Section 2

A Growing Economy

Guide to Reading

Big Ideas

Economics and Society The United States experienced stunning economic growth during the 1920s.

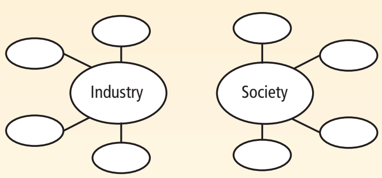
Content Vocabulary
- mass production *(p. 596)*
- assembly line *(p. 596)*
- Model T *(p. 596)*
- welfare capitalism *(p. 602)*
- open shop *(p. 602)*

Academic Vocabulary
- disposable *(p. 598)*
- credit *(p. 600)*

People and Events to Identify
- Charles Lindbergh *(p. 600)*

Reading Strategy

Organizing As you read about the booming era of the 1920s, complete a graphic organizer to analyze the causes of economic growth and prosperity in the 1920s.



In the 1920s widespread ownership of automobiles, radios, and other innovations changed how Americans lived. The Coolidge administration encouraged business growth and tried to promote stability in international affairs.

The Rise of New Industries

MAIN Idea Mass production and the assembly line allowed new industries, such as automobile and airplane manufacturing, to grow.

HISTORY AND YOU How would businesses, governments, and your family be affected if air travel did not exist? Read to learn how the transportation industry changed during the 1920s and 1930s.

By the 1920s, the automobile had become an accepted part of American life. In a 1925 survey conducted in Muncie, Indiana, 21 out of 26 families who owned cars did not have bathtubs with running water. When asked why her family decided a car was more important than indoor plumbing, a farm wife explained, "You can't ride to town in a bathtub."

The automobile was just one part of a rising standard of living that Americans experienced in the 1920s. Real per capita earnings soared 22 percent between 1923 and 1929. Meanwhile, as Americans' wages increased, their work hours decreased. In 1923 U.S. Steel cut its daily work shift from 12 hours to 8 hours. In 1926 Henry Ford cut the workweek for his employees from six days to five, and International Harvester, a maker of farm machinery, instituted an annual two-week paid vacation for employees. These changes took place because **mass production,** or large-scale manufacturing done with machinery, increased supply and reduced costs. Workers could be paid more and the consumer goods they bought cost less.

The Assembly Line and the Model T

First adopted by carmaker Henry Ford, the moving **assembly line** divided operations into simple tasks and cut unnecessary motion to a minimum. In 1913 Ford installed the first moving assembly line at his plant in Highland Park, Michigan. By the following year, workers were building an automobile every 93 minutes. Before, the task had taken 12 hours. By 1925 a Ford car was rolling off the line every 10 seconds. Ford was the first person to build factories based on the concept of the assembly line.

Ford's assembly-line product was the **Model T**—affectionately called the "Tin Lizzie" or "Flivver." In 1908, the Model T's first year,

INFOGRAPHIC

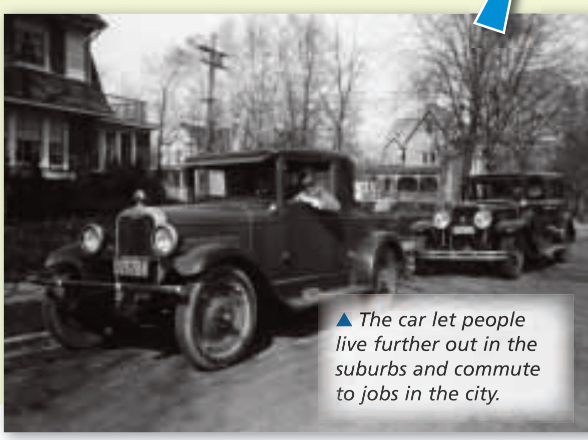
The Car Changes America

Many industries that were needed to build cars prospered. Car manufacturers needed steel for the car body, glass for the windows, and rubber for the tires. The automobile also led to changes in society. People moved to the suburbs, but were less isolated from the benefits of the city. At the same time, there was a decline in mass transportation such as railroads and trolleys.

▲ *Cars greatly increased the demand for oil, leading to a boom in the oil business, as shown by the forest of oil wells in Signal Hills, California in 1930. To keep cars refueled, roadside gas stations sprang up across the country.*

▲ *Cars allowed people greater mobility and freedom. These young women drove to the country to have a picnic.*

▶ *The auto industry spurred a boom in other industries, as well. These workers at Goodyear Tire and Rubber in Akron, Ohio, are removing car tires from curing pits.*



▲ *The car let people live further out in the suburbs and commute to jobs in the city.*

Analyzing VISUALS DBQ

1. **Determining Cause and Effect** How did the automobile help other industries grow? Which industries were most affected?
2. **Drawing Conclusions** Based on the images above, how did the car change people's lives?

it sold for $850. In 1914 mass production reduced the price to $490. Three years later, improved assembly-line methods and a high volume of sales brought the price down to $360. By 1924 Model Ts were selling for $295, and Ford sold millions of them. His business philosophy was: lower the cost per car and thereby increase the volume of sales.

The low prices made possible by Ford's mass-production methods not only created an immense market for his cars but also spawned imitators. By the mid-1920s, other car manufacturers, notably General Motors and Chrysler, competed successfully with Ford. The auto industry also spurred growth in other industries, such as rubber, plate glass, nickel, and lead. The auto industry alone consumed 15 percent of the nation's steel and led to a huge expansion of the petroleum industry.

High Wages for Workers Ford also increased his workers' wages in 1914 to $5 a day (doubling their pay) and reduced the workday to eight-hour shifts. Ford took these dramatic steps to build up workers' loyalty and to undercut union organizers.

There were strings attached, however. Ford created a "Sociological Department," which set requirements workers had to meet. For example, renting space in one's home to nonfamily members was strictly forbidden. Investigators visited employees' homes to verify their eligibility and workers who broke the rules could be disqualified from extra pay, suspended, or even fired.

The Social Impact of the Automobile

Cars revolutionized American life. They eased the isolation of rural life and enabled more people to live farther from work. An entirely new kind of worker, the auto commuter, appeared. Since commuters could drive from their homes in suburbia to their workplaces, other forms of urban transportation, such as the trolley, became less popular.

Consumer Goods

In response to rising **disposable** income, many other new goods came on the market. Americans bought such innovations as electric razors, facial tissues, frozen foods, and home hair color.

Companies created many new products for the home. As indoor plumbing became more common, Americans' concern for hygiene led to the development of numerous household cleaning products. By appealing to people's health concerns, advertisers convinced home-makers to buy cleansers in hopes of protecting their families from disease.

New appliances advertised as labor-savers changed the home. Electric irons, vacuum cleaners, washing machines, and refrigerators changed the way people cleaned their homes and prepared meals.

Another lucrative category of consumer products focused on Americans' concern with fashion and youthful appearance. Mouthwash, deodorants, cosmetics, and perfumes became popular products in the 1920s.

Birth of the Airline Industry

In the early 1900s, many people were trying to build the first powered airplane that could

TECHNOLOGY & HISTORY

Labor- and Time-saving Machines The technology of the 1920s changed the way many people lived. Applying electric motors to items such as washers, dryers, food mixers, and refrigerators revolutionized household tasks. Improved technology helped raise many Americans' standard of living.

Assembly Lines Reduce Prices

The moving assembly line and standardized parts made auto assembly fast, efficient and cheap. As a result, most Americans could afford to buy a car.

Electric Appliances Save Time and Labor

New electrical appliances changed life for the growing middle class that could afford them. Refrigerators, such as the 1926 Kelvinator (above left) made it practical to buy and store larger quantities of food. The electric washer with hand wringer (above center) and the vacuum cleaner saved cleaning time. The Air-Way Sanitizor vacuum cleaner (above right) was the first to have a disposable bag.

carry a human being. Samuel Langley, secretary of the Smithsonian Institution, was perhaps best known for his attempts at the time. Langley had built small model airplanes powered by steam engines, and the War Department had awarded him $50,000 to build an airplane that could carry a person. On December 8, 1903, Langley demonstrated his plane to government officials in Washington, D.C. Unfortunately, his plane broke apart on takeoff and crashed into the Potomac River.

The War Department, in its final report on the Langley project, concluded that "[W]e are still far from the ultimate goal, and it would seem as if years of constant work and study by experts, together with the expenditure of thousands of dollars, would still be necessary before we can hope to produce an apparatus of practical utility on these lines."

Nine days later, Wilbur and Orville Wright, two inventors from Dayton, Ohio, tested the airplane they had built using only $1,000 of their personal savings. The Wright brothers had carefully studied the problems of earlier airplanes and had designed one with better wings, a more efficient propeller, and a strong but very light engine. On December 17, 1903, at Kitty Hawk, North Carolina, Orville made the first crewed, powered flight in history.

After the Wright brothers' successful flight, the aviation industry began developing rapidly. Leading the way was American inventor Glenn Curtiss. Curtiss owned a motorcycle company in Hammondsport, New York. Fascinated by airplanes, he agreed in 1907 to become director of experiments at the Aerial Experiment Association, an organization that Alexander Graham Bell founded. Within a year, Curtiss had invented ailerons—surfaces attached to wings that can be tilted to steer the plane. Ailerons made it possible to build rigid wings and much larger aircraft. They are still used today.

Curtiss's company began building aircraft and sold the first airplanes in the United States. The company grew from a single factory to a huge industrial enterprise during World War I, as orders for his biplanes and engines flooded in from Allied governments. Although Curtiss retired in 1920, his inventions made possible the airline industry that emerged in the 1920s.

Airlines Speed Travel

The aviation industry developed quickly after the Wright brothers' first successful flight in 1903 (above). Below, passengers are shown boarding a Northwest Orient Airlines Ford Tri-motor. Although seating was cramped (right), passenger airlines carried increasing numbers of people in the 1920s.

(bl)Minnesota Historical Society

Radio Links the Nation Together ▶

Commercial radio grew rapidly in the 1920s. It helped create a national community as people across the country could listen to the same music, sports, news, and entertainment programs. The technicians shown at right are preparing for the first NBC radio show, which was broadcast in 1926.

Analyzing VISUALS DBQ

1. **Making Connections** Which of the inventions pictured is most important to your life? Which do you think is most important to the nation as a whole?
2. **Making Generalizations** How have advances in transportation and communication changed life in the United States in the past 100 years?

After Curtiss and other entrepreneurs started building practical aircraft, the federal government began to support the airline industry. President Wilson's postmaster general introduced the world's first regular airmail service in 1918 by hiring pilots to fly mail between Washington, D.C., and New York. In 1919 the Post Office expanded airmail service across the continent.

The aviation industry received an economic boost in 1925 when Congress passed the Kelly Act, authorizing postal officials to contract with private airplane operators to carry mail. The following year Congress passed the Air Commerce Act, which provided federal aid for building airports. Former airmail pilot **Charles Lindbergh** made an amazing transatlantic solo flight in 1927, showing the possibilities of commercial aviation. By the end of 1928, 48 airlines were serving 355 American cities.

The Radio Industry

In 1913 Edwin Armstrong, an American engineer, invented a special circuit that made it practical to transmit sound via long-range radio. The radio industry began a few years later. In November 1920 the Westinghouse Company broadcast the news of Harding's landslide election victory from station KDKA in Pittsburgh—one of the first public broadcasts in history. That success persuaded Westinghouse to open other stations.

In 1926 the National Broadcasting Company (NBC) set up a network of stations to broadcast daily programs. By 1927, almost 700 stations dotted the country. Sales of radio equipment grew from $12.2 million in 1921 to $842.5 million in 1929, by which time 10 million radios were in use across the country.

In 1928 the Columbia Broadcasting System (CBS) assembled a coast-to-coast network of stations to rival NBC. The two networks sold advertising time and hired musicians, actors, and comedians from vaudeville, movies, and the nightclub circuit to appear on their shows. Americans experienced the first presidential election campaign to use radio broadcasts in 1928, when the radio networks sold more than $1 million in advertising time to the Republican and Democratic Parties.

Reading Check **Analyzing** How did the automobile change the way people lived?

The Consumer Society

MAIN Idea Consumer credit and advertising helped to create a nation of consumers.

HISTORY AND YOU Have you ever purchased something on credit or bought an item because of advertising? Read to discover the beginnings of the widespread consumer culture in America.

Higher wages and shorter workdays resulted in a decade-long buying spree that kept the economy booming. Shifting from traditional attitudes of thrift and prudence, Americans in the 1920s enthusiastically accepted their new role as consumers.

Easy Consumer Credit

One notable aspect of the economic boom was the growth of individual borrowing. **Credit** had been available before the 1920s, but most Americans had considered debt shameful. Now, however, attitudes toward debt started changing as people began believing in their ability to pay their debts over time. Many

PRIMARY SOURCE

Advertising to Consumers

The early advertising age used techniques that continue to persuade consumers today. Easy credit terms and installment plans, envy of peers and neighbors, and the link of a product with a famous, attractive person all convinced people that they needed the flood of newly available consumer goods.

The Granger Collection, New York

listened to the sales pitch "Buy now and pay in easy installments," and racked up debts. Americans bought 75 percent of their radios and 60 percent of their automobiles on the installment plan. Some started buying on credit at a faster rate than their incomes increased.

Mass Advertising

When inventor Otto Rohwedder developed a commercial bread slicer in 1928, he faced a problem common to new inventions: the invention—sliced bread—was something no one knew was needed. To attract consumers, manufacturers turned to advertising, another booming industry in the 1920s.

Advertisers linked products with qualities associated with the modern era, such as progress, convenience, leisure, success, and style. In a 1924 magazine advertisement for deodorant, the headline read, "Flappers they may be—but they know the art of feminine appeal!" An advertisement for a spaghetti product told homemakers that heating is the same as cooking: "Just one thing to do and it's ready to serve." Advertisers also preyed on consumers' fears and anxieties, such as jarred nerves due to the hectic pace of modern life or insecurities about one's status or weight.

The Managerial Revolution

By the early 1920s, many industries had begun to create modern organizational structures. Companies were split into divisions with different functions, such as sales, marketing, and accounting. To run these divisions, businesses needed to hire managers. Managers freed executives and owners from the day-to-day running of the companies.

The managerial revolution in companies created a new career—the professional manager. The large numbers of new managers helped expand the size of the middle class, which in turn added to the nation's prosperity. Similarly, so many companies relied on new technology that engineers were also in very high demand. They, too, joined the ranks of the growing middle class.

By promising long-term savings and offering 30-day free trials, advertisers were often able to get consumers to try their products.

Easy credit terms and installment payment plans encouraged consumers to purchase goods, and often put them further into debt than they could afford.

Growth of Consumer Debt, 1920–1933

Source: *Historical Statistics of the United States.*

This 1928 advertisement appeals to "expert opinion" to sell the product. It also shows that 1920s advertisers believed ironing to be a woman's job.

Analyzing VISUALS

1. **Making Connections** What techniques do advertisers use today to sell automobiles?
2. **Analyzing Visuals** What happened to consumer debt between 1921 and 1929? Why might this have happened?

Welfare Capitalism

Middle-class Americans were not the only members of the new consumer society. Industrial workers also had more disposable income, partly due to rising wages and partly because many corporations introduced what came to be called **welfare capitalism.** Companies allowed workers to buy stock, participate in profit sharing, and receive medical care and pensions.

The Decline of Unions Benefits programs also made unions seem unnecessary to many workers. During the 1920s, unions lost both influence and membership. Employers promoted the **open shop**—a workplace where employees were not required to join a union. With benefits covering some of their basic needs, workers were able to spend more of their income to improve their quality of life. Many purchased consumer goods they previously could not afford.

Uneven Prosperity Not all Americans shared in this economic boom. Thousands of African Americans had factory jobs during World War I. When servicemen returned from the war, they replaced both African Americans and women.

Native Americans were also excluded from prosperity. Although granted citizenship in 1924, they were often isolated on reservations, where there was little productive work.

The majority of immigrants to the United States continued to come from Europe. Even these people often found it difficult to find work; most of them were farmers and factory workers whose wages were pitifully low.

Many people in the Deep South were also left out of the economic boom. The traditional agricultural economic base eroded after the war ended. Farmers in general failed to benefit from the general prosperity.

Reading Check **Analyzing** How did advertisers try to convince Americans to buy their products?

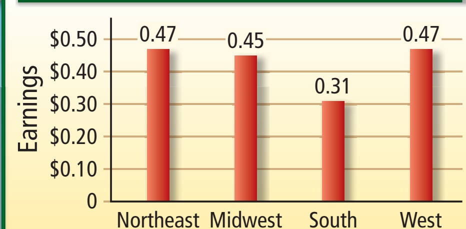
PRIMARY SOURCE

Prosperity for Whom?

Although many people benefited from the economic boom of the 1920s, several groups did not share in the general prosperity, nor did all regions of the country. Members of minority groups, newly arrived immigrants, and farmers often struggled economically. During the 1920s, for example, laborers in manufacturing not only outnumbered farmers but also acquired three times more actual wealth.

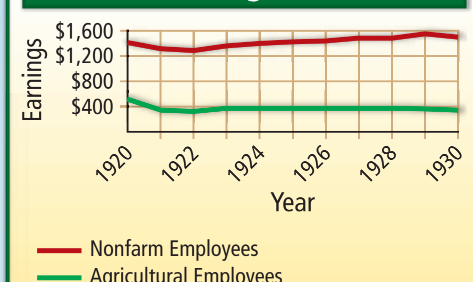
▼ *For many African Americans, including this family in rural Georgia, the 1920s was a time of poverty, not prosperity.*

Average Hourly Earnings, 1929



Source: *Manpower in Economic Growth.*

Annual Earnings, 1920–1930



Source: *Manpower in Economic Growth.*

Analyzing VISUALS

1. **Identifying** In what region of the nation were hourly wages lowest in 1929?
2. **Analyzing** What pattern characterizes the gap between wages of farm and nonfarm employees during the 1920s?

The Farm Crisis

MAIN Idea Increases in farm productivity and decreases in foreign markets led to lower prices for farmers.

HISTORY AND YOU Do you remember reading about the platform of the Populist Party in the 1890s? Read to learn about farmers' troubles in the 1920s.

American farmers did not share in the prosperity of the 1920s. On average, they earned less than one-third of the income of workers in the rest of the economy. Technological advances in fertilizers, seed varieties, and farm machinery allowed them to produce more, but higher yields without a corresponding increase in demand meant that they received lower prices. Between 1920 and 1921, corn prices dropped almost 19 percent, and wheat went from $1.83 a bushel to $1.03. The cost of the improved farming technology, meanwhile, continued to increase.

Changing Market Conditions

Many factors contributed to this "quiet depression" in American agriculture. During the war, the government had urged farmers to produce more to meet the great need for food supplies in Europe. Many farmers borrowed heavily to buy new land and new machinery to raise more crops. Sales were strong, prices were high, and farmers prospered. After the war, however, European farm output rose, and the debt-ridden countries of Europe had little money to spend on American farm products. Congress had unintentionally made matters worse when it passed the Fordney-McCumber Act in 1922. This act raised tariffs dramatically in an effort to protect American industry from foreign competition. By dampening the American market for foreign goods, however, it provoked a reaction in foreign markets against American agricultural products. Farmers in the United States could no longer sell as much of their crops overseas, and prices tumbled.

Helping Farmers

Some members of Congress tried to help the farmers sell their surplus. Every year from 1924 to 1928, Senator Charles McNary of Oregon and Representative Gilbert Haugen of Iowa proposed the McNary-Haugen Bill, a plan in which the government would boost farm prices by buying up surpluses and selling them, at a loss, overseas.

Congress passed the bill twice, but President Coolidge vetoed it both times. He argued that with money flowing to farmers under this law, they would be encouraged to produce even greater surpluses. American farmers remained mired in a recession throughout the 1920s.

Reading Check **Synthesizing** What factors led to the growing economic crisis in farming?

Section 2 REVIEW

Vocabulary

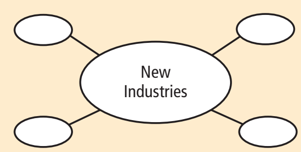
1. **Explain** the significance of: mass production, assembly line, Model T, Charles Lindbergh, welfare capitalism, open shop.

Main Ideas

2. **Evaluating** How did the automobile affect American society?
3. **Summarizing** What factors led to the new consumer society in the United States during the 1920s?
4. **Analyzing** What conditions contributed to the tough times farmers faced in the early 1920s?

Critical Thinking

5. **Big Ideas** How did the availability of credit change society?
6. **Organizing** Use a graphic organizer like the one below to list some of the new industries that grew in importance during the 1920s.



7. **Analyzing Visuals** Study the Technology & History on pages 598–599. How do appliances, cars, and airplanes differ today? How do you think new products change society today?

Writing About History

8. Write an article for a contemporary newspaper analyzing the impact of Charles Lindbergh's transatlantic flight on the development of aviation in the United States and the world.

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