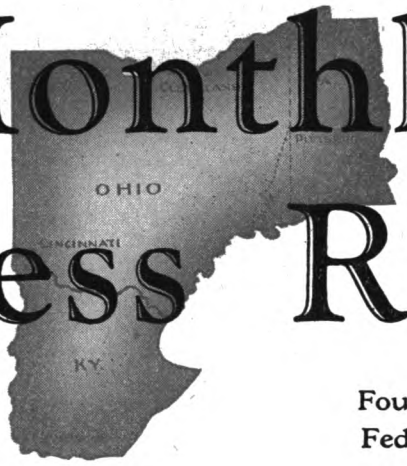
Monthly Business Review



Covering financial, industrial and agricultural conditions

Fourth Federal Reserve District
Federal Reserve Bank of Cleveland

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The Civilian Economy

It would appear that the procurement program of the armed services, initiated early in the year, can be achieved only by a further curtailment of goods available to civilians. In all areas, output is limited by a shortage of manpower. It is highly doubtful that the available labor force could produce a sufficient volume of essential civilian goods—even if materials were allocated to their production—and still accommodate the new military program.

As yet, the home-front squeeze is not the result of a scarcity of goods in total, but is, rather, the result of a deficiency in certain types of goods. This is evidenced by the fact that, since the first of the year, retail dollar sales have averaged above both the 1943 and 1944 comparable periods. An intriguing fact, too, is that this sales record was achieved while store dollar inventories actually were increased. The new sales records might indicate: (1) absorption of past allocations of raw materials at a rate faster than new commitments are being made; (2) that price increases are considerable, and that they are cloaked both through upgrading of lines and quality deterioration; or (3) that in the American economy there still exists a high degree of "uncontrollable" production flexibility.

However, in view of the shortage of basic materials allocated to civilians, it is difficult to see how the domestic economy can much longer postpone the realities of a drawn-out war. Supplies of steel, food, clothing, rubber, leather, and paper available for civilian consumption have declined steadily for some time. Shortages on the home front, to date, probably have not seriously interfered with the maintenance of high industrial production levels. The current interest of Congress and the War Production Board, however, in the general problem indicates a growing concern over the possibility of a war production decline due to progressive disappearance of civilian consumer goods, particularly of the durable type.

The quantity and high quality of the Nation's pre-war consumers' goods have been important assets in the maintenance of record war production levels during the past several years. Due to the fact that replacements for many items were impossible to obtain, civilians discovered that the life span of many commodities—from automobiles to alarm clocks, washing machines, and toasters—far exceeded the pre-war expectation of service. However, definite signs now indicate that home-front supplies cannot continue indefinitely to defy ravages of time and use. How the gradual loss of these essentials will affect the maintenance of efficient industrial production is problematical. If the shortages grow, however, the effect may be measurable.

Total demand for steel, now materially in excess of production, has meant further curtailment of steel for civilian use. Both copper and steel allocations for "spot" civilian goods manufacture have been canceled for the second quarter of this year. The shortage of paper, evident for some time, is aggravated by a lack of mill machinery due to cuts in allocation of steel for this use. Passenger car tire quotas for April have been cut 37½ percent below March, while carbon black supplies, currently determining operating schedules of rubber manufacturing, are being conserved for intensified use in urgent military production.

A twelve percent cutback in civilian allocation of meat for April, May, and June has been announced. Certain textiles, especially cotton knit goods, are destined to become more scarce, as are shoes, men's suits, and other items of wearing apparel. Behind all these restrictions in supplies lie manpower and raw material shortages which have reached the acute stage.

The most hopeful sign in the civilian production picture at present is the favorable news from the fighting fronts. It is difficult to believe that the end of the German war will not greatly alter military requirements and relieve the strain on industrial production, in spite of Army-Navy discouragement of such a view. Important from a civilian supply angle is the timing involved. It is to be hoped, all other considerations aside, that production of a sufficient volume of essential civilian goods will be authorized in time to prevent an actual interference with necessary military production goals.

THE COAL INDUSTRY OF THE FOURTH DISTRICT

The future of the bituminous coal industry is of vital concern to the Fourth Federal Reserve District and, indeed, to the entire Nation. While the wartime operating level of business has tended to push the long-term problems of coal into the background, the bituminous coal industry, following the war, again will face the fundamental issues which have confronted it since World War I.

In general, four major factors create problems for the post-war coal industry: production capacity has increased greatly; mechanization has progressed extensively; employment has dropped despite production gains; and there has been a further absolute expansion of competitive sources of energy, as well as advances in the efficiency derived from a unit of coal. The wartime operating rate of industry has tended to magnify these problems and will make the post-war adjustment more acute.

Bituminous coal has contributed, as much as any other basic industry, to the industrial development of the country. Because of the importance of this industry, it seems essential to examine some of the influences which may require the formulation of a national policy on coal and related basic industries. Policy objectives to be sought are simple to state, but difficult to achieve. They include: a sufficient supply of coal for the Nation; a fair income to labor; a fair return to owners; and a sound program of conservation of related national resources. The attainment of these aims will call for broad statesmanship to offset the pressure of organized producer-labor interests.

History of District Mines Discovery of bituminous coal in Western Pennsylvania and Ohio preceded the Revolutionary War, although the first commercial production in the area did not occur until 1803, when some 350 tons were shipped from Pittsburgh by boat. Mines have been operating near Fort Pitt since 1760, and discovery of coal in Ohio and the Panhandle of West Virginia must have occurred in approximately the same period, for mention of deposits is made on maps dating from this time. Production of coal in the Eastern Kentucky field, however, started much later due to the inaccessibility of the deposits.

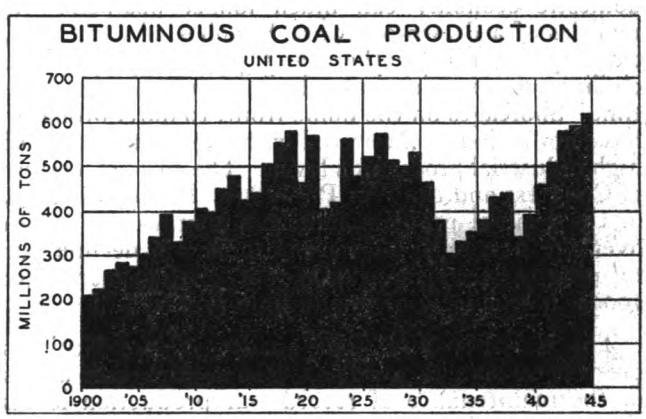
The lack of transportation limited mining operations for commercial production to areas served by rivers. For this reason, development of coal deposits occurred first in what is now the Fourth Federal Reserve District, near the Allegheny, Monongahela, and Ohio rivers. These early mines supplied fuel for foundries, glass works, and domestic heating purposes.

From these beginnings, the production and use of bituminous coal expanded rapidly. The coal industry was responsible, to a considerable extent, for the development of transportation by canal and railroad which occurred in the early decades of the nineteenth century. Much of the development of railroads occurred in response to the need for better coal movement to the growing industrial centers of the East. Impossible to measure, but certainly a tremendous factor, was the influence of rich coal deposits on the growth of the iron and steel industry in the district. Regular production of the famous Connellsville coke began in 1841; and, by 1850, coke was exerting an appreciable influence upon the production of pig iron.

While coal aided in the development of the railroad network, serving not only as fuel but also as chief cargo, and figured prominently in the rapid development of the iron and steel industries, it became of even greater importance in the late nineteenth century to industries which formerly depended on wood as fuel. A great part of the enormous growth in coal production was due to its increasing use for generating industrial power. Similarly, a great part of the rapid rise of manufacturing within the district can be attributed to location in respect to supplies of coal.

According to the United States Geological Survey, supplies of coal in the fourth district are a part of the most important coal region in the United States, as far as present production is concerned. This region is known as the Appalachian region of the Eastern coal province. It lies west of the mountains, starting in the central part of Pennsylvania and Eastern Ohio, and runs in a northeast-southwest direction through West Virginia, Kentucky, Tennessee, Alabama, and Western Georgia. Since the coal beds of the Appalachian region have been associated with the uplift of the earth's crust which formed the Appalachian mountains, folding of the coal measures decrease as they progress westward into Ohio and Kentucky. The coal beds, likewise, decrease in number and thickness as does the percentage of fixed carbon in the coals, while the percentage of volatile matter increases.

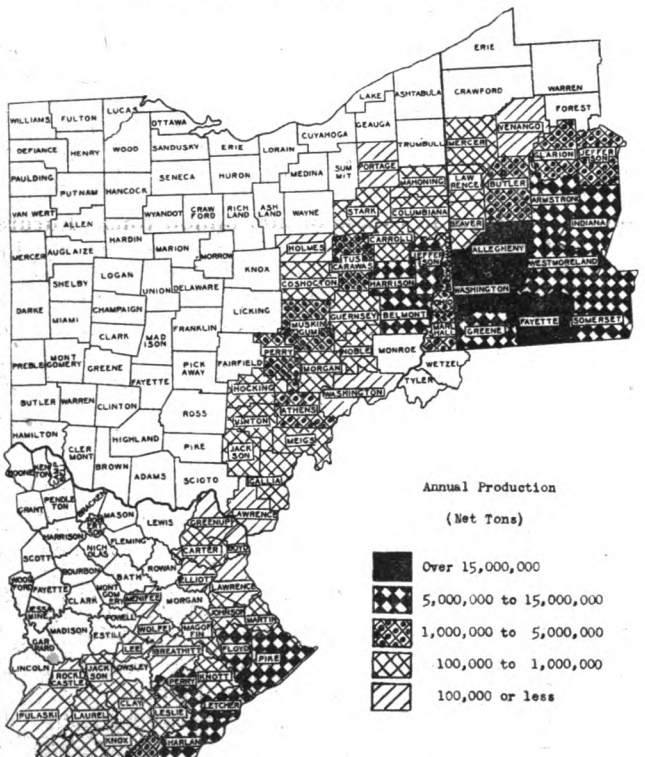
Although production of coal within the boundaries of the district consistently leads the rest of the Nation, the deposits of the area—in tonnage rather than value—represent but a small percentage of national coal resources. The States of West Virginia, Pennsylvania, Kentucky, and Ohio rank 8, 9, 10, and 11, respectively, in a list of comparative tonnages of coal resources of the various states. Estimates of the original deposits of coal underlying the fourth district indicate a total in excess of 200 billion tons. Future rates of depletion are difficult to estimate due to the existence of enormous reserves of coal in other sections of the country, as well as increased use of competitive fuels, which may be utilized to meet national demand.



Production Production of coal in the fourth district has varied between 33.4 and 35.0 percent of the national total since 1939, indicating that the mines of the district have kept abreast of the tremendous wartime expansion of the coal industry. District production, totaling 131.9 million tons in 1939, rose to 197.3 million tons in 1943, an increase of 50 percent, which corresponds to the increase of national output during the same period. Greater mechanization, increased production from stripping operations, the opening of marginal mines, and increases in hours per day and days per work week account for the greater production, despite a decline in number of employees during the war years.

Within the district, there have been significant trends in production since the last war which, although they have been interrupted by the necessity for increased production during this war, may prevail again with the return of peace. Long-term trends in the industry indicate declining importance for the Pennsylvania and Ohio fields which, to date, largely has been offset districtwise by increased production in the fields of Southeastern Kentucky. Production in Pennsylvania and Ohio reached all-time peaks in 1918 and 1920, with the record output of 178.5 and 45.8 million tons, respectively. High output for these two States during the present war period occurred in 1942, with the production of 144 million tons in Pennsylvania and 32.7 million tons in Ohio. In contrast, production for Kentucky totaled 31.5 and 62.0 million tons in 1918 and 1942, respectively. Since 1942, there has been a slight decline in over-all district production, but this has been more than balanced nationally by expansion in other regions.

Coal Production by Counties
Fourth Federal Reserve District



On shipments sent to tidewater and distributed by vessel to East Coast ports, the fields of Southwestern Pennsylvania have lost to the ever-increasing volume of Southern Appalachian producers flowing through Hampton Roads. In shipments sent to ports on the Great Lakes, Pennsylvania and Ohio fields have lost considerable market to the expanding fields of Southern West Virginia and Kentucky. The introduction and rapid growth of by-product coking has permitted a wide latitude in the use of coals for this market and has been a factor in the decline of Pennsylvania coals for this use. Formerly, Pennsylvania practically supplied the Nation's steel industry with beehive coke.

Principal producing counties in the district in recent years are shown on the accompanying map. From 1939 to 1943, Ohio has increased production by 58 percent. Fourth district counties of Pennsylvania, Kentucky, and West Virginia have shown increases of 52, 40, and 39 percent, respectively. National production increased approximately 50 percent in this period.

Among fourth district counties, in relation to total reserves, production probably has been most intensive in Allegheny County, Pennsylvania, where approximately one-third of all recoverable coal has been mined. Recoverable reserves remaining total 1.2 billion tons in this county. Greene County, Pennsylvania, by way of contrast, possibly has had the least intensive mining in relation to reserves in all the State of Pennsylvania. These reserves total in excess of six billion tons. Westmoreland County, Pennsylvania, although it has produced more coal than any other county in the district, has recoverable reserves of almost three billion tons remaining.

Compared with the supply of coal originally contained in Ohio fields, the rate of exhaustion has been greater than that for any other state in the Appalachian System with the exception of Maryland. However, coal resources of Ohio still total over 87 billion tons. Resources of Kentucky, within the district, total in excess of 67 billion tons. These computations utilize all seams of coal over 14 inches. Estimates of coal deposits for fourth district counties of Pennsylvania, utilizing only seams over 18 inches in thickness, place the total reserves at approximately 64 billion tons. The principal deposits of coal in West Virginia occur outside the district.

Employment Historically, coal production shows a close relationship to the number of employees. However, in recent years the correlation has diminished, largely because of increased mechanization. The present war period has emphasized this, inasmuch as the enormously increased coal production of the past few years has been accomplished by a labor force that in 1943 was 1.2 percent under average employment in bituminous mines in 1939. Within the fourth district, the decline has been greatest in Ohio, where employment fell seven percent. In the fourth district counties of Pennsylvania, the decline has been 2 percent, while in Eastern Kentucky and the Panhandle of West Virginia employment has increased by 3 and 14 percent, respectively. Total employment in the coal mines of the district has declined a little less than one percent. Increased hours per day and

days per work week have been significant factors in achieving and maintaining high production during the war years.

Closely allied with the shortage of manpower in the mining industry is the increased output from stripping operations and the intensified use of mechanical aids in deep mines during the past few years. Both of these factors have made important contributions to the 50 percent increase in output since 1939, and indications point to the continuing importance of both with the return of peace. In the coal industry, approximately 60 percent of the cost of production is attributable to wages, and both mechanization and strip-mining presumably have taken place to enable coal producing companies to meet competition on a cost basis by an increase in tonnage output per employee.

Output from district stripping operations more than tripled between 1939 and 1943, rising from a little over 7 to 25 million tons. In Ohio, such operations accounted for almost 30 percent of all coal mined in 1943, while in fourth district West Virginia, Pennsylvania, and Kentucky, percentages totaled 27.0, 20.0, and 0.3, respectively, in that year. The percentage of total employment in coal mining engaged in stripping operations in 1943 for the several sections of the district were: Ohio, 10.0 percent; West Virginia, 8.0 percent; Pennsylvania, 5.0 percent; and Kentucky, 0.1 percent.

Increased mechanization of deep mines has characterized the coal industry for many years. Although the war has limited production of mine machinery in terms of requirements, the utilization of loaders and mechanical cutters has increased, just as the percentage of total output that is hand-mined (the time honored pick-and-shovel method) has decreased. Although district figures are unavailable, these data are available by states.

Changes in Mining Method and Handling of Underground Output

	Percentage Mechanically Loaded		Percentage Mined by Hand	
	1939	1943	1939	1943
Pennsylvania	20.0	35.0	15.1	12.0
Ohio	34.0	67.0	0.6	0.5
West Virginia	28.0	49 0	4.4	3.6
Kentucky	12.0	32.0	3.2	3.6

Trends in Consumption

Nationwide, the consumption of coal approximates annual production, except for a fluctuating export tonnage. However, the flow of coal in and out of storage introduces a small domestic variation which may differentiate production from consumption in a single year. For instance, in 1926 and 1942, a considerable part of the enlarged production went to stockpiles, while in 1943-1944, there was a serious reduction of available stocks despite record production. Because coal moves from producers to consumers without extensive storage, it might be more accurate to say that consumption determines production. In any event, there is a nicety of balance between these two factors that is very delicate.

An examination of production data indicates that, since 1900, rapid growth in the consumption of coal continued until the end of the World War I, and then entered upon a generally downward drift that lasted until the middle 1930's. There were, of course, short-cycle upsurges in production, but the depressed condition of the coal industry was not relieved to a marked degree until World War II raised production to unprecedented levels.

Consumption of Bituminous Coal and Lignite

(in thousands of tons)

	1939	1943	% Change
Railroads Class I	79,072	130,283	+ 64.8
Byproduct Ovens	61,716	90,019	+ 47.1
Electric Power	43,979	76,403	+ 73.7
Beehive Coke	2,298	12,441	+441.4
Steel & Rolling Mills	9,808	11,238	+ 14.6
Cement Mills	5,274	5,851	+ 10.9
Colliery Fuel	2,565	2,702	+ 5.3
Coal Gas	1,614	1,605	− 0.6
Other Industries	98,900	141,211	+ 42.8
Retail Deliveries	71,570	122,764	+ 71.5
TOTAL	376,296	594,517	+ 58.0

Marked differences among industries and areas of consumption have occurred during the upswing in coal consumption. Since 1939, the greatest tonnage rise has occurred among railroads, while the greatest percentage gain, among major consumers, was occasioned by the revival of beehive coking to meet the demands of the steel industry. With the return of peace, the latter wasteful use may drop to new lows.

Consumption of bituminous coal by the Class I railroads in 1943 totaled 130,283,000 tons. Notwithstanding the enormous size of this market and the 65 percent increase in use that has occurred since 1939, the long-time trend in railroad consumption has been downward. In 1917, deliveries to Class I railroads totaled over 150 million tons. Increased efficiency and economy in the use of coal and a rise in the use of fuel oil and electrical energy contributed to the decline in this market prior to the war.

The second largest increase in consumption, both actual and relative, occurred in the use of coal for the production of electric power. This industry has been of growing importance as a market for bituminous coal, in spite of the fact that the amount of fuel necessary per unit of electrical energy has declined steadily from 3.2 pounds of coal per kilowatt hour of output in 1919 to 1.3 pounds in 1943. A wide range of coals can be used in the production of electric power; but, in the main, the heat value of coal determines the distance which coal may move to this market.

Problems of the Industry

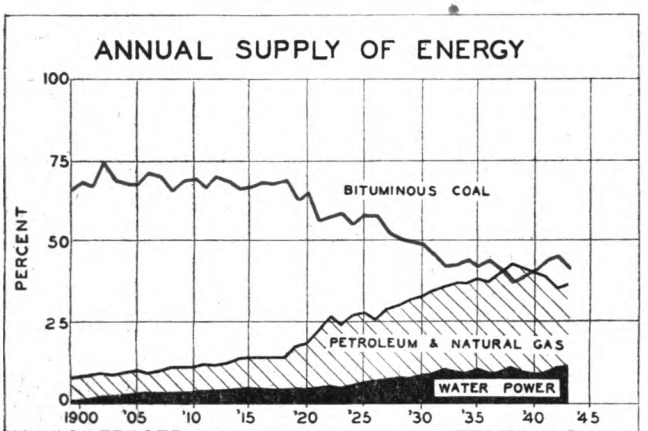
Post-war, the problems of coal resemble those of many other industries in the district. On the basis of pre-war use, the coal producing capacity of the Nation may far exceed probable need for the fuel. Unlike industry, however, there will be no reconversion or re-tooling of facilities required in the mines. The problems the industry will face, for the most part, are the same difficulties with which they have attempted to deal since World War I. There is over-capacity of

existing mines and tremendous latitude for opening new ones, due to the huge resources existing over broad areas of the country. As a result, there is a decentralization of the industry, which has been stimulated even further by the war, that does not facilitate limitation of output.

From this over-expanded productive capacity, the coal industry looks toward post-war markets that promise continually varying demand. By and large, the war has decentralized industry; i.e., new areas of the South, Southwest, and the Pacific Coast have risen to some industrial importance. Many of these new industrial centers are in areas where competitive fuels enjoy a particular regional advantage and they threaten to retain their industries, post-war, partly at the expense of manufacturing in the older industrial section of the Nation, where coal has long supplied the driving power of industry. In the Pacific and Southeastern States, hydro-electric power is available in considerable abundance. In the States of the Southwest, electrical energy is produced, predominately, from oil and natural gas.

Since the last war, petroleum and natural gas have played an increasingly important part in the energy supply of the Nation. In 1900, bituminous coal provided approximately 75 percent of the total supply of energy. Since that date, the percentage decline has been fairly consistent with the rise in importance of oil and gas. All this decline cannot be attributed directly to interfuel competition. In most applications, coal could not compete with oil and gas at prevailing price levels. Much of the supply of oil and gas is used in regions where coal is available only at unusually high cost due to transportation charges. More than half the oil produced is used in refined products for which purposes coal cannot compete at present.

In reference to the interfuel competition between oil and coal, a national program of conservation of oil resources would seem to be an immediate necessity in view of the oil resources. The most optimistic estimates of reserves of petroleum and oil shales indicate that they total no more than 1.1 percent of the total energy reserves of the country. In view of the tremendous per capita consumption of oil, national reserves are being drawn upon at a higher rate than those of any other oil-producing nation in the world. From a long range point-of-view and from considerations of national defense, it would seem advisable to make a concerted effort to discourage needless consumption of the Nation's oil resources in applications that could be serviced adequately and with fair efficiency by coal.



Hydro-electric installations constitute still another competitor of coal. At present, however, this source only accounts for some ten percent of total energy consumption. The growth in the use of water power for the generation of electricity has been continuous and at a fairly steady rate, and will unquestionably increase in sections of the country where water power resources are abundant. However, the National Resources Committee estimates that the total potential water power development could only supply energy equivalent to some one-fourth to one-fifth of the largest past annual energy consumption.

The coal industry long has been reconciled to dealing with the wide swings of demand arising from the level of industrial production, as well as technological changes which affect demand in the types, as well as the amounts, of coal. To help meet these problems, the industry has been engaged actively in product improvement research, as well as in new uses for coal outside conventional markets, in order to increase the consumption potential. Improved stoves and heaters as well as a new fully automatic stoker have resulted, all with great post-war promise. In addition, coal has been utilized in many nonfuel processes industrially and chemically. Continued research should improve the position of the coal industry in planning for its post-war future and, it is hoped, may prevent a return of the chaotic conditions which followed the last war, when coal became the "sick industry" of the Nation. However, since there is such a marked similarity in conditions during the two war periods, a high degree of intelligent industry and government leadership is required, if stability is to be achieved in the years following World War II.

FINANCIAL

Demand Deposit Survey It is generally expected that, in the transition back to a peacetime economy, there will be noticeable shifts of cash balances from one kind of depositors to another. If that assumption is valid, the qualitative composition of deposits should have some bearing upon whether a given bank or locality is apt to gain—or lose—funds more rapidly than other banks or geographical areas.

Deposits payable upon demand are owned by industrial concerns of all sizes, by distributive enterprises both wholesale and retail, by service establishments, by insurance and other financial firms, by a variety of nonprofit organizations, by farmers for business purposes, and by individuals largely as personal funds. The creditors of a commercial bank are quite a heterogeneous group which does not respond in unison to specific economic developments.

Under any given set of conditions, the cash assets (demand deposits) of some of these types of depositors might fluctuate in decided contrast to the holdings of

other depositors. Thus, banks whose deposit structure is substantially at variance with the general stratification of the average may experience deposit changes which are not typical.

For example, during the past five years when total demand deposits† of fourth district member banks increased approximately 150 percent, some banks showed much larger gains in demand balances, and some considerably smaller. Population shifts were unquestionably a contributing factor in many cases. In others, changes in the volume of industrial activity, in relation to national levels, affected the volume of deposits in a locality. More difficult to assay, perhaps, is the extent to which deposit changes were caused by the fact that not all types of depositors accumulated cash assets at the same rate. This last-mentioned factor seems to have been at least partly responsible for the fact that the largest banks of the district have shown the smallest percentage gain in demand deposits in the past year or so.

The System's fourth semi-annual deposit ownership survey, as of January 31, 1945, reveals that balances owned by mining and manufacturing concerns continue to represent by far the most important element in the deposit structure of the largest banks in this district. During the past 18 months, however, such deposits increased only 8 percent, while deposits owned by retail and wholesale enterprises and by nonprofit organizations increased nearly 30 percent at the largest banks. Nevertheless, these latter accounts were a minor source of funds, despite the substantial percentage increase. The comparatively slow growth in deposits of the largest banks during the past year or so can be explained chiefly by the almost sidewise movement of mining and manufacturing deposits.

In estimating the probable volume of funds available for investment by banks of this size, it is necessary to make certain assumptions regarding the ability—or inclination—of large industrial depositors to accumulate larger deposit balances.

With respect to the next lower size group of banks, in the $10,000,000 to $100,000,000 range, 18 months ago mining and manufacturing deposits were nearly as predominant in these banks as in the largest banks, amounting to nearly 40 percent of demand deposits. However, such industrial balances have remained virtually unchanged, while all other deposits in the aggregate grew by more than 20 percent.

Banks in this size classification report increasing expansion in nonmanufacturing deposits, especially accounts with balances of less-than-$10,000. During the past six months, well over half of the demand deposit growth (9.0 percent) of banks of this size occurred in this category of miscellaneous small business and personal accounts.

The deposit structure of banks in the $10,000,000 to $100,000,000 range appears, on the whole, to be more evenly balanced, as between distributors and consumers on the one hand and manufacturing enterprises on the other, than is true of either larger or smaller banks.

A rather striking change has taken place in the composition of demand deposits of banks in the $1,000,000 to $10,000,000 group. Unclassified deposits (accounts under $3,000) consistently have constituted the largest single element (about 30 percent). Next in importance have been mining and manufacturing accounts. However, a third category, personal accounts of over-$3,000, has been gaining ground rapidly on industrial deposits.

As is indicated in the accompanying table, in July 1943 nine percentage points separated industrial deposits from large personal accounts, but in the most

† In this discussion, demand deposits refer only to those owned by individuals, partnerships, and corporations.

Composition of Demand Deposits - - July 1943 and January 1945

(Fourth District)

	119 Participating Banks Having Demand Deposits of Individuals, Partnerships, and Corporations of—							
	Over $100,000,000		$10,000,000 to $100,000,000		$1,000,000 to $10,000,000		Under $1,000,000	
	7-31-43	1-31-45	7-31-43	1-31-45	7-31-43	1-31-45	7-31-43	1-31-45
Mining and Manufacturing	51.0%	50.4%	39.2%	34.4%	24.1%	21.2%	*	6.3%
All Financial Enterprises	9.3	9.6	10.3	9.4	7.9	6.5	*	4.0
Personal	7.6	7.7	8.6	8.9	15.1	18.4	*	40.3
Retail and Wholesale Trade	5.4	6.3	8.5	8.9	13.7	13.9	*	15.3
Public Utilities	6.1	5.2	5.9	5.3	2.7	3.1	*	2.0
All Other Nonfinancial	2.9	3.1	3.0	3.1	4.1	3.9	*	4.2
Nonprofit Associations	1.5	1.7	2.3	2.9	2.9	2.9	*	3.0
All Accounts Under $10,000	16.2	16.0	22.2	27.1	xxx	xxx	xxx	xxx
All Accounts Under $ 3,000	xxx	xxx	xxx	xxx	29.5	30.1	xxx	xxx
All Accounts Under $ 1,000	xxx	xxx	xxx	xxx	xxx	xxx	*	24.9
Total Demand Deposits	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		100.0%
Total Demand Deposits (000,000 omitted)	$1,677	$1,828	$ 902	$1,005	$ 211	$ 260	*	$ 24.3

* Data not available.

recent survey the differential was less than three points. Manufacturing deposits increased slightly in the interval, but personal accounts provided a much larger supply of new funds for most banks in this group.

These institutions have moved definitely toward a condition where they are more susceptible to economic influences affecting the general level of personal, small business, and farmer balances. As long as consumers, farmers, and similar economic units continue to accumulate cash balances somewhat faster than other depositors, banks in this range should gain deposits more rapidly, in the aggregate, than larger banks.

As for banks whose demand deposits total less than $1,000,000, the supply of available funds is determined to a large extent by the decisions and inclinations of nonindustrial depositors.

Accounts of farmers and other individuals with balances in excess of $1,000, plus all accounts below that amount, represent nearly two-thirds of total demand deposits. While this dependence upon one basic type of depositor is not a new development, a broad movement of funds from consumers and distributive enterprises to manufacturing concerns probably would have a more noticeable effect upon these banks than upon larger banking institutions.

Recent Banking Developments

During the first quarter of 1945, or roughly the period since the Sixth War Loan, there has been very little change in the total resources and liabilities of weekly reporting banks. However, there have been sizeable movements in some of the components.

Government deposits declined approximately 33 percent, which represents interdrive shrinkage on the customary scale. The increase in adjusted demand deposits of individuals, partnerships, and corporations was equal to about three-fourths of the concurrent decline in war loan deposits. The increase in time deposits was equivalent to nearly one-fourth the drop in Government accounts. Thus, the decrease in Government-owned balances was virtually offset by a comparable increase in privately-owned balances.

There was some inflow of funds from other districts, as a consequence of routine commercial transactions; but a potential increase in deposits from this source was nullified by a resumption in the outflow of currency into circulation in February. This drain on reserves through currency outflow was a factor in recent weeks in lifting borrowings by weekly reporting banks to the highest in more than a decade.

Some currency returned to the banking system around mid-March, presumably in consequence of income tax payments. Income tax collections consistently seem to have had a greater effect than war loan drives upon the volume of currency in circulation.

In the face of a rather static deposit total, no striking change in total earning assets occurred. There was some liquidation of loans, however, and a corresponding increase in investments. Most of the loan contraction took place in loans to others than brokers secured by Government obligations. From the high of January 3, loans of this type have declined about one-third, but the volume outstanding is still considerably above the level prevailing before the Sixth War Loan. Similar loans to brokers and dealers have been reduced almost to the mid-November figure. Both real estate loans and commercial loans currently show a year-to-year decline of about five percent.

The expansion in investments, which accompanied the moderate loan shrinkage of the first quarter, was confined almost exclusively to Treasury bonds. Reporting banks reduced their Treasury bill holdings steadily during the first three months of 1945, but holdings of Treasury bonds increased seven percent.

AGRICULTURE

Greater Farm Income Through Maintenance of Soil Productivity

Maintenance of soil productivity is not necessarily a philanthropic or an altruistic endeavor. It can be considered strictly as a business proposition by the farmer who practices it. Research of the last few years has shown that productivity maintenance does pay, not only in terms of decades and centuries, but in a period of time short enough to make it financially attractive to the operating farmer. To the country banker, this finding is of much significance, for it means that soil maintenance loans may be considered a profitable use of bank funds in addition to providing an unexcelled medium for establishing stable and prosperous farm communities. Recent investigations indicate clearly that lending money to farmers for soil improvement and soil conservation purposes is a program involving no conflict between long-time social objectives and short-time self-interest motivations.

The agricultural history of this country is filled with accounts of farmers' attempts to increase their incomes at the expense of the soil. Hundreds of thousands of fertile acres have been "mined" of their fertility and left as liabilities to future generations. Although individual selfishness has been responsible for some of this waste, a large part of it originated in the lack of competent soil management. In other words, although some individuals have drained the fertility from their soils consciously and willfully, the depletion caused by the majority has been a result of ignorance of appropriate land use and conservation methods.

These two causes of soil misuse still prevail and cannot be considered as problems of the past. Nevertheless, there have been significant developments in the last several decades which materially affect their influence. Great strides have been made in the field of soil science—technological advances of such magnitude as to assure adequate soil maintenance *if* the management practices developed through experimental research were followed generally. The very existence of such information is in itself important and significant, but the degree to which the available technical knowledge becomes an active force in the maintenance of soil productivity depends upon the farmers' understanding of approved methods, and the extent to which farmers adopt the recommended methods after they are acquainted with them.

The problem of acquainting farmers with approved soil management practices is not an easy one. However, it appears to be less difficult than the task of securing widespread application of the desirable methods. The former requires education in the physical properties and processes of the soil; the latter necessitates demonstrations of the practical efficiency of spending time and money on soil conservation.

Fortunately, recent investigations have shown that "it pays to farm well." The Department of Rural Economics of the Ohio Agricultural Experiment Station summarized a study relating farm incomes to soil maintenance with, "Farmers who were doing the best job of maintaining their soils were making the best incomes." This conclusion was reached after a thorough study of 696 farms in ten Ohio counties. In three counties, the average net farm income per acre was calculated for groups of farms with different soil maintenance records. The following table shows the results obtained and indicates clearly that there *are* operating compensations for soil maintenance expenditure.

Relationship of Soil Maintenance to Net Farm Income

Three Ohio Counties, 1935

Average Net Farm Income Per Acre

County	Farms Maintaining or Improving Soil Productivity	Farms on which There Was *Medium* Soil Exploitation	Farms on which There Was *Severe* Soil Exploitation
Ashtabula	$18.34	$11.74	$6.48
Wood	14.02	12.68	6.79
Wyandot	15.42	13.31	10.63

Source: Bulletin No. 604, Ohio Agricultural Experiment Station.

The income differences shown in the above table cannot all be credited to variations in soil management practices. The farmers who were maintaining or improving the productivity of their soils were generally the most efficient in all aspects of farm operation. Nevertheless, the high correlation which existed between improved practices and greater income left little doubt as to the importance of soil management in the total picture. The use of lime in Ashtabula County may be cited as an example. Farmers who were maintaining or improving soil productivity, and thus receiving the largest net incomes, were using, on the average, about four and one-half times as much lime per acre as farmers who were severely exploiting their soils.

The treatment of soils with lime and fertilizers is only one phase of soil management, but is without doubt one of the most important. The Department of Agronomy at the University of Kentucky states that, in the hill counties of Eastern Kentucky and in the southern and western parts of the State, there is little opportunity for profitable farming unless lime and phosphate are applied to the soils. The increased yields shown in the following table are said to be typical of the excellent response which crops in those areas make to treatment.

The phenomenal effect of lime and phosphate applications was also shown clearly in a study of the livestock-carrying capacities of Kentucky pastures concluded in Grayson County last year. On untreated pastures, 5.3 acres were required to carry 1,000 pounds of livestock from May to November 1, whereas on pastures treated with lime and phosphate it was necessary to use only 1.5 acres for the same amount of grazing.

Yield Changes with Lime and Phosphate Applications

T.V.A. Demonstration Farms
Grayson County, Kentucky
1944

Crop	Yield Per Acre: Without Treatment	Treated with Lime	Treated with Lime and Phosphate
Lespedeza	600.0 lbs.	1,300.0 lbs.	3,200.0 lbs.
Red clover	500.0 lbs.	940.0 lbs.	3,100.0 lbs.
Redtop	390.0 lbs.	480.0 lbs.	1,430.0 lbs.
Wheat	8.0 bu.	10.9 bu.	21.5 bu.
Barley	10.0 bu.	17.0 bu.	34.6 bu.
Corn*	30.4 bu.	37.1 bu.	43.6 bu.

* Trigg County—After receiving lime and phosphate applications, this land remained unplowed four years in grass and lespedeza before being planted to corn.

Source: Department of Agronomy, University of Kentucky.

In the portions of Pennsylvania and West Virginia which are in the Fourth Federal Reserve District, good pastures are especially important owing to the prominence of dairy and sheep husbandry. During the war, periods of feed shortages, especially proteins, have accentuated their importance. In recognition of the value of good pastures, the Pennsylvania Agricultural Experiment Station in cooperation with the U.S.D.A. Bureau of Plant Industry has conducted many experiments on pasture fertilization and now has available the findings of ten years of research. One of the purposes of the tests was to determine the net return from variously fertilized pastures; that is, return above the cost of fertilization. This was done (1) by comparing total digestible nutrients from the pastures with the costs of corresponding nutrients in alfalfa hay, and (2) by comparing the value of the milk from the pastures less the cost of the fertilizers and supplementary feed. The experiments were conducted on Rayne soil, a silt loam representative of a large part of the Appalachian Plateau. There can be only one conclusion from the results, which are given in the following table—pasture fertilization *does* pay.

Pasture Fertilization

On Rayne Soil in Pennsylvania

Lime and Fertilizer Treatment	Net Return Above Fertilizer Costs (Based on alfalfa hay nutrients)	Net Return Above Fertilizer Costs (Based on milk produced)
Lime only	$ 7.72	$14.58
Lime and phosphate	12.51	31.58
Lime, phosphate, and potash	12.98	33.51
Lime, phosphate, potash, and nitrogen	13.90	38.88

Source: "Science for the Farmer," March 1944, Pennsylvania State College, School of Agriculture and Agricultural Experiment Station.

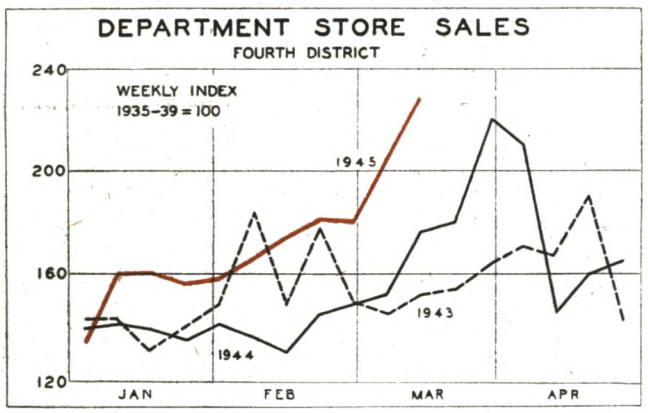
TRADE

Retail At the start of this year, it was doubtful whether department stores would be able to surpass, or even duplicate, the all-time high in dollar sales experienced last year, especially since the heavy buying of October, November, and December had

reduced stocks to the lowest level in over three years. Many merchants were completely sold out of some items and had only limited quantities of others. Moreover, there was little possibility of increased civilian production in the near future. Nevertheless, since the first of the year, stores have succeeded in obtaining enough merchandise to permit dollar sales during the first quarter to reach a record-high level for that period. In fact, receipts of merchandise during the first two months of the year exceeded sales, and inventories on February 28, 1945, were up 14 percent from January 1, but down 6 percent from the end of February last year.

The accompanying chart shows weekly sales during January-March 1945 compared with a year and two years ago. With the exception of the first week in January, which had only five trading days this year, sales recently have been substantially larger than they were in 1944, with year-to-year gains as high as 32 percent reported for certain weeks. There also has been improvement over 1943 sales, except during the second week of February, when sales reached an abnormally high level two years ago as a result of scare-buying of all types of clothing and accessories after the announcement of shoe rationing. Nevertheless, this decline was more than offset by the gains for the remainder of February, and total sales last month were up 4 percent from two years ago and 18 percent compared with February 1944. The seasonally adjusted sales index advanced to 204 percent of the 1935-39 average, which equaled the all-time high of last November.

In discussing department store sales during March and April, one must take into consideration the effect of the changing date of Easter upon the pattern of weekly sales during these two months. With Easter this year and last occurring considerably earlier than in 1943, a large portion of the apparel business of April two years ago has been shifted to March.



Nevertheless, during the week ended March 17, 1945, dollar sales were greater than they were during the pre-Easter peaks of both 1943 and 1944, despite the fact that there were still two weeks before Easter this year in which stores could be expected to experience a large volume of apparel sales. During the two weeks ended March 17, sales were up 30 percent compared with the corresponding period a year ago. Unusually favorable weather this month has encouraged the purchase of spring clothing.

The greatest gains in February sales this year compared with last were reported by ready-to-wear departments. Sales of women's coats and suits were up 30 percent, dresses 23 percent, and juniors' and girls' wear 34 percent. Men's clothing sales were 18 percent larger. Shoe business also was very active last month, with sales of women's shoes up 43 percent from February 1944. Basement shoe departments experienced a gain of only 26 percent in their sales, indicating that customers are continuing to use their ration coupons for better-quality footwear. Piece goods sales were substantially larger this year than last, although the gain in sales of cotton wash goods was considerably smaller than that reported for rayons, silks, and woolens. Stores are having considerable difficulty in securing cotton piece goods, and stocks of these at the end of last month were down eleven percent from February 29, 1944.

The joint program of the War Production Board and Office of Price Administration to reduce clothing prices by increasing production of popular-priced items was discussed in the February issue of the *Monthly Business Review*. In order that consumers may benefit from this program, OPA during the latter part of this month issued an order which froze the price mark-ups of approximately 300,000 retailers selling clothing, dry goods, and housefurnishings. The regulation forbids a retailer from using a greater mark-up on any item than he did on March 19, 1945. While this order will not change present price levels, it does require retailers to reduce their prices to customers whenever wholesale prices decline. The order includes most types of rayon and woolen clothing, all types of cotton clothing except those under specific price ceilings, shoes, domestics, and certain housefurnishings.

Wholesale According to *Department of Commerce* reports, sales at 169 fourth district wholesale firms during February were two percent smaller than in the same month a year ago. Sales of automotive supplies, housefurnishings, confectionery products, and paints and varnishes were substantially larger this February than last, but these gains were slightly more than offset by the decreases reported by firms selling building materials, paper, and tobacco products.

Indexes of Department Store Sales and Stocks

Daily Average for 1935-39=100

	Without Seasonal Adjustment			Adjusted for Seasonal Variation		
	Feb. 1945	Jan. 1945	Feb. 1944	Feb. 1945	Jan. 1945	Feb. 1944
SALES:						
Akron (6)	204	179	167	229	236	188
Canton (5)	196	167	168	258	217	221
Cincinnati (9)	167	155	131	223	189	174
Cleveland (10)	153	142	128	197	172	164
Columbus (5)	186	172	152	248	213	203
Erie (3)	179	151	157	210	194	184
Pittsburgh (8)	150	129	120	166	172	133
Springfield (3)	194	168	172	249	230	220
Toledo (6)	168	146	139	213	197	176
Wheeling (6)	151	121	116	186	173	144
Youngstown (3)	187	161	142	231	210	176
District (97)	163	145	133	204	186	166
STOCKS:						
District (51)	142	132*	151	148	149*	157

* Revised.

Fourth District Business Statistics

(000 omitted)

Fourth District Unless Otherwise Specified	Feb. 1945	% change from 1944	Jan.-Feb. 1945	% change from 1944
Bank Debits—24 cities	$4,181,000	− 6	9,018,000	− 2
Savings Deposits—end of month: 39 banks O. and W. Pa.	$1,198,760	+24		
Life Insurance Sales: Ohio and Pa.	$ 91,509	− 3	184,670	+ 2
Retail Sales: Dept. Stores—97 firms	$ 36,793	+18	72,273	+16
Furniture—71 firms	$ 2,023	+ 4	3,716	+ 2
Building Contracts—Total	$ 11,779	+98	21,402	+ 3
" " —Residential	$ 1,541	−46	2,915	−54
Commercial Failures— Liabilities	$ 91	+34	120	−25
Number	5	−17	7	−50
Production: Pig Iron—U. S. Net tons	4,563	−10	9,508	− 9
Steel Ingot—U. S. Net tons	6,658	− 7	13,862	− 6
Bituminous Coal— O., W. Pa., E. Ky. Net tons	17,011	−13	35,688	− 9
Cement— O., W. Pa., W. Va. Bbls.	353a	−29		
Electric Power— O., Pa., Ky. Thous. K.W.H.	3,219a	+ 3		
Shoes Pairs	b	− 6	b	− 5

a January.
b Confidential.

Wholesale and Retail Trade

(1945 compared with 1944)

	Percentage Increase or Decrease SALES Feb. 1945	SALES first 2 months	STOCKS Feb. 1945
DEPARTMENT STORES (97)			
Akron	+17	+16	− 2
Canton	+11	+ 9	a
Cincinnati	+22	+20	− 6
Cleveland	+15	+15	−10
Columbus	+17	+17	− 3
Erie	+10	+ 6	− 4
Pittsburgh	+20	+17	− 3
Springfield	+ 9	+ 8	a
Toledo	+17	+16	− 9
Wheeling	+25	+21	−13
Youngstown	+26	+24	a
Other Cities	+15	+ 8	− 8
District	+18	+16	− 6
FURNITURE (71)			
Canton	− 1	−0−	+ 3
Cincinnati	+23	+16	+ 9
Cleveland	− 3	− 3	−16
Columbus	− 7	− 7	−19
Dayton	+ 1	− 3	a
Pittsburgh	+16	+ 8	− 1
Toledo	− 5	+ 3	a
Other Cities	+ 1	−0−	− 1
District	+ 4	+ 2	− 6
CHAIN STORES*			
Drugs—District (5)	+ 3	+ 4	a
Groceries—District (4)	+10	+13	a
WHOLESALE TRADE**			
Automotive Supplies (8)	+24	+26	a
Beer (5)	−10	− 4	−40
Clothing and Furnishings (3)	+12	+14	a
Confectionery (4)	+26	+17	a
Drugs and Drug Sundries (5)	+ 2	+ 4	−14
Electrical Goods (9)	− 2	+ 8	− 7
Fresh Fruits and Vegetables (7)	+ 4	+ 9	+ 1
Furniture and House Furnishings (3)	+26	a	a
Grocery Group (39)	− 1	+ 5	−19
Total Hardware Group (25)	+ 4	+ 6	+13
General Hardware (7)	− 3	a	+19
Industrial Supplies (9)	+10	− 2	−19
Plumbing and Heating Supplies (9)	+12	+17	+15
Jewelry (8)	+ 9	+ 7	+ 8
Lumber and Building Materials (5)	− 8	− 7	−12
Machinery, Equip. & Sup. (Except Elect.) (3)	+24	+15	a
Paints and Varnishes (4)	+11	a	a
Paper and its Products (6)	−10	− 6	a
Tobacco and Its Products (14)	−13	− 4	−59
Miscellaneous (14)	− 9	− 6	−19
District—All Wholesale Trade (169)	− 2	+ 3	−14

* Per individual unit operated.
**Wholesale data compiled by U. S. Department of Commerce, Bureau of the Census.
a Not available.
Figures in parentheses indicate number of firms reporting sales.

Fourth District Business Indexes

(1935-39 = 100)

	Feb. 1945	Feb. 1944	Feb. 1943	Feb. 1942	Feb. 1941
Bank Debits (24 cities)	188	200	157	138	111
Commercial Failures (Number)	7	9	40	61	100
" " (Liabilities)	6	5	28	28	80
Sales—Life Insurance (O. and Pa.)	108	112	89	103	94
" —Department Stores (97 firms)	163	133	157	121	99
" —Wholesale Drugs (5 firms)	164	161	137	120	106
" — " Groceries (39 firms)	150	152	139	127	96
" — " Hardware (25 firms)	170	163	151	170	121
" — " All (69 firms)	162	161	147	141	106
" —Chain Drugs (5 firms)*	166	161	162	140	121
" —Chain Groceries (4 firms)	162	147	152	138	111
Building Contracts (Total)	48	24	67	135	115
" " (Residential)	20	37	114	238	133
Production— Coal (O., W. Pa., E. Ky.)	136	156	147	131	127
" —Cement (O., W. Pa., E. Ky.)**	43	60	121	119	73
" —Elec. Power (O., Pa., Ky.)**	211	206	186	167	143
" —Petroleum (O., Pa., Ky.)**	a	97	96	96	95
" —Shoes	84	89	83	88	114

* Per individual unit operated.
**January.
a Not available.

Debits to Individual Accounts

(Thousands of Dollars)

	Feb. 1945	% change from 1944	Jan.-Feb. 1945	Jan.-Feb. 1944	% change from 1944
Akron	176,352	+ 4.5	371,668	347,947	+ 6.8
Butler	17,995	+ 4.9	38,465	35,103	+ 9.6
Canton	74,335	− 2.5	157,986	151,243	+ 4.5
Cincinnati	592,385	+ 4.7	1,250,836	1,197,757	+ 4.4
Cleveland	1,119,890	− 7.6	2,505,931	2,486,795	+ 0.8
Columbus	266,522	−30.1	572,485	688,096	−16.8
Covington-Newport	22,045	− 7.1	48,679	49,285	− 1.2
Dayton	128,586	− 7.6	276,781	294,253	− 5.9
Erie	50,454	−13.3	102,764	122,345	−16.0
Franklin	5,025	− 8.4	10,719	11,727	− 8.6
Greensburg	10,624	−12.2	22,281	24,422	− 8.8
Hamilton	19,411	− 1.6	41,143	39,066	+ 5.3
Homestead	4,513	− 6.6	9,258	9,684	− 4.4
Lexington	73,304	+75.6	159,039	121,385	+31.0
Lima	26,868	+ 7.3	58,038	51,137	+13.5
Lorain	7,422	−12.3	16,832	17,895	− 5.9
Mansfield	20,682	+16.4	41,041	37,633	+ 9.1
Middletown	17,372	−11.0	36,887	40,327	− 8.5
Oil City	13,530	− 8.8	30,936	29,375	+ 5.3
Pittsburgh	1,177,644	− 4.5	2,524,376	2,607,662	− 3.2
Portsmouth	10,223	+ 2.0	22,347	21,333	+ 4.8
Sharon	15,320	− 1.7	31,067	32,375	− 4.0
Springfield	28,654	− 9.9	60,582	65,243	− 7.1
Steubenville	13,735	+13.5	29,001	25,163	+15.3
Toledo	220,930	−15.1	456,976	527,934	−13.4
Warren	23,278	− 0.4	47,095	45,538	+ 3.4
Wheeling	34,881	− 4.2	76,802	81,517	− 5.8
Youngstown	76,530	− 4.4	158,912	165,815	− 4.2
Zanesville	11,161	−13.5	24,080	25,967	− 7.3
Total	4,259,671	− 5.9	9,183,007	9,354,022	− 1.8

SUMMARY OF NATIONAL BUSINESS CONDITIONS

By the Board of Governors of the Federal Reserve System

Industrial activity continued to increase slightly in February and the early part of March. Value of department store sales was one-fifth greater than in the same period last year. Wholesale commodity prices generally showed little change.

Industrial Production

The Board's seasonally adjusted index of industrial production was 235 percent of the 1935-39 average in February, as compared with 234 in January and 232 in the last quarter of 1944.

Steel production, which declined further in the first part of February as a result of continued severe weather conditions, showed a substantial increase at the end of the month and in the first three weeks of March. Average output of open hearth steel during February was 2 percent above the January rate, while electric steel production increased 7 percent. Output of nonferrous metals continued to rise slightly in February, largely reflecting increased military demands. Activity in the machinery and transportation equipment industries was maintained at the level of the preceding month; a decline in shipbuilding offset a slight increase in output of most other munitions industries. Production of lumber and stone, clay, and glass products in February was at about the January level.

Production of most nondurable goods showed little change in February. Output of cotton goods and shoes, however, rose 5 percent from the preceding month to a level slightly above that of a year ago. Output of explosives and small-arms ammunition showed further large gains. Activity at meat packing establishments continued to decline, as pork and lard production dropped further and was 50 percent below the peak level reached a year ago. In March it was announced that supplies of meat available for civilians in the second quarter of 1945 would be 12 percent less than in the first quarter. Activity in rubber products industries in January and February was 6 percent above last autumn, reflecting chiefly a sharp increase in production of military truck tires.

Minerals output rose slightly in February, reflecting increased output of anthracite and a further gain in crude petroleum production. Anthracite production recovered in February and the first two weeks of March from a large decline during January. Bituminous coal production showed little change in February from the January level and declined slightly in the early part of March.

Distribution

Department store sales in February, which usually show little change from January, increased considerably this year. Value of sales in February and the first half of March was 22 percent larger than in the corresponding period a year ago, reflecting the earlier date of Easter this year and continuation of the freer spending in evidence since the middle of 1944.

Freight carloadings, which had declined at the end of January and the early part of February owing to severe weather conditions, have increased since that time. Shipments of miscellaneous freight were in larger volume in the 5-week period ending March 17 than in the corresponding period of 1944, while loadings of most other classes of freight were less.

Bank Credit

Treasury expenditures during February and the first half of March continued to increase the total volume of deposits and currency held by the public. Adjusted demand deposits at weekly reporting banks in 101 cities increased 1.4 billion dollars and time deposits rose about 200 million dollars during the four-week period ended March 14. Currency in circulation increased 350 million dollars over the same period, but declined somewhat in the week following. To meet the resulting increase in required reserves as well as the currency drain, Federal Reserve Bank holdings of United States Government securities increased 395 million dollars in the four weeks ended March 14, while reductions in non-member and in Treasury deposits at the Reserve Banks supplied 450 millions of reserve funds to member banks. Excess reserves have remained at an average level of about a billion dollars.

The increase in Federal Reserve holdings of Government securities roughly paralleled the decline in commercial bank holdings. Reporting banks reduced their portfolios by 260 million dollars in the four weeks. Holdings of Treasury notes declined by 1.7 billion dollars while certificate holdings increased by 1.4 billion dollars, reflecting the March 1 Treasury exchange offer. Bill holdings were reduced by 210 million dollars. Bond holdings, however, continued to increase. Total loans for purchasing and carrying Government securities declined by 230 million dollars and commercial loans by 185 million.