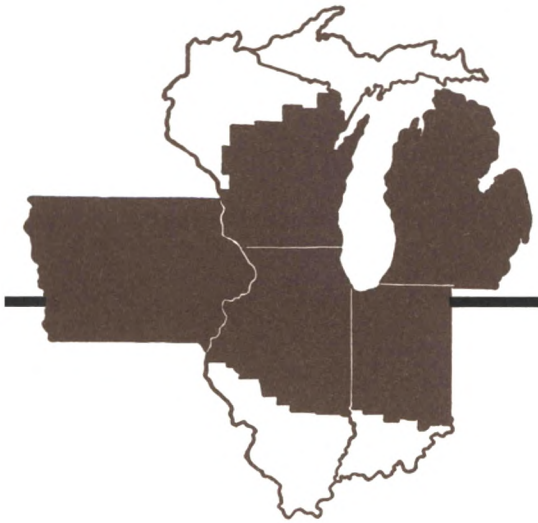
A review by the **Federal Reserve Bank of Chicago**

Business Conditions



1965 July

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Autos: output, sales and credit

Auto output from early December 1964 through June 1965 was at a seasonally adjusted annual rate of about 9.5 million units. In many weeks during this period output totaled more than 210,000. Prior to last December the industry had never assembled as many as 190,000 units in a single week.

Despite the extremely high rate of auto assemblies in recent months, long waiting lists for some popular models existed well into the second quarter as a result of excellent sales. Strikes in October and November caused a temporary deficit of more than one-half million 1965 models. This deficiency was not overcome until about June 1 when the total inventory of finished cars reached 1.3 million—a 42-day supply at the May selling rate.

Records for output and sales of cars have been accompanied by an unprecedented volume of new instalment credit. In the first four months of 1965, auto instalment credit granted was at a seasonally adjusted annual rate of 26.5 billion dollars—a record high.

Industry analysts do not expect the pace of auto output, sales and credit in the first half of 1965 to be maintained in the second half. Sales have declined fairly steadily since January after allowance for usual seasonal trends. Early in the year the annual rate of auto deliveries, including imports, was over 10 million units, partly because of the post-strike surge. In May this rate was about 8.7 million.

A more ample supply of cars in recent months has tended to increase sales. Some potential buyers, however, may have been deterred by the pending excise tax cut, although the cut for cars was indicated to be retroactive to May 15 and refunds had been pledged by producers and dealers. The bill, which reduces the tax on cars from 10 to 7 per cent of the wholesale value, was signed by the President on June 21. Further reductions to 6 per cent next January 1 and eventually to 1 per cent on January 1, 1969, also are scheduled.

The 10-year record

In 1955 United States producers assembled 7.9 million passenger cars—a record that still stands. A new high would have been set last year, but strikes limited 1964 output to 7.7 million units.

After production of 5.2 million cars in the first half of 1965—up 16 per cent from last year's record—there is little doubt that output in the current year will exceed that of any other year. Assuming that about 200,000 units will be exported and a similar number added to inventory, the total for calendar 1965 could exceed 9 million.

Imports were negligible in 1955 and exports were somewhat higher than at present. Moreover, almost 400,000 cars were added to dealer inventories that year. Total purchases of new cars, therefore, amounted to 7.4 million in 1955—a number that was surpassed by 7.7 million in 1963 and 8.1 million in 1964.

Some auto industry analysts prefer to work with 12-month periods ending June 30 rather than calendar years. These periods, which correspond to the Government's fiscal years, mesh more closely with the industry's model years. In addition, use of these periods tends to smooth out the effects of auto industry

strikes, principally those of 1958 and 1964, and the steel strike of 1959.

Substantial gains in auto output, sales and credit extensions occurred in each of the past four "fiscal" years, and successive new highs were registered from 1963 to the present. The proportion of consumer disposable income (personal income after taxes) spent on autos and parts rose steadily from fiscal 1961 to 1965. Similarly, auto credit extensions have risen relative to income. Neither spending on autos and parts nor credit extensions, however, have reached the 1955-56 proportion of spendable income.

During the past decade consumer saving (disposable income not spent on consumption goods and services) has fluctuated between 5.4 and 8.5 per cent of spendable income. In a rough way, changes in the proportion of income saved has moved inversely with that spent on autos and parts.

Production and sales of autos by fiscal years

Year-end June 30	Output		Deliveries			
					Total	
	Total	Change from year earlier	United States built	Imports	Number	Change from year earlier
	(millions)	(per cent)		(millions)		(per cent)
1955	6.8	17	6.5	.1	6.6	16
1956	6.9	1	6.7	.1	6.8	4
1957	6.0	−13	5.8	.2	5.9	−13
1958	5.0	−17	5.0	.3	5.3	−12
1959	5.3	6	5.0	.5	5.5	5
1960	6.1	16	5.8	.6	6.4	16
1961	5.6	− 8	5.6	.4	6.1	− 5
1962	6.4	14	6.3	.4	6.6	9
1963	7.4	15	7.1	.4	7.4	13
1964	8.0	9	7.6	.4	8.0	7
1965[e]	8.5	5	8.2	.5	8.7	9

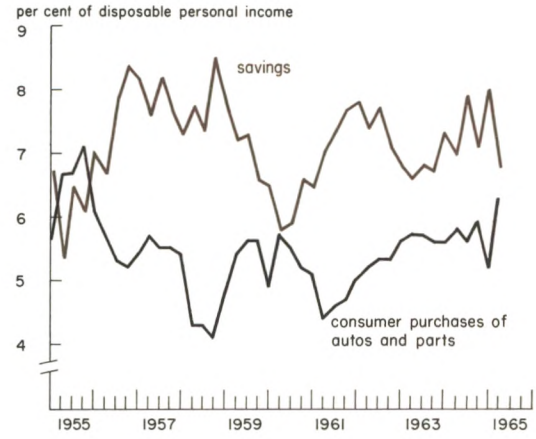
Year-end June 30	Consumer purchases of autos and parts			Auto credit extensions		
	Dollar amount	Change from year earlier	Share of disposable income	Dollar amount	Change from year earlier	Share of disposable income
	(billions)	(per cent)		(billions)	(per cent)	
1955	15.9	9	6.1	14.4	23	5.5
1956	17.2	8	6.1	16.5	15	5.8
1957	16.5	− 4	5.6	15.9	− 4	5.3
1958	15.3	− 7	4.9	15.2	− 4	4.9
1959	16.4	7	5.0	16.1	6	4.9
1960	18.7	14	5.4	18.1	12	5.3
1961	17.2	− 8	4.8	16.1	−11	4.5
1962	19.0	11	5.1	17.9	11	4.8
1963	21.8	15	5.6	21.0	17	5.4
1964	23.6	8	5.7	22.7	8	5.5
1965[e]	25.8	9	5.8	25.2	11	5.6

[e]Estimated.

Although the life expectancy of a new auto averages about 10 years (with many cars giving good service even longer), outlays on cars are considered consumption expenditures. As for virtually all consumer goods, resale value of autos drops sharply in the early years of life. About half of the consumer outlays on new and used cars is provided by instalment credit which, of course, serves to increase spending relative to income.

The tendency of saving and auto expenditures to move in opposite directions was particularly marked in the fourth quarter of 1964 and the first quarter of 1965. During the earlier period, strikes restricted auto availability thereby reducing outlays and increasing saving. Record-breaking production reversed these trends in early 1965.

Consumer purchases of autos have moved inversely with savings



Credit rises with auto sales

For most families the decision to purchase a new car or a late model used car involves a willingness to incur debt. Most families either do not possess liquid assets sufficient to purchase a car, even after deducting the value of a trade-in, or are reluctant to draw down savings accounts or liquidate other assets.

Instalment credit outstanding

Year-end	Total	Auto	
		Amount	Share of total
	(billion dollars)		(per cent)
1948	9.0	3.0	34
1955	28.9	13.5	47
1960	42.8	17.7	41
1963	53.8	22.2	41
1964	59.4	24.5	41
1965*	60.8	25.6	42

*April

Last year 63 per cent of all new cars were bought on instalment contracts. This proportion was higher than the 59 per cent recorded for 1961 but was below the record high of 67 per cent set in 1956. These ratios understate the share of new car purchases made by consumers "on time" because 17 per cent of all new cars are acquired by businesses and governments according to estimates of the U. S. Department of Commerce. Business credit is not included in the consumer instalment credit totals. It is possible, therefore, that as much as 70 per cent of all new family automobile purchases use instalment credit.

A sharp rise in the use of auto credit occurred in the 1955-56 period. Credit expansion was accompanied by reductions in down payments and stretch-outs in maximum maturities from 24 to 36 months. In recent years, 36 months has become the most common maturity on new car contracts and, for practical purposes, the maximum. Many auto loans are as large as the wholesale value of the car financed.

Most loans on used cars carry maturities of 24 months or less, but about one-fourth of such loans granted by commercial banks are for longer periods. Loan-to-value ratios tend

to be lower for used than for new cars.

At the end of April, total consumer instalment credit outstanding amounted to 60.8 billion dollars, of which auto credit accounted for 25.6 billion dollars. This share has risen slightly in recent years but remains well below the level reached in 1955.

Because auto loans typically are granted for longer periods than other types of instalment credit, the recent proportion of auto loans to total instalment credit outstanding (42 per cent) is greater than the proportion of auto credit extensions to total extensions (37 per cent).

Commercial banks are more than maintaining their position as the major suppliers of auto instalment credit.

Holders of outstanding auto instalment credit

Year-end	Commercial banks	Sales finance companies	Other financial institutions	Dealers
		(per cent of total)		
1948	44	44	7	5
1955	39	51	6	4
1960	46	43	9	2
1963	50	37	11	2
1964	52	35	11	2
1965*	53	34	11	2

*April

Despite increased extensions of auto credit in recent years there has been little or no evidence that terms have been eased further. Early this year banks reported some rise in delinquencies to the American Bankers Association, but this trend apparently was reversed in the second quarter.

Carrying the debt

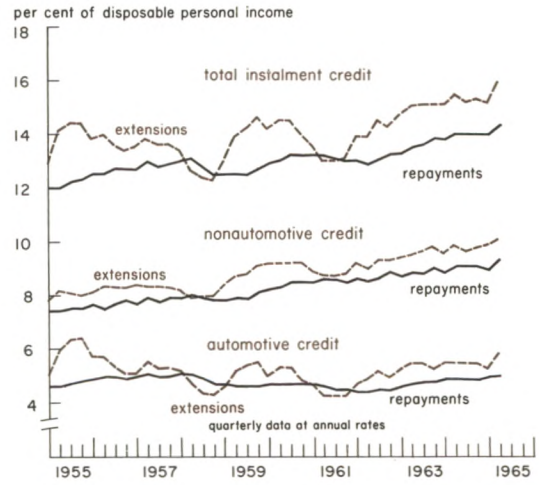
Increases in consumer debt, of course, depend largely upon the portion of income that individuals are able and willing to devote to service charges and repayments of principal. This proportion has tended to rise throughout the postwar period.

A few years ago some analysts concluded that when repayments on instalment credit reached 13 per cent of disposable income the ratio was at or near a maximum. Repayments of instalment credit exceeded the 13 per cent level in 1962 and a new high of 14.3 per cent was reached in the first quarter of 1965. In that period auto repayments amounted to 5 per cent of disposable income, slightly less than the high in 1957 and early 1958.

About 50 per cent of the families in the United States are believed to owe instalment debt. Apparently, the ratio of instalment repayments to disposable income is at least 28 per cent for those families who are making such payments. For many families the ratio must be still higher.

A substantial majority of consumers are not using instalment credit at all or are not using it as extensively as they might. Many

Total instalment credit
extensions at new high relative to income

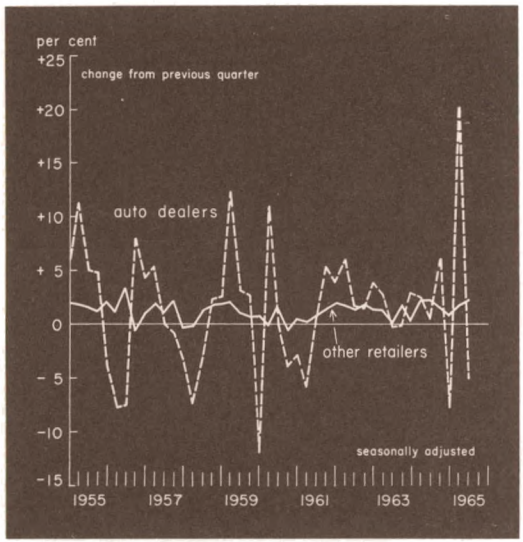


have no need for such credit or have no desire to use it. Conversely, many families who owe instalment debt would like to pay off or reduce these burdens. Clearly, there is a good deal of flexibility in the proportion of total disposable income that can be channeled to debt repayment. Future instalment credit extensions and repayments, as in the past, will depend largely upon the desires of consumers for durable goods and their confidence in future income prospects.

Auto dealers and consumer spending

Auto credit extensions in recent years have been almost as large as consumer outlays on cars and parts. If purchases of parts, such as tires and batteries, are excluded, it appears that credit extensions have been even larger than purchases of cars. But many automobiles are not bought on credit. Two factors help explain this seeming discrepancy.

Sales of auto dealers fluctuate sharply compared with other stores



In computing consumer expenditures on cars, the Department of Commerce counts only the dealer's margin on used car sales. The rest of the value of the car represents an offsetting transaction between consumers. Credit extended on used cars, however, commonly exceeds the dealer's margin.

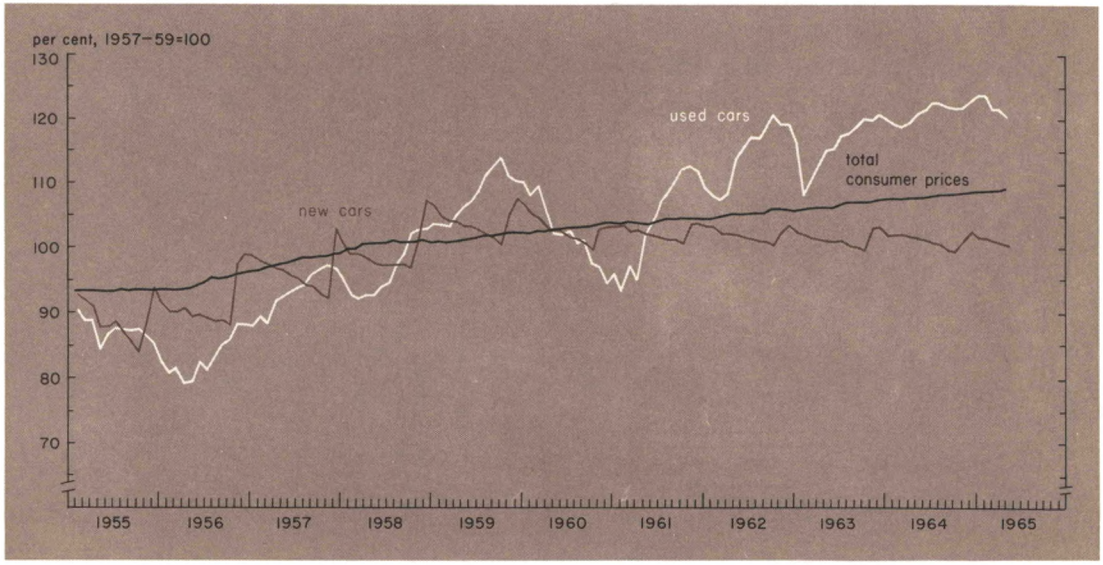
Second, consumer instalment credit extensions and outstandings include service charges of substantial magnitude. If an individual borrows $2,000 to buy a new car, the "credit extended" may range between $2,200 to $2,400 on a three-year loan, depending upon the rate charged. Repayments, of course, represent amortization charges covering both interest and principal.

Sales of auto dealers (included in the monthly reports of retail sales published by the Department of Commerce) cannot be compared directly with instalment credit extensions. Dealer sales include services, parts and trucks and passenger cars purchased by businesses. In contrast to personal consumption expenditures auto dealer sales include the full price of used car sales rather than just the profit margin. As a result, total sales of auto dealers are about twice as great as consumption expenditures on autos and parts.

Auto dealers account for about 19 per cent of total retail sales while autos and parts represent 10 per cent of all consumption spending on goods and only 6 per cent of consumer spending on goods and services combined. Despite differences in coverage changes in sales of auto dealers tend to move fairly closely with changes in consumption spending on autos.

Fluctuations in auto dealer sales are much greater than those for total retail sales. From 1960 to 1961, the last year in which auto sales declined, there was a drop in auto sales of 6

Used car prices at high level since early 1963



per cent while all other retail sales rose almost 2 per cent. Total retail sales were about equal in the two years. For the first five months of 1965 auto sales were up 14 per cent from the year-earlier period while other stores reported a gain of 6 per cent, and total retail sales were up 8 per cent.

Autos and the economy

If production of autos totals 9 million in the current year, output in the second half will be about 25 per cent less than in the first half. A decline of this magnitude occurred from the first to the second half of 1964 because of the strikes.

Reflecting the impact of model changeovers in the third quarter, second half output usually is less than that of the first half. Perhaps the 10 per cent second half declines of 1962 and 1963 were about "normal," but no clear pattern has emerged in the postwar period.

Shutdowns of assembly lines of some major producers for model changeovers are slated to be a week or two later this year than last—in part because of steel ordered as a strike hedge. (Most plants ended 1964 model runs in the first week of August).

When 1966 cars are on display in October, it is possible that the backlog of "old" models will be substantially larger than in other recent years. Under these circumstances strenuous efforts may be made to "move" the 1965 models. This could place downward pressure on used car prices.

One of the salient features of the continued growth of the new car market in recent years has been the favorable price level for used cars. The strong used car market has permitted dealers to offer attractive trade-in

allowances and has helped to maintain consumer equities in cars purchased on instalment contracts.

Calendar 1965 gives promise of being by far the most prosperous year in history for the auto industry. In part, this reflects added sales after the strike losses in 1964. Under these circumstances further gains in 1966 will be difficult to achieve.

Output and sales of cars were much lower in 1956 and 1957 than in 1955. Nevertheless, the economy moved on to new highs as the decline in auto output was more than offset by increased expenditures on capital goods. Large backlogs of orders for machinery and equipment at the present time suggest the possibility that this could occur again in the months ahead.

Industry leaders insist that the auto industry is not heading for a long period of reduced activity. Emphasis is placed on the rate of car scrappage, now believed to be approaching 6 million units per year. In addition optimism is buoyed by a Government survey of consumer buying intentions, taken in April, which indicated that 9.3 per cent of United States families intend to buy new cars in the next 12 months. This proportion has risen each year since 1961.

The survey also reveals that the auto market has been aided by an increase in the number of households owning two or more cars, a reflection of rising income. From 1961 to 1965 this proportion rose steadily from 18 to over 23 per cent. Many suburban families find two cars a worthwhile convenience when the husband uses one in connection with his work. Moreover, the number of teen-agers reaching driving age is growing sharply. The hopes of auto producers and dealers rest heavily upon the desires of these young people to obtain independent mobility.

Food stamps for the needy

For the past four years experimental programs to supplement the food budgets of low-income families have been conducted by the U.S. Department of Agriculture (U.S.D.A.). In selected areas stamps or coupons are issued to families—thought to be unable to afford adequate diets — to purchase food through normal retail channels. These stamps are free or can be purchased at a discount from face value.

In 1961 a pilot food stamp program was inaugurated in eight areas with large proportions of population receiving public assistance (Detroit was one). Direct distribution of foods acquired in Government price-support operations was suspended in these areas.

Apparently impressed with the merits of the stamp program, in 1963 Congress authorized extension to additional areas. On April 1, 1965, Cook County, Illinois—the city of Chicago and some of its principal suburbs—was included in the plan. Ultimately, it is anticipated that about 75,000 Cook County families who receive public assistance plus more than 20,000 other low-income families will participate.

The present food stamp plan recalls a similar program that was activated in the late Thirties and continued until wartime conditions greatly reduced unemployment and substantially increased demands upon United States food supplies. The earlier plan also utilized existing commercial channels. Qualified families could purchase specified quantities of stamps and were given additional amounts free of charge. These stamps were accepted in lieu of money by retail stores participating in the program. A portion of the stamps, however, could be used only for the purchase of foods in surplus supply. The present food stamp program is similar to that of the Thirties and early Forties in some respects but there are certain important differences.

Distribution of foods to low-income families through "relief stations" or similar means is inherently inefficient. Special facilities must be maintained and there is no interplay of the forces of supply and demand through which adjustments are made in the free market. Comparisons are difficult, but Government estimates indicate that the present stamp program is less costly than direct distribution. Administration costs are expected to be less than 3 per cent of the Government's total outlay.

Expenditures on the food stamp program were about 75 million dollars in the fiscal year ending June 30, 1965. For 1967 the total is expected to reach 200 million dollars. Pilot studies indicate that 60 per cent of the total value of stamps issued will be paid in cash by participating families. On the basis of this ratio, it appears that about 500 million dollars worth of food will be purchased with stamps in 1967. This would be about one-half of 1 per cent of total outlays on food purchased by United States families for use in the home.

Eligible families

State and local welfare agencies have the responsibility to determine which families have insufficient income to afford an adequate diet. Included are families which receive public assistance because members are dependent children, elderly or handicapped persons, and families which have less than specified levels of income and liquid assets. For Cook County, eligible income levels range from a maximum of $139 per month for a family of 1 to $490 for a family of 10 with liquid assets amounting to less than $600.

Participating families are entitled to purchase sufficient coupons to buy a nutritionally adequate low-cost diet, according to standards established by the U.S.D.A. Families with no income receive their stamps free while families with some income pay for part of the value—the amount varies with the level of income, family size and normal food expenditures.

Coupons are issued in denominations of 50 cents and $2 and in books valued at $20, $10, $3 or $2. In Cook County these coupons are distributed through currency exchanges.

By requiring those families with some income to pay a portion of the value of the coupons, the program attempts to insure that

food purchased under the program does not replace normal expenditures for food. The amount paid for the stamps represents the estimated normal food purchases and, therefore, cannot be diverted to other uses. The difference between what a family pays and the total value of the coupons represents the additional amount estimated necessary to provide an adequate low-cost diet.

In Cook County, a participating family of four with a net income of up to $70 per month may receive $66 worth of food coupons for which the family pays $28; $38 of coupons are supplied free. In general, the higher the family's income, the greater the proportion of coupon value it pays. For example, a family of four with a monthly income of about $160 would be required to pay $60 for coupons worth $86.

Most foods in a typical grocery store can be purchased with the food stamps. Some exceptions are alcoholic beverages, tobacco, coffee, tea, cocoa, spices. In addition, stamps are not accepted for nonfood household items such as soaps, cosmetics and pet foods, or any product which is clearly identified on the package as being imported from a foreign country.

Food stores may become eligible to participate in the program by applying and receiving authorization from the Agricultural Marketing Service. Coupons received in payment for foods can be redeemed at banks or can be passed along through trade channels to suppliers who redeem them.

Once the coupons are presented to a bank, they are handled in much the same way as a Government check. Member banks obtain payment through their Federal Reserve Bank; nonmember banks forward the coupons to their correspondent bank which presents them to a Federal Reserve Bank for payment.

Effects of the program

In an effort to measure the effects of the stamp program on quantity and value of food consumed, surveys were conducted by the U.S.D.A. in Detroit and Pennsylvania during April-May and September-October in 1961. In both areas the value of food used by participating groups increased from the spring to fall period—in Detroit by about one-third and in Pennsylvania by one-tenth. Part of the increases in expenditures are attributed, of course, to purchases of higher valued foods and part to larger quantities. The major increases were for fresh vegetables and fruits (part of which was due to the difference in season), dairy and poultry products and meats.

Larger amounts of these foods normally improve the quality of diets. This was indicated also by analysis of data compiled in the survey. A "good" diet was defined as one that provided certain essential nutrients in the amounts recommended by the National Research Council. In April and May only slightly more than a fourth of the families who later participated in the food stamp program had good diets. In September and October, however, 48 per cent of those who were using food stamps in Detroit and 39 per cent in Pennsylvania had good diets. Of those families who qualified for the program but did not take part, the proportion with good diets remained at about one-fourth.

Recent studies conducted at the University of Minnesota based on a nationwide food consumption survey indicated that it would be necessary to subsidize the consumption of nearly one-third of the total population to achieve an increase in total food consumption of only a little more than 4 per cent (or about half of the estimated annual United States surplus of agricultural production).

With a more moderate program providing subsidies to about 15 per cent of the population, the increase in total food consumption would be less than 2 per cent and the estimated annual cost about 1.5 billion dollars. Were such a program to be confined to the lowest income groups, comprising about 10 per cent of the population, the potential increase in food consumption would be slightly over 1 per cent—almost insignificant in terms of reducing the stock of surplus commodities —and would cost about one-half billion dollars annually. Even this amount is far in excess of the program now contemplated.

The main surplus commodities are wheat, cotton and feed grains. To the extent that the program increases consumption of livestock products the demand for feed grains would increase. However, the demand for food grains and cotton would be largely unaffected and Government support prices would continue to provide a strong incentive to maintain or increase production of these commodities.

The food stamp program appears, therefore, to have considerable merit as a program to improve the nutritional level of low-income families. To the extent that the diets of such families are improved, their health and productivity may also be enhanced. But it is likely to be of only minor significance as a solution to the problem of excess production of farm commodities.

Seasonal patterns in Midwest employment

Changes in employment provide one of the most useful measures of economic trends of the nation and its regions. Short-term analyses of movements in employment, however, must take into account the impact of normal seasonal developments. Weather, Christmas trade, vacation periods and other phenomena that occur each year cause month-to-month fluctuations in employment without any basic alteration in underlying trends. The extent of these seasonal changes varies among states and metropolitan areas.

A rough method of eliminating the influence of seasonal trends is to compare levels of economic series with similar periods of the previous year. Although useful for many purposes, changes from the year-earlier period may be misleading. Cyclical recession or expansion or special circumstances such as floods or strikes may have dominated one of the periods. To overcome such difficulties, various methods have been developed to approximate normal seasonal patterns on the basis of past performance.

Knowledge of seasonal changes is important for many purposes. For example, the Federal Reserve System takes special note of the public's demand for currency associated with holidays such as Christmas, Easter, Independence Day and Labor Day. Analysis of past changes permits the System to provide commercial banks with reserves so that out-

flows and inflows of currency from the banks do not cause arbitrary swings in the availability of credit. Similarly, business firms analyze seasonal patterns when preparing production, inventory and sales plans.

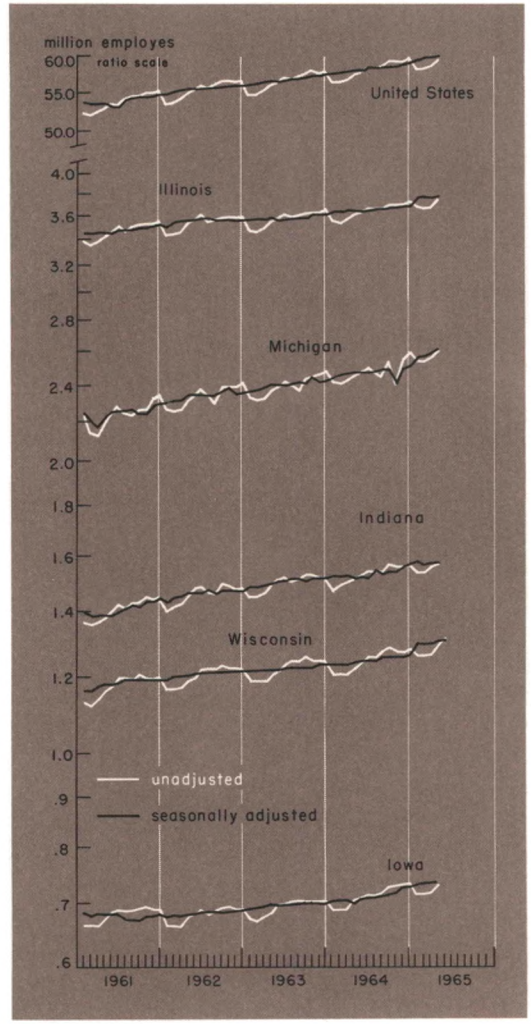
This article focuses upon seasonal changes in nonfarm employment since 1960 in the Seventh Federal Reserve District states—Illinois, Indiana, Iowa, Michigan and Wisconsin. Farm employment is excluded because comparable information is not available. References to "total employment" in this article, therefore, pertain to total nonfarm employment. Normal seasonal patterns have been approximated to study short-term movements in employment and to better evaluate underlying trends. Seasonal adjustments in this article were derived from computations based upon the Bureau of Census Method X-9.

What the seasonals reveal

Economic time series are adjusted for seasonal trends by dividing each month's figure by a ratio or "seasonal factor" computed from data for a number of recent years. In the case of nonagricultural employment, the adjustment process raises the original figures for January and February when employment usually is below the yearly average and lowers the figures for November and December when employment typically is above average. A number of generalizations can be made by comparing movements in the adjusted and unadjusted series.

In Wisconsin the decline in January 1961 was much larger than usual, while declines in the three following years were about as large as might be expected. The pronounced upswing in employment in Michigan becomes much clearer when seasonal variations are smoothed. When seasonal factors are removed, a basically stable employment picture emerges for Iowa in 1961 and early 1962 while in Indiana the rise in employment appears to have been relatively steady throughout the business expansion. Without seasonal adjustment the leveling of Illinois employment in the second half of 1962 would not be apparent.

Basic employment trends
clarified through seasonal adjustment



Seasonal patterns of employment in the District states are similar for the first half of the year. Except for Indiana, where employment usually is at a low in January, the number of nonagricultural workers hits bottom in February.

The change from December to January in each state and in the United States is the largest of the year. In Indiana, Iowa and Illinois the drop between these months is about 3 per cent while in Michigan and Wisconsin it is closer to 3.5 per cent.

A minor rise in employment usually occurs in March followed by more substantial increases in April, May and June. The increase in employment from March to April is the largest in the year for Illinois, Indiana and Iowa. The March-April rise for Wisconsin, about 1.4 per cent, normally is matched by the increase from May to June. The largest employment increase in Michigan, however, usually occurs in September following the year's low in August.

By June employment in all five District states is above the average for the year. In Illinois, Iowa and Wisconsin, employment continues above the yearly average throughout the second half of the year. In Indiana, however, employment falls below the yearly average in July; in Michigan an even larger relative decline occurs in August.

Monthly peaks are reached in all District states in the second half of the year as shown below.

State	Low	Peak	Change from low (thousands)	Per cent of average employment
Illinois	Feb.	Dec.	130	3.6
Indiana	Jan.	Sept.	70	4.6
Iowa	Feb.	Oct.	30	4.2
Michigan	Feb.	Dec.	110	4.4
Wisconsin	Feb.	Sept.	60	4.8

Causes of seasonal fluctuations

The seasonal fluctuations of employment in a state are a composite of the patterns in its principal industries. Variations occur because of the conditions affecting the demand and supply for products and services. Industries that supply and service agriculture, construction and other outdoor activities are affected greatly by weather conditions.

Employment in retail establishments, although influenced by weather, is extremely sensitive to long-established shopping patterns, especially before Christmas and Easter. Plant-wide vacations, automobile model changeover periods, maturing of crops requiring processing, and seasonal demands for farm equipment, appliances, television sets and other consumer durables cause variations in manufacturing employment each year. Increased Post Office activity at Christmas time, school closings during the summer and summer vacation expenditures all play a role in determining seasonal employment trends.

Manufacturing employment in Illinois, Indiana, Michigan and Wisconsin, as proportions of total nonfarm employment in these states, substantially exceeds the national average proportion of 30 per cent. For Iowa, wholesale and retail trade and government employment account for larger shares of the total than is the case in the nation, largely because of the state's emphasis on agriculture.

Construction, transportation, public utility, finance, insurance and real estate employment is close to the national proportion in all District states. This is to be expected because these activities are closely geared to the local needs of the population. Furthermore, these activities are subject to similar seasonal influences in all areas.

Primarily because of weather, construction employment shows the widest seasonal swings

of any of the major industry groups. The demand for construction workers falls sharply in the winter months when snow and cold slow outdoor activity. When the weather improves in the spring, construction employment rises and reaches a peak in August.

Seasonal movement of construction employment is very similar in the nation and the Midwest but the amount of change is relatively larger in this region. The normal seasonal increase in United States construction employment from the winter low to the summer peak amounts to less than 30 per cent while in the District states the rise on the average is almost 40 per cent.

Employment in wholesale and retail trade follows a well-established seasonal pattern. The early part of the year is a slow period and trade firm employment is well below the average for the year. Employment picks up during the spring and exceeds the average for the year in June. Activity declines somewhat during the summer months before increasing again in the fall. The surge in retail sales prior to Christmas causes the number of employes to rise sharply to a peak in December.

Variations in trade employment between the seasonal high and low ranges from 6 per cent in Iowa to 11 per cent in Michigan.

The seasonal patterns of government (Federal, state and local) employment in Illinois, Indiana and Michigan are similar. In all three states government employment reaches a low in July and August when schools are closed and the number of teachers on state and local government payrolls drops sharply. Government employment reaches a peak in December as additional Post Office workers are hired to handle the Christmas mail.

Government employment in Iowa shows an earlier summer decline than other states. The decrease in government employment between May and June reflects earlier school closings to allow students to assist on the farms.

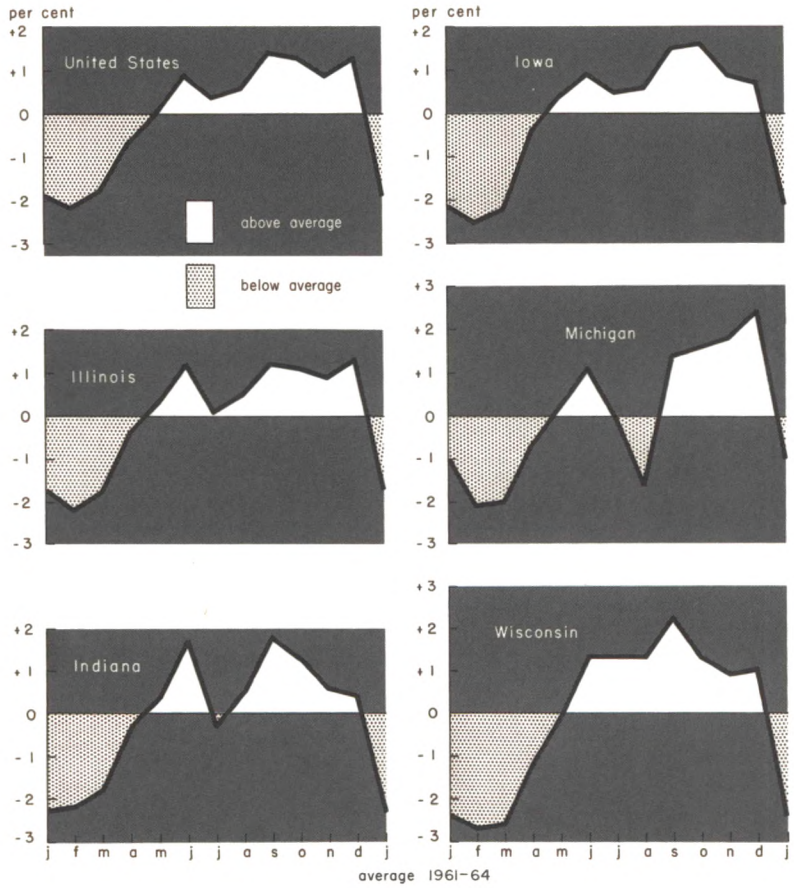
Seasonal patterns in manufacturing

During the year seasonal fluctuations in total manufacturing employment range from 2 per cent in Iowa to 7 per cent in Michigan.

Nonfarm wage and salary employment, average 1961-64

	United States	Illinois	Indiana	Iowa	Michigan	Wisconsin
	(per cent of total)					
Mining	1	1	1	1	1	1
Construction	5	5	4	5	4	4
Manufacturing	30	34	41	25	40	38
Transportation and public utilities	7	8	6	7	6	6
Wholesale and retail trade	21	21	20	25	19	20
Finance, insurance and real estate	5	5	4	5	4	4
Services	15	14	10	14	12	13
Government	16	12	14	18	14	14
Total	100	100	100	100	100	100

Nonagricultural employment always drops sharply in winter months



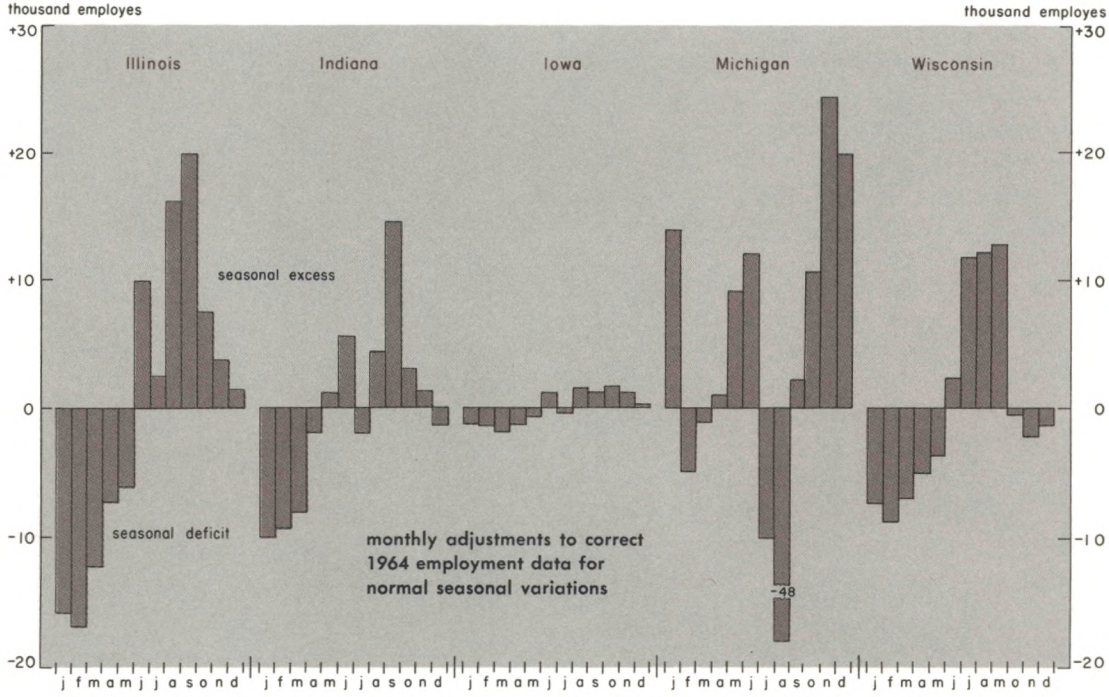
In Illinois, Indiana and Wisconsin seasonal swings are 3, 4 and 5 per cent, respectively.

The variation in seasonal employment among the states is primarily the result of differences in the composition of manufacturing employment. Iowa, for example, has the largest share of employment in food manufacturing in the District. About half is in the meat products industry for which seasonal fluctuations are relatively small. Wisconsin and Illinois manufacturing employment is affected in July and August by the rise of vegetable processing —principally canning and freezing of peas, corn and potatoes.

Developments in the motor vehicle industry are important determinants of economic activity in Michigan and, on a smaller scale, in Indiana and Wisconsin. In recent years, 14 per cent of the nonagricultural wage and salary workers in Michigan and 6 per cent in Indiana have been employed by producers of transportation equipment. Many additional workers are engaged in tributary industries that supply transportation equipment such as primary metals, fabricated metal products and electrical equipment.

Both total employment and transportation equipment employment in Michigan reach seasonal lows in August when auto assembly plants shut down for model changeovers. The major seasonal decline in Indiana transportation equipment employment also coincides with the decline in total employment. After reaching a low in July, it remains near that

Manufacturing employment in District states shows different patterns during the year



level through August. In Indiana the July employment low, in large part, is a result of the composition of auto industry employment. A larger proportion of these workers is engaged in the production of component parts for motor vehicles than in Michigan. Output of parts declines prior to the shut-down of major assembly plants.

Because of the large share of District employment in manufacturing, changes in total employment are strongly influenced by the fluctuations in this sector. In most states the dip in total employment after midyear coincides with that for manufacturing.

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