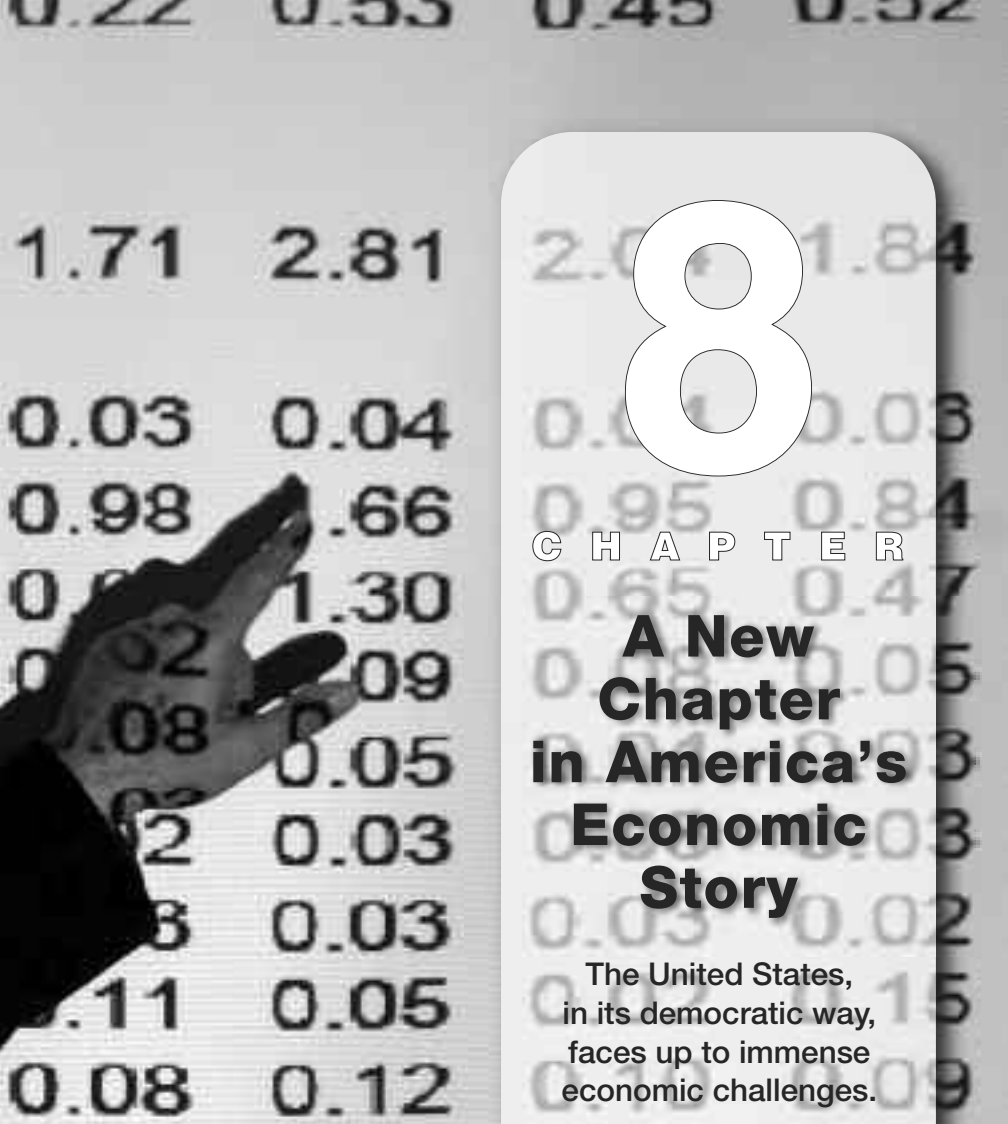

8

CHAPTER

A New Chapter in America's Economic Story

The United States, in its democratic way, faces up to immense economic challenges.

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Above: President Barack Obama, shown with former Federal Reserve Chairman Paul Volcker, faces the greatest economic challenges in a generation while working with a Congress that is sharply divided politically. ***Previous spread:*** The numbers for the U.S. economy started turning down even before the 2008 global crisis.

"Starting today,…we must pick ourselves up, dust ourselves off, and begin again the work of remaking America."

PRESIDENT BARACK OBAMA
United States of America
2009

At this writing (March 2009), the United States and much of the world were enmeshed in a financial crisis and economic downturn considered by many to be the worst since the Great Depression of the 1930s. The need for an immediate response has ushered in a burst of government intervention, most strikingly in the United States but also throughout the industrialized world. By spring 2009, it appeared that the gravest fears of a complete financial meltdown had been averted and world stock markets recovered part of their devastating losses over the previous half year. But the United States and other industrial nations still faced rising unemployment and a vulnerable economic future.

Several conclusions seemed inescapable. Economic globalization, which has linked banking and trade on every continent, enabled the financial market contagion to spread worldwide. Leaders of the United States and other major economies agreed that a new system of financial market supervision and regulation would have to be created to restore investors' battered confidence in markets and revive investment. The reforms should seek to set new banking and investment standards for all advanced economies, and the United States would have to play a leading role in their creation by reforming its own complex system of banking and securities regulation.

Former Federal Reserve Chairman Paul Volcker introduced a blueprint for such reforms early in 2009 on behalf of a group of prominent international financial officials and academics called The Group of 30. The organization's report sought to "restore strong, competitive, inno-

vative financial markets to support global economic growth without once again risking a breakdown in market functioning so severe as to put the world economy at risk," said Volcker, who also led President Barack Obama's Economic Advisory Board, as the new administration took office.

The group called for tighter restrictions on banks to prevent reckless lending by them; more effective accounting standards that could help identify potentially dangerous investing trends; rules compelling the largest private hedge funds and other pools of private investment capital to disclose results and levels of borrowing, and regulation of over-the-counter derivatives such as the complex, credit default insurance investments that became an unseen virus in the global banking system collapse.

An effective worldwide consensus on a new financial regime was a daunting goal, given the spectrum of economies and political systems among the major nations. But the challenge was no less formidable in the United States itself.

As other chapters have described, economic governance in America has evolved unevenly, responding to the major currents of change in the economy itself. From the writing of the Constitution onward, Americans have debated government's proper role in the economy: Did society's needs require a strong government hand, or would government stifle innovation and enterprise that drives economic advancement? How should government authority be divided among the federal government and the states?

The U.S. financial regulatory system, thus, is a patchwork of many state and federal agencies with overlapping missions, and some major gaps in oversight lying in between. Some reformers have said the financial crisis calls for creation of a single, powerful financial market oversight agency. The Federal Reserve was seen as the most likely candidate for that role in the United States. But such a role would stir concerns among many Americans about centralizing too much power in a single government agency—an issue that separated the followers of Jefferson and Hamilton at the country's birth and remains very much alive today.

Soaring Deficit

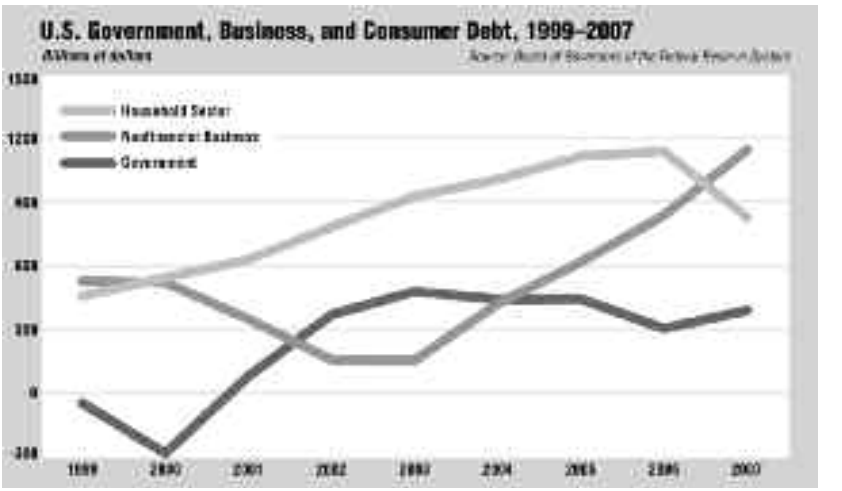
One consequence of the emergency measures taken to stimulate the economy and shore up threatened financial institutions is a drastic increase in the federal budget deficit. That figure, which represents the difference between federal spending and revenue, was headed over $1 trillion in 2009, nearly three times the previous year's figure. President Obama's 2009 stimulus package of new government spending and tax cuts would bring the deficit, as measured in

proportion to the entire economy, to a level not seen since the end of World War II.

While Americans differed over the details of the stimulus plan, a broad consensus emerged that swift action was necessary. Most economists agreed that a rapid and massive fiscal stimulus of federal spending was essential to spur job creation and reverse the economic contraction. They also agreed that once the economy had stabilized, the United States would have to turn to the much harder task of deficit reduction by better aligning the government's spending commitments with its revenues.

The U.S. government was able to react on a massive scale as the crisis erupted late in 2008. The financial strength of the Federal Reserve and the ability of the U.S. government to borrow abroad helped Washington pour unprecedented amounts of money into the banking system and new spending programs in the months that followed. As World Bank President Robert Zoellick told the *New York Times* late in 2008, America's "ability to turn around problems is really unmatched historically." Economist Brad Setser noted that in 2008 the United States sold a stunning $1.7 trillion in Treasury securities without triggering a jump in market interest rates.

The second challenge—confronting the growing federal budget deficit—would likely be much harder. As President Obama and other political leaders observed, the American public and their political representatives could not postpone indefinitely hard decisions about the scope and breadth of government's role in the U.S. economy and the best means of funding those commitments. Foreigners ask, Zoellick said, "will the United States get at some of the root causes that could determine



its real strength over the next 10 or 20 or 30 years?"

The government's longstanding commitments to America's elderly were a big part of the challenge. Current projections suggest that, without fundamental reform, Social Security (retirement income), Medicare (medical care for the elderly) and Medicaid (medical care for low-income families) programs will swamp all other claims on the federal budget within a few decades. They take 44 percent of all current federal spending, excluding interest paid on the U.S. national debt.

In 2011, the first of the 78 million-strong baby-boom generation will become eligible for Social Security and Medicare benefits. The U.S. Treasury estimates that by 2030, the three major "entitlement" programs will absorb two-thirds of the federal budget, assuming that federal taxes continue at current levels. If no changes are made in spending or tax law, government revenues in that year would cover only half of the expected expenditures, according to the 2008 *Financial Report of the United States.*

Because the government must borrow to pay for expenditures that exceed revenues (the federal deficit), the unchecked rise of entitlement spending would also swell the U.S. national debt (the amount borrowed by the government from lenders in America and abroad). If current spending and taxing trends continue, the U.S. debt in 2032 would equal the nation's annual economic output of goods and services.

The trends are unsustainable, the Treasury says, and would steadily undermine confidence in America's economy and in the dollar. Former Federal Reserve Chairman Alan Greenspan has called the outlook a "pending tsunami." As Obama said shortly after his election in 2008, if the financial challenges are hard, "the politics are even harder." Older people may have to postpone retirement. Health care and Social Security benefits may have to be limited for the wealthiest Americans, or taxes on working American may have to rise—choices that will test society's cohesiveness. "You have to have a president who is willing to spend some political capital on this," Obama said, "and I intend to spend some."

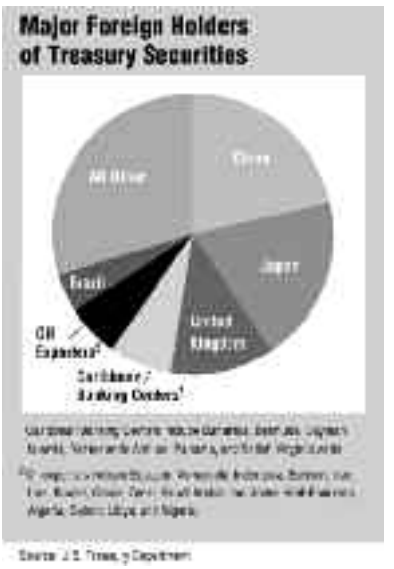
Income Disparity

A growing disparity in the distribution of the economy's rewards raised even higher the political hurdles to achieving both domestic economic reform and international economic cooperation. Scholars have identified a number of possible factors that, taken together, have increasingly concentrated income and wealth gains among a small minority of the U.S. population. Among them: the decline in higher-paid manufacturing jobs and a shift toward lower-scale service employment, the growing

employment disadvantages of less-educated workers in a highly technical economy, and the burden of rising medical care costs for America's lower- and middle-income families. Because of these and other factors, the average wage of U.S. non-farm workers has not increased appreciably since 1980, after taking inflation into account.

Harvard University economist Benjamin M. Friedman observed, "The central question for the United States at the outset of the 21st century is whether the nation in the generation ahead will again achieve increasing prosperity, as in the decades immediately following World War II, or lapse back into the stagnation of living standards for the majority of our citizens that persisted from the early 1970s until the early 1990s."

The government's long-term fiscal plight also carries international political complications. As the 2000s decade proceeded, foreign investors financed an increasing share of U.S. government debt. In mid-2000, this debt totaled $1 trillion. Eight years later, the total was $2.7 trillion, with government-owned banks or "sovereign" investment funds holding the fastest-growing share. They used the U.S. dollars flowing overseas that bought manufactured goods and oil to purchase U.S. Treasury securities and other U.S. government debt. America, in essence, was borrowing from the future to finance current consumption.



A 2008 report by the Council on Foreign Relations emphasized the political ramifications of this financial dependence: "Without financing from China, Russia, and the Gulf states, the dollar would fall sharply, U.S. interest rates would rise, and the U.S government would find it far more difficult to sustain its global role at an acceptable domestic cost."

As noted in chapter 1, the foreign response to the global financial crisis was a rush to purchase U.S. Treasury securities because America's economic size and political stability made the dollar the safest refuge. But a growing U.S. indebtedness could press foreign investors to substitute a basket of currencies including the euro and the Chinese yuan for the dollar in international transactions and to reduce the amount of dollars held in government accounts.

"The next crisis will be related to our own federal government's daunting fiscal challenges," wrote economist Mark Zandi in 2008. "Global investors are already growing disaffected with U.S. debt, and even the Treasury will have a difficult time finding buyers for all the bonds it will be trying to sell if nothing changes soon."

In the aftermath of the global financial crisis, the United States also will be challenged to repair the credibility of its financial sector. The Obama administration has pledged to support international efforts to strengthen banking reserves and investment regulation and place limits on market risk-taking without stifling the flow of capital to fund growth.

Obama's Plan

Immediately following his election to the presidency, Obama began to shape a large-scale federal response to the emergency. The massive economic stimulus plan passed by the U.S. Congress early in his administration distributed federal funding, loans, and tax cuts throughout the faltering economy. It also sought to use federal dollars to fuel a rapid expansion of new, technology-advanced energy and environmental initiatives. These developments, it was hoped, would create new markets at home and overseas for American companies and millions of jobs for workers across a wide range of skill levels.

Many of the energy and environmental opportunities presented a commonsense appeal. Investments in new energy controls and weatherization could help homes and businesses better conserve energy used for heating, cooling, and lighting. A faster transition to hybrid gas-electric vehicles, or eventually "plug-in" electric cars, could cut America's dependence on foreign oil shipments from politically volatile regions.

Expansion of the nation's electric power transmission grid could allow more renewable energy from wind and solar power to move from the Sun Belt in the South and the Midwest's windy Great Plains to the nation's urban centers. Perhaps in a decade, electric cars could be plugged into the grid when not on the road, recharging themselves at night when electricity is cheapest.

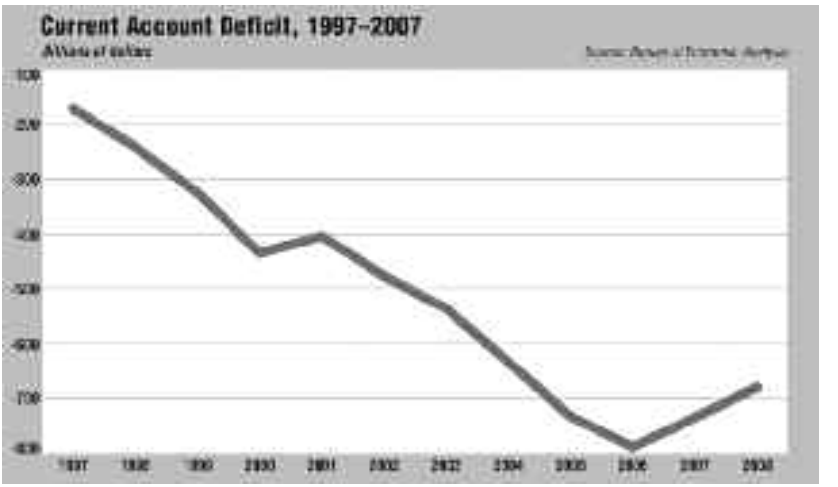
Federal initiatives could seed new, globally competitive industries and secure U.S. leadership in worldwide efforts to restrain carbon-based climate change. For example, the use of wind or nuclear power to make electricity, and of biofuels to drive cars, could reduce greenhouse gas emissions. One day, the carbon emissions from coal-fired power plants could be confined and stored permanently underground.

Some Americans posed philosophical and political challenges to this vision. Longstanding quarrels over the desirability of "big" government continued. So did clashes of regional interests. Lawmakers from states where

wind energy is generated sought to strengthen the nationwide transmission system, but their counterparts in states with strong coal industries resisted mandates to use more wind power. Sector-leading utility and energy companies perceived threats to their established business models, particularly in the proposals to cap carbon emissions from coal and oil operations and for expanded use of solar power in homes and offices. And regardless of the preferred strategy, the financial crisis had undermined the capacity of American industry and investment firms to fund such an energy transformation.

More optimistic observers noted that America still could bring important resources to bear on the challenge of devising new energy strategies, among them its entrepreneurial culture, the depth and breadth of its educational system, and the freedom it afforded capital to seek the highest returns. Singapore's minister of education, Tharman Shanmugaratnam, commented in 2006 about an essential aspect of U.S. education. "We know how to train people to take exams. You know how to use people's talents to the fullest. Both are important, but there are some parts of the intellect that we are not able to test well—like creativity, curiosity, a sense of adventure, ambition. Most of all, America has a culture of learning that challenges conventional wisdom, even if it means challenging authority."

Applying these real strengths to the nation's equally real challenges will be a great test for the current generation of Americans. As Kent H. Hughes of the Woodrow Wilson International Center for Scholars writes, "It is hard to see how the United States will win the contest of ideas in the 21st century without continued economic growth, technological innovation, im-



proved education, and broad-based equality of opportunity."

In 2009, the United States is struggling to recover from a harsh recession that has challenged the public's faith in national economic policies, open trade, financial markets, and business governance. Hughes adds that "the country will need to take steps to restore national trust in key institutions, rediscover a sense of national purpose, restore its commitment to shared gains and shared sacrifices, and renew its sense of American identity." But it also is true that Americans have faced and surmounted such challenges in the past, and few doubt but that they will do so again.

Barack Obama's candidacy for president was historically unique in many ways, but his economic platform was rooted deeply in America's political history. Many observers saw in his victory a swing of the political pendulum from Reagan-era limited government and light regulation of markets back toward Franklin D. Roosevelt's New Deal era of greater government economic intervention.

How much of a shift occurs remains to be seen. But in the 2008 election the American people opted for activism, and in his inaugural address President Obama sought to respond. "Starting today," he said, "we must pick ourselves up, dust ourselves off, and begin again the work of remaking America." Even with the Democratic Party majorities in the House and Senate, finding solutions to intractable economic and energy problems would require effective collaboration between the president and members of both parties at a time when political divisions are sharp. But that has been the situation throughout America's history, with few exceptions. In other times of crisis, the country found a way forward despite the fractious aspects of democracy. The start of Obama's presidency marked the opportunity to write a new chapter of the nation's economic story, with much at stake.

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