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CONTENTS

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Economic Activity Accelerates

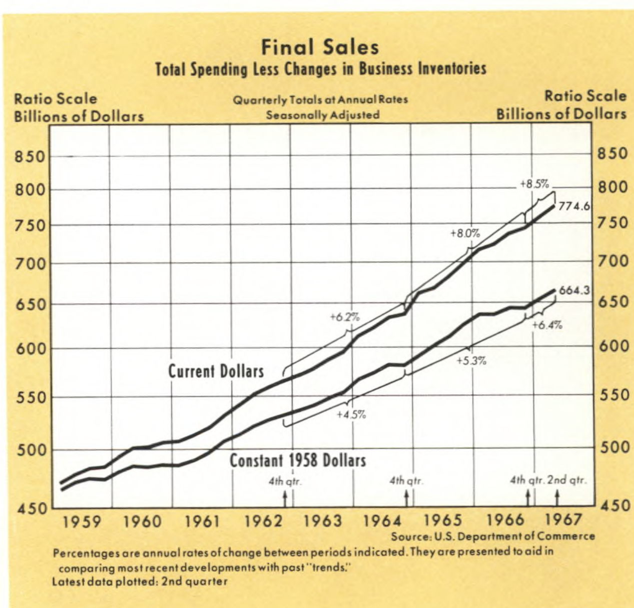
Against a background of very stimulative fiscal and monetary actions, economic activity accelerated in the third quarter. Although an inventory adjustment gave the appearance of an economic pause in the first half, underlying demand for goods and services has remained strong throughout 1967. Both consumer and Government expenditures helped maintain final sales at higher-than-average rates of increase during the first half of 1967. The growth of total demand, however, hesitated as business firms sharply reduced outlays for inventories.

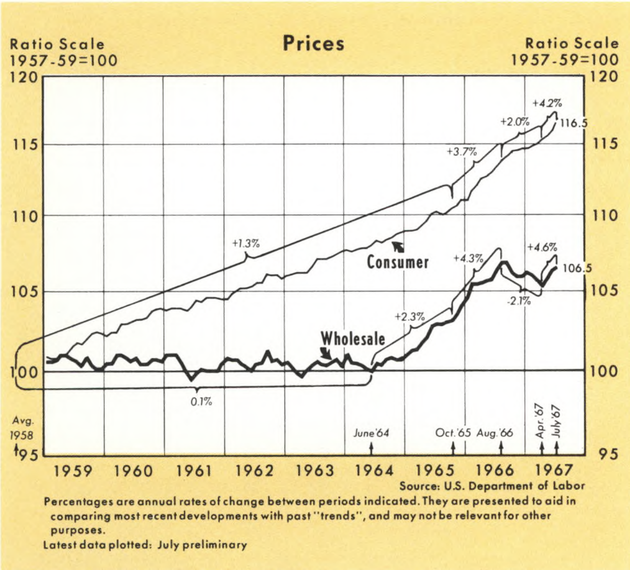
The pace of the economy in the immediate future will be affected by military developments, the possibility of a tax increase, the final effects of the restoration of the investment tax credit, and work stoppages in the course of labor-management negotiation. In view of the Federal budget situation and the expansive trends in bank credit and money, the prospect of excessive total demand is a major concern.

Recent Developments

Several important measures of economic activity accelerated during the summer. Employment rose at an 8 per cent annual rate from May to August, more than offsetting declines earlier in the year. Personal income advanced at a 9 per cent annual rate from May to July, compared with a 5 per cent rate earlier this year. Retail sales increased sharply from May to August, bringing the February to August annual rate of growth to 12.5 per cent. Sales of durable goods accounted for much of the recent gains. Industrial production increased from June to July for the first time in seven months, and preliminary data indicate another gain from July to August. All of these figures indicate a revival in total economic activity from the earlier moderate pace.

The economy continued to move forward in early 1967, but at a somewhat slower pace than in the succeeding two years. Total spending increased at a 3.4 per cent annual rate from the fourth quarter last year to the second quarter this year, down from the 8.4 per cent rate from 1964 to 1966. In contrast, spending by ultimate users of goods and services actually rose at a faster rate in early 1967 than in the preceding two years. Final sales rose at an 8.5 per cent annual rate of increase in the first half of 1967, above the 7.9 per cent average rate from 1964 to 1966. From 1960 to 1964 final sales grew at an average of 5.8 per cent a year. In real terms (i.e., adjusted for price changes), the rise was at a 6.4 per cent rate in the first half of 1967, also slightly above the average rate for the preceding two years. The slowing in the growth of total outlays, despite the rise in final sales, resulted from businesses decreasing inventories or reducing the rate of increase.

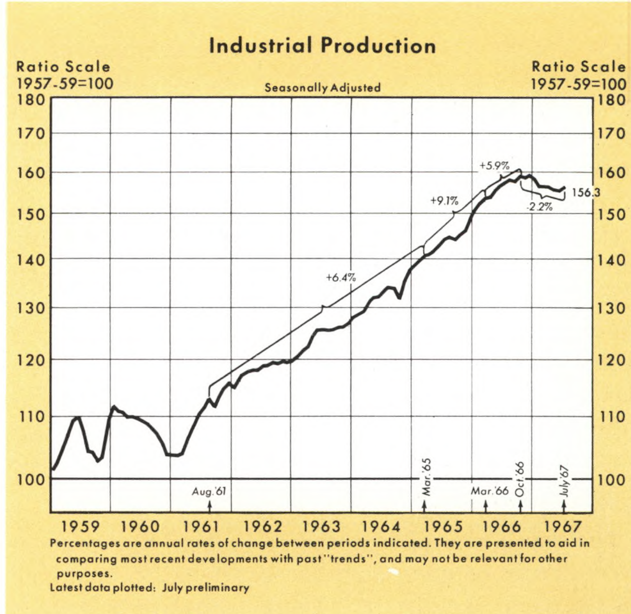




General price levels have risen markedly in recent months but as of July, did not reflect the pressure of total demand so much as the food supply situation. Consumer prices rose at a 4 per cent annual rate from April to July, well above the 2 per cent rate from August to April. For all items except food, consumer prices rose at a 3.1 per cent annual rate from April to July, compared with a 3.3 per cent rate from August to April. From 1958 to 1966 consumer prices rose at an average 1.5 per cent rate. Wholesale prices rose at a marked 5 per cent rate from April to July, after declining from August 1966 to April of this year. This upturn in prices was principally due to a sharp increase in prices of farm products and processed foods which declined in late 1966 and early 1967. Prices of finished industrial goods rose at a 1.7 per cent rate from April to June compared with a 1.3 per cent annual rate from October to April.

Despite signs of accelerating rates of economic activity, some evidences of the earlier slowdown remained in the early summer. Manufacturing, which accounts for about 30 per cent of total output, has been one of the weakest sectors. Industrial production declined during the first six months of this year before recovering half the decline during July and August. The decrease in industrial production during the first half of the year amounted to less than 2.5 per cent and may have been adversely affected by strikes.

The rate of industrial capacity utilization slipped to an average of 85 per cent in the second quarter, down from the 91 per cent a year earlier. It has remained near 85 per cent since the second quarter. This operating rate, however, compares with an 83.7 per cent average from 1962 through 1964. Although the unemployment rate rose slightly in the second quarter, it



was below 4 per cent in July and August and well below the 5.5 per cent average rate from 1962 through 1964.

Components of Total Demand

Some perspective on recent and potential developments is gained by analyzing various components of total demand. The first of these components consists of those categories of total spending which have grown at relatively stable rates. These stable components include consumer expenditures on nondurable goods and services, and expenditures of state and local governments.

A second component comprises those categories of total demand which have grown at widely varying rates, generally fluctuating in a cyclical pattern. These fluctuating components include consumer expenditures on durable goods, private fixed investment (residential and nonresidential structures, and producers' durable equipment), changes in business inventories, and net exports of goods and services.

Finally, Federal Government expenditures on goods and services are a separate category of total demand since they are, in part, subject to policy control. Usually they tend either to grow steadily or to move countercyclically. However, large items such as defense expenditures, which occur in spurts in response to external conditions, may cause total Government spending to move procyclically.

The stable components of total demand have maintained a steady aggregate rate of growth over the last five years. These components grew at an average annual rate of 7 per cent from the first quarter of 1963 to the second quarter of 1967.

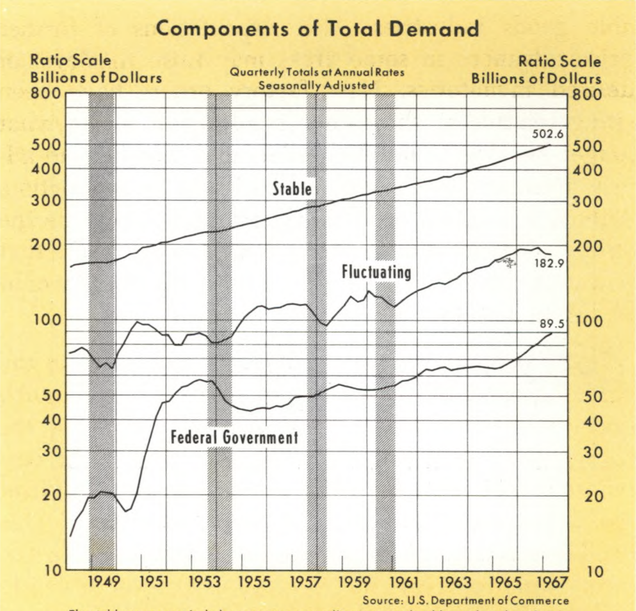
On the other hand, the fluctuating components of total demand grew at a very high 11 per cent annual rate from 1963 to 1965, inclusive. Following this rapid expansion they have declined at a 4 per cent rate since the end of 1965. These outlays typically rise rapidly in periods of economic expansion and decline in periods of contraction. The recent pause in the economy had some characteristics of an old-fashioned "business cycle trough." Downward adjustments of previously high levels of investment by consumers and businessmen acted as a brake on the economy in the classical manner. The sum of changes in the dollar values of the stable and fluctuating components was negative in the first quarter of 1967 and changed little in the second quarter.

The rapid rate of increase of Federal Government expenditures on goods and services helped to maintain total demand in early 1967. These expenditures showed little net change during 1963 and 1964, but, bolstered by the Vietnam situation and expanded welfare programs, Government outlays increased at a 12 per cent rate during 1965, and have risen at a 19 per cent rate since then. The continuing buildup in the Federal Government sector during early 1967 offset a decline in the private sector, leaving total spending about unchanged.

Given the likelihood of continued growth in the stable components, the key to acceleration in total demand is either a turnabout in the fluctuating components or an increasing rise in Federal expenditures. Either of these, and especially a combination of the two, could absorb any slack presently in the economy and might quickly set the stage for greater upward pressure on prices.

Fluctuating Components of Demand

Analysis of the fluctuating components seems to indicate that an upturn may have begun sometime in the second quarter of 1967. Consumer purchases of durables rose at a 16 per cent rate from the first to the second quarter after declining in the two previous quarters. The rise reflected chiefly a sharp increase in automobile sales. Retail trade data for July and early August indicate further expansion in sales of consumers' durable goods. Consumers used the first quarter to restore their liquidity by reducing the growth of instalment debts and by adding to their savings balances. Credit for the purchase of automobiles and other consumer durable goods rose at only a 3.6 per cent annual rate from November to June after growing 10 per cent in the preceding year. These credit developments, together with the continued rise in personal



Source: U.S. Department of Commerce

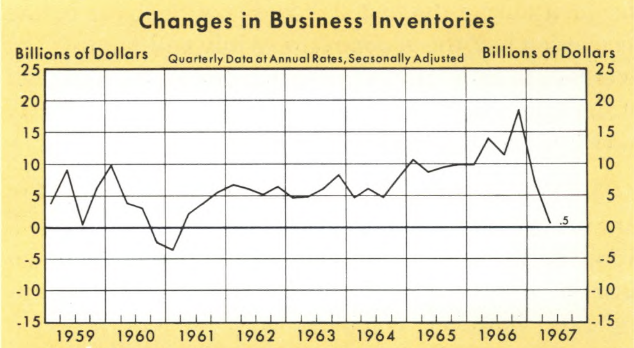
The stable component includes consumer expenditures on nondurable goods and services and expenditures of state and local governments. The fluctuating component includes consumer expenditures on durable goods, gross private domestic investments, and net exports of goods and services.

Shaded areas represent periods of business recession as defined by the National Bureau of Economic Research.

Latest data plotted: 2nd quarter

incomes, have now given consumers the means to increase their buying.

Nonfarm business inventories showed a nominal increase in the second quarter of 1967, after reaching a peak $19 billion increase in the fourth quarter of 1966. In June inventories of both manufacturing and trade firms declined. The inventory to sales ratio for both manufacturing and trade was 1.54 in July, down slightly from May, but still above the 1.48 ratio of a year ago. Wholesalers and retailers have apparently been more successful in bringing the inventory-sales ratio back to more normal levels. Manufacturing inventories of durables, more than of nondurables, seem to be high relative to sales. However, this may not inhibit further production of durables because of the low levels of auto inventories, defense needs, and the uncertainty concerning work stoppages in some dur-



Source: U.S. Department of Commerce

Latest data plotted: 2nd quarter preliminary able goods industries. Also, expectations of further price advances in some areas may raise the level of desired inventories. New factory orders have been rising relative to shipments, resulting in a somewhat longer backlog of unfilled orders and thus help to adjust inventory levels without cutbacks in production. Although building of inventories may not become the strong addition to total demand in the near future that it was in late 1966, a return to pre-1966 levels would represent a sizable stimulus.

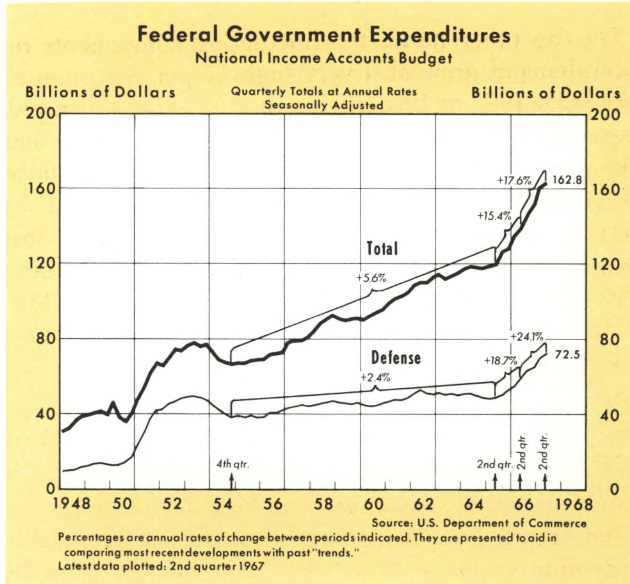
Investment in producers' durable equipment in the second quarter recovered almost to the level of fourth quarter 1966. Because of the uncertain effect of the investment tax credit restoration, the decline of corporate profits, and the lower rate of capacity utilization, there was a decline in business construction. This decline was enough to reduce total investment in the second quarter. Now that inventories are more nearly in balance, industrial production has shown signs of increasing, business profits are improving, and fixed investment by business may be expected to expand.

Residential construction has shown a modest increase during the first half of the year compared with the low fourth quarter of 1966 but remains well below the high levels of 1964 and 1965. Despite rising construction costs and some firming of interest rates in recent months, contract awards and housing starts point to some future strength in this area. Substantial amounts of funds have been flowing into savings and loan associations and mutual savings banks, but these intermediaries have used a large portion of these funds to reduce borrowings from the Federal Home Loan Board and to restore their reduced liquidity. Interest rates on mortgages have not fallen, apparently because some institutions which usually invest in mortgages have been attracted by the high rates offered on securities issued by businesses and Federal agencies.

Total private investment in the first half of the year dropped at an 18 per cent annual rate from the second half of 1966. Examination of the components suggests that strength began developing in the second quarter and a turnabout may have occurred. In view of the previous levels of operation and existing unused capacity, a moderate rise in the growth rate of total demand would be a healthy move toward more efficient utilization of resources. A return to the 1966 pace, however, would be unsustainable and would probably place excessive demands on the available supply of resources.

Government Spending

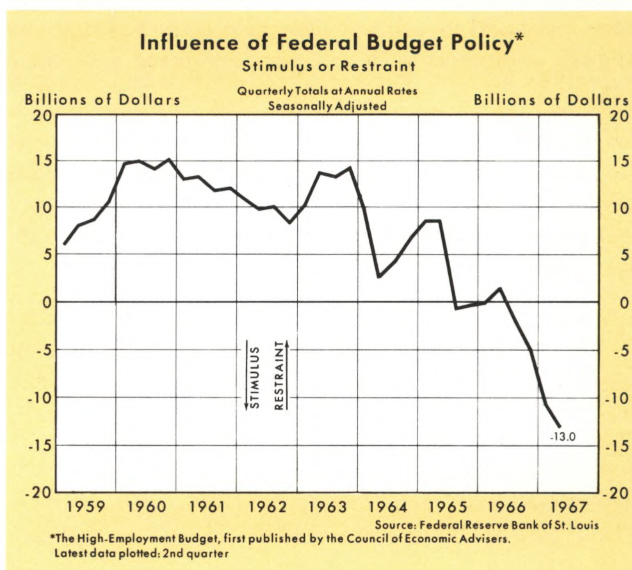
The fiscal operations of the Federal Government have had a stimulative effect on the economy since mid-



1965, primarily because of spending related to the Vietnam War. This stimulus is expected to continue over the foreseeable future, although it may be reduced if the proposed tax surcharge is passed.

Defense expenditures rose 24 per cent from mid-1966 to mid-1967, compared with 19 per cent in the preceding twelve months. From mid-1963 to mid-1965, defense spending had been virtually unchanged.

The high-employment budget, a measure of the impact of fiscal actions, showed about an $8 billion deficit in the year ending mid-1967, compared with a near balance in the corresponding period a year earlier. The high-employment budget, which adjusts the national income accounts budget for the effect of varying economic activity on tax receipts and on unemployment insurance disbursements, had shown an average



surplus of about $11 billion from 1960 to mid-1965.

The proposed 10 per cent surcharge, when effective, would reduce the deficit in the high-employment budget by about a $10 billion annual rate. The stimulus from budget actions would then be dampened, but assuming probable increases in spending, deficits of about $5 billion in the high-employment budget might still be expected in early 1968. This would be less expansionary than in the first half of 1967, but about $13 billion more stimulative than in 1963 through 1965.

Corporate Borrowing

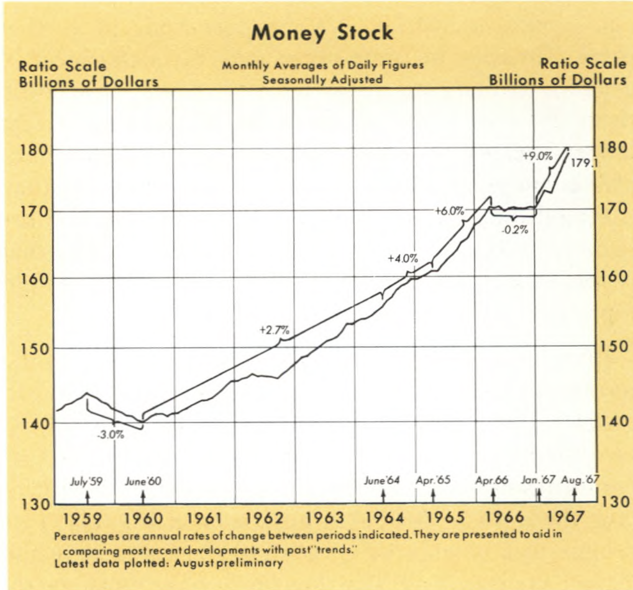
Corporations have been drawing on the capital market at a record rate this year, despite cutbacks in their investment expenditures. Some of these long-term funds apparently have replaced bank loans which had been used to finance last year's investment surge. Also, corporate earnings, which declined markedly in the first half of 1967, have generated fewer internal funds to satisfy the liquidity and capital formation needs of corporations. Over the last two years corporations have been required to pay taxes on a more current basis. The strong demands for funds by corporations as well as municipalities and the Federal Government have resulted in a rise in long-term interest rates despite some loss of industrial momentum and a climate of rapid monetary expansion.

Monetary Developments

Monetary developments have been expansive since early this year. Total member bank reserves have grown at an annual rate of 7 per cent during the last six months, almost double the 4 per cent trend rate from 1960 to 1966. Reserves available for private demand deposits (reserves other than those needed to support Government, interbank and time deposits) have increased at a 9 per cent rate from February to August, compared with a 2 per cent trend rate since 1960.

The money stock has risen at a 9 per cent rate over the past six months after changing little in the previous half year. By comparison, money grew at a 2.7 per cent rate from 1960 to 1964 and at a 4.2 per cent rate from 1964 to 1966.

Money stock plus time deposits in commercial banks (a broader concept of money) rose at a 13 per cent rate from February to August. This measure of money rose at a 5 per cent rate in the previous six months and at a 7.5 per cent rate in the 1960 to 1966 period.



Commercial bank credit has grown at an estimated 13 per cent annual rate since January compared with growth of about 6 per cent in the preceding year. Commercial banks have increased their investments in Government, and state and municipal securities at a high 24 per cent annual rate since January after making little net change in investments last year. Commercial bank loans have grown at an 8 per cent annual rate in the first seven months of this year, about half the rate in the same months of 1966, and more than twice the 2.3 per cent annual rate during the last five months of 1966.

Summary

The economy has apparently skirted what might have become a recession. Mounting inflationary pressures have again become a current problem. Bank reserves, bank credit, money and savings accounts have all been rising rapidly, yet interest rates have increased in response to a vigorous demand for credit.

The extremely high level of Government spending, which maintained final demand at a high rate of increase earlier this year, continues to be expansionary. This spending must be financed. The full effects of the resulting stimulative deficit and the necessary financing effort may continue to act on the economy after the private sector is again accelerating. The proposed tax surcharge would help relieve the pressures on prices and interest rates, but questions remain as to whether this action alone would be sufficient to prevent inflation and even higher interest rates.

Economic Progress in the Central Mississippi Valley

Per capita personal income in the Central Mississippi Valley[1] states, though still below the national average, has advanced at a faster rate since 1950 than in the nation.

Many income-related factors have shown favorable trends in the region relative to the nation. These include employment in agriculture, proportion of the population living in urban areas, per cent of population employed, ratio of wages and salaries to personal income, proportion of employment in professional and technical occupations, and transfer payments. With respect to median years of schooling, the region's rate of gain has not been so great as the national average.[2]

Per capita personal income in the Central Mississippi Valley in 1966 was $2,296, well below the $2,940 national average. Per capita income within the region ranged from $1,751 in Mississippi to $2,845 in Missouri. With the exception of Missouri, the states of the region were in the lowest fifth when all states in the nation were ranked according to income.

Personal income data provide some indication of economic welfare and progress. They show the relative amount of funds available for personal spending. They do not, however, take into account differences in living costs between areas and occupations. This article examines factors which are associated with personal income levels and relates those factors to conditions in the Central Mississippi Valley states.

Market forces have had a favorable impact on per capita incomes in the Central Mississippi Valley states in the past 16 years. From place to place and from occupation to occupation, movements of labor and the creation of jobs have resulted from the forces of the market. The incentive for higher wages has motivated workers to move from low-income to high-income geographic areas and occupations. The migration of regional labor to higher paying jobs outside the area is indicated by the disparity in rates of growth between the regional and national population. Similarly, availability of labor has offered incentive for firms to locate in the Central Mississippi Valley. As new jobs have been created and the demand for labor has increased, the impact has been noted in such income-related factors as proportion of population employed, the proportion employed in agriculture, and the ratio of urban to total population.

Population trends in the region, coupled with the birth rate data, indicate that the labor force has responded to employment opportunities and generally higher wage rates elsewhere. Emigration has apparently been sizable since 1950. Population in the region rose only 0.7 per cent per year from 1950 to 1966, compared with a 1.6 per cent rate in the nation. The disparity in the regional and national population growth rates, however, has been declining in recent years. From 1950 to 1960 population in the five Valley states increased at only about one-third the national rate of growth, while from 1960 to 1966 the regional rate of gain was about two-thirds of the national rate. A very rapid movement of population out of agriculture was probably a major factor in the low regional rate of population gain during the decade from 1950 to 1960. Agricultural employment in the Valley declined at an average annual rate of 7 per cent, compared with a national rate of 3 per cent.

The birth rate in the region probably exceeded the national rate in most years from 1950 to 1966. In 1950 the number of births per thousand exceeded the 24.1 national rate in four of the five Valley states. In 1960 the birth rate was higher in two of the Valley states than in the nation, while in each of the years 1964 and 1965 the birth rate was higher in three of the Valley states than in the nation. Therefore, the lower rate of population growth in the states of the region seems to be due to emigration.

[1] The Central Mississippi Valley, as used in this article, consists of the states of Arkansas, Kentucky, Mississippi, Missouri, and Tennessee.

[2] See "Why Kentucky Ranks Low Among the States in Per Capita Personal Income," *Research Briefs*, Bureau of Business Research, University of Kentucky, November 1966.

Income Gains

Since 1950 per capita income has grown faster in the Central Mississippi Valley than in the nation. In the region it grew at an annual rate of 5 per cent, while in the nation it grew at a rate of only 4.3 per cent. In 1966 per capita income in the Valley was 78 per cent of the national average, up from 74 per cent in 1960 and from 71 per cent in 1950.

The income gap between region and nation is narrowing in each state. The greatest relative gains have been in the southern part of the region where the lowest relative incomes have prevailed. From 1950 to 1966 average income rose from 55 to 69 per cent of the national level in Arkansas and from 50 to 60 per cent in Mississippi. Per capita income increased in Arkansas at a 5.7 per cent annual rate and in Mississippi at a 5.4 per cent rate. Per capita income in Kentucky and Tennessee rose at a 5.2 per cent average rate and in Missouri at a 4.4 per cent rate, slightly above the 4.3 per cent national rate.

Employment in Agriculture

The proportion of workers employed in agriculture in the region has remained high relative to the national average. In 1966, 10 per cent of total employment in the region was in agriculture, compared with 5.5 per cent in the nation. Mississippi and Kentucky had 16 and 12 per cent of the employed labor force in agriculture, respectively, while Arkansas, Missouri, and Tennessee each had more than 8 per cent so employed. Agriculture generally accounts for a larger proportion of total income in areas where per capita income is small than in areas where per capita income is large. In the Central Mississippi Valley more than 6 per cent of income was derived from agriculture in 1965, compared with 3 per cent in the nation.

Although still relatively high, employment in agriculture in the region has declined sharply since 1950. Arkansas and Mississippi, the states which have shown the most rapid gains in per capita income, have had the most rapid declines in agricultural employment. The movement out of agriculture was most pronounced in Arkansas, with employment in the farm sector declining from 1950 to 1966 at an 8.3 per cent annual rate. Agricultural employment in Mississippi declined at the rate of 5.3 per cent during the period, while the regional and national rates of decline were 4.5 and 3.9 per cent, respectively.

The shift of workers out of agriculture has resulted from rapid technical change in that industry. The shift to more productive resource combinations in farming has been phenomenal. One vital aspect of the recombination has been more land and capital per worker, which was made possible by extensive use of modern machinery. Changes in many farm production techniques have favorably influenced farm production efficiency. The number of commodities produced per farm has declined. Each farmer has become a specialist in the mass production of one or a few products. These changes have led to a remarkable increase in farm output per worker and a decline in the number of workers necessary for food and fiber production.

This increased farm productivity has been of benefit to the region and the nation. Output of food and fiber products has increased, providing consumers with an abundant supply at lower costs. Increased efficiency has released workers from agriculture to produce nonfarm products and services on which consumers presently prefer to spend a larger portion of their incomes. At the same time, income per farmer has increased rapidly.[3]

Proportion of Population Urban

Since the economy of the Central Mississippi Valley is still heavily agricultural, the ratio of urban to total population has remained relatively low. The region as a whole is well below the national average in per cent of population living in urban areas. Within the region, the proportion of population living in urban areas in 1966 ranged from 40 per cent in Mississippi to 69 per cent in Missouri, compared with about 70 per cent in the United States. In most states of the region urbanization corresponded closely with the per capita income level. The only state of the region in which urban population and per capita income were not closely associated was Kentucky which was substantially lower in urban population, but only 25 per cent below the national average in per capita income.[4] Relatively high earnings of production workers in manufacturing partially offset the negative influence of a large rural population in this state.

As a result of the rapid movement out of agriculture, urbanization has proceeded much faster in the region than in the nation. Urbanization in the region rose to 77 per cent of the national proportion in 1966, up from 60 per cent in 1950. Although major urbanization gains occurred throughout the area, the change was greatest in Tennessee, which rose from 47 to 77 per cent of the national proportion during the period.

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[3] See "Farm Income and Price Trends" in the August 1967 issue of this *Review*.

[4] Computed as an index number using the United States figure for the comparable year as the base equaling 100.

Table I

PERSONAL INCOME AND ASSOCIATED FACTORS IN THE CENTRAL MISSISSIPPI VALLEY

	Arkansas	Kentucky	Mississippi	Missouri	Tennessee	Central Mississippi Valley	United States
Per Capita Personal Income—1966	**$ 2,015**	**$ 2,205**	**$ 1,751**	**$ 2,845**	**$ 2,199**	**$ 2,296**	**$2,940**
Per Cent of U.S. in 1966	69	75	60	97	75	78	100
Per Cent of U.S. in 1950	55	66	50	96	66	71	100
Proportion of Employment in Agriculture—1966	**8.2**	**12.4**	**16.4**	**8.5**	**8.7**	**10.3**	**5.5**
Per Cent of U.S. in 1966	149	226	298	155	158	187	100
Per Cent of U.S. in 1950	279	206	336	140	174	206	100
Ratio of Urban Population to Total—1966[1]	**46**	**46**	**40**	**69**	**54**	**54**	**70**
Per Cent of U.S. in 1966	66	66	57	99	77	77	100
Per Cent of U.S. in 1950	51	52	44	91	47	60	100
Proportion of Population Employed—1966	**33.8**	**33.9**	**32.8**	**42.5**	**39.7**	**37.6**	**37.2**
Per Cent of U.S. in 1966	91	91	88	114	107	101	100
Per Cent of U.S. in 1950	82	82	84	98	87	88	100
Ratio of Wage and Salaries to Personal Income—1965	**57.1**	**62.6**	**59.9**	**63.1**	**66.9**	**62.9**	**66.8**
Per Cent of U.S. in 1965	85	94	90	94	100	94	100
Per Cent of U.S. in 1950	77	95	78	94	95	91	100
Yearly Earnings of Production Workers in Manufacturing—1965	**$ 3,902**	**$ 5,347**	**$ 3,899**	**$ 5,486**	**$ 4,434**	**$ 4,799**	**$ 5,591**
Per Cent of U.S. in 1965	70	96	70	98	79	86	100
Per Cent of U.S. in 1950	71	N.A.	67	95	81	85	100
Median Years of Schooling—1960	**8.9**	**8.7**	**8.9**	**9.6**	**8.8**	**9.1**	**10.6**
Per Cent of U.S. in 1960	84	82	84	91	83	86	100
Per Cent of U.S. in 1950	89	90	87	95	90	90	100
Proportion of Employment in Professional and Technical Occupations—1960	**8.2**	**8.9**	**8.0**	**9.8**	**9.2**	**9.1**	**11.1**
Per Cent of U.S. in 1960	74	80	72	88	83	82	100
Per Cent of U.S. in 1950	59	61	56	87	73	69	100
Ratio of Transfer Payments to Personal Income—1965	**9.5**	**8.7**	**8.6**	**7.5**	**7.3**	**8.0**	**6.9**
Per Cent of U.S. in 1965	138	126	125	109	106	116	100
Per Cent of U.S. in 1950	161	124	156	103	133	126	100

N.A.—Not available.

[1] Estimates based on projections of Census data.

Sources: Department of Commerce, Department of Labor, and State Employment Security Offices. Comparisons with the United States are computed as index numbers using the U.S. figure for the comparable years as the base equaling 100.

Proportion of Population Employed

With the decline in agricultural employment and the rapid increase in urbanization in the region, the proportion of the population employed had moved ahead of the national proportion by 1966. In the Valley states 38 per cent of the population was employed in 1966 compared with 37 per cent in the nation. Opportunities for employment by women greatly increase as families move from rural to urban areas. Furthermore, the movement of industry into many rural communities of the region has enhanced nonfarm employment of people living on farms.

In 1966 both Missouri and Tennessee were well above the national average in proportion of population employed. Mississippi, which has greater dependence on agriculture, had the lowest proportion with only 33 per cent of its population employed. Nevertheless, its proportion was still 88 per cent of the national average.

Nonagricultural employment gains in all states of the region except Missouri exceeded the national average from 1950 to 1966. Mississippi led the group with a 3.2 per cent rate of increase, while the 1.7 per cent rate in Missouri was only slightly below the national average of 1.9 per cent. The gain in the region was at an average rate of 2.4 per cent.

Personal Income From Wages and Salaries

A relative gain in proportion of personal income from wages and salaries has been associated with the increase in the proportion of the population employed in nonfarm pursuits in the region. Predominantly agricultural areas generally have a smaller number of wage and salary employees and derive a smaller per cent of income from such employment.

In the region the proportion of personal income derived from wages and salaries rose from 91 per cent of the national average in 1950 to 94 per cent in 1965. Greatest relative gains were in Arkansas and Mississippi where employment in agriculture declined most rapidly. In Arkansas the proportion rose from 77 to 85 per cent of the national average during the period, while in Mississippi the proportion rose from 78 to 90 per cent. In Kentucky, Tennessee, and Missouri, where agricultural employment declined less rapidly, the gains in proportion of income from wages and salaries were smaller. Kentucky and Missouri made no gain relative to the national average. Tennessee moved up only five percentage points from 1950 to 1965, but did reach the national average in proportion of income from this source in 1965.

Earnings in Manufacturing

Annual earnings of production workers in manufacturing in the Central Mississippi Valley were about 14 per cent below the national level in 1965. Earnings of production workers nationally averaged $5,591. In the region, average earnings were $4,799, ranging from $3,899 in Mississippi to $5,486 in Missouri. Such earnings in Arkansas and Mississippi were 30 per cent less than the national average and 21 per cent below the national level in Tennessee. In both Kentucky and Missouri, earnings were about the same as in the nation.

Yearly earnings of production workers in manufacturing in a given state are related both to general wage levels in the area and the industry mix. In the region as a whole low-wage industries prevail as would be expected in any region in the relatively early stages of industrialization. The proportion of income derived from high-wage durable goods industries was 24 per cent below the national average with each state below the national figure.

Employment data for the Central Mississippi Valley substantiate the relatively unfavorable industry mix observed by analyzing income data. The four states of Arkansas, Kentucky, Mississippi, and Tennessee had only 47 per cent of their manufacturing employment concentrated in the higher wage durable goods industries, compared with 59 per cent in the nation. In these four states 14 per cent of manufacturing employment was in lumber and furniture, which are the two durable goods industries with lowest wages nationally. Only 6 per cent of the manufacturing employment in the nation was in those two categories. The four states had only 7.5 per cent of manufacturing employment in the highest-wage industries of transportation and primary metals, while nationally 17 per cent of the workers were employed in those two categories.

Arkansas, Kentucky, Mississippi, and Tennessee had a high concentration of workers in the low-wage nondurables. About 15 per cent of the manufacturing employees in the four states worked in the lowest-wage apparel industry, compared with 7 per cent in the nation. Nationally, the average weekly wage in the apparel industry in 1966 was only 62 per cent of the average wage for all manufacturing. The fact that nearly one-fourth of the manufacturing workers in Mississippi were employed in the apparel industry in 1966 helps to explain the low per capita income in that state.

Although Missouri had a somewhat heavier concentration of employment in nondurables than the nation, the industry mix was much more favorable than in the other Central Mississippi Valley states. Missouri also had a much higher per capita income than the other four regional states. More than 17 per cent of Missouri's manufacturing workers were employed in the high-wage transportation equipment industry, compared with 10 per cent in the nation and only 4 per cent in the other Valley states.

The fact that a large proportion of workers are employed in the lower-wage nondurable industries in most of the Valley states indicates that much of the region is in a transition stage. It is moving from a predominantly agricultural economy to a more balanced industrial economy. Many employees in the lower-wage industries were formerly under-employed farm workers. Employment in nondurable industries has thus served to raise the income level of these workers and of the region. Furthermore, if these industries had not provided employment in the region, greater migration to other areas would have occurred. The expense of these population movements must be equated with the potential gain.

Since 1950 the region has about kept pace with the nation in average earnings of production workers in manufacturing. Mississippi and Missouri made small relative gains which were almost offset by relative losses in the remaining states.

The failure of the region to grow faster than the nation in production worker earnings is probably related to both supply and demand conditions in the labor market and to the level of training achieved by labor in the area.

Table II

Annual Rates of Change

PERSONAL INCOME AND ASSOCIATED FACTORS CENTRAL MISSISSIPPI VALLEY STATES

	Arkansas	Kentucky	Mississippi	Missouri	Tennessee	Central Mississippi Valley	United States
Total Personal Income							
1950-66	5.9	5.7	5.8	5.2	6.1	5.7	6.0
1950-60	4.6	5.2	4.8	4.9	5.3	5.0	5.8
1960-66	8.2	6.6	7.6	5.8	7.5	6.8	6.3
Population							
1950-66	0.2	0.5	0.4	0.8	1.0	0.7	1.6
1950-60	–0.6	0.3	–0–	0.9	0.8	0.4	1.7
1960-66	1.5	0.8	1.1	0.7	1.4	1.0	1.5
Per Capita Personal Income							
1950-66	5.7	5.2	5.4	4.4	5.1	5.0	4.3
1950-60	5.2	4.8	4.8	4.0	4.5	4.6	4.0
1960-66	6.6	5.8	6.4	5.1	6.1	5.7	4.8
Total Employment							
1950-66	0.4	0.8	0.4	1.4	2.0	1.2	1.2
1950-60	–0.9	–0.2	–0.5	0.3	0.7	0.1	1.1
1960-66	2.6	2.4	1.9	3.3	4.0	3.0	1.5
Agricultural Employment[1]							
1950-66	–8.3	–3.7	–5.3	–3.0	–3.7	–4.5	–3.9
1950-60	–7.5	–6.0	–7.2	–5.7	–6.1	–6.5	–2.7
1960-66	–9.5	0.1	–2.2	1.5	0.5	–1.1	–5.9
Nonagricultural Employment							
1950-66	3.1	2.3	3.2	1.7	2.8	2.4	1.9
1950-60	2.1	1.6	2.6	1.3	2.0	1.7	1.8
1960-66	4.8	3.5	4.3	2.3	4.3	3.5	1.9
Yearly Earnings of Production Workers in Manufacturing							
1950-65	3.9	N.A.	4.3	4.3	3.9	4.1	4.0
1950-60	4.0	N.A.	4.3	4.5	4.3	4.8	4.2
1960-65	3.7	4.1	4.4	3.8	3.1	2.8	3.7

N.A.—Not available

[1] 1950 and 1960 figures were obtained from the 1960 *Census of Population.* 1966 figures were obtained from the State Employment Security Offices.

Sources: Department of Commerce, Department of Labor, and State Employment Security Offices.

In 1950 the labor supply in the region was apparently excessive in relation to job opportunities. Most of the excess, however, was in the agricultural sector in the form of under-employed workers, i.e., workers that could be eliminated from the farm work force without any reduction in output or net income within the industry. There was a mass exodus of these workers from agriculture into other occupations both within and outside the region. This stream of labor flowing into the nonfarm sector was a factor in the downward pressure on wages. Wage rates in the area thus failed to gain relative to the national average despite a major increase in the number of jobs and demand for labor.

This type of labor flowing into the nonfarm sector was not well-trained. Industries locating in areas where large numbers of such workers could be recruited were of the type that could utilize relatively low-skilled workers. Such industries also pay relatively low wages. The buildup of such industries in the region was thus a major factor in both the rapid growth in nonfarm employment and only average growth in wages of production workers in manufacturing. Otherwise, with the relatively low wage rates in the region one would have expected the gap between regional and national wage rates of manufacturing workers to have closed.

Quality of the Labor Force

Perhaps the most important factor in income determination is the quality of the labor force. Two measures of quality included in this article are median years of schooling of the adult population and proportion of population employed in professional and technical occupations. A high rating in these factors is generally associated with high-quality labor and high labor returns. All states of the region ranked well below the nation in both factors in 1960, the latest year for which data are available. On the basis of median years of schooling completed by the adult population in 1960, the region was 14 per cent below the national average. The median education of the adult population of Missouri, the highest in the area, was 9.6 years, a year below the national level. Median years of schooling in the other four states ranged from 8.7 in Kentucky to 8.9 years in Arkansas and Mississippi.

Measured on the basis of employment in the more highly-trained professional and technical occupations, the labor force in the Central Mississippi Valley states is relatively unskilled. The region was well below the national average in proportion of employment in professional and technical occupations in 1960, with Mississippi and Arkansas having the smallest percentage of workers in those occupations. Missouri and Tennessee ranked highest in proportion of professional and technical workers, but both states were well below the national average.

Measures of quality of the labor force in the Central Mississippi Valley show mixed trends relative to the nation during the decade from 1950 to 1960. The median years of schooling in the region declined from 90 to 86 per cent of the national median. Each state lost ground compared to the national level. However, the proportion of employment in professional and technical occupations increased faster in all five states than in the nation. Gains were greatest in Arkansas and Mississippi, the states which ranked lowest in this factor at the earlier date. This high rate of gain probably reflects the sizable movement of population out of agriculture in these states, where a number of these people had received their education. Conversely, Missouri, which ranked highest in professional and technical employment, had the lowest rate of gain.

Transfer Payments

Transfer payments, like agricultural employment, relate inversely to income. They tend to be high in low-income areas as many are designed to aid persons with low incomes. The Central Mississippi Valley was 16 per cent above the nation in proportion of income derived from transfer payments in 1965. Arkansas, Kentucky, and Mississippi were particularly high in this factor, while Missouri and Tennessee were only slightly above the national average. Although transfer payments relate inversely as an indicator of income, they also have an equalizing effect on income. They are financed primarily by income and social security taxes, and relatively small amounts are collected per capita in states with low per capita incomes. Thus Government welfare programs have tended to enhance per capita income in the relatively low income states of the Central Mississippi Valley.

Transfer payments as a per cent of personal income in the region declined sharply relative to the nation from 1950 to 1960 and remained constant from 1960 to 1965. The declines were substantial in Arkansas, Mississippi, and Tennessee for the entire period from 1950 to 1965. In contrast, Kentucky and Missouri showed small increases relative to the national proportion.

Summary

In summary, market forces are tending to reduce the income gap between the region and the nation. The rate of growth in per capita income in each of the five states has been greater than the national average since 1950. Most factors generally associated with per capita income levels have shown larger gains in the region than in the nation. The region has improved in proportion of employment in agriculture, urbanization, proportion of population employed, ratio of wages and salaries to personal income, proportion of employment in technical and professional occupations, and ratio of transfer payments to personal income. The region has kept pace with the nation with respect to yearly earnings of production workers in manufacturing. The failure of earnings of production workers to make greater gains than the nation, despite the rapid growth of nonfarm jobs, may indicate that there is an abundant supply of labor in the area in relation to job opportunities. A large reservoir of under-employed and low-wage labor existed in the region, particularly on farms, which tended to reduce the upward pressure on wages and salaries as new jobs were created. Once this reservoir of labor is depleted, upward pressure on wage rates will likely increase.

In median years of schooling, the region lags the nation substantially, and the gap widened during the decade ending in 1960. In this important factor, each of the Central Mississippi Valley states may be overlooking its greatest opportunity for increasing personal income and improving welfare. Professor T. W. Schultz of the University of Chicago, one of the nation's outstanding economists, reports:

> Two lessons may be drawn from studies that have been made of schooling as a source of economic growth. During the last three decades, schooling has been a larger source of growth than material capital represented by structures, equipment, and inventories as presently measured. The other lesson pertains to earlier decades and to the decades ahead. Between 1909 and 1929, . . . schooling played a much smaller role in growth than it has since then. During the next two decades the prospects are that schooling will continue to be a major source of growth.[5]

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[5] Theodore W. Schultz, *The Economic Value of Education*, New York: Columbia University Press, 1963, p. 44.

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