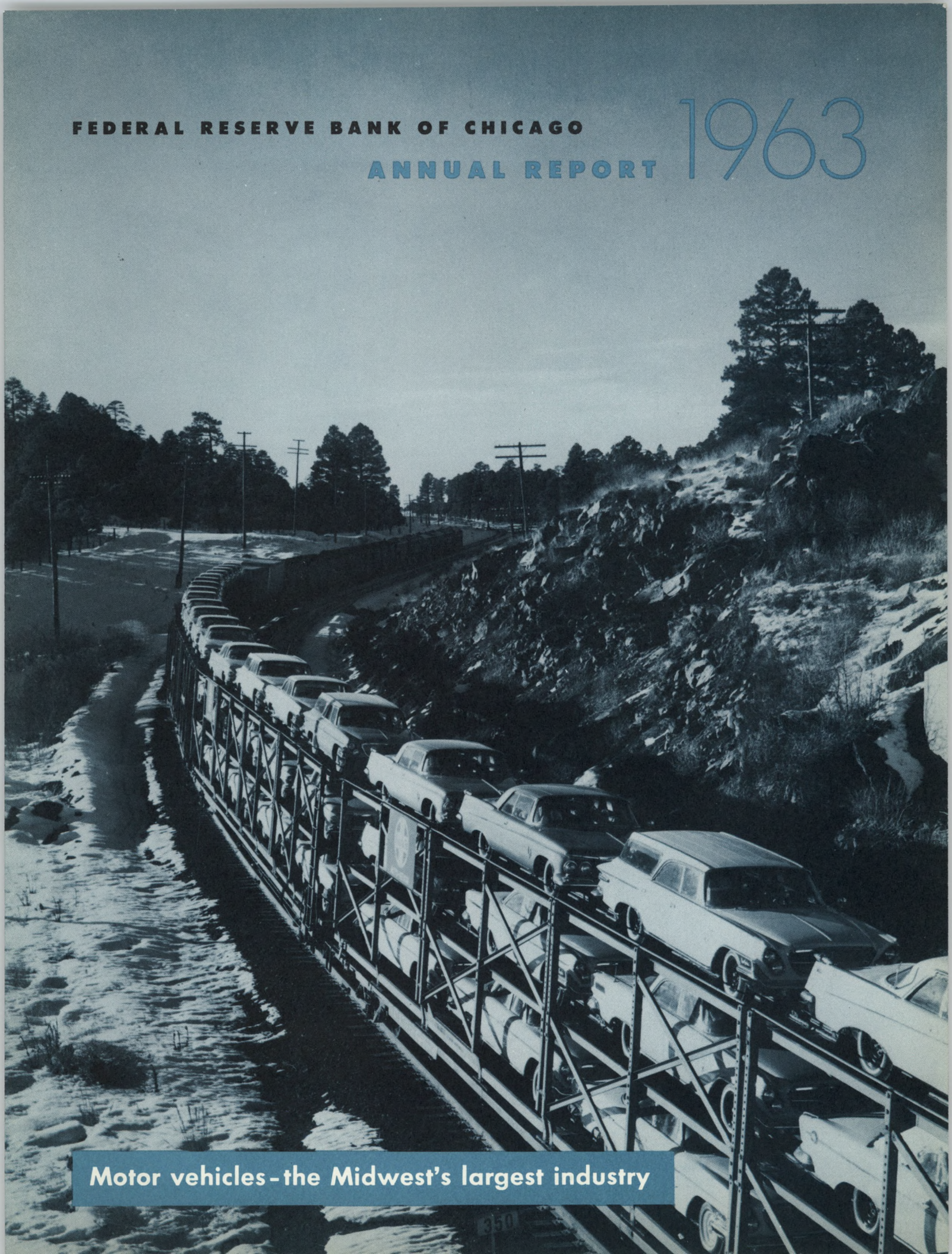
FEDERAL RESERVE BANK OF CHICAGO

ANNUAL REPORT 1963



Motor vehicles - the Midwest's largest industry

To the Member Banks of the
Seventh Federal Reserve District:

It is our pleasure to submit to you the Annual Report of the Federal Reserve Bank of Chicago for the year 1963.

The past year has been generally favorable and the prospects are good that this trend will continue in 1964. Some of the more significant developments are described briefly at the beginning of this report.

Following the review of 1963, we present a discussion of the automobile industry which plays such an important role in the economy of the Seventh District and the nation.

Official appointments, elections and resignations during the year are reported on pages 27-29. The Bank's balance sheet and operating statement are presented on pages 30 and 31.

The volume of transactions in many departments of the Bank rose further in 1963, reflecting the continued growth of economic activity in the Midwest (page 32).

On behalf of the directors, officers and staff, I extend to you appreciation for your cooperation and counsel on all matters concerning the continued provision of financial services of high quality to the public.

Sincerely,

Charles J. Scanlon

CHARLES J. SCANLON
President

January 16, 1964

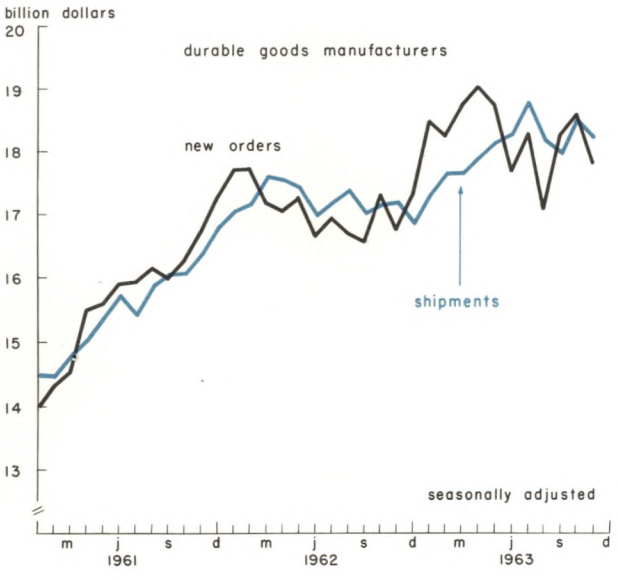
Business developments

At the beginning of 1964, business activity had been expanding for almost three years. The rise had continued longer than the average of previous periods of business expansion and there was widespread confidence that the outlook remained favorable for additional gains in 1964.

Activity in the Seventh Federal Reserve District advanced along with the nation during 1963. For the second successive year, a substantial rise in production of autos and trucks helped to boost activity in many communities. The economic upswing was broadly based, however, touching nearly all sectors except farming.

Industrial production and employment increased rapidly in the first half of 1963 but less rapidly in the second half. Midwest manufacturers of machinery and equipment that is widely used in industry, transportation, construction and agriculture shared in a vigorous capital goods resurgence that began in the spring and continued throughout the remainder of the year. Activity also rose in most soft goods industries including food processing, textiles, paper and chemicals.

Demand for hard goods strong in 1963



Modest but continuous increases in employment gradually reduced unemployment in all District states. As of midyear none of the District's 23 major labor market areas remained on the Department of Labor's list of centers with a "substantial labor surplus" (unemployment estimated at 6 per cent or more). This reflected substantial improvement compared with March 1961, the approximate low point preceding the current period of rising business. At that time 19 District centers had a substantial labor surplus. As recently as last October, 37 of 150 major centers throughout the nation still had substantial labor surpluses.

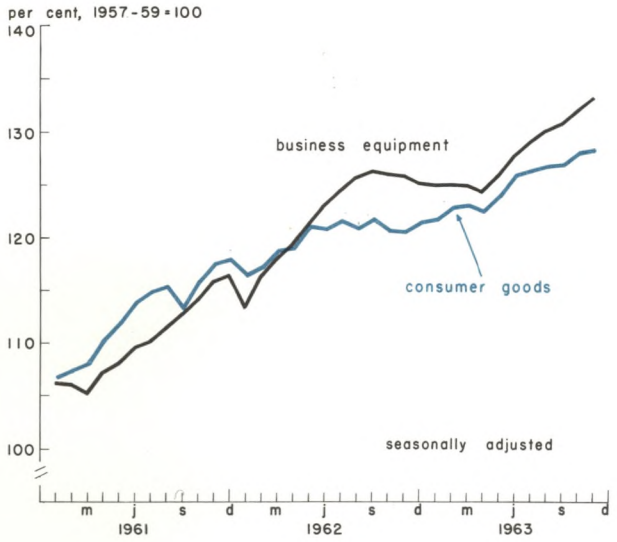
During most of 1963 new claims for unemployment compensation in the District were well below the levels of the preceding three years and estimated unemployment was substantially below the national average. Nevertheless, unemployment, particularly among young people, continues to afflict many areas. In South Bend the situation worsened in December when Studebaker Corp. terminated production of autos in this country.

Economic stability was threatened in 1963, as in 1962, by a build-up of steel inventories in anticipation of an industry-wide strike. Each time, however, negotiations were concluded without a work stoppage. Repercussions from the drop in steel output, as excess inventories were liquidated in 1963, were minor: the precautionary buying of steel had not been as great as in the previous year; usage was higher and rising, and the transition between inventory building and liquidation was spread over a longer period. Steel shipments to fabricators, including imports, were close to a record level during the past year.

Aside from steel, the rise in business inventories during 1963 was about in line with sales. This was possible because lead times on new orders did not stretch out appreciably as production was increased since most types of manufacturing still had some unused capacity.

Consumer prices continued to increase slightly in 1963 as had been the case for several years; wholesale

Output of business equipment rose sharply beginning in the spring



prices remained quite stable overall. Steel, aluminum, chemicals and paper were among the major products for which prices rose during the year as demand strengthened, but these increases were offset, at least in part, by price declines for such items as cement, hides, rubber and meat animals.

Construction activity in 1963 was about 5 per cent above the 1962 level in both the nation and the Midwest. In most months construction contracts were substantially ahead of 1962. The strongest category in the Midwest was construction of manufacturing firms. Residential contracts were above year earlier in the District, but increases were less than in the nation. Residential building activity continued to vary greatly from one center to another.

For the fourth consecutive year, major strikes in basic industries were avoided during 1963. In addition stable growth was aided by the fact that the year was relatively free from the international and domestic crises that had influenced developments in most recent years. The assassination of President Kennedy in November produced a brief wave of selling in stock and security markets and temporary paralysis in retail trade, but the basic strength of the economy does not appear to have been impaired.

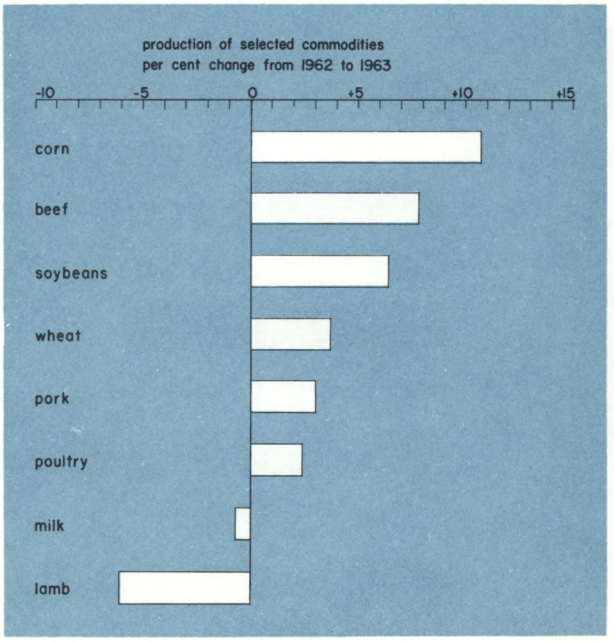
Farm income declines

Net farm income in 1963 was somewhat below the 1962 level. Gross farm receipts, however, rose as the record volume of farm marketings and continued high level of Government payments more than offset the effects of lower prices that prevailed during much of the year for many farm commodities. The decrease in net farm income resulted from a rise in production expenses, reflecting further increases in the prices of most supplies purchased by farmers.

Although the change in total farm income was moderate, this was not true for all types of farms. Cash grain farmers had substantially higher incomes than in 1962. They harvested record crops and with strengthening demand, both domestic and foreign, prices of corn and soybeans were pushed to the highest levels in several years. Livestock farmers did not fare as well. Cattle prices, under pressure from large supplies, declined during the first half of the year and recovered only slightly during the following months. Consequently, income from cattle feeding was reduced sharply and many farmers incurred substantial losses. Hog producers also had smaller incomes as lower prices and higher feed costs more than offset the effects of the larger number marketed. Income from poultry and eggs rose moderately reflecting small increases in both production and prices. As dry weather in some areas reduced total production of milk, income of dairy farmers declined.

Farmland prices in the Seventh District moved to record levels during 1963. Consolidation of smaller farms into larger, more mechanized and more highly capitalized units continued as farmers sought to boost income through improvements in efficiency.

Farm production sets record



Rise in bank lending

Bank loans rose at a record pace during 1963 as the business expansion continued. Loans at Seventh District member banks increased about 15 per cent during the year, exceeding the large gain in 1962. These banks continued to add substantially to their holdings of municipal and U. S. Government agency securities, although at a slower rate than in the previous year. Holdings of U. S. Treasury issues declined after the first quarter, especially at the large city banks. Total bank credit—loans plus investments—increased roughly 8 per cent or slightly less than in 1962.

Deposit growth, as in the preceding year, occurred mainly in savings and time accounts. These deposits, expanded 15 per cent, a very large gain although less than the spectacular 20 per cent increase in 1962. (Interest rate ceilings under Regulation Q were raised in most states at the beginning of 1962.) At large city banks, about half of the net increase was in savings deposits and the remainder in other time accounts including time certificates. The major banks bid actively for corporate funds in the autumn of 1963 by offering higher rates on negotiable time certificates of deposit.

Regulation Q was amended in July to permit a 4 per cent maximum rate on time deposits with maturities as short as 90 days, thereby enabling banks to compete with other outlets for short-term corporate and state funds. This change became effective at approximately the same time that the Federal Reserve discount rate was increased from 3 to 3½ per cent.

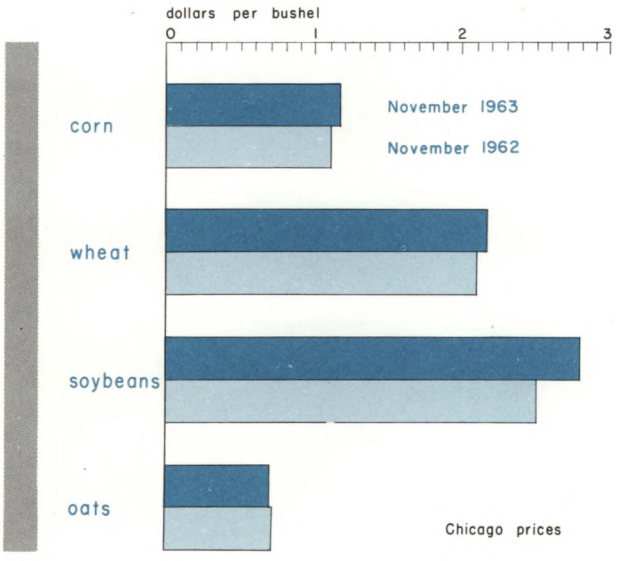
The discount rate was increased as a part of the program to improve the United States balance of payments position, not in response to domestic needs. Higher short-term rates helped to reduce the outflow of short-term funds for investment abroad. The discount rate had not been changed since August 1960 when it was reduced from 3½ to 3 per cent.

Monetary policy remained easy although total reserves of member banks did not rise quite as fast as in 1962. Borrowings of District member banks for the year averaged 47 million dollars per day compared with 25 million in 1962.

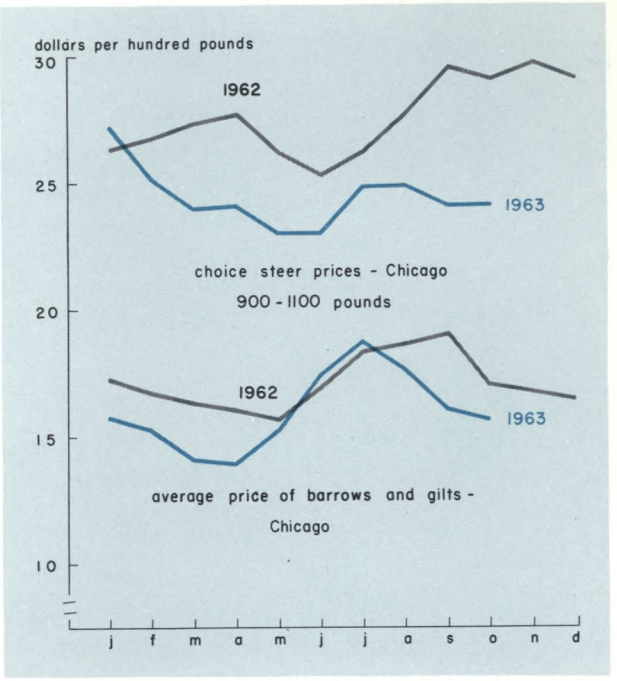
Loan demand was broadly based in 1963. The large city banks reported increases in outstanding consumer and business loans of 11 and 14 per cent, respectively in the 12 months ended December. Business borrowing at these banks was moderate in the early part of the year but rose sharply in the late summer and fall. Large banks also reported greater than normal increases in loans utilizing securities and real estate as collateral. Demand for consumer and commercial loans at smaller banks was strong throughout the year and loans to farmers increased substantially.

Some banks reduced their holdings of U. S. Government securities to obtain additional funds for loans and for further purchases of tax-exempt securities. In

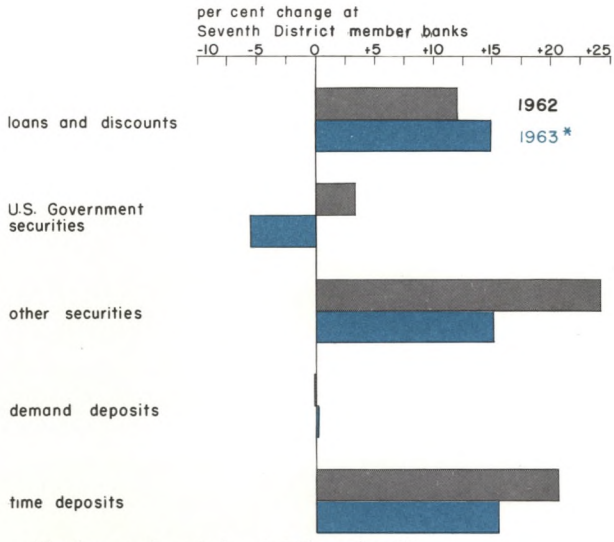
Grain prices higher



Beef and hog prices lower



Loans spark credit rise in 1963



*Twelve-month period ended November 27.

the aggregate, District member banks' holdings of Governments declined more than 5 per cent. For the larger banks the decline for the year was in short- and intermediate-term Governments. At year-end, holdings of bonds with maturities of five years or more were still slightly larger than at the close of 1962 despite a gradual reduction in long-term issues through most of the second half of the year.

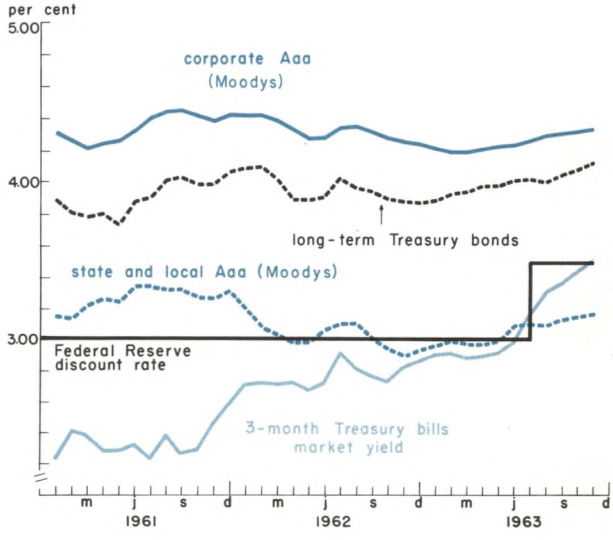
With larger credit demands, a slightly lower inflow of savings and some slowing in the rate at which reserves were provided, both short- and long-term interest rates rose in 1963. Yield averages on corporate, municipal and U. S. Government issues in early December were 15 to 25 basis points above their lows at the start of the year but still somewhat below the levels reached in late 1961 and early 1962. Three-month Treasury bill rates moved up almost 60 basis points—from around 2.90 per cent in the first quarter to about 3.50 per cent in the fourth.

A healthy economy but—

The American economy seemed to be poised for further growth at the start of 1964. Industrial production, employment, personal income, retail trade, construction and corporate profits were at record levels and had outdistanced all but the most optimistic projections made a year earlier. Business inventories remained moderate relative to sales and capital expenditures were rising, indicating an atmosphere of confidence. Although some reduction in auto sales appeared probable in 1964, most Midwest businessmen and bankers were looking forward to participating in the nation's gains in activity.

But the stubborn problems that persisted during 1963 had not been solved by year-end. Among these were the extent of unemployment and the deficit in the nation's international balance of payments. In addition, price increases in many lines where prices had remained stable in recent years were giving some evidence of posing a threat to general price stability, and there was evidence of some deterioration in the quality of new credits as loanable funds continued in ample supply for the third consecutive year. Once again, therefore, the nation starts a new year confronted with unfinished tasks that call for wisdom and restraint on the part of individuals, business and government.

Interest rates in uptrend



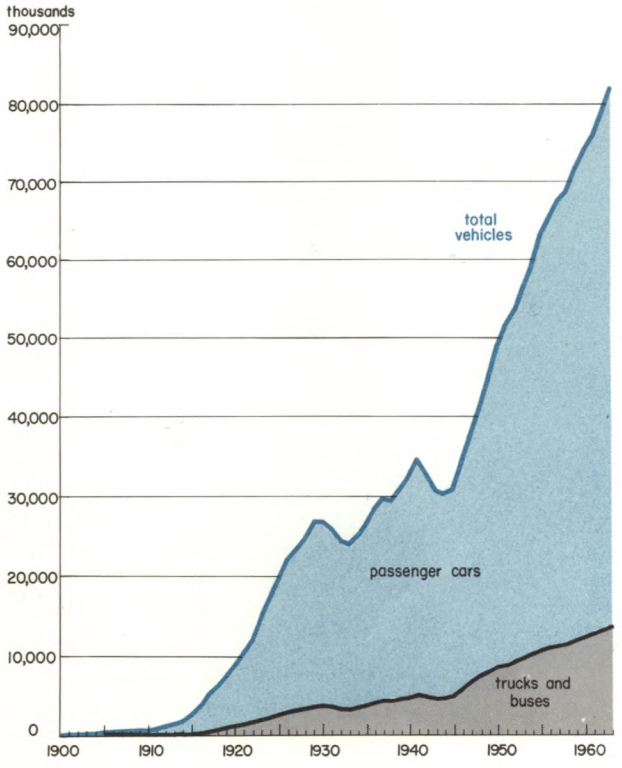
MOTOR VEHICLES

The Midwest's largest industry

Since early in this century vehicles powered by internal combustion engines have accounted for a steadily increasing share of all transportation of men and materials. The Midwest has been dominant in motor vehicle production from the beginning.

Detroit, long synonymous with motor transport in the United States and throughout the world, is still the "motor capital." Many other midwestern centers—Flint, Lansing, Cleveland, Toledo, South Bend, Indianapolis, Milwaukee, Kenosha and Chicago—also have played important roles in developing and producing motor vehicles and components. In 1963, the five-state area of Michigan, Ohio, Indiana, Wisconsin and Illinois accounted for 75 per cent of average employment in the industry.

Motor vehicle registrations have risen continuously since 1900, except in the early Thirties and World War II



Virtually all freight today is carried within cities by truck. Moreover, 23 per cent of all intercity freight traffic is handled by motor vehicles on public highways. While intercity truck tonnage is far below the 43 per cent share handled by the railroads, it far exceeds the shares of the waterways and pipelines.

The nation's motor transport has the important task of moving persons to their work, to shops, to school and to places of recreation. Here the motor vehicle is unequaled in flexibility and popularity. A substantial majority of all Americans travel to and from work in a car or bus; 93 per cent of all intercity passenger-miles are by motor vehicle; 82 per cent of all vacations are taken in the family car, and 35 per cent of the nation's children go to school by bus.

Motor vehicles have made large inroads upon the activities of most other forms of transportation and have completely vanquished some. Horses were being displaced rapidly by 1920 and the electric interurban began to fade out during the following decade. More recently the city streetcar has joined the exodus. While the railroads have at least temporarily stabilized their share of intercity freight mileage since 1959, this development has been based in part upon their ability to blend rail service with that of the truckers through "piggyback" hauls of trailers and the provision of special terminals to link rails and highways.

During 1963, 68 million autos, 13 million trucks and 300,000 buses were registered in the United States, a total of more than 80 million vehicles capable of simultaneously seating all of the nation's 190 million population with ease. To the frustrated motorist hemmed in by traffic, it may sometimes appear that everyone *is* on the road at once. Despite billions of dollars spent on superhighways and expressways in recent years, traffic—to paraphrase Parkinson's law—continues to rise to meet capacity. On the basis of

Railroads and trucklines join hands in growing "piggyback" operation

past experience, the average vehicle can be expected to travel slightly less than 10,000 miles this year—a total of over 800 billion miles!

Postwar prosperity has greatly increased the number of vehicles in other industrialized nations, particularly those of Western Europe. Pictures of long lines of autos bumper to bumper in Paris, London, Rome or Bonn and their environs have become familiar.

With only 6 per cent of the world's population, the United States has 42 per cent of the trucks and 60 per cent of the autos. It has one vehicle for each 2.4 persons compared with 3.3 in Canada, 5.2 in France, 6.6 in the United Kingdom and 9.1 in Western Germany. In the less developed nations, of course, the ratio is far higher. Widespread use of cars and trucks remains a hallmark of American affluence.

How large is the auto industry?

The Automobile Manufacturers Association has estimated that one out of every seven employed persons in the United States is engaged directly in the production, servicing or commercial operation of motor vehicles. Millions of truck drivers and service station employees are included, but the comparison excludes thousands of parking lot attendants, persons engaged in auto financing, highway construction—more than 10 per cent of all construction by value—and workers who produce the machinery and equipment and raw materials used in the manufacture of motor vehicles.

Employment in firms manufacturing motor vehicles and parts in the United States in 1963 averaged about 740,000, 4 per cent of the total for all manufacturing. Because of the intensive use of machinery and equipment, these workers accounted for about 5.5 per cent of total manufacturing output.

The number of motor vehicle workers somewhat exceeds the number engaged in the production of iron and steel, but falls far short of the number in apparel manufacturing or food processing. As in the case of other types of manufacturing, however, comparisons of the size of the auto industry, whether based upon employment or value added in manufacturing, understate its importance.

Large numbers of workers are employed in electrical equipment manufacturing, metal stamping plants, tool and die shops, foundries, forges, steel mills, nonferrous metal refineries, textile mills and mines whose products are used by manufacturers of motor vehicle components. In recent years the motor vehicle industry, including parts and components, has used about 20 per cent of all steel consumed in the United States, 75 per cent of the plate glass, 65 per cent of the rubber, 13 per cent of the nickel, 32 per cent of the zinc and 13 per cent of the aluminum. Inclusion of appropriate proportions of supplying industries would increase the size of the auto industry at least 50 per cent.

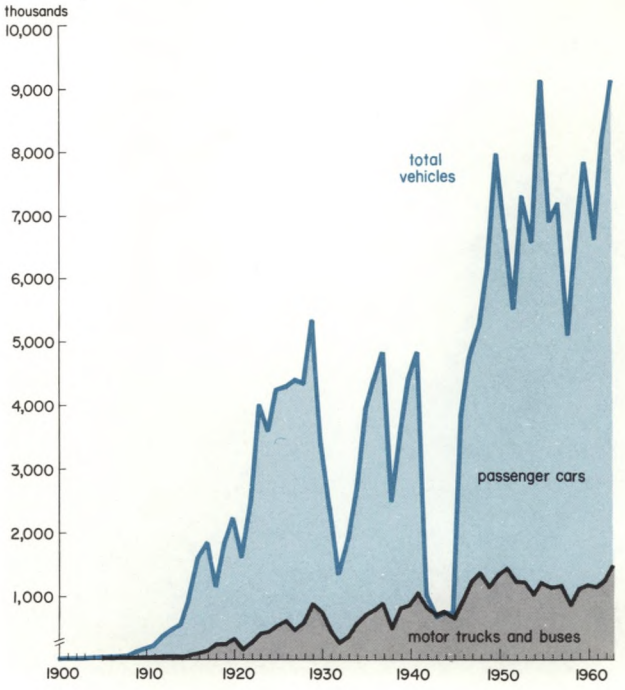
Historical background

Americans did not invent or produce the first gasoline-powered "horseless carriage." French and German pioneers antedated ours by 20 to 30 years. But

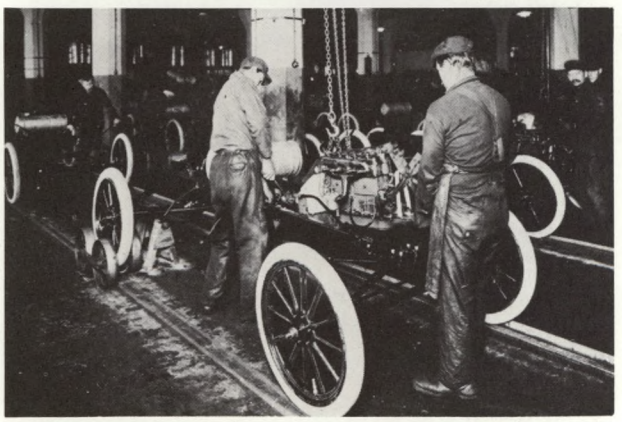
none of these nineteenth century automobiles provided dependable transportation.

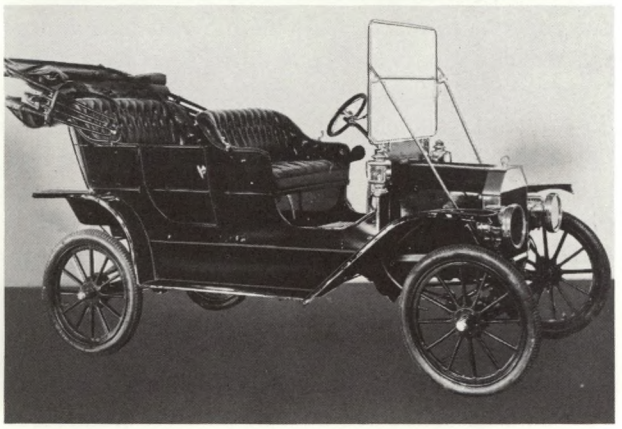
Construction of a practical automobile required the development of a number of key components. Of prime importance was the power plant. While the gasoline engine—based upon the Otto engine developed in Germany in the early 1880's—soon became dominant, electric and steam powered cars held an appreciable share of the market until 1910 and did not disappear entirely until the Twenties. Other requirements were pneumatic tires, cooling systems, steering gear, transmissions and differentials. Various American experimenters, working independently, found solutions to these problems.

Production of motor vehicles has trended upward since early in the century despite sharp year-to-year fluctuations



New techniques pioneered by auto firms made quantity production possible





Between 1893 and 1900 a number of Americans including Duryea, Haynes, Winton, Ford and others drove their primitive cars through the streets of their hometowns in Massachusetts, Indiana, Ohio and Michigan. Firms soon were organized to produce autos commercially. The initiative was taken in some cases by manufacturers of wagons, carriages, bicycles and even sewing and washing machines. Other infant firms were supported financially by businessmen whose funds came from sources unrelated to manufacturing.

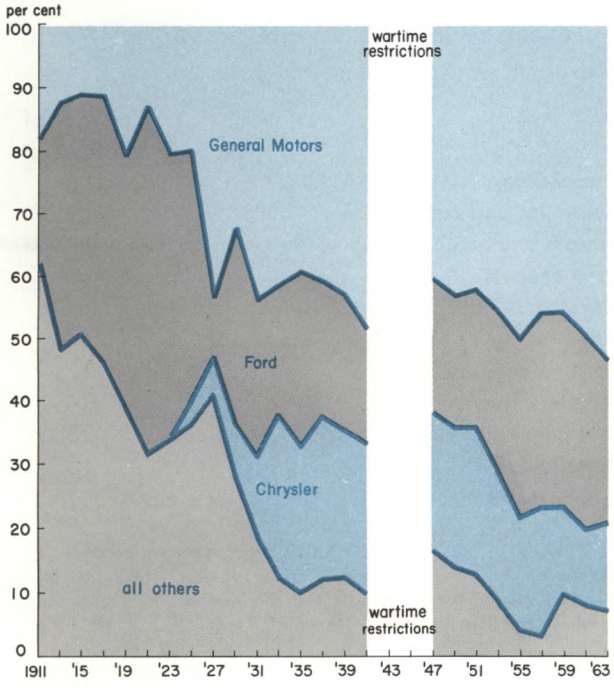
Only 4,000 passenger cars were produced in the United States in 1900, and yearly output did not exceed 100,000 until after the introduction of the inexpensive Model T Ford in 1909. Until then the automobile was still a curiosity, especially in rural areas, but thereafter it became increasingly commonplace. In 1917, output of autos reached 1,750,000 despite some wartime restrictions. For the great majority of American families, car ownership provided their first inde-

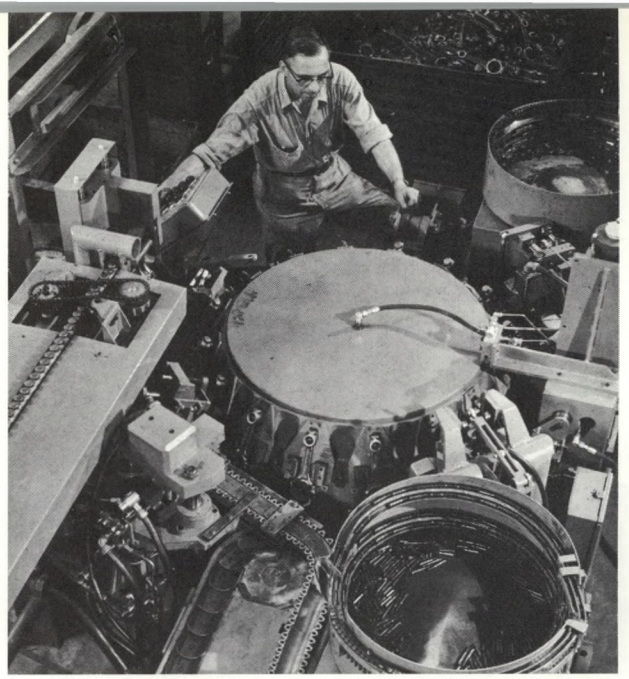
pendent means of transport. In urban areas particularly, ownership of a horse and carriage had been common only among the well-to-do.

As more automobiles were acquired by moderate income urban families and farmers, political pressures for better streets and highways developed. Before World War I most of the nation's highways were merely graded stretches of soil with side ditches, unimproved even to the extent of gravel or crushed rock surfacing and often impassible in rainy weather. Road improvement programs soon were launched by state and local governments. The first Federal highway aid legislation was enacted in 1916, the initial step in a series of actions which culminated in the 41,000 mile interstate highway system authorized in the mid-Fifties. Road improvements encouraged more families to acquire autos, and more autos stimulated the provision of additional servicing facilities. These developments were interrelated and cumulative.

Auto output in 1920 exceeded 1.9 million units, more than half of which were Model T Fords, all incidentally, painted black. General Motors Corp., producing a combination of makes—bearing the same names as today for the most part—accounted for about 20 per cent of production. The remaining 30 per cent was divided among about 80 separate firms!

Three firms in recent years have produced more than 90 per cent of United States passenger cars





A modern machine automatically bolts together parts of connecting rod assembly

The trend toward concentration

Despite substantial expansion of car sales in the Twenties, many manufacturers were unable to continue in production. By 1930 the number of passenger car producers in the United States had fallen to 30. Continued attrition, including the recent suspension of domestic production by Studebaker, has contracted that number to four at the present time, excluding a few firms that manufacture small numbers of specialized autos.

Once large scale production of passenger cars was achieved in the years prior to World War I, concentration in the industry was not a result of consolidation of successful firms, as it had been in other major industries such as steel. Exceptions were the merger of General Motors Corp. with the Chevrolet Motor Company in 1916 and the acquisition of Dodge Brothers, Inc. by the Chrysler Corp. in 1928.[1] Most combinations reflected attempts to salvage firms in financial distress. By far the greatest number of auto producers simply ceased operations after a period of unprofitable years.

Some auto makers were unable to maintain sales because they could not keep up with continually rising quality standards. But the major reason for concentration can be found in various "economies of scale." Large scale production during the Twenties became a requisite for profitable operation, at least in the case of low- and medium-priced cars. Increasingly, producers integrated, undertaking the manufacture of

[1]The Chrysler Corp., chartered in 1923, was the successor of a combination of the Maxwell and Chandler companies.

parts and components to assure sources of supply and obtain the profits earned in these operations.[2]

High volume production permits the cost of necessary capital equipment to be spread over a large number of units. Managerial, development, testing and advertising expenses also are lower per car when volume is high.

Car radios made in Quincy, Illinois, are given quality test checkout

Large scale auto production presupposes widespread consumer acceptance and a far-flung, stable and well-financed dealer organization. The existence of numerous dealerships throughout the nation assures the availability of parts and service and helps maintain used car prices in an active market. This cumulative process, of course, works in reverse for models that are declining in popularity.

During the Twenties the auto industry was approaching maturity. The market for new cars increasingly became a replacement market and dealers were confronted with a new problem, the need to dispose of large numbers of used cars. Instalment credit was generally available much in the manner of today, although on less liberal terms.

Changes in the auto industry since the mid-Twenties have been matters of degree rather than kind. In a mere quarter of a century the auto had changed from an expensive, erratic toy to a reliable, all-weather means of transport for men and goods, displacing the horse from the position it had held since prehistoric times.

Technological progress

Once the basic mechanical problems of automobile design were solved, emphasis shifted to achieving quantity output to satisfy a ready market. The auto industry soon produced the prototype of the hard-driving "production man" who found ways and means of turning out large quantities of complicated goods with a minimum input of materials, manpower and facilities.

Leading reputations were earned by such men as Charles E. Sorenson (Ford), William S. Knudsen (first with Ford then General Motors) and Walter P. Chrysler and Charles W. Nash (both of whom had been top General Motors executives before heading the firms bearing their names). The methods these men evolved soon were put to use in such other manufacturing lines as appliances, farm equipment, construction machinery and military hardware. Moreover, there were apt pupils in Western Europe, Japan and the Soviet Union.

Auto plant managers pressed specialization and the division of labor to a degree previously unknown, so that relatively unskilled workers could help build complicated machines. The moving assembly line, introduced in 1914, was integrated with overhead conveyor systems to keep components flowing continuously to the workers. Suppliers whose shipments lagged were pressured into increasing production to adequate levels. Failing this, auto firms purchased or constructed facilities to produce parts themselves.

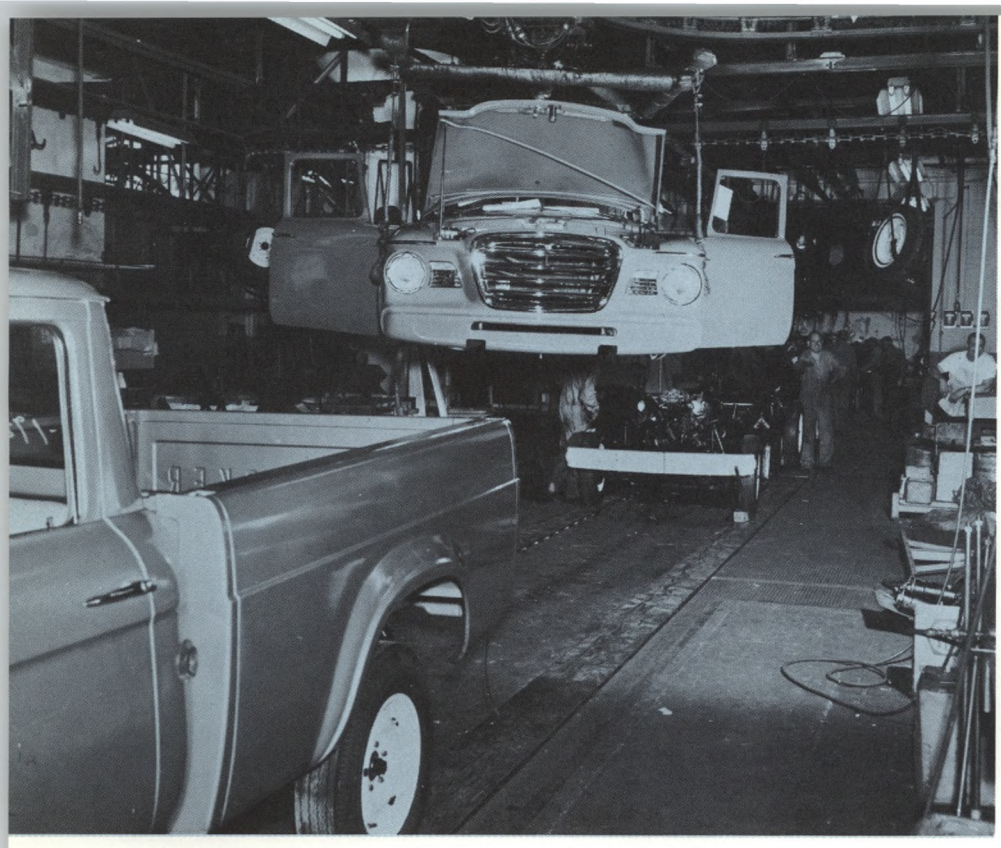
Emphasis was placed upon interchangeability of

Automotive industry's share of World War II output of selected items

	Per cent of total output
Armored cars	100
Scout cars and carriers	92
Aircraft bombs	87
Army helmets	85
Tanks	57
Carbines	56
Machine guns	47
Complete airplanes	10
Land mines	10
Torpedoes	10
Marine mines	3

NOTE: This is not a complete list of "end products" produced by automobile, body and parts factories, nor does it reflect the huge volume of output of components such as vehicle and aircraft subassemblies and parts.

[2]Integration was carried to great lengths by the Ford Motor Co. which constructed or acquired blast furnaces, steel mills, glass plants and even timberlands and mines for raw materials.



Light truck chasis and body about to be joined in South Bend

parts and precision machine work. Where 1/100 of an inch formerly had been good enough for many types of consumer goods, auto designers desired to work with tolerances of 1/1000 or 1/10000. The Society of Automotive Engineers promoted basic engineering standards dealing with the performance and testing of materials and equipment. Technological advance in the metals, rubber, glass, paint and petroleum industries were stimulated by automotive needs.

Such innovations as alloy steels, electric starters, electric lighting, antiknock gasoline, four-wheel brakes, safety glass, automatic transmissions and power brakes and steering and air conditioning followed in a continuing procession as autos became quieter, more comfortable, safer, easier to operate and more powerful. Although substantial research and development efforts went into these achievements, advances in the auto industry almost always represented the application of well-known engineering principles and trial and error methods. Very little use was made of scientific breakthroughs as in the electronics and chemical industries.[3]

The capacity and techniques of the auto industry were of great value to the nation: first in World War I, mainly in the production of aircraft engines and trucks; and then on a much greater scale and in diverse applications in World War II and the Korean War.[4] During these times the Detroit area was referred to as the "arsenal of democracy." In recent years the auto firms have dropped well down the list of principal defense contractors because they did not choose to develop the special capabilities required in the new fields of missiles and space technology.

Industrial structure

Industry analysts for many years have tended to classify the passenger car firms as the "Big Three"— General Motors, Ford and Chrysler—and the "independents" (a meaningless term referring to smaller producers), now represented only by American Motors Corp.[5] During 1963 the Big Three produced more than 92 per cent of all passenger cars in the United States divided as follows: General Motors, 53 per cent; Ford, 26 per cent, and Chrysler, 14 per cent. In 1957, before the resurgence of American Motors, the proportion of output accounted for by the Big Three reached 97 per cent.

Few industries have so large a proportion of production concentrated in so few large firms. Fourth ranking American Motors, often thought of as a small producer, reported annual sales in excess of 1 billion dollars in 1962 when sales of General Motors, Ford and Chrysler were 14.6, 8.1 and 2.4 billion dollars, respectively.

Concentration in truck manufacture is less pronounced than in passenger cars, in part because of the specialized nature of many of these vehicles. In 1963 the truck divisions of the Big Three accounted for 77 per cent of domestic truck production. The rest of the market was shared by a number of producers with the International Harvester Co., the

[3]Unlike many other industries, auto producers have placed their reliance upon know-how and production techniques rather than patents. After the successful litigation to invalidate the Selden patent on the automobile in 1911, virtually all patents related to auto manufacture have been shared on liberal terms.

[4]From September 1, 1939, through September 30, 1945, the automotive industry shipped 29 billion dollars worth of war goods, including 11 billion of aircraft, aircraft engines and parts.

[5]Checker Motors Corp., taxicab producer with an annual volume of about 8,000 vehicles, has sold a portion of its output to private users in recent years.

Welder processes auto frame—one of 70,000,000 made in Milwaukee since 1901

Kaiser Jeep Corp., the White Motor Co. and Mack Trucks, Inc., being the largest.

Each of the passenger car producers has one or more divisions that manufacture nonautomotive products including household appliances, locomotives, construction machinery and farm equipment. In each firm, however, the nonautomotive lines account for only a minor portion of total dollar volume.

At the present time all major passenger car producers manufacture their own engines, bodies and certain other important components, but a substantial portion of the frames, brakes, transmissions, axles, wheels, engine blocks, window glass, radios, heaters, bearings and other items are purchased from independent suppliers. No auto firm produces tires at present, although Ford once did. Many independent firms in Detroit and elsewhere supply the industry with castings, dies, upholstery, seat belts and other needs. General Motors Corp. stated recently that it buys materials, parts and services from 30,000 separate suppliers.

In some cases auto firms produce a portion of their needs of a given component and purchase requirements in excess of their capacity. This practice has tended to cause the business of some suppliers of auto parts to be highly volatile. On the other hand, some types of component manufacturing are rendered more stable by the demand for replacement parts which is largely independent of fluctuations in new car output. In recent years 62 per cent of the headlights, 67 per cent of the tires, 77 per cent of the

Employment in the motor vehicle industry in the United States and Midwest states*

	United States		Michigan		Ohio		Indiana		Wisconsin		Illinois	
	Thousands	Per cent	Thousands	Per cent	Thousands	Per cent	Thousands	Per cent	Thousands	Per cent	Thousands	Per cent
1947	768	100	422	55.0	. .	. . .	61	7.9	31	4.2	26	3.4
1948	781	100	433	55.5	. .	. . .	66	8.5	31	3.8	23	2.9
1949	751	100	430	57.2	54	7.2	64	8.5	31	3.5	19	2.5
1950	816	100	468	57.3	65	8.0	60	7.4	35	3.3	21	2.6
1951	833	100	473	56.8	73	8.8	76	9.1	36	3.8	22	2.6
1952	778	100	435	55.9	75	9.6	76	9.8	29	4.1	21	2.7
1953	917	100	503	54.8	84	9.2	78	8.5	29	3.5	23	2.5
1954	766	100	417	54.5	72	9.4	55	7.2	23	4.2	19	2.5
1955	891	100	467	52.4	82	9.2	68	7.6	31	3.6	21	2.4
1956	793	100	412	52.0	78	9.8	60	7.6	28	3.8	21	2.6
1957	769	100	388	50.4	80	10.4	61	7.9	28	3.9	20	2.6
1958	607	100	288	47.5	68	11.2	48	7.9	29	4.8	19	3.1
1959	692	100	303	43.8	85	12.3	59	8.5	39	5.6	21	3.0
1960	724	100	311	42.9	89	12.3	59	8.1	43	5.9	20	2.8
1961	633	100	274	43.3	80	12.6	54	8.5	35	5.5	18	2.8
1962	692	100	318	46.0	89	12.9	59	8.5	41	5.9	20	2.9

*Annual averages.

Assemblies of passenger cars by states

	Rank in 1963	1953	1955	1957	1959	1961	1963
				(per cent)			
Michigan	1	35.8	34.1	34.7	28.0	32.6	33.2
Missouri	2	9.7	8.1	7.7	7.9	10.6	10.0
Wisconsin	3	4.1	4.7	4.7	10.1	10.2	9.7
California	4	9.4	10.1	10.2	8.5	9.3	9.4
New Jersey	5	5.0	6.3	6.7	6.5	7.9	6.8
Ohio	6	3.3	2.1	2.4	5.5	6.6	5.6
Georgia	7	4.3	5.2	5.1	5.8	4.2	4.7
Delaware	8	1.7	2.1	1.9	3.8	3.4	3.3
New York	9	4.2	4.4	4.6	3.3	2.5	3.1
Maryland	10	3.2	2.7	2.7	2.9	2.2	2.3
Texas	11	1.5	3.6	3.4	2.7	1.9	2.3
Kansas	12	2.9	2.8	1.9	2.1	1.5	2.3
Illinois	13	1.5	1.6	1.8	1.9	1.7	1.6
Minnesota	14	1.3	1.4	1.5	1.7	1.3	1.5
Kentucky	15	1.0	1.3	1.6	1.4	0.7	1.2
Massachusetts	16	2.3	2.8	1.6	0.8	1.1	1.1
Indiana	17	5.1	3.2	3.6	3.9	1.2	1.0
Virginia	18	1.3	1.2	1.2	1.2	0.9	0.9
Pennsylvania	19	1.3	1.1	1.3	1.5	0.2	..
Tennessee	20	1.1	1.2	1.4	0.5	..	..
Total		100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: ***Automotive News Almanacs*** for various years.

mufflers and 90 per cent of the spark plugs produced in the United States have been sold as replacements rather than original equipment.

The Big Three produce cars in a variety of price lines ranging from the low-priced "compacts" to luxury models. These divisions are given a large measure of autonomy and compete with one another as well as with other firms for consumer acceptance of their products. A decade or so ago many industry observers believed that survival required every auto producer to have a strong position in each price bracket. Casualties throughout the history of the industry—Kaiser-Frazer, Packard and Hudson in the postwar period—seemed to support this view. During the past six years, however, the expansion of American Motors (formerly Nash)—which concentrated on compact cars—has called this view into question.

The geography of the auto industry

Why did the Detroit-Flint area become the center of automobile production? Other cities, such as Chicago, Cleveland, Indianapolis and Toledo had equal or superior advantages of location with relation to raw materials, labor supply and markets.

Several reasons can be given. First, the Detroit area was a center of carriage manufacturing and possessed a considerable number of small but capable machine shops. Second, two of the early autos, those of Charles King and Henry Ford, were built and tested in Detroit. But this much could be said for a number of other centers.

It appears, therefore, that Detroit's preeminence stems largely from the vigorous management and promotion of individuals such as R. E. Olds, Henry Ford and his associates, and William C. Durant. Their efforts were backed by small amounts of local capital and the willingness of local firms to supply components on credit at some risk.

Once established, concentration in the Detroit area snowballed because of the extensive automotive experience of engineers, machinists, tool and die makers and foundrymen in the area. In some cases the equipment of entire factories making components or cars in other centers was moved to Detroit.

In 1909, the first year of the Model T, 51 per cent of all passenger cars assembled in the United States were made in Michigan. Indiana was second with 14 per cent and Ohio third with 11 per cent. The following year the first branch assembly plant was established by the Ford Motor Co. in Kansas City. Many other assembly plants were added in subsequent years, mainly because it was cheaper to ship parts than finished cars but also to utilize local labor and to gain

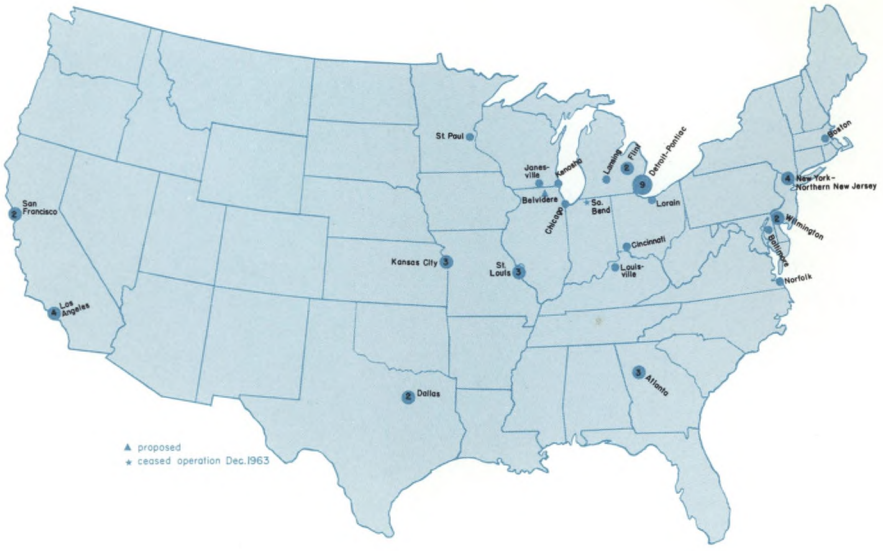
Auto bodies are trucked from plant in Milwaukee to assembly line in Kenosha

goodwill in the areas in which plants were located. Thus, while concentration among producers was proceeding, the larger auto firms were beginning to decentralize assembly operations.

Currently, 1964 models are being assembled in 45 plants in 17 states. During the 1963 model year, 33 per cent of all passenger cars were assembled in Michigan. Missouri and Wisconsin each accounted for about 10 per cent of the assemblies; California had 9 per cent and New Jersey ranked fifth with 7 per cent.

The proportion of assemblies accounted for by the various states does not necessarily measure the importance of the contribution of these states to automobile manufacturing. Michigan, Ohio and Indiana assembled 40 per cent of the cars in 1963 but had 67 per cent of total industry employment. This is mainly because large quantities of components made in these states are shipped elsewhere for assembly. Moreover, many of the workers in the primary metal and metal fabricating firms that supply the automotive industries live in these states.

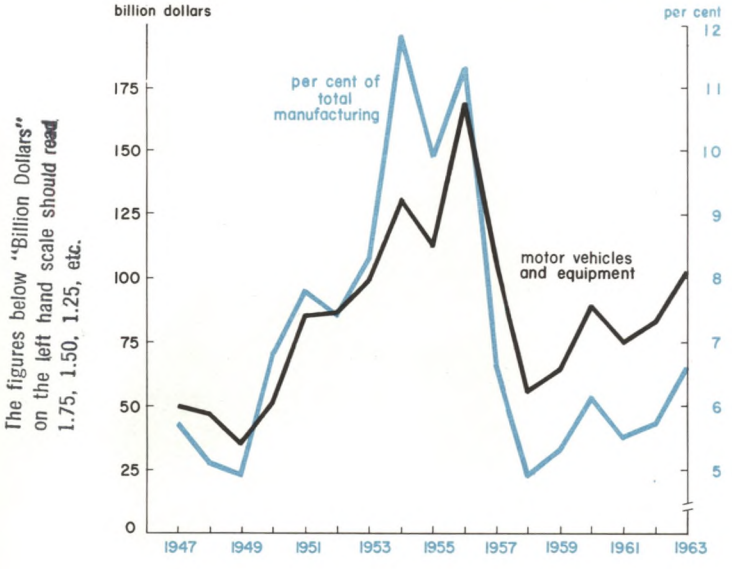
Passenger car assembly plants now located near most large population centers



Since World War II the motor vehicle industry has spent 15 billion dollars for new plant and equipment. This is 7 per cent of the total for all manufacturing, although automotive output accounted for only about 5.5 per cent of all manufacturing output. Data are not available for all postwar years but for the period 1958 through 1961 capital outlays in individual states were roughly in proportion to the current employment in those states. For example, 64 per cent of the capital outlays were for facilities in the three-state area of Michigan, Ohio and Indiana.

Michigan's share of total auto industry employment declined during much of the postwar period, a trend which appears to have been reversed recently. In 1949 Michigan had 57 per cent of all motor vehicle workers, probably near the all-time high. This share declined steadily to a low of 43 per cent in 1960. It rose to 46 per cent in 1962, however, and about held this proportion in 1963. The proportion of cars assembled in Michigan reached a low of 28 per cent in the 1959 model year but rose to 33 per cent in the 1963 model year.

Capital expenditures of motor vehicle firms have been rising in recent years but remain well below previous highs



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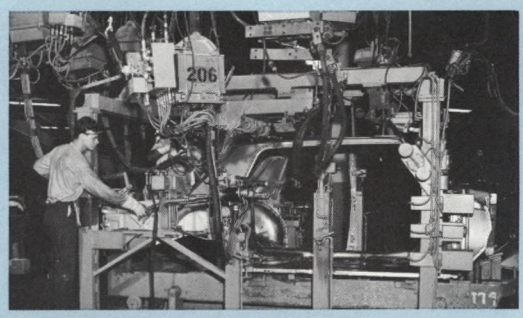
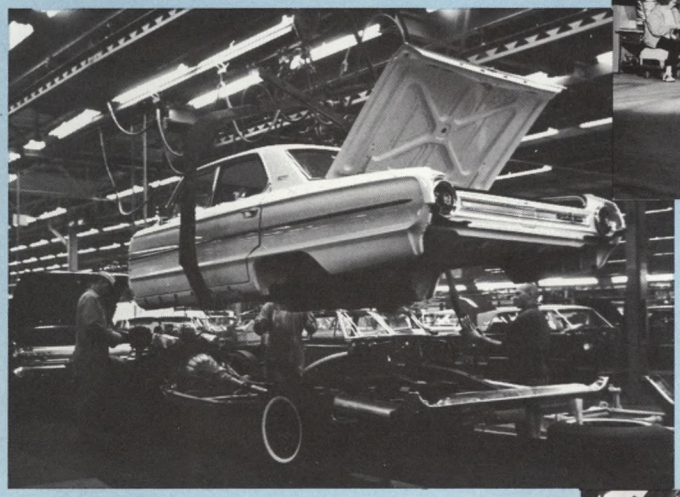
A high wage industry

The auto assembly line where each worker performs a single repetitive operation such as placing a



Auto components and subassemblies are fabricated in many Midwest centers



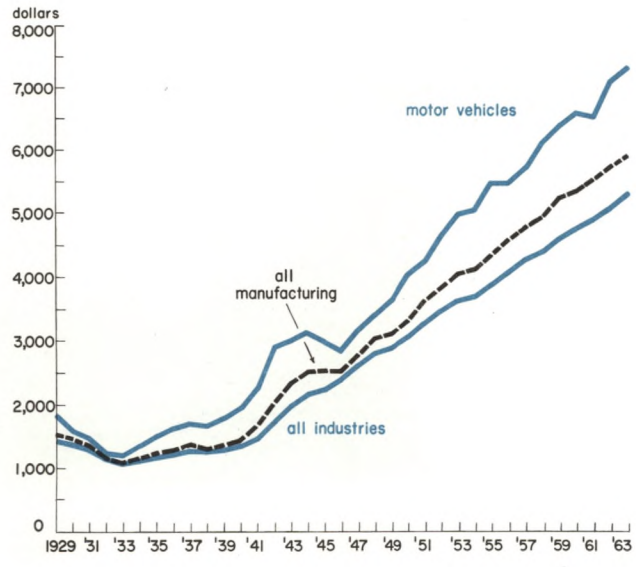
Parts are merged at final assembly line —symbol of American mass production

wheel on an axle or tightening a single bolt long has served as a caricature of modern mass production. Actually only a minority of the auto industry's jobs are of this type. Much of the automotive production labor force consists of such workers as foundrymen, welders, painters and inspectors who need both training and skill. Moreover, development of new models requires the talents of designers, draftsmen, engineers, machinists and makers of tools and dies for metal presses and patterns for castings.

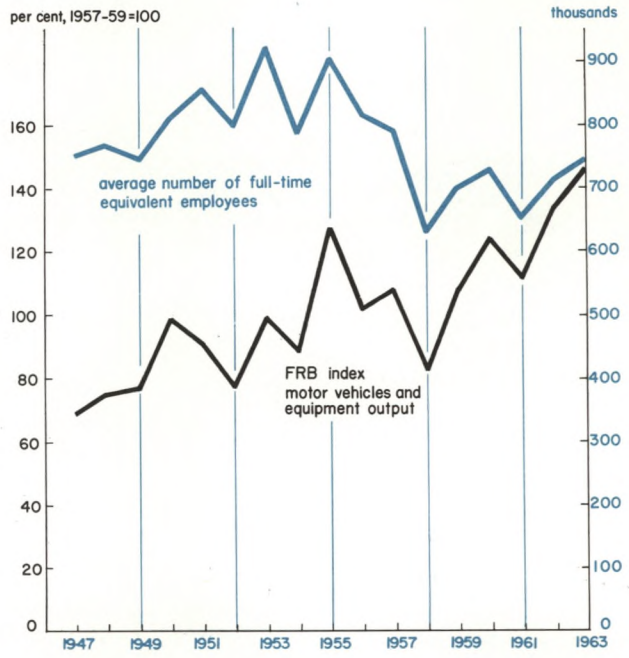
High wages always have been paid by the auto industry. Since the mid-Thirties strong unions have played a part in maintaining this relationship. Industry contracts with the United Automobile Workers together with those between the United Steel Workers and the steel firms often have set the pace for labor contracts in other, not necessarily related, fields. But factors other than collective bargaining have been at work.

Employment in the auto industry expanded sharply until 1929, again in World War II and the first decade thereafter. Through the years, of course, there have been large seasonal and cyclical fluctuations. It has been necessary, therefore, to pay high wages to attract and maintain a competent work force. At various times, most recently in 1955, auto firms have recruited workers in the South and other areas remote from the major auto centers.

Annual earnings of motor vehicle workers have been well above the average for other industries



Output of the motor vehicle industry was at a record level in 1963 but employment was well below past peaks



Detroit's population in 1900 was equal to that of Milwaukee and was only one-sixth as great as that of Chicago. Thirty years later Detroit's population was almost three times as large as Milwaukee and one-half as large as Chicago. Between 1900 and 1930 Michigan's population rose 100 per cent while the nation's increased 60 per cent. Between 1930 and 1960 the comparable increases were 61 and 45 per cent, respectively.

Clearly the rapid growth of the Detroit area and of Michigan has reflected the expansion of the automotive industry. It has been estimated that 30 per cent of Michigan's population growth between 1900 and 1930 was the result of net migration from other states while 13 per cent was traceable to net migration from foreign countries. Many of these new residents would not have moved to Michigan but for the availability of jobs at high wages.

Early in 1914 the Ford Motor Co. made the dramatic announcement that, thereafter, the minimum daily wage, even for those who "sweep the floors," would be $5 and the working day would be cut from nine to eight hours. The hourly rate became 63 cents at a time when average hourly earnings in all manufacturing were only 22 cents.

Average hourly earnings in the motor vehicle industry during 1963 were $3.09, exclusive of fringe

benefits, 26 per cent more than the $2.45 average for all manufacturing. Of course, auto workers often lose time because of shutdowns, but no more so than in many other industries. Annual earnings per full-time employee in 1963 were 25 per cent above the average for all manufacturing.

Unemployment in Michigan was substantially below the national average in 1955 when auto output far exceeded previous records. Three years later when the industry slumped sharply, the percentage of labor force unemployed in Michigan was double that of the nation. Not until auto output reached a new high in 1963 did Michigan's unemployment again fall below the national average. The problem had been intensified after 1955, not only by lower levels of auto output but also by the decline of defense work in the area, the relative rise in auto employment in other states and the continued progress in mechanization and automation of production in the industry.

Output of the motor vehicle and equipment industry in 1963 exceeded 1955 by more than 14 per cent, but the average number of full-time equivalent employees, allowing for overtime and part-time workers, was 19 per cent less. The industry produced 10.1 vehicles per worker in 1955, a record up to that time. In 1963 there were 12.3 motor

Flint, population 374,000 in 1960, specializes in motor vehicles and parts

The great industrial complex on the River Rouge at Dearborn contains blast furnaces, a huge power plant and dock facilities

vehicles produced per worker.

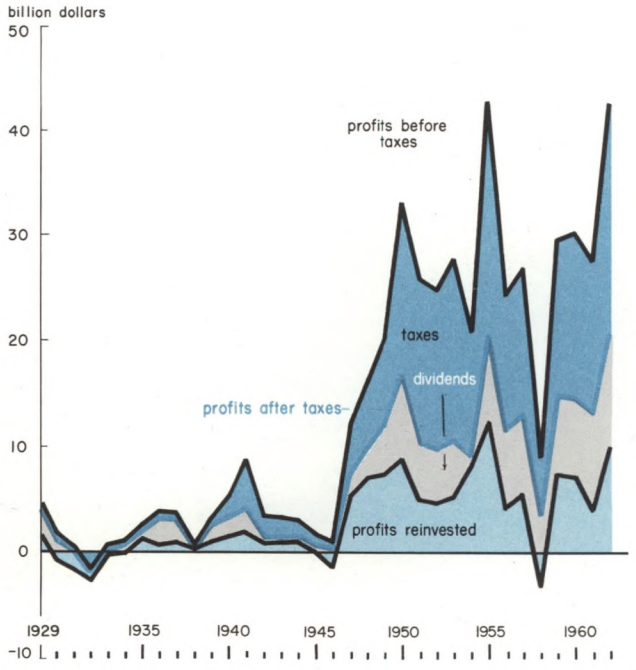
Larger production with relatively smaller labor input in nearly all industries has made possible this nation's extremely high standard of living, and further gains are inevitable. Nevertheless, achievements of mechanization in reducing human toil unfortunately often are associated with temporary hardship for those who must find other jobs.

Financing production and distribution

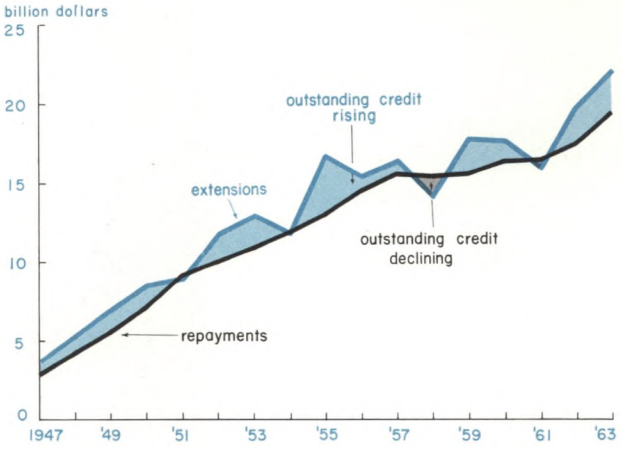
The huge investment necessary to begin the manufacture of automobiles has long been considered a deterrent to the establishment of new firms. At the outset this was not the case. The giant firms of today began their operations with very little capital, and growth came largely through reinvestment of earnings. Relatively little use was made of capital markets or bank loans to finance production. Outside funds, however, were employed extensively in connection with reorganizations and consolidations.

Among the main capital investments required by an auto manufacturer in the beginning were a building, often rented, and simple tools and apparatus to assemble the components obtained from suppliers. When auto output was measured in thousands rather than millions of units, parts could be manufactured

Retained earnings have financed a large share of auto industry investments in the postwar period



Extensions of auto instalment credit have exceeded repayments in all but four postwar periods



with the existing facilities of carriage and bicycle producers, foundries and machine shops in or near the automotive centers. These enterprises were prepared to manufacture components to specifications and ship on the basis of 30 to 90 days credit as was commonly offered to other customers.

Finished cars were shipped at once, normally by rail, with sight drafts attached to the bills of lading. Not only were dealers ready to pay cash on delivery, but often made advance payments in the form of deposits. In most cases the time necessary to build cars and ship them to dealers was less than 30 days—the minimum credit term obtained from suppliers.

With some modifications, trade practices developed in the early days of the auto industry remain in effect today. (One difference is that some producers now allow dealers 15 days to pay for cars.)

Although many auto producers were forced to suspend operations, profits mounted enormously for others. Even after payment of generous dividends, the funds obtained in this manner were sufficient to finance most of the rapidly expanding investment in facilities and for working capital.

In only one year, 1932—when motor vehicle output dropped to a quarter of the 1929 level—did auto firms as a group lose money. During the postwar period the industry's profits averaged almost 12 per cent of the total for all manufacturing, although these firms accounted for less than half this proportion of total value added by manufacturing. About half of the postwar earnings after taxes have been retained and reinvested.

Commercial banks have contributed indirectly to

the auto industry's working funds from the earliest days through loans to dealers, to sales finance companies and to purchasers of cars. When dealers pay cash for new cars, they commonly rely on borrowings from banks or finance companies for "floor plan" financing to carry the inventory until the vehicles are sold.

Consumer instalment credit became a significant factor in auto sales in the Twenties. Earlier, credit had been used mainly for sewing machines, pianos and sets of books—goods that were expected to last a lifetime and could be repossessed and resold if payments were not made. But with automobiles the problem was more complicated: the purchase price was relatively high, the product was subject to destruction through collision, rapid deterioration resulting from improper maintenance or disappearance through theft or fraud. A whole new craft of lending had to develop.

Dealers during the early Twenties held 80 per cent of the auto loans. The share of total credit held by sales finance companies did not exceed that of dealers until 1926. Commercial banks did not hold more than 10 per cent of all consumer auto paper until 1936. Sales finance company holdings grew more rapidly than commercial bank holdings until 1956. After that bank holdings grew more rapidly, and in the fourth quarter of 1963 commercial banks held 51 per cent of all auto credit compared with 37 per cent for sales finance companies, almost exactly reversing the 1955 relative positions of these institutions.

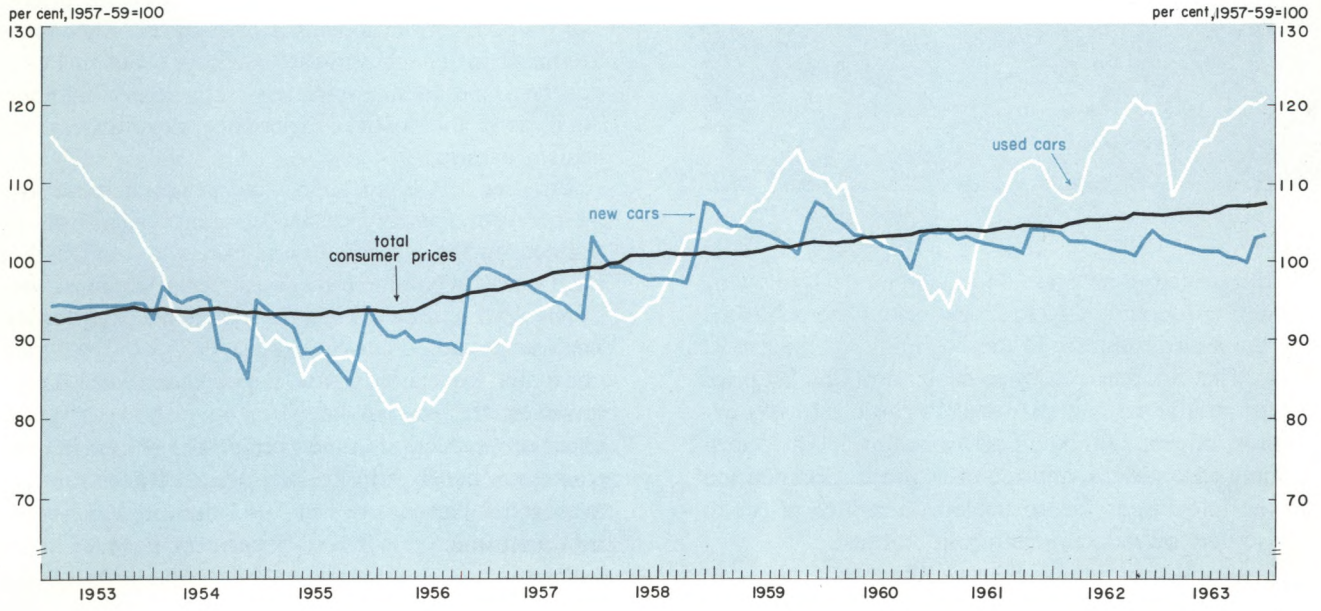
About 60 per cent of all new cars have been purchased on credit in recent years. The peak postwar year was 1956 when 67 per cent were financed. Since 1955 the maturities of loans on new autos commonly have been as long as 36 months and maximum loans have been equal to total dealer cost. The easing of credit terms that occurred in 1955 helped to establish a sales record that stood until 1963. When the maximum maturity of loans is lengthened, monthly payments are reduced, making it possible for persons with lower incomes to purchase new cars.

Auto credit extensions during the past five years have amounted to about 35 per cent of total new consumer instalment credit. Car loans typically are for longer maturities than other types of instalment credit, and hence, now amount to about 40 per cent of all instalment credit outstanding. In 1963 about 22 billion dollars of auto credit was extended, up 13 per cent from the previous record high in 1962.

Price trends and policies

Sharp price reductions brought the automobile within reach of the moderate income family in the period of rapid growth after 1908. Despite quality improvements between 1909 and 1922, the price of the Model T Ford was reduced from $950 to $295 in successive stages, while production rose from a few thousand units to 1.3 million. Meanwhile, the consumer price index had advanced about 70 per cent.

New car prices have changed little in recent years while used car prices have strengthened

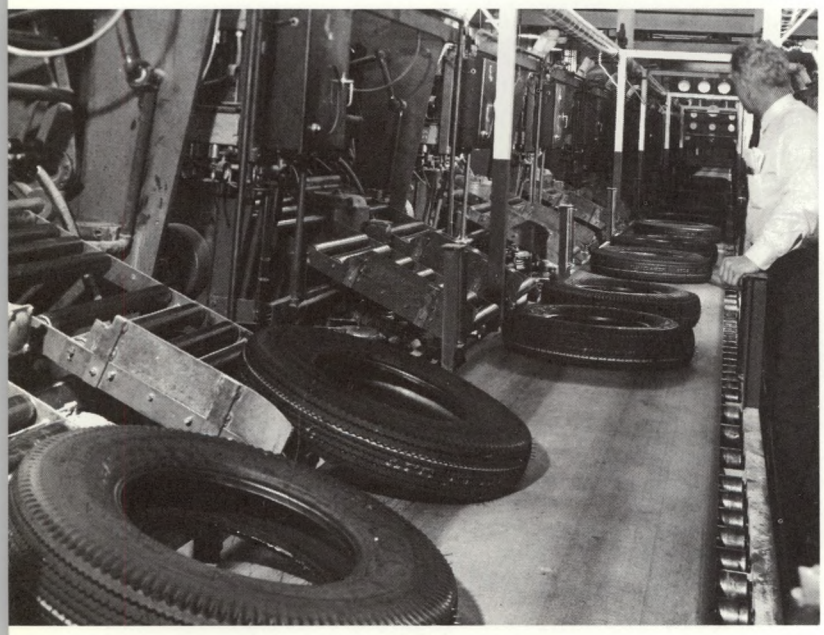


Manufacturers of other makes also cut prices during this period, although many of them placed greater emphasis upon improvements and new features.

New car prices during the Twenties and Thirties changed relatively little except for some reductions during the Depression. After World War II, however, car prices increased sharply as a result of strong auto demand and a rise in the general price level.

In the early postwar years, at least until late 1948, most makes of cars sold on the "used car" market for more than their list prices. This was because manufacturers were reluctant to raise prices to the full level the market would bear, expecting an adverse consumer reaction when backlogs of demand were satisfied. Shortages for some makes were prolonged by Government restrictions placed on production during the Korean War. Not until 1953 were all restrictions on car production removed.

Auto tires are unloaded from vulcanizing units in Des Moines



"Suggested retail prices" for each model—allowing dealers a discount of 20 to 25 per cent—are published by the auto producers at the beginning of the model year. The difference between dealer cost and list price measures the amount that dealers can use to pay expenses, offer as discounts or over-allowances to customers on trade-ins, and retain as profit. Competition in the mid-Fifties forced dealers to reduce prices to consumers by reducing net profit margins.

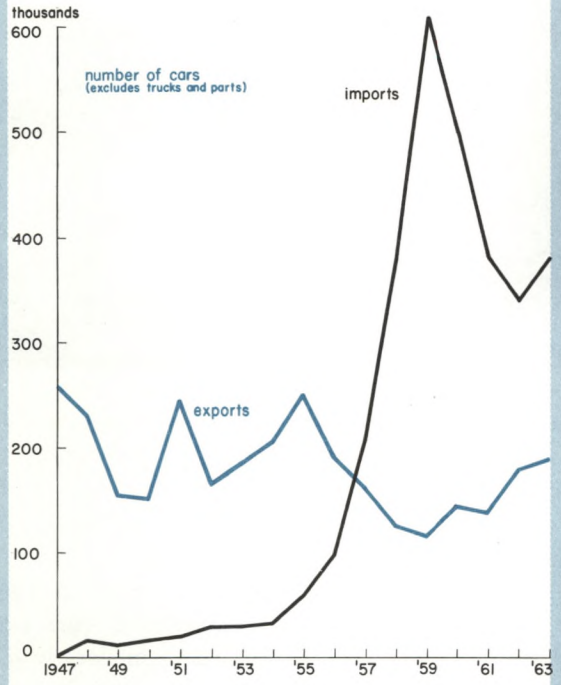
List prices normally are not changed during the model year although bonuses and rebates offered to dealers, particularly during the clean-up period at the end of the model year, enable them to reduce prices on unsold inventory without incurring losses. Since wholesale prices remain relatively fixed during the model year and costs usually are firm for the same period, high sales for a given make can produce very large profits for producers while disappointing sales mean low profits or deficits.

This modern shopping center has space for 7,400 cars

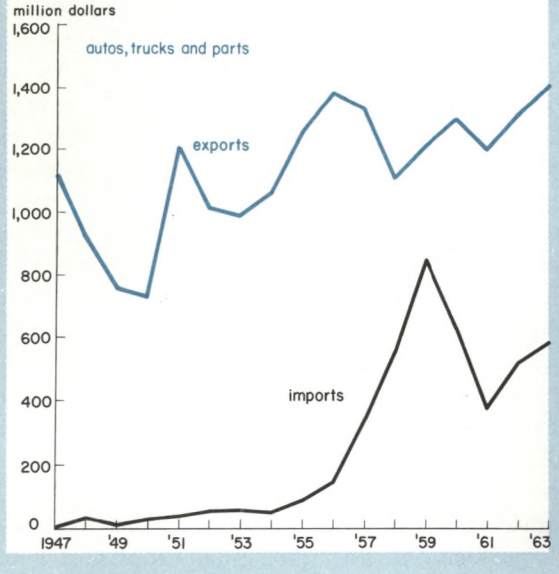
Comparisons of car prices over long periods of time are not very meaningful, and even short-run comparisons must be used with caution. Vast changes have occurred in weight, style, power, comfort and equipment. Moreover, some features once offered as "extras" have become standard equipment. Before the Twenties, even such basic items as headlights, folding tops and spare tires were offered as optional equipment and were not included in basic car prices. For purposes of the consumer price index, allowances are made for changes in the "package," but this cannot be done in a completely satisfactory manner. Analysis of the postwar experience, nevertheless, reveals a pattern.

Between 1947 and 1955, auto prices at retail rose 32 per cent (partly because of a rise from 7 to 10 per cent in the manufacturers' excise tax and higher local taxes) while the total consumer price index rose 20 per cent. Car prices in 1959 reached a peak for the postwar period 16 per cent above 1955 while the total consumer price index rose 9 per cent. Since 1959, however, the pattern has been reversed, partly because of a reduction in the average size of cars in contrast with increases in previous years. Prices for cars averaged 2 per cent less in 1963 than in 1959 while total consumer prices rose 5 per cent between these years.

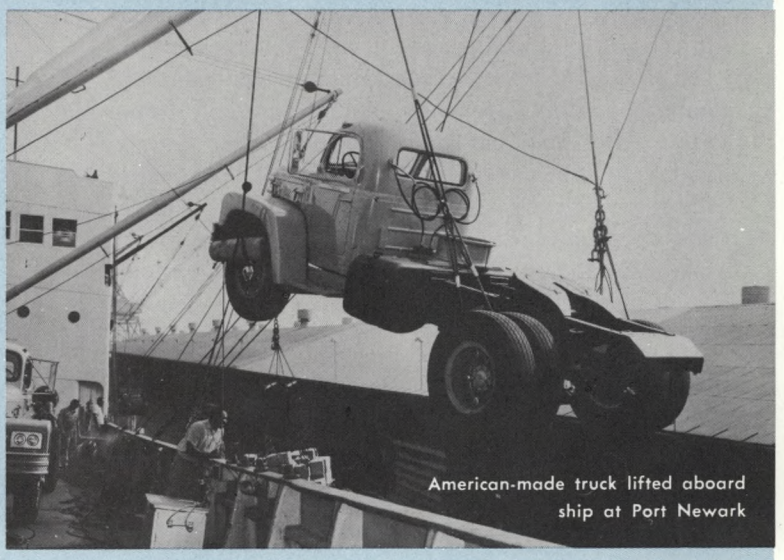
Passenger cars imported in recent years remain well above number exported, despite decline from 1959 peak . . .



But the value of cars, trucks and parts exported substantially exceeds the value of imports



Crates of "knocked down" autos ready for shipment to Europe from Kenosha



American-made truck lifted aboard ship at Port Newark

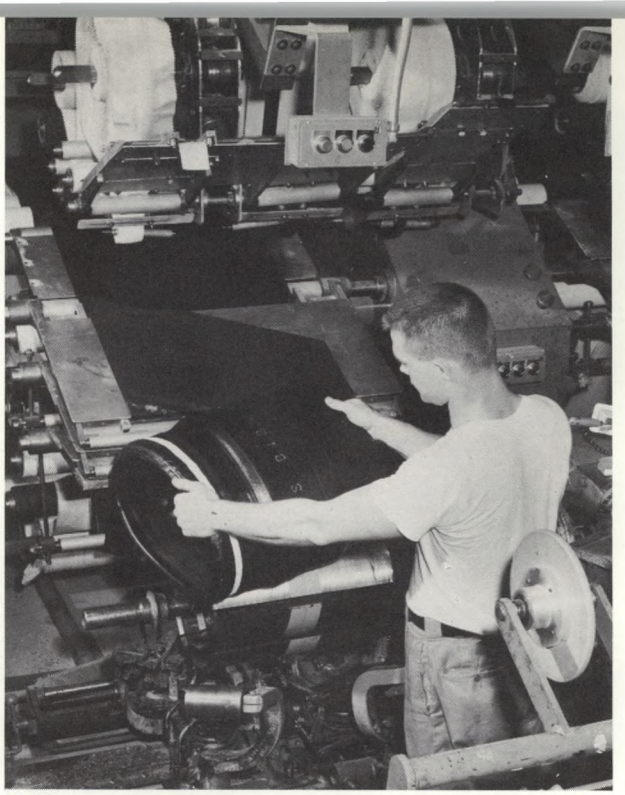
Milwaukee receives autos by car ferry from Michigan

Exports and imports

The ability of American producers to turn out serviceable cars and trucks cheaply, opened substantial markets abroad during the Twenties. The larger producers also established production facilities abroad particularly in Canada, Germany, Great Britain and France, with parts often supplied from the United States.

Almost 10 per cent of the passenger cars and 30 per cent of the trucks produced in the United States were exported during the late Twenties. These shares declined in the Thirties and dropped further after World War II. In 1962 exports of cars were less than 3 per cent of domestic production and exports of trucks, about 11 per cent. Higher prices, larger size and more elaborate equipment—coupled with import restrictions on American goods abroad—contributed to the decline of auto exports.

A driblet of foreign passenger cars, mainly higher-priced luxury models, had entered the domestic market since early in the auto era. But as recently as 1955 imports accounted for only about 1 per cent of auto sales. After that year imports began to rise sharply, with very small cars in the lead and took 9 per cent of the domestic market at the peak in 1959. Lower prices and operating costs made foreign cars attractive to many Americans. These factors became increasingly significant between 1955 and 1959 as the size and cost of most domestic makes increased.



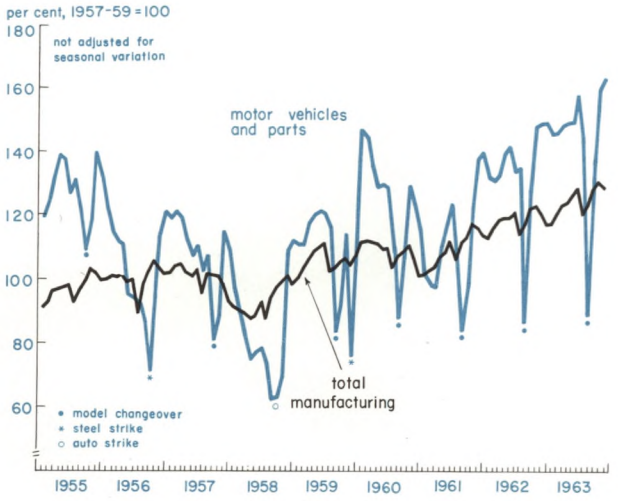
"Green" tire is removed from tire-building machine in new factory near Fort Wayne

Foreign car popularity began to wane in 1960 mainly because of the newly introduced American-made "compact" cars which were smaller, lower-powered and less fully equipped than models previously available. In 1962 the share of the United States market taken by imports dropped to less than 5 per cent, and 1963 saw only a slight increase in this proportion.

Between 1947 and 1958 the value of passenger car exports exceeded imports by an average of 400 million dollars per year and constituted a major source of foreign exchange earnings for this country. The rise in auto imports and the decline in exports reversed this relationship in 1959 and in 1960. In these two years combined, the value of auto imports exceeded exports by 400 million dollars. With the rise of domestically produced compact cars, this trend was reversed again. For 1961 and 1962 combined, the value of exports exceeded imports by 200 million dollars, although the number of imports continued to surpass exports. Higher average prices of American cars, together with exports of parts, some to go into assemblies abroad, more than make up the difference.

Exports of trucks and parts have been larger than exports of passenger cars and parts throughout the postwar period. Since imports of trucks have not been a large factor at any time, total exports of motor

Motor vehicle production varies much more than total manufacturing and has been relatively high in 1962 and 1963



vehicles and parts have substantially exceeded imports in each postwar year. The net export surplus from motor vehicles was at a low for the postwar period in 1959—370 million dollars—and has exceeded 800 million dollars in each of the last three years.

Postwar trends in production and sales

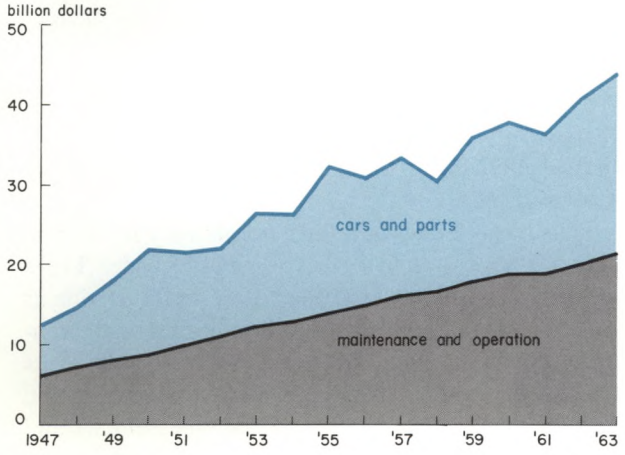
Since World War II the number of trucks in use in the United States has doubled while the number of passenger cars has more than doubled. There was a substantial backlog of demand for vehicles of all types at the beginning of the period. From early 1942 to late 1945, trucks were produced only for the armed services and for essential civilian needs. No passenger cars were produced at all. Potential buyers avidly awaited the end of the drought. Incomes and assets had risen, debts had been paid down and many millions of individuals were able and ready to buy. In the face of heavy demand there were difficulties in increasing production of cars in the early postwar years. As a result, auto sales and output continued to rise in 1949 when the general economy experienced its first postwar dip in activity.

During the business recessions of 1954, 1958 and 1960, there were no "backlogs" of demand, and auto sales declined relatively more than general business, similar to the experience of the Thirties. The auto industry tends to be highly cyclical because the purchase of a new car is "postponable" in most cases. For most families a large outlay relative to income is involved. When incomes decline or become uncertain, there is a tendency to defer purchases of cars and other durables, especially if credit is required. Production and sales of trucks tend to rise and fall cyclically like other producers' durable goods.

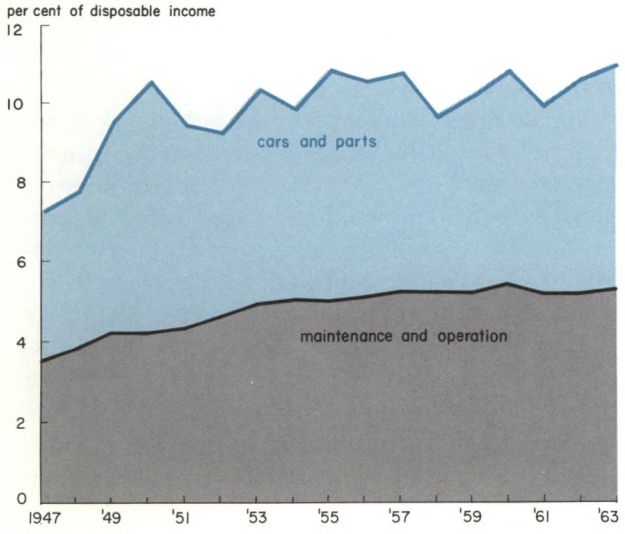
Consumer expenditures on autos and parts between 1957 and 1958 declined 19 per cent while total outlays on goods and services rose 3 per cent.[6] Auto

Detroit's Cobo Hall, dedicated in 1960, has extensive rooftop parking facilities

Consumer outlays on cars, maintenance and operation have risen steadily . . .



and now average more than 10 per cent of after-tax income



[6]Important work stoppages reduced output in 1958, causing a greater decline in auto sales than would have occurred otherwise.

sales between 1960 and 1961 dropped 9 per cent while total consumption expenditures again rose 3 per cent.

In 1963 a record 7.7 million cars were sold—about 80 per cent to consumers who spent 5.7 per cent of their personal disposable income on autos and parts. The previous high had been set in 1955 when 7.4 million new cars were purchased, and expenditures on cars and parts amounted to 6.7 per cent of disposable income. Although the proportion of spendable income devoted to autos in 1963 was somewhat above the 5.3 per cent average of the past 10 years, the excess was not large and a sharp drop in new car sales in 1964 is not anticipated if total employment and income continue to rise.

Future of the auto industry

Ten years ago it appeared to many industry analysts that the "normal" market for new cars was in the 4.5 to 5 million range. The moderate decline associated with the recession in 1954 and the tremendous volume of sales in 1955 raised the industry's sights appreciably, but long-run optimism was tempered by the greater-than-expected drop in 1958. At the present time the common expectation is for sales to average somewhat above 7 million during the next few years. Some industry executives, however, are convinced that 1964 will see sales close to the 1963 level and long-run growth factors should push the total beyond the 8 million mark by the end of the current decade.

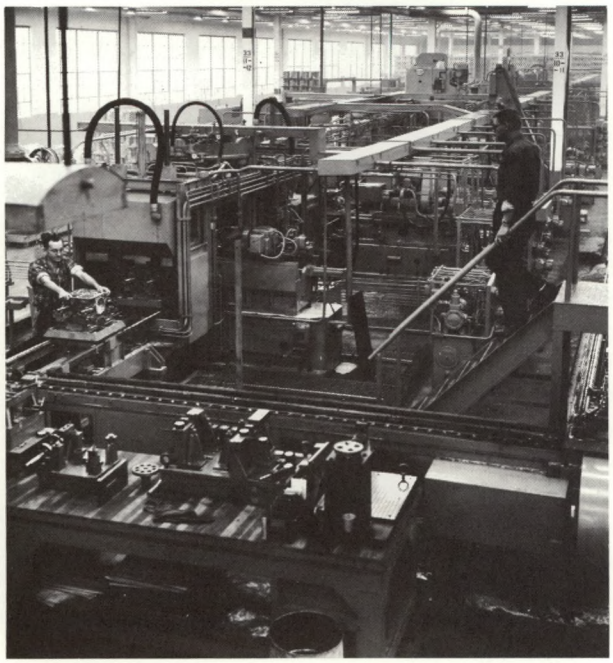
Some highway auto transports travel part of their way by rail

Thus far in the Sixties, the auto industry has shown greater stability than in the previous decade. There has been no great upsurge as in 1955 nor a decline as in 1958. There has been no drastic easing or tightening of credit terms or availability. By broadening its product line, the industry appears to have confined the import market largely to special types of cars and to miniatures that apparently cannot be produced economically in America. Exports of autos are now so small a proportion of domestic production that the industry will suffer little even if further restrictions against importation of American vehicles are imposed abroad.

A number of factors are working to stabilize production and employment throughout the year. Producers have become more cautious in building dealer inventory beyond the needs indicated by short-term sales forecasts. This practice has helped improve dealer profit margins and has reduced swings in production. There has been, moreover, a greater tendency to vary average hours worked per week in the factories rather than the number of employees, partly because of the higher cost of unemployment benefits.

These developments doubtless will help to reduce the volatility of the auto industry. Nevertheless, the nature of the industry's product will continue to make it highly sensitive to general economic conditions even if business recessions continue to be mild.

In Muncie, a 179-foot machine automatically performs 200 operations on transmission case



What of the geographical concentration of the motor vehicle industry? Between 1950 and 1960 Michigan's decline in relative importance was accompanied by increases in other states, principally Ohio, Wisconsin and California. This decline was followed by increases in Michigan's proportion in 1961 and 1962, but there is little likelihood that Michigan will regain its earlier position. At present Michigan continues to have almost three times as much auto employment as Ohio, the second ranking state.

Demand will rise

Traffic congestion and inadequate parking facilities threatened to throttle further expansion in the number of motor vehicles on the road after the mid-Fifties. This prospect has been alleviated by the massive Federal interstate highway system, still only partly completed, and by the many programs of state and local governments and private firms to construct new facilities and improve the flow of traffic.

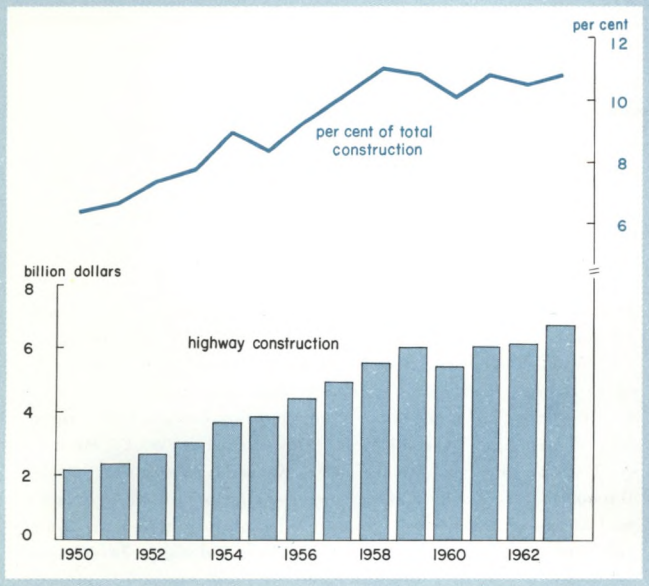
The number of cars and trucks in use has risen each year since World War II despite some sharp year-to-year declines in output. Even more impressive, there has been a steady increase in the number of vehicles in use in proportion to the nation's steadily expanding population.

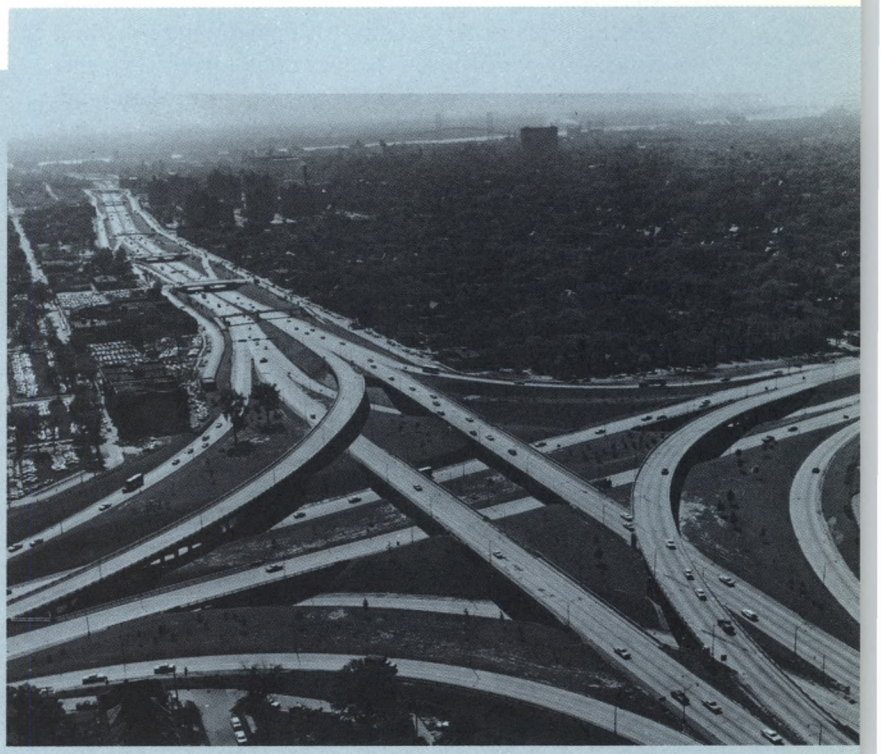
An analysis of the 1960 Census indicates that 78 per cent of all households, including unmarried persons with separate living quarters, owned or leased at least one auto. About 21 per cent had two or more. The proportion of households having at least one car has increased about 20 per cent during the past decade, while the number of multiple car households has tripled.

Since many persons have no desire to own a car, are unable to drive or do not wish to incur the expense of car ownership, further increases in the stock of cars are likely to reflect increases in the number of families and in the number of "multi-car" families rather than a rise in the proportion of families having a car. Extra cars, of course, enhance the mobility of the members of a family, especially if the head of the household uses a car to travel to work. Increases in multiple car ownership will depend largely upon rising incomes, increases in the number of jobholders in the average family and a further spread of population to outlying areas that lack ready access to public transportation.

Changes in the number of cars in use plus the number scrapped, of course, equals the demand for new cars. Several years ago it appeared that postwar cars were longer lived than prewar autos, but with the benefit of additional information this does not now seem to be the case. Once the distortions of World War II and the Korean War were eliminated, the longevity of cars appeared to be almost the same as it

Outlays on highways exceed 10 per cent of total new construction





had been in the prewar years. Postwar cars, like those of the Thirties, have had a "half-life" of just over 10 years, that is, only half of the total number of cars of a given model year are registered in the eleventh year. Moreover, the proportion of all cars in the various age brackets are almost exactly the same as in 1941.

The similarity of average age and half-life of postwar and prewar cars may be in large measure a coincidence since the factors at work are quite different. Properly maintained, cars of today should last longer than their ancestors of the Twenties and Thirties because they embody improved designs and superior materials. But scrappage has increased because of rising repair and maintenance costs on engines, transmissions and other components which on the average now are more complicated than 25 years ago.

Output of the motor vehicle industry may expand at a faster rate than the total economy in the years ahead. The number of teenagers reaching driving age is accelerating. Between 1960 and 1970 the number of persons between the ages of 15 and 19 is expected to increase 42 per cent compared with a 24 per cent rise from 1950 to 1960. Car ownership will be high on their list of spending priorities.

The industry expands

With a strong market and short supply of some models of cars and trucks in the closing months of 1963, producers were encouraged to raise capital expenditure plans. A McGraw-Hill survey published in November suggested a 10 per cent increase in the motor vehicle industry's outlays on new plant and equipment in 1964, somewhat more than the expected rise for all manufacturing.

Movement of meat in refrigerated trailers is replacing handling of live animals in stock cars

Developments late in the year indicated that auto industry capital outlay sights were being raised further. Chrysler announced, in late November, a new assembly plant to be built east of Rockford, Illinois, and a new stamping plant for the Detroit area. In mid-December, Ford estimated that its total spending on new plant and equipment in the United States would rise 50 per cent in 1964.

Decisions of automotive executives to appropriate large sums for investment in long-lived assets reflect their faith in the future of their firms and in general prosperity. Recent trends in capital spending indicate that motor vehicle manufacturing will continue as a symbol of the nation's industrial progress and will maintain its place as the Midwest's largest industry.

Acknowledgments

The photographs used in this section of the Annual Report were: Cover—Santa Fe Railway, photographer R. Collins Bradley, Conconino National Forest, Flagstaff, Arizona; page 7—top, Proviso Piggyback Plaza, Chicago and North Western Railway Company, Chicago; middle, High Bridge Yard, New York Central System, Bronx, New York; bottom, International Harvester Co., Chicago; p. 8—Model T Plant, Ford Motor Co., Highland Park, Michigan; p. 9—Chrysler Corp., Highland Park, Michigan; p. 10—Motorola Inc., Quincy, Illinois; p. 11—Studebaker Corp., South Bend, Indiana; p. 12—A. O. Smith Corp., Milwaukee; p. 13—American Motors Corp., Milwaukee; p. 15—top left and right, Studebaker Corp., South Bend, Indiana; middle right, American Motors Corp., Kenosha, Wisconsin; middle left and bottom right, Ford Motor Company, Dearborn, Michigan; bottom left, Chrysler Corp., Highland Park, Michigan; p. 17—top, Buick Motor Division, General Motors Corp., Flint, Michigan; bottom, Ford Motor Company, Dearborn, Michigan; p. 20—left, Firestone Tire and Rubber Company, Des Moines, Iowa; right, Old Orchard, Skokie, Illinois, photographer W. C. Martin; p. 21—top, American Motors Corp., Kenosha, Wisconsin; middle, Diamond T Trucks, Port Newark, New Jersey; bottom, Wisconsin and Michigan Steamship Company, Milwaukee; p. 22—B. F. Goodrich, Fort Wayne, Indiana; p. 23—Cobo Hall, Detroit; p. 24—Warner Gear Division, Borg-Warner Corp., Muncie, Indiana; p. 25—John C. Lodge-Edsel Ford Interchange, Detroit.

Appointments, elections, resignations and retirements

During the year 1963 the following appointments and elections were announced:

Robert P. Briggs, Executive Vice President, Consumers Power Company, Jackson, Michigan, a Director since 1956, Deputy Chairman in 1960 and Chairman and Federal Reserve Agent since 1961 was redesignated Chairman and Federal Reserve Agent for 1964.

John H. French, Jr., President, City National Bank of Detroit, Michigan, was appointed Director of the Detroit Branch Board for a three-year term ending December 31, 1966, to succeed William A. Mayberry, Chairman of the Board, Manufacturers National Bank of Detroit, Michigan.

Max P. Heavenrich, Jr., President, Heavenrich Bros. & Company, Saginaw, Michigan, was reappointed Director of the Detroit Branch Board for a three-year term ending December 31, 1966.

James H. Hilton, President, Iowa State University, Ames, Iowa, a Director since 1960 and Deputy Chairman since 1961 was redesignated Deputy Chairman for 1964.

Gerald F. Langenohl, Treasurer and Assistant Secretary, Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin was re-elected Director for a three-year term ending December 31, 1966.

James W. Miller, President, Western Michigan University, Kalamazoo, Michigan, was redesignated Chairman of the Detroit Branch Board for 1964.

Franklin H. Moore, Chairman of the Board and President, The Commercial and Savings Bank of St. Clair County, St. Clair, Michigan, was reappointed Director of the Detroit Branch Board for a three-year term ending December 31, 1966.

John W. Sheldon, President, Chas. A. Stevens & Co., Chicago, Illinois, was reappointed Director for a three-year term ending December 31, 1966.

Edward Byron Smith, Chairman of the Board, The Northern Trust Company, Chicago, Illinois, was appointed member of the Federal Advisory Council from the Seventh Federal Reserve District for 1964.

Kenneth V. Zwiener, Chairman of the Board, Harris Trust and Savings Bank, Chicago, Illinois, member of the Federal Advisory Council from the Seventh District since 1962, was elected Director for a three-year term ending December 31, 1966, to succeed David M. Kennedy, Chairman of the Board, Continental Illinois National Bank and Trust Company of Chicago, Illinois.

Daniel M. Doyle and Karl A. Scheld, Assistant Cashiers, were promoted to Assistant Vice Presidents, effective January 1, 1964.

Arnold J. Anschutz and Raymond M. Scheider were elected Assistant Cashiers of the Bank, effective January 1, 1964.

David M. Kennedy and William A. Mayberry retired as directors on December 31, 1963. Mr. Kennedy was a Director of the Bank since 1961 and Mr. Mayberry was a Director of the Detroit Branch Board since 1958.

George T. Tucker, Assistant Vice President, retired on December 31 after 43 years of service at the Head Office.

The employees listed below, all with service records of more than 25 years, retired in the course of the year from the Head Office and Detroit Branch:

Clifford W. Brown
Carl B. Geisler
Elmer A. Goebel
Pearl A. Nelsen
Mervil L. Shepley

These retired employees of the Bank represent a total of 220 years of service to this institution.

DIRECTORS

ROBERT P. BRIGGS, Executive Vice President
Consumers Power Company
Jackson, Michigan
Chairman and Federal Reserve Agent

JAMES H. HILTON, President
Iowa State University
Ames, Iowa
Deputy Chairman

JOHN H. CROCKER, Chairman of the Board
The Citizens National Bank of Decatur
Decatur, Illinois

WILLIAM A. HANLEY, Director
Eli Lilly and Company
Indianapolis, Indiana

DAVID M. KENNEDY, Chairman of the Board
Continental Illinois National Bank
and Trust Company of Chicago
Chicago, Illinois

GERALD F. LANGENOHL, Treasurer
and Assistant Secretary
Allis-Chalmers Mfg. Co.
Milwaukee, Wisconsin

WILLIAM E. RUTZ, Director
and Member of the Executive Committee
Giddings and Lewis Machine Tool Company
Fond du Lac, Wisconsin

HARRY W. SCHALLER, President
The Citizens First National
Bank of Storm Lake
Storm Lake, Iowa

JOHN W. SHELDON, President
Chas. A. Stevens & Co.
Chicago, Illinois

DETROIT BRANCH

JAMES W. MILLER, President
Western Michigan University
Kalamazoo, Michigan
Chairman

MAX P. HEAVENRICH, JR., President
Heavenrich Bros. & Company
Saginaw, Michigan

C. LINCOLN LINDERHOLM, President
Central Bank
Grand Rapids, Michigan

WILLIAM A. MAYBERRY, Chairman of the Board
Manufacturers National Bank of Detroit
Detroit, Michigan

FRANKLIN H. MOORE, Chairman of the Board
and President
The Commercial and Savings
Bank of St. Clair County
St. Clair, Michigan

GUY S. PEPPIATT, President and Director
Federal-Mogul-Bower Bearings, Inc.
Detroit, Michigan

DONALD F. VALLEY, Chairman of the Board
National Bank of Detroit
Detroit, Michigan

MEMBER OF FEDERAL ADVISORY COUNCIL

KENNETH V. ZWIENER, Chairman of the Board
Harris Trust and Savings Bank
Chicago, Illinois

December 31, 1963

OFFICERS

CHARLES J. SCANLON, President

HUGH J. HELMER, First Vice President

ERNEST T. BAUGHMAN, Vice President

JOHN J. ENDRES, General Auditor

ARTHUR M. GUSTAVSON, Vice President

PAUL C. HODGE, Vice President, General Counsel and Secretary

LAURENCE H. JONES, Vice President and Cashier

CLARENCE T. LAIBLY, Vice President

RICHARD A. MOFFATT, Vice President

HAROLD J. NEWMAN, Vice President

LELAND M. ROSS, Vice President

HARRY S. SCHULTZ, Vice President

RUSSEL A. SWANEY, Vice President

CARL E. BIERBAUER, Assistant Vice President

GEORGE W. CLOOS, Senior Economist

FRED A. DONS, Assistant General Auditor

ELBERT O. FULTS, Assistant Vice President

EDWARD A. HEATH, Assistant Vice President and Assistant Secretary

JAMES R. MORRISON, Chief Examiner

BRUCE L. SMYTH, Assistant Vice President

ROBERT E. SORG, Assistant Vice President

JOSEPH J. SRP, Assistant Vice President

LYNN A. STILES, Senior Economist

GEORGE T. TUCKER, Assistant Vice President

CHARLES G. WRIGHT, Assistant Vice President

HARRIS C. BUELL, Assistant Chief Examiner

JOHN J. CAPOUCH, Assistant Cashier

LE ROY A. DAVIS, Assistant Cashier

LE ROY W. DAWSON, Assistant Cashier

DANIEL M. DOYLE, Assistant Cashier

FRANCIS C. EDLER, Assistant Cashier

LESTER A. GOHR, Assistant Cashier

VICTOR A. HANSEN, Assistant Cashier

WILLIAM O. HUME, Assistant Cashier

ERICH K. KROLL, Assistant Cashier

WARD J. LARSON, Assistant Counsel and Assistant Secretary

KARL A. SCHELD, Assistant Cashier

CARL W. WEISKOPF, Assistant Chief Examiner

DETROIT BRANCH

RUSSEL A. SWANEY, Vice President

RICHARD W. BLOOMFIELD, Assistant Vice President

GORDON W. LAMPHERE, Assistant General Counsel

PAUL F. CAREY, Assistant Cashier

LOUIS J. PUROL, Assistant Cashier

W. GEORGE RICKEL, Assistant Cashier

December 31, 1963

STATEMENT OF CONDITION

Assets	December 31, 1963	December 31, 1962
Gold certificate account	$2,426,548,270	$2,363,399,116
Redemption fund for Federal Reserve notes	256,162,875	221,393,100
Total gold certificate reserves	$2,682,711,145	$2,584,792,216
Federal Reserve notes of other Banks	50,379,000	43,790,500
Other cash	25,167,317	51,018,279
Discounts and advances:		
Secured by U. S. Government securities	$ 3,300,000	$ 250,000
Other	4,512,000	139,000
Total discounts and advances	$ 7,812,000	$ 389,000
U. S. Government securities	5,395,397,000	5,160,197,000
Total loans and securities	$5,403,209,000	$5,160,586,000
Cash items in process of collection	1,277,431,307	1,329,032,213
Bank premises	22,531,377	23,806,641
Other assets	60,982,753	57,621,585
Total assets	$9,522,411,899	$9,250,647,434
Liabilities		
Federal Reserve notes	$5,891,488,210	$5,528,456,435
Deposits:		
Member bank reserves	$2,497,543,874	$2,671,601,971
U. S. Treasurer—general account	65,425,787	86,321,327
Foreign	22,560,000	36,140,000
Other	33,279,542	19,343,622
Total deposits	$2,618,809,203	$2,813,406,920
Deferred availability cash items	788,877,255	699,287,857
Other liabilities	13,470,481	11,387,472
Total liabilities	$9,312,645,149	$9,052,538,684
Capital accounts		
Capital paid in	69,922,250	66,036,250
Surplus	139,844,500	132,072,500
Total liabilities and capital accounts	$9,522,411,899	$9,250,647,434
Ratio of gold certificate reserves to deposit and Federal Reserve note liabilities combined	31.5%	31.0%
Contingent liability on acceptances purchased for foreign correspondents	$ 12,957,900	$ 11,689,900

STATEMENT OF EARNINGS AND EXPENSES

	1963	1962
Current earnings:		
Discounts and advances	$ 1,679,049	$ 875,033
U. S. Government securities	190,404,300	175,591,640
Foreign currencies	288,100	486,831
All other	42,590	44,435
Total current earnings	$192,414,039	$176,997,939
Current expenses:		
Operating expenses	$ 27,766,864	$ 26,460,163
Federal Reserve currency	1,712,708	1,250,370
Assessment for expenses of Board of Governors	1,069,700	927,100
Total	$ 30,549,272	$ 28,637,633
Less reimbursement for certain fiscal agency and other expenses	3,697,765	3,806,210
Current net expenses	$ 26,851,507	$ 24,831,423
Current net earnings	$165,562,532	$152,166,516
Additions to current net earnings:		
Profit on sales of U. S. Government securities (net)	$ 51,785	$ 336,027
All other	54,159	134,433
Total additions	$ 105,944	$ 470,460
Deductions from current net earnings	113,302	230,550
Net deductions from (—) or additions to current net earnings	$ —7,358	$ 239,910
Net earnings before payments to U. S. Treasury	$165,555,174	$152,406,426
Dividends paid	4,069,450	3,849,832
Paid U. S. Treasury (interest on Federal Reserve notes)	153,713,724	139,999,294
Transferred to surplus	$ 7,772,000	$ 8,557,300
Surplus account		
Surplus, January 1	$132,072,500	$123,515,200
Transferred to surplus—as above	7,772,000	8,557,300
Surplus, December 31	$139,844,500	$132,072,500

OPERATIONS

		1963	1962
Clearing and collection	Dollar amount (in millions)		
	Commercial bank checks	220,840	208,015
	Government checks*	16,693	17,380
	Other items	440	476
	Number of pieces (in thousands)		
	Commercial bank checks	628,341	600,109
	Government checks*	95,219	94,677
	Other items	1,649	1,666
Currency and coin	Dollar amount (in millions)		
	Currency received and counted	5,115	5,057
	Coin received and counted	130	209
	Coin wrapped	141	183
	Unfit currency withdrawn from circulation	867	867
	Number of pieces (in millions)		
	Currency received and counted	864	847
	Coin received and counted	1,103	1,850
	Coin wrapped	1,281	1,733
	Unfit currency withdrawn from circulation	235	224
Safekeeping of securities†	Dollar amount (in millions)		
	Securities received	15,969	17,623
	Securities released	16,374	17,289
	Coupons detached	259	241
	In safekeeping on December 31	8,255	8,660
	Number of pieces (in thousands)		
	Securities received	384	412
	Securities released	304	309
	Coupons detached	2,747	2,582
	In safekeeping on December 31	1,436	1,356
Discount and credit	Dollar amount (in millions)		
	Total loans made during year	6,716	4,665
	Daily average outstanding	49	25
	Number of banks accommodated during year	192	174
Investment	Purchases and sales of securities for member banks		
	Dollar amount (in millions)	1,878	1,788
	Number of transactions	16,199	15,800
Transfer of funds	Dollar amount of funds transferred (in millions)	485,705	392,429
	Number of transfers (in thousands)	548	498

*Includes postal money orders. †Including collateral custodies.

Services to the U. S. Treasury

	1963	1962
Marketable securities		
Dollar amount (in millions)		
Issued	15,619	16,002
Servicing:		
Securities received	14,627	14,610
Securities delivered	18,848	18,461
Redeemed	19,955	19,353
Number of pieces (in thousands)		
Issued	316	327
Servicing:		
Securities received	206	194
Securities delivered	450	410
Redeemed	619	626
Savings bonds		
Dollar amount (in millions)		
Issued	1,509	1,376
Servicing:		
Bonds received for reissue	144	134
Bonds delivered on reissue	144	134
Bonds delivered on replacement	5	6
Redeemed	991	1,123
Number of pieces (in thousands)		
Issued	22,112	19,833
Servicing:		
Bonds received for reissue	666	603
Bonds delivered on reissue	750	674
Bonds delivered on replacement	53	58
Redeemed	14,859	14,867
Federal tax receipts processed		
Dollar amount (in millions)	8,030	7,346
Number of pieces (in thousands)	1,858	1,783

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Research Department
Federal Reserve Bank of Chicago
Box 834
Chicago, Illinois 60690


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INCORPORATED MAY 18, 1914
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