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Uncertain Pace of Economic Activity

BUSINESS ACTIVITY, which had been on a plateau in late 1962, rose markedly in the first half of 1963.[1] After the middle of the year there was a reduction in the rate of economic advance. Paralleling the business developments, there was a slackening in the rate of growth of bank reserves, bank credit, and bank deposits.

Bank Reserves, Credit, and Deposits

Commercial bank expansion, which was relatively rapid last fall and early this year, proceeded at a lesser rate after midsummer. From July to the month ending October 15 total member bank reserves decreased slightly; and from July to the most recent period for which data are available both commercial bank credit (loans and investments) and total deposits rose moderately. From September 1962 to July, a period when bank reserves were increasing, the rates of expansion of credit and deposits were markedly higher (Table I).

The decrease in total member bank reserves from July to the month ending October 15 followed an increase at a 4.8 per cent rate from September 1962 to July. Member bank reserves are important because of their influence on bank credit and the money supply. As the volume of bank credit outstanding rises, bank deposits also rise. Because member banks are required to keep as a reserve (deposits at Federal Reserve Banks and vault cash) an amount equal to a prescribed fraction of their deposits, an expansion of bank credit and deposits is accompanied by an increase in the volume of reserves which banks are required to hold.[2] Therefore, on a given reserve base the ability of banks to expand credit is limited.

Total bank credit (loans and investments) increased at a 3.2 per cent annual rate from July to the end of September compared with a 9.7 per cent rate during the previous ten months (Table I). The rise in bank credit, despite the decrease in total reserves, was made possible in part by a reduction in the excess reserve holdings of member banks. Bank loans have risen at a 9.8 per cent annual rate since July, a slightly lower rate than over the preceding ten months. The loan expansion was accomplished, in part, by net sales of Government securities.[3] Bank investments have decreased since July, after rising markedly from September last year to July.

Preliminary data for the first two weeks of October suggest a decline in bank credit after adjustment for seasonal influences. Bank loans declined, with decreases in loans to security dealers and finance companies more than offsetting a rise in other business loans. Bank investments increased in the first two weeks of October.

[1]See "January to July—A Resumption of Business Expansion" in the August 1963 issue of this *Review*.

[2]The current requirements for demand deposits are 16½ per cent for reserve city banks and 12 per cent for country banks. A reserve of 4 per cent is required for time deposits at all member banks.

[3]See "Loans and Investments 1951-1963" in the October issue of this *Review*.

TABLE I

Bank Reserves, Credit, and Deposits

	Dollar Amounts Outstanding (millions) September 1963	Seasonally Adjusted Annual Rates of Change: September 1962 to month ending October 15, 1963	September 1962 to July 1963	July 1963 to month ending October 15, 1963
Total Member Bank Reserves	$ 19,933	3.7%	4.8%	— 0.4%
Total Bank Credit*	240,700	8.4	9.7	3.2
Loans	145,000	11.8	12.1	9.8
Investments	95,700	3.7	6.4	— 6.4
Total Deposits	246,305	8.0	8.6	4.8
Private Demand Deposits	119,100	3.7	4.2	1.9
U. S. Government Demand Deposits	5,681	—12.7	— 3.5	—50.9
Interbank Deposits	14,024	N.A.	N.A.	N.A.
Time Deposits	107,500	14.9	15.6	11.8
Money Supply	150,900	4.0	4.4	2.5
Demand Deposits Adjusted	119,100	3.7	4.2	1.9
Currency in Circulation	31,800	5.1	5.5	2.9

*Rate of change for bank credit, loans, and investments are calculated on the basis of the last Wednesday of September 1962, the average of the last Wednesdays of June and July 1963, and the last Wednesday of September 1963.

Total commercial bank deposits (Table I) have increased at a considerably lower annual rate since July (4.8 per cent) than during the September 1962-July 1963 period (8.6 per cent). Private demand deposits (excluding U. S. Government and interbank accounts) have increased at a 1.9 per cent rate since July as against a 4.2 per cent rate in the preceding ten months. Time deposits have increased at an 11.8 per cent annual rate since July. This rate is about the same as that which had prevailed since March but is less than the September 1962 to March rate of 18 per cent.

Money Supply

The nation's money supply (demand deposits adjusted plus currency outstanding) increased at a 2.5 per cent annual rate from July to the month ending October 15, compared with a 4.4 per cent rate from September 1962 to July 1963 (Table I). The money supply was unchanged from the last half of July to the last half of September, rose $1.2 billion during the first half of October and probably changed little in the last half of October. The rate of increase in both demand deposits and currency has been less since July than in earlier months.

The slower growth in the money supply reflected a reduction in the rate of increase in reserves available for private demand deposits. Since July, these reserves have been about unchanged, while during the September 1962-July 1963 period they increased at a 3.1 per cent rate.

Interest Rates

Since July, interest rates on most marketable issues have increased (Table II). In the period from September last year to July of this year, the pattern of rate movements was mixed. Short-term rates generally rose. Many longer term rates declined from September last year to January, but rose from January to July. Yields on medium-grade corporate issues and on mortgages drifted lower from September to July.

TABLE II

Selected Yields

(Per cent)

	Monthly Averages			
	September 1962	January 1963	July 1963	October* 1963
3-month Treasury Bills	2.78	2.91	3.18	3.45
6-month Treasury Bills	2.93	2.96	3.31	3.58
3-5-year Government Notes	3.56	3.47	3.78	3.91
Long-term Government Bonds	3.94	3.88	4.01	4.06
Aaa Corporate	4.32	4.21	4.26	4.31
Baa Corporate	5.03	4.91	4.84	4.83
Municipals (Aaa)	3.01	2.95	3.10	3.15
Conventional Mortgages	5.90	5.85	5.80	5.80

* Preliminary

Yields on three-month Treasury bills, which averaged 2.91 per cent in January, were 3.45 per cent in October, with the bulk of the rise occurring after early July (Table II). They have increased 67 basis points since September 1962. Interest rates on long-term Government bonds rose from an average of 3.88 per cent in January to 4.06 per cent in October.

Yields on corporate and local Government issues have also risen in recent months (Table II). For example, yields on highest grade (Aaa-rated) corporate bonds reached 4.31 per cent in October, compared with 4.26 per cent in July, and 4.21 per cent in January. Average interest rates on conventional mortgages remained unchanged from July to September. In contrast, mortgage rates had been decreasing since early 1960.

Stock Prices and Credit

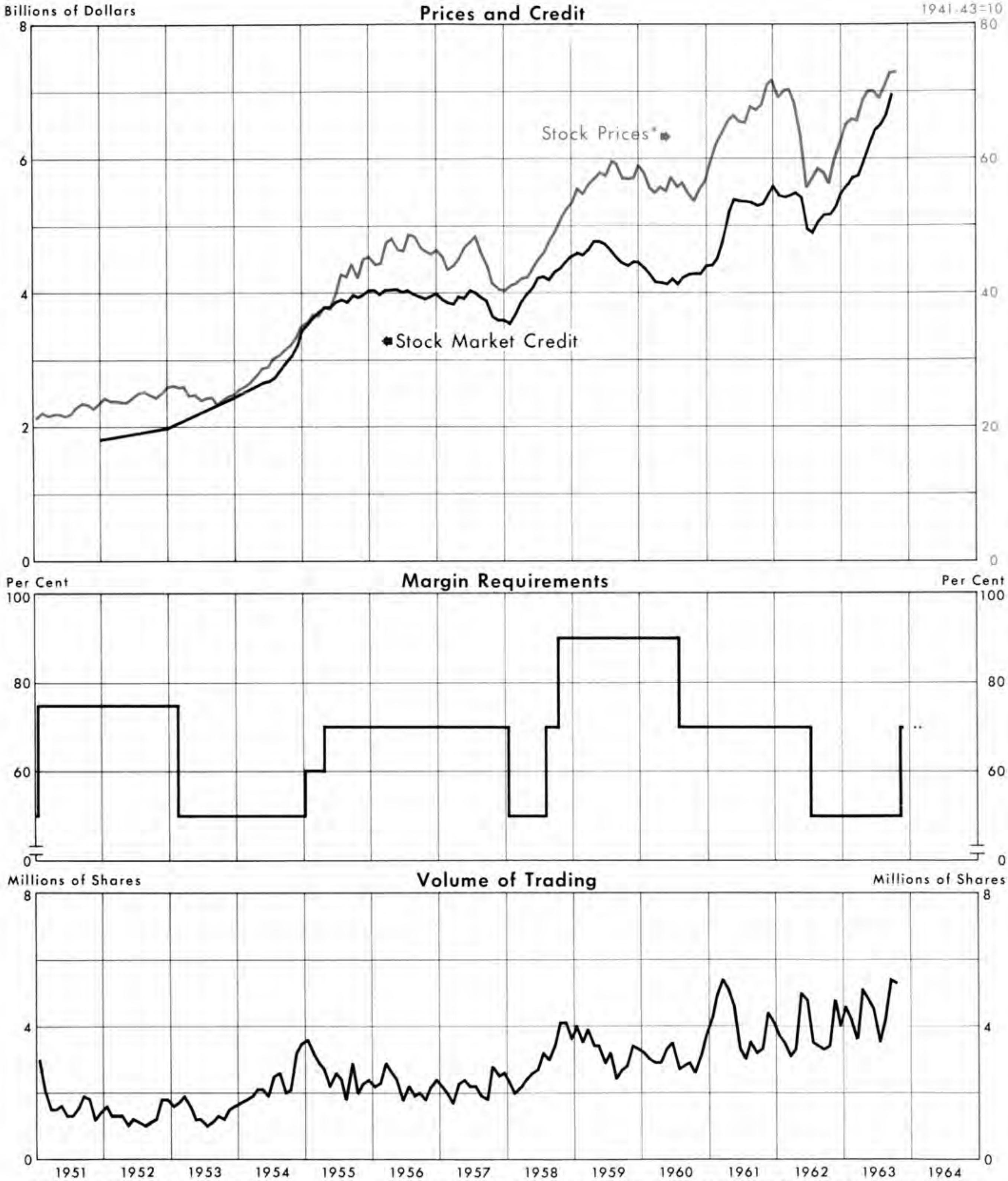
Stock market credit rose in September to $7.0 billion, continuing a trend which began slightly more than a year ago (chart, page 4). Although stock prices changed only slightly from September to October, they have risen markedly during the past year and have surpassed the previous peak reached before the break in early 1962. The volume of trading on the New York Stock Exchange has been tending upward and averaged 5.0 million shares per day in the three months ending with October compared with an average of 4.3 million in the previous three months.

Margin requirements for stock credit (Regulations T and U) have remained at 50 per cent since mid-1962. Over the past decade, margin requirements have been raised four times and lowered four times.[4] The upward changes were made in 1955 and 1958 when requirements were raised twice in each year.

The volume of credit on stocks has risen $2.1 billion or at an annual rate of 37 per cent since July of last year. In the past decade, there have been several other periods when the volume of stock market

[4]For a historical discussion on margin regulations and their effectiveness, see "Margin Requirements," *Monthly Review,* Federal Reserve Bank of Minneapolis, October 1963.

Stock Market



*Standard & Poor's 500 Common Stocks

**As this REVIEW went to press, margin requirements were raised from 50 to 70 per cent, effective November 6

Latest data plotted: October, except Stock Market Credit-September.

Stock prices are based on averages of daily figures. Beginning May 1954, stock credit data are for end of month; previous data are for end of year. Volume of trading is the average daily trading in stocks on the New York Stock Exchange.

credit rose rapidly. For example, from mid-1954 to mid-1955 stock market credit rose 44 per cent. During the year 1958 this credit rose 27 per cent, and it increased at the same rate during 1961.

Average stock prices as measured by the Standard and Poor's 500 Stock Index have risen at an annual rate of 23 per cent since July of last year (30 per cent since last October). From June 1954 to June 1955 they rose 37 per cent, during 1958 they rose 33 per cent, and during 1961 they rose 26 per cent.

The volume of trading on the New York Stock Exchange has been increasing for over a decade. During the first ten months of 1963, the daily average volume of trading amounted to 4.5 million shares. Trading averaged 3.8 million during 1962, 3.1 million in 1960, 2.2 million in 1956 and 1.4 million in 1953.

Economic Activity Since January

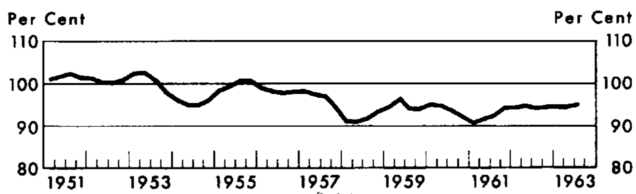
According to most measures of business activity, the U. S. economy expanded sharply after the beginning of this year. Viewed within other contexts, however, the performance of the economy has been somewhat less than ebullient. Moreover, some measures of activity which have shown marked increases since the beginning of the year have displayed weakness in recent months.

Industrial output, construction activity, employment and total spending have increased substantially since January. Industrial production rose at an 8 per cent annual rate from January to September, significantly more rapidly than the 4.7 per cent average rate since 1951. Expenditures on new construction reached $66.6 billion in September, a $3.7 billion or 9 per cent annual rate of increase since January. By comparison, since 1959 (the first year for which comparable data are available) construction outlays have risen at a 4.2 per cent annual rate. Total employment has increased by nearly one million since January, representing an annual rate of increase of 2 per cent compared with a 1.2 per cent rate since 1951. The real value of total spending on goods and services (i.e., the dollar volume of spending after adjustments for price changes) rose at a 3.9 per cent annual rate from the fourth quarter of 1962 to the third quarter of this year. This rate of increase may be compared with an average rate of increase of 3.6 per cent since 1951.

These increases in economic activity have occurred within a framework of relatively stable prices. The consumer price index, at 107.1 (1957-59 = 100) in September, has increased at a 1.4 per cent annual rate since January of this year. This rate of increase is about the same as the 1.5 per cent average annual increase since 1951. Wholesale prices in September were 100.3 of the 1957-59 average, down slightly from January and virtually unchanged from the level which has prevailed since mid-1958.

Another way to view the recent performance of the economy is to consider the extent to which it has been moving toward levels of activity of which it is capable. That is, it may be useful to compare the actual performance of the economy with some measure of its potential performance. Any "gap" between actual and potential GNP may be considered to be a measure of unused human and nonhuman resources.

Actual GNP as a Per Cent of Potential GNP



Source: Department of Commerce and the Staff of the Economic Committee
Latest data plotted: 3rd Quarter 1963 Estimated

GNP was up $9 billion in the third quarter of this year, reaching a seasonally adjusted annual rate of $588.5 billion. Total consumer spending on nondurables, durables, and services rose by some $4 billion. Gross private domestic investment, including spending for construction, producers' durable equipment, and inventories, increased by over $3 billion. Government purchases of goods and services rose by over $2 billion. Since the final quarter of 1962, however, actual GNP has remained between 94 and 95 per cent of its potential, according to benchmarks developed by the President's Council of Economic Advisers.[5] This comparison suggests that, despite the recent rise in business activity, no headway has been made in reducing the level of unused resources.

Recent Business Developments

Although business activity has risen substantially since January, some indicators point to a slackening in the pace of expansion after midsummer. Industrial production in September was 126 per cent of the 1957-59 average, the same as in August, and slightly less than in July. Retail sales were $20.2 billion in

Continued on page 12

[5]Michael E. Levy, *Fiscal Policy, Cycles and Growth,* The Conference Board, Studies in Business Economics (Number 81), 1963, pp. 124-125.

Trends in Meat Packing

Summary

FORTY YEARS AGO about one-third of the nation's meat packing was done in Chicago, St. Louis, and Kansas City. Only about ten per cent remained in these centers in 1962. The packing industry has continued largely in the Middle West but has decentralized, locating closer to the sources of supply.

Some interregional shifts also have occurred in the industry in recent years. Since the late 1940's, the proportion of national slaughter in the North Central States has declined slightly, but the area remains predominant in the industry, slaughtering about 60 per cent of the nation's meat supplies. The proportion of slaughter in the North Atlantic States has also declined. Offsetting gains have occurred in the South Atlantic, South Central, and Western States.[1] The relative decline in the North Atlantic and relative increase of the Western States have apparently reflected changing livestock production patterns. Increases in the South Atlantic and South Central States may indicate that availability of labor in these states has attracted some animals for slaughter from other areas.

The location of meat packing operations is important to both the agricultural and the nonagricultural sectors of the economy. Farmers are interested in convenience of marketing, marketing costs, and efficiencies in the total marketing process which are reflected in prices received for livestock, retail prices of meat, and total meat consumption. The nonfarm sector is also concerned with costs which are reflected in meat prices and in addition is interested in the opportunities for employment of labor and capital.

[1] See map on page 11 to determine the boundaries of each region.

The Meat Packing Industry

Size and Growth

Meat packing, which includes all establishments engaged primarily in slaughter of livestock, is one of the nation's larger industries. In 1958 there were 2,800 establishments in the business with about 200,000 employees, more than 10 per cent of all employees in food manufacturing industries and 1 per cent of all manufacturing employees in the nation.[2] Meat packing payrolls in 1961 were approximately $1.1 billion, about 14 per cent of all payrolls in food manufacturing industries, and about 1.4 per cent of all manufacturing payrolls. Packing plants paid $10 billion for materials and shipped out $12 billion worth of products during the year.

The meat industry has grown steadily over the years. Production increased from 12.8 billion pounds in 1900 to 29.0 billion pounds in 1962, an increase of 125 per cent or 1.32 per cent per year compounded. Meat production per capita declined from 169 pounds in 1900 to 130 in the 1930's and recovered to 158 pounds in 1962 (Table I).

Table I

MEAT PRODUCTION,[1] UNITED STATES

	Total (Million lbs. dressed wt.)	Per Capita (lbs.)
1900	12,847	168.8
1910	13,998	151.5
1920	15,334	144.0
1930	16,016	130.1
1940	19,076	144.4
1950	22,075	147.0
1960	28,208	159.0
1962	28,961	158.3

[1]Includes beef and veal, pork, and lamb and mutton.
Source: U.S.D.A.

Expenditures for Meat

Personal expenditures for meat of $18.1 billion in 1962 accounted for 20 per cent of personal expenditures for food and for 5 per cent of total personal ex-

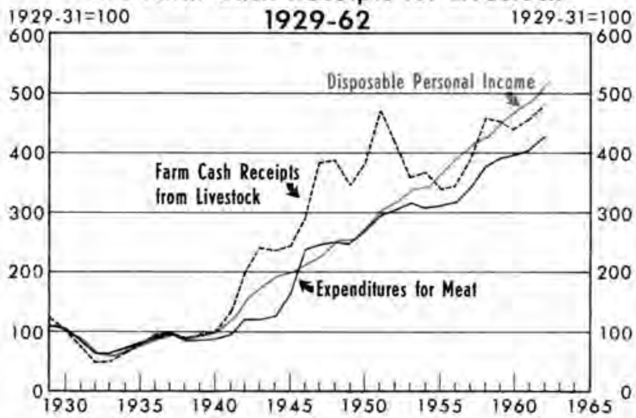
[2]Census of Manufactures.

penditures. In recent decades the proportion of disposable personal income spent on meat has declined. Expenditures for meat in 1962 were 5 per cent of disposable personal income compared with 6 per cent in 1929-31 (Chart 1).

Chart 1

Disposable Personal Income, Consumer Expenditures for Meat, and Farm Cash Receipts for Livestock

1929-62



Source: USDA
Latest data plotted: 1962

Early Development

Concentration in the North Central States

The meat packing industry has centered in the North Central States for more than a century. In the early years of the nation, livestock production was concentrated on the Atlantic Seaboard, close to the major production and market centers. Commercial slaughter operations were performed by local butchers in small establishments.[3] As the Middle West was settled, livestock production moved westward. Deep fertile soil and desirable climate in the Northern Mississippi Valley area provided the basis for an efficient feed and livestock economy. The area probably remains more efficient in the production of these commodities than any area of comparable size in the world.

Development of Large Packing Centers

Meat packing plants were built in the Midwest as livestock production developed. They were located at first along the rivers or other waterways and later at major rail centers. By 1830 Cincinnati was the nation's leading meat processing center. Its packers shipped large quantities of pork down the river to southern planters and to New Orleans for shipment abroad. Railroad contact with the East beginning in the 1840's provided further stimulus to meat processing in the city. In this period packing was confined almost exclusively to the curing and packing of hog products.[4]

St. Louis followed Cincinnati as an important meat packing center. Although Alton, located on the Illinois side of the Mississippi river north of St. Louis, had some packing plants as early as the 1830's, the industry did not develop in St. Louis until the 1840's. By 1845 large numbers of hogs and cattle began to arrive in the city from the "back country" of Missouri and the packing business grew to such an extent that St. Louis became a good market for both Missouri and Illinois livestock.

Prior to the Civil War, St. Louis meat packers were shipping substantial quantities of cured pork and beef. Following the war, needs for expanded livestock marketing facilities developed, leading to the opening in 1873 of the 640-acre National Stock Yards in Illinois, across the Mississippi River from St. Louis. By the early 1920's, St. Louis plants were packing 4 per cent of the nation's Federally inspected beef and 6 per cent of the pork (Table II).

Table II

FEDERALLY INSPECTED LIVESTOCK SLAUGHTER*

Number Slaughtered in Three Centers as a Per Cent of Area and National Totals

	Chicago		St. Louis		Kansas City	
	1920-24	1960-62	1920-24	1960-62	1920-24	1960-62
			Per Cent of North Central States			
Cattle	29.8	8.5	6.3	4.9	15.4	5.5
Hogs	23.7	4.5	8.4	8.2	9.1	3.8
Sheep	38.1	6.1	5.1	4.1	14.7	—
			Per Cent of United States			
Cattle	20.7	4.7	4.3	2.7	10.7	3.1
Hogs	17.7	3.2	6.3	5.8	6.8	2.7
Sheep	24.4	2.6	3.3	1.8	9.4	—

*All packing plants engaged in interstate or foreign commerce are required to submit to Federal inspection. In 1920-24 Federally inspected slaughter in the nation as a per cent of total commercial slaughter was: cattle, 62 per cent; hogs, 85 per cent; and sheep, 80 per cent. Federally inspected slaughter as a per cent of the total in 1960-62 was: cattle, 75 per cent; hogs, 85 per cent; and sheep, 88 per cent. Federal inspection probably covered a larger per cent of total slaughter in each of the cities than in the nation.

Source: U.S.D.A.

[3] As late as 1840, farm-slaughtered hogs were over 90 per cent of total slaughter. National Bureau of Economic Research, *Studies in Income and Wealth,* Vol. 24, p. 284.

[4] Clemen, R. A., *The American Livestock and Meat Industry,* Ronald Press, New York, 1923.

Meat packing began at Chicago almost as early as at Alton, but did not develop into a major industry in the city until the 1850's. In this decade large numbers of hogs and cattle arrived at Chicago's slaughter houses for packing and shipment to both domestic and foreign markets. Near the end of the Civil War greater numbers of cattle and hogs began to pour into the city, and in 1865 Union Stock Yards was established on 345 swampy acres south of the city limits. In the decade of the 1860's, Chicago became the nation's largest meat packing center. Further impetus was given to meat packing in the city when shipments of refrigerated meat began in the 1870's. In the early 1920's, Chicago was slaughtering 21 per cent of all Federally inspected cattle and 18 per cent of the hogs (Table II).

In Kansas City, packing developed into a major industry soon after the Civil War. At first, most of the cattle moving into Kansas City for slaughter were from Texas, but later Kansas and Missouri furnished the majority. In 1870 the first stockyards were built in the city, and within a few years packing houses were opened. In the early 1920's, Kansas City plants processed 11 per cent of the nation's Federally inspected beef and 7 per cent of the pork.

Other large packing centers developed in the period between the Civil War and World War I at Omaha, St. Joseph, Fort Worth, St. Paul, and Sioux City.

In the early 1920's about three-fourths of all Federally inspected hog slaughter and about two-thirds of all Federally inspected cattle and sheep slaughter were in the North Central States.[5] The three major centers, Chicago, St. Louis, and Kansas City, combined, accounted for more than fifty per cent of the cattle and sheep and more than 40 per cent of the hogs slaughtered in the area.

Concentration of large meat packing operations in the three main centers during the 1860-1920 period resulted from their strategic locations, transportation facilities, and economies of size.

Livestock slaughtering in the vicinity of producing areas has generally been more economical than slaughtering at more distant points. Dressed hog and cattle carcasses are only about 60 per cent of liveweight and dressed sheep carcasses about 50 per cent. Both shipping weight and space requirements are reduced by slaughtering and eliminating waste materials near producing areas. Also, the quality of live animals may deteriorate in transit if shipped for long distances under normal shipping conditions.

Each of the three centers offered transportation advantages compared with most other locations in the major producing areas. Railroad networks provided them with numerous avenues for receiving livestock and for shipping out meat products to national markets in an era prior to the development of highways and trucking facilities. In addition, two of the centers, Chicago and St. Louis, are on major inland waterways, which in the earlier years provided an alternative means of transportation.

For firms with nationwide meat product markets, the advantages of locating in the three large centers probably outweighed other advantages of locations outside the three centers. Advantages of meat packing operations in areas of industrial concentration included availability of specialized equipment, adequate seasonal and permanent labor supplies, large quantities of raw materials, adequate marketing facilities, markets for byproducts, and community services such as water, streets, and power. During the post-Civil War era of the industry's rapid growth these factors probably tended to keep meat packing costs lower in the three centers than in outlying areas.

On the other hand, many plants in the smaller cities were able to supply meat for use in local areas more cheaply than could the plants located in the large centers. Once a size was reached where the plant expanded beyond the local market, advantages in the smaller community no longer outweighed other advantages of plants in the large centers, and further expansion was probably unprofitable. Thus, during this 1860-1920 period, larger meat packing firms with national markets favored plant locations in the larger centers with greater raw material supplies, adequate supporting services, and good transportation facilities.

Trends Since the 1920's

Decline of Large Centers

The number of livestock slaughtered declined at both Chicago and Kansas City and increased somewhat at St. Louis during the period 1920-62 (Charts 2, 3, and 4). The number of cattle slaughtered at Chicago declined 56 per cent compared to 45 per cent at Kansas City and an increase of 21 per cent at St. Louis. It will be noted, however, that cattle slaughter has declined at St. Louis in the most recent years. Hog slaughter likewise declined most at Chicago, 74 per

[5] Cattle and sheep include all cattle and calves, and sheep and lambs, respectively. Poultry processing has been omitted.

cent, compared with 41 per cent at Kansas City and an increase of 36 per cent at St. Louis. Sheep slaughter dropped to nominal levels at each of the three major centers. Reporting has been discontinued at Kansas City for recent periods.

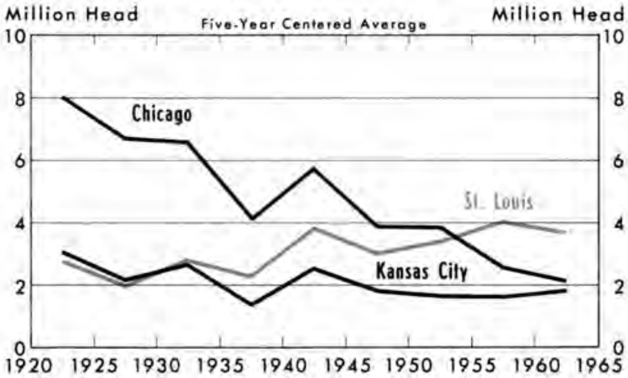
Chart 2

Cattle Slaughter[1] at Three Centers

[1] Federally inspected
Latest data plotted: 1960-62 average
Source: USDA

Chart 3

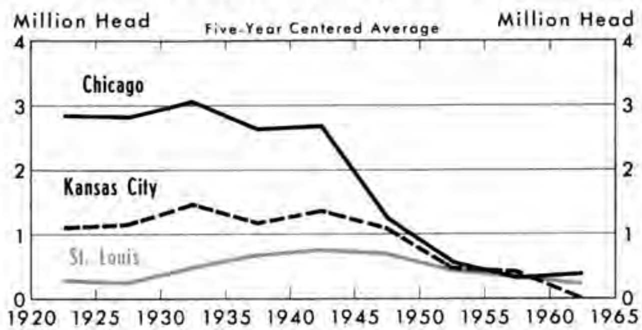
Hog Slaughter[1] at Three Centers



[1] Federally Inspected
Latest data plotted: 1960-62 average
Source: USDA

Chart 4

Sheep Slaughter[1] at Three Centers



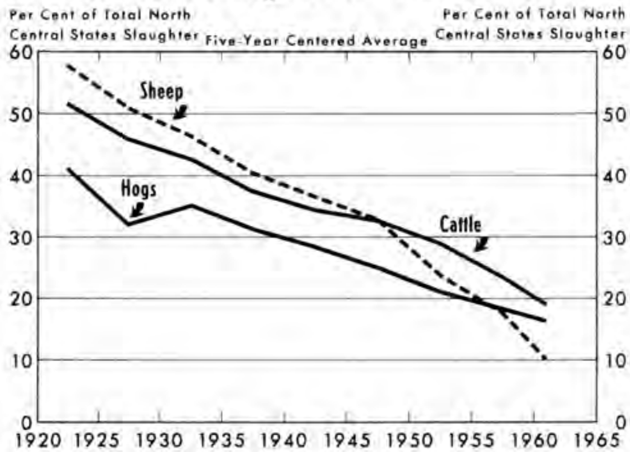
[1] Federally Inspected
Latest data plotted: 1960-62 average
Source: USDA

Slaughter at each of the three centers declined relative to Midwest totals (Table II). Cattle slaughter at Chicago declined from 30 to 9 per cent and hog slaughter from 24 to 5 per cent of area totals during the period. Relative declines were less at Kansas City and St. Louis. The latter center almost maintained its early proportion of Midwest hog slaughter.

The decline relative to the Midwest totals was significant for all classes of animals in the three centers combined. Sheep slaughter dropped from 58 to 10 per cent, hog slaughter from 41 to 16 per cent, and cattle slaughter from 52 to 19 per cent (Chart 5). The decline in the three centers relative to national totals was similar to that for the area (Table III).

Chart 5

Livestock Slaughter[1] at Three Centers



[1] Federally inspected
Latest data plotted: 1960-62 average
Source: USDA

Table III

THREE MAJOR CENTERS' SHARE OF UNITED STATES FEDERALLY INSPECTED LIVESTOCK SLAUGHTER

(Annual Averages)

	Per Cent of Animals Slaughtered in Three Centers[1]		
	Cattle	Hogs	Sheep
1920-24	35.8	30.8	37.2
1925-29	32.4	24.1	33.3
1930-34	30.8	27.0	29.7
1935-39	25.5	23.2	26.2
1940-44	22.7	21.6	23.8
1945-49	19.9	18.8	18.2
1950-54	17.0	15.7	12.0
1955-59	13.4	13.3	8.2
1960-62	10.6	11.7	4.4

[1] Chicago, Kansas City, and St. Louis.
Source: U.S.D.A.

The decline of meat packing at the three major centers can probably be traced to introduction of efficient motor trucks, extension of hard surfaced roads, and other cost changes which largely eliminated the locational advantage of large rail terminals. The main factors which favored packing in the Midwest during the 1860-1920 period, instead of the East, shipping costs and efficiencies, now favored the small centers instead of the large. Hard surfaced roads permit trucking of livestock to practically any city or town. Thus, concentrations for slaughter are possible at almost any location. The reduced shrinkage of animals in transporting to nearby markets is attractive to both packers and farmers. Traffic congestion and distance to the major centers are often important cost handicaps. Transportation costs generally favor shipment of dressed meat in preference to live animals. A generally high level of employment coupled with the strong bargaining position of unions has put increased upward pressure on packing plant wage rates in large cities. Ready availability of labor in the small centers, as farm employment has declined, has helped to attract the packing plants.

Other factors offer possible explanations for the decline of slaughter in the large centers. The relative advantage of locations in the same cities of supporting industries and product markets has probably declined with improvement of transportation facilities. Markets for byproducts can now be reached with relative ease from all points. Smaller communities have developed adequate public utility systems and other facilities that contribute to desirable living conditions. Greater emphasis on pure water and pure air in the larger centers may have encouraged development of other industries and the exodus of meat packing.

While changes were occurring in optimum locations of meat packing operations, changes in technology, processing procedures, and equipment were hastening the obsolescence of many plants.[6] The combination of these forces probably has been a major factor in the rapid decline of the industry in the large centers. Nonetheless, it has not been economical to relocate the meat packing industry immediately when the advantages of the new location became evident. Packing plants represent sizable fixed investments depending on age and degree of obsolescence. Locational preference is exercised at the time something is done about obsolescence, and such decisions for the large number of meat packing plants have been spread out over an extended period.

[6] Shifts discussed in this article relate only to plants, not to firms.

Interregional Shifts

Some shifts between regions have occurred in meat packing in recent years. Such shifts have not, however, materially altered the predominant position of the North Central States in the industry (Chart 6). Plants in this 12-state area processed 59 per cent of the nation's commercial meat output in the three years 1960-62, compared with 62 per cent in 1947-49. Federally inspected slaughter data which are available for prior years do not indicate that a major change has occurred in the area's share of national output since the early 1920's.

Hog slaughter in the North Central States declined from 72 per cent of the national total in 1947-49 to 69 per cent in 1960-62, cattle from 55 to 54 per cent, and sheep from 53 to 43 per cent. Relative changes in sheep slaughter are less important than changes in the other two classes since sheep constitute only about three per cent[7] of total livestock slaughter in the nation.

Although the proportion of the nation's meat processing in the twelve North Central States as a whole changed little, geographic shifts did occur among subregions. Slaughter declined relatively in the five eastern states of the area, Ohio, Indiana, Illinois, Michigan, and Wisconsin, and increased in the seven western states, Minnesota, Iowa, Missouri, North and South Dakota, Nebraska, and Kansas. The proportion of national cattle slaughter declined in the five eastern states of the region from 25 per cent in 1947-49 to 19 per cent in 1960-62 and increased in the seven western states from 31 to 35 per cent. Hog slaughter moved somewhat similarly, declining in the eastern states from 29 to 25 per cent and rising in the western states from 43 to 44 per cent of the national total.

The North Atlantic States' proportion of national slaughter declined somewhat for all three classes of animals. Cattle slaughter declined from 11 to 9 per cent, hog from 9 to 8 per cent, and sheep from 17 to 14 per cent.

Hog slaughter in both the South Central and South Atlantic States increased in relation to the nation's total while cattle and sheep slaughter remained about unchanged in both regions.

The Western States' share of hog slaughter declined slightly, but cattle and sheep slaughter increased. Cattle slaughter rose from 24 per cent of the national total in 1947-49 to 27 per cent in 1960-62 and sheep from 28 to 41 per cent. In 1960-62 the Western States region slaughtered about half as much beef as the North Central States and had gained somewhat in

[7] Live weight basis.

Chart 6

Regional Distribution of Meat Packing

(Per Cent of United States Totals of Cattle, Hogs, and Sheep)*

1947-49 and 1960-62

*Pounds, live weight.

Source: USDA

total meat slaughter relative to the nation despite its smaller share of hog slaughter.

Most of the interregional shifts in meat packing since 1947-49 reflect changing livestock production patterns. Cattle slaughter gains in the West paralleled the area's increase in cattle feeding. The decline in the area's share of hog slaughter is also explained by a decline in the proportion of the nation's hog production in that area.

Slaughter of all classes of livestock in the North Atlantic States relative to national totals has declined along with a decline in their relative production of live animals.

Some of the regional trends in hog slaughter, however, cannot be explained on the basis of production changes alone. Relative hog production in the South Atlantic States declined from 7.0 per cent in 1947-49, to 6.6 per cent in 1960-62 and in the South Central States from 8.7 to 7.1 per cent. Relative slaughter increased, however, in each of the two areas, and during the later period slaughter in the South Atlantic States exceeded production (Table IV). On the other hand,

Table IV

COMMERCIAL HOG PRODUCTION AND SLAUGHTER BY REGIONS

	Production		Slaughter	
	Billion Pounds	Per Cent of U.S.	Billion Pounds	Per Cent of U.S.
North Atlantic				
1947-49	0.4	2.1	1.3	8.6
1960-62	0.3	1.4	1.4	7.7
North Central				
1947-49	14.0	75.5	10.9	71.5
1960-62	16.1	80.7	12.8	68.8
South Atlantic				
1947-49	1.3	7.0	0.9	5.9
1960-62	1.3	6.6	1.5	8.0
South Central				
1947-49	1.6	8.7	0.6	4.0
1960-62	1.4	7.1	1.3	7.0
Western				
1947-49	1.3	6.7	1.5	10.0
1960-62	0.8	4.2	1.6	8.5

Source: U.S.D.A.

hog production increased in the North Central States from 76 to 81 per cent of the U. S. total while slaughter declined from 72 to 69 per cent. These data indicate that an increasing proportion of hogs is being shipped out of the North Central States for slaughter. Also, there is a substantial importing of hogs into the South Atlantic States for slaughter in contrast to exports from the area during 1947-49. Slaughter in the South Central States equaled hog production in the most recent period, whereas the area formerly shipped out a substantial portion of its hogs.

On the basis of these data it appears that the advantages of packing pork in the North Central States for shipment to the South Central and South Atlantic States may be about offset by disadvantages. On the other hand, the slaughtering of hogs near producing areas in the North Central States apparently continues to be more advantageous than the shipping of live animals either to the North Atlantic States or the Western States. Differences in packing plant wage rates or availability of labor may be dominant factors in these cases.

Conclusion

The North Central States became the leading meat packing region of the nation in the first half of the 19th century. The industry developed primarily in the larger cities which were the centers of major railroad networks. In the early 1920's three major packing centers in the area, Chicago, Kansas City, and St. Louis, accounted for about one-third of the nation's Federally inspected cattle and sheep slaughter and thirty per cent of the hog slaughter.

Major geographic shifts have occurred in the industry since the early 1920's. The moves have been primarily from the major centers to smaller cities and towns in the same region. The relative decline has been greatest at Chicago and least at St. Louis. The latter center almost maintains its earlier proportion of hog slaughter. Declines in the three centers following 1920 probably resulted from the development of additional transportation systems and changes in other factor costs, including wage rates, which reduced the advantage of locations in the large centers. Because of sizable investments in plant and other facilities and only gradual improvement of the highway systems, development of meat packing in new optimum locations has been slow, and further decentralization is probable.

Some interregional shifts in meat packing have occurred, but the major portion of the industry remains in the North Central States. Some of the shifts probably reflect changing production patterns. Some, however, appear to reflect variations in factor costs, especially differences in labor availability and wage rates.

CLIFTON B. LUTTRELL

Uncertain Pace of Economic Activity — Continued

September, off one-half billion dollars from both July and August. Preliminary data indicate that both production and retail sales may have shown some improvement from September to October.

Employment, on a seasonally adjusted basis, was about the same in October as in July, and the unemployment rate, at 5.5 per cent seasonally adjusted, remained near the level which has prevailed since early in the year. Through September, the number employed in manufacturing, at 17 million, continued on the plateau prevailing since spring. On the other hand, the average workweek of production workers in manufacturing increased in September to 40.6 hours, the highest level since September 1962.

Since midyear, wholesale prices have fluctuated within a narrow range, reflecting changes in the prices of farm products and processed foods. Prices of industrials, which include raw materials and some finished goods, have been approximately unchanged. Recent increases in prices for some industrial commodities have been offset by reductions in other segments of the wholesale price index. The consumer price index edged up from 106.6 per cent of the 1957-59 average in June to 107.1 in September, reflecting slight increases in prices of commodities and services.

Although key economic indicators suggest some hesitation in business in recent months, there was also a slowdown in activity in the latter part of 1962. During that period, many economists predicted that the 1961-early 1962 recovery had run its course. Time proved, however, that the recovery had merely experienced a slight pause. Once again, only time can tell whether the slowdown of late this summer was merely a pause or the beginning of an actual decline in business activity.