

District Summary of Business Conditions

Trade and industrial activity in the Sixth District continued in October at higher levels than at the corresponding time last year. In the percentage comparisons, the more important of which are shown in the chart on page 6, construction contracts awarded led other series with a gain over October 1939 of 91 per cent, and the October total of "All Other" contracts awarded was two and one-half times the total for that month a year ago. Building permits were up 12 per cent, cotton consumption and pig iron production were up 8 per cent, and coal output was about 3 per cent larger. The District gains in contracts awarded and in cotton consumption are larger than those for the country, and output of coal declined less in the District than in the country.

▶ Retail sales in the District declined 5 per cent, on a daily average basis, in October when there is usually a rise of about 3 per cent, so that the seasonally adjusted index declined 8 per cent. For the country, the Board's index declined 7 per cent. Compared with October last year the index was up 2 per cent. Wholesale trade rose 15 per cent in October and was 12 per cent above October 1939.

(Continued on page 6)

DEFENSE CONTRACTS AND PRODUCTIVE CAPACITIES

The defense program involves the expenditure of enormous sums, and involves the letting of production contracts sufficient to infringe upon private demands in certain fields, sufficient to tax capacity in others, and sufficient to call forth new capacity in many. There has therefore been since the beginning of the program considerable interest in the regional distribution of these contracts, an interest that is entirely proper, for, while the regional distribution of contracts is of decidedly secondary importance during the emergency phase of defense activity, its effects, working through the stimulation of industrial areas and the installation of new capacity, will continue long after the emergency has passed. The program will leave its print visible for many years upon the industrial pattern of the nation.

In the September number of this Review an attempt was made to allocate by states defense contracts to that date in two special and rather small fields: construction and textiles. It was concluded there that the South, particularly the coastal states, was receiving a considerable volume of construction contracts, and, especially in Georgia, a most encouraging share of textile contracts.

In this issue, a more ambitious task has been assumed. The task is that of comparing defense contracts in the sev-

eral Federal Reserve Districts with a measure of productive capacity. This comparison is the more necessary in order that judgments regarding the fairness (as well as the productive efficacy) of the distribution of defense contracts through the nation may begin on a more valid basis than is provided through a simple summary of contracts by regions. The point is, a mere tabulation of contract awards by areas has little bearing on whether these areas should or should not have received so great or so small an award.

The Defense Commission has recently prepared a breakdown of all defense contracts through October 31 by Federal Reserve Districts, and we have attempted to compare this allocation with the productive capacities of the respective Districts. Our remarks to follow, however, will be directed principally to cataloging the enormous difficulties involved in such an undertaking in order that the reader may be warned against placing too much faith either in the impressions conveyed by our comparisons, or in those of any of the other comparisons of a similar nature being presented to the public.

▶ In comparing defense contracts and productive capacities, it seems proper first to exclude from the former totals the contracts for the construction of



CONDITION OF FEDERAL RESERVE BANK OF ATLANTA % Change from

(In Millions of Dollars)

	Nov. 13 1940	Oct. 16 1940	Nov. 15 1939	Nov. 13, 1940 Oct. 16 1940	Nov. 15 1939
Bills discounted.....	\$.1	\$.1	\$.2	...	- 50
Industrial advances.....	.3	.3	.7	...	- 57
U. S. securities, direct and guaranteed.....	86.2	90.6	105.9	- 5	- 19
Total bills and securities.....	86.5	91.0	106.8	- 5	- 19
F. R. note circulation.....	183.4	177.9	159.9	+ 3	+ 15
Member bank reserve deposits.....	231.1	228.2	198.0	+ 1	+ 17
U. S. Gov't general deposits.....	19.4	24.6	20.2	- 21	- 4
Foreign bank deposits.....	27.0	26.2	16.1	+ 3	+ 68
Other deposits.....	5.0	6.2	6.7	- 19	- 25
Total deposits.....	272.5	285.2	241.0	- 4	+ 13
Total reserves.....	381.4	375.7	299.6	+ 2	+ 27
Commitments to make industrial advances.....	.5	.5	.1	...	+ 400

CONDITION OF 22 MEMBER BANKS IN SELECTED CITIES % Change from

(In Millions of Dollars)

	Nov. 13 1940	Oct. 16 1940	Nov. 15 1939	Nov. 13, 1940 Oct. 16 1940	Nov. 15 1939
Loans and investments—Total.....	\$684.0	\$659.5	\$622.1	+ 4	+ 10
Loans—Total.....	352.5	333.0	312.5	+ 6	+ 13
Commercial, industrial and agricultural loans.....	183.1	169.1	171.8	+ 8	+ 7
Open market paper.....	2.8	2.2	3.8	+ 27	- 42
Loans to brokers and dealers in securities.....	6.4	5.6	4.3	+ 14	+ 49
Other loans for purchasing and carrying securities.....	10.6	10.4	11.0	+ 2	- 4
Real estate loans.....	33.2	32.9	32.1	+ 1	+ 3
Loans to banks.....	1.3	1.1	1.1	+ 18	+ 18
Other loans.....	115.1	111.7	88.4	+ 3	+ 30
Investments—Total.....	331.6	326.5	309.6	+ 2	+ 7
U. S. direct obligations.....	151.8	149.3	143.2	+ 2	+ 6
Obligations guaranteed by U. S.....	65.7	66.3	70.0	- 1	- 6
Other securities.....	114.1	110.8	96.4	+ 3	+ 18
Reserve with F. R. Bank.....	146.2	144.3	120.1	+ 1	+ 22
Cash in vault.....	15.5	13.1	12.1	+ 18	+ 28
Balances with domestic banks.....	202.6	215.6	210.1	- 6	- 4
Demand deposits—adjusted.....	439.2	428.3	388.0	+ 3	+ 13
Time deposits.....	190.6	190.1	189.5	+ 0	+ 1
U. S. government deposits.....	42.1	42.0	40.1	+ 0	+ 5
Deposits of domestic banks.....	317.1	314.1	287.5	+ 1	+ 10
Borrowings.....

DEBITS TO INDIVIDUAL ACCOUNTS (In Thousands of Dollars)

	Oct. 1940	Sept. 1940	Oct. 1939	Oct. 1940 Sept. 1940	Oct. 1939
ALABAMA					
Birmingham.....	\$ 114,043	\$ 94,922	\$ 98,930	+ 20	+ 15
Dothan.....	4,018	3,419	3,561	+ 18	+ 13
Mobile.....	49,580	43,002	42,802	+ 15	+ 16
Montgomery.....	30,995	24,067	26,728	+ 29	+ 16
FLORIDA					
Jacksonville.....	89,541	75,911	75,717	+ 18	+ 18
Miami.....	54,148	43,692	42,567	+ 24	+ 27
Pensacola.....	11,088	9,933	9,044	+ 12	+ 23
Tampa.....	32,681	28,524	27,905	+ 15	+ 17
GEORGIA					
Albany.....	5,955	5,383	5,614	+ 11	+ 6
Atlanta.....	250,303	212,471	225,534	+ 18	+ 11
Augusta.....	22,655	18,615	21,749	+ 22	+ 4
Brunswick.....	3,018	2,814	2,445	+ 7	+ 23
Columbus.....	22,180	18,364	17,294	+ 21	+ 28
Elberton.....	1,880	1,252	1,488	+ 15	+ 26
Macon.....	19,539	16,928	20,422	+ 15	- 4
Newnan.....	2,801	1,967	2,375	+ 42	+ 18
Savannah.....	32,503	29,062	30,073	+ 12	+ 8
Valdosta.....	4,346	4,798	4,393	- 9	- 1
LOUISIANA					
New Orleans.....	234,593	205,390	230,713	+ 14	+ 2
MISSISSIPPI					
Hattiesburg.....	10,267	5,123	5,511	+ 100	+ 86
Jackson.....	31,114	28,843	29,114	+ 8	+ 7
Meridian.....	15,539	12,177	12,952	+ 28	+ 20
Vicksburg.....	8,958	6,636	10,377	+ 35	- 14
TENNESSEE					
Chattanooga.....	50,399	43,036	47,414	+ 17	+ 6
Knoxville.....	34,680	30,096	31,803	+ 15	+ 9
Nashville.....	95,590	85,634	90,049	+ 12	+ 6
SIXTH DISTRICT					
26 Cities.....	1,232,414	1,052,059	1,116,574	+ 17	+ 10
UNITED STATES					
274 Cities.....	39,695,000	33,811,000	35,832,000	+ 17	+ 11

RETAIL TRADE — OCTOBER 1940 (Cities for which no indexes are compiled)

	SALES October 1940 compared with September 1940 October 1939		STOCKS October 1940 compared with September 1940 October 1939	
Macon.....	+ 17	+ 6
Montgomery.....	+ 11	+ 2	+ 5	+ 28

stationary facilities, such as buildings, camps, and airfields. Because of their stationary character, the army must build these facilities where they are wanted, rather than where the largest construction capacity happens to be. They have, therefore, no relationship to productive capacity.

With construction contracts excluded, the defense contracts by Federal Reserve Districts provide a picture represented by the right hand side of our chart. It will be immediately noticed from the chart that shipbuilding is by far the most important part of the program, accounting for almost half of the total. Aircraft production also constitutes an important segment. Because of the specialized character of these industries and the geographic concentration of existing facilities, it is obvious that a measure of defense producing capacity must be constructed not solely from estimates of the general manufacturing facilities of areas, but rather from an estimate of the capacity to produce the particular items called for in the proportions called for.

Both shipbuilding and aircraft production facilities of the twelve Districts were estimated by allocating to the Districts the values of ships and airplanes produced in 1937 from the *Census of Manufactures*. While it would have been desirable similarly to allocate ordnance and ammunition facilities, census data do not permit this to be done. Therefore, the areas' abilities to produce ordnance and all general manufacturing items were estimated on the basis of the value added in total manufacturing in 1937.

District capacities in these fields, ships, aircraft, and "all other" (exclusive of construction), expressed as percentages of national totals, were then weighted in accordance with the total contracts in each group, and these aggregates, after again being put into percentages of the national total, constitute the estimates of the Districts' relative capacities to produce defense goods. The estimates are shown on the solid bars of the chart.

These estimates are far from perfect but sufficient to emphasize the inequality of the Districts in defense manufacturing capacity. This inequality when compared with the corresponding inequality of defense contracts, goes far in explaining the latter situation.

The latest *Census of Manufactures* available covers the year 1937, a deficiency that introduces considerable errors when that year's data must be used as a measure of present relative capacities in so rapidly growing an industry as aircraft. The census provides production data in many industry groups by states, but Federal Reserve Districts do not always follow state lines, and precarious reallocations are therefore necessary. The industry break downs, moreover, do not in most cases agree with defense classifications, thus calling for further uncertain adjustments. In addition, the census does not publish data that will reveal the figures of individual establishments, which would occur in states having a small number of producers in any census group. This deficiency is particularly important in industries such as shipbuilding and aircraft production.

The capacity bars are subject to error under all the headings listed. But beyond the errors in the measure itself, considerable errors in interpretation are possible. For instance, the contracts listed are primary contracts only, and their completion will require many subcontracts. These may be as important to geographic areas as the primary contracts. The South may expect to receive many subcontracts, and may

Defense Announcement

The Federal Reserve Bank of Atlanta, through its main office and branches in New Orleans, Nashville, Jacksonville, and Birmingham, has undertaken—as is likewise true of the other Federal Reserve Banks and branches in their respective Districts—the performance of certain functions for The Advisory Commission to the Council of National Defense. This activity has been assumed in pursuance of a letter of request by the Commission, dated October 25, 1940, to the Board of Governors of the Federal Reserve System and has been announced by Mr. Robert S. Parker, President of the Bank, to all banking institutions in the Sixth Federal Reserve District through circular communication and to the public by means of press releases.

For the benefit of those not thus informed we here repeat that the Federal Reserve System will endeavor to perform for the Commission the following general functions:

First, to assist business and the Commission in bringing industrial defense capacity to the attention of the Defense Advisory Commission and the procurement agencies of the armed forces.

Second, to acquaint financial institutions with proper procedure in accepting assignments of claims against the government resulting from defense contracts.

Third, to assist business and banks in arranging the financing of defense supplies and facilities contracts and subcontracts.

Fourth, to furnish business with information on the procedure and proper contacts to make relative to obtaining defense contracts; and generally to act as a local information center for the Defense Advisory Commission.

Mr. Ernest G. Draper, member of the Board of Governors of the Federal Reserve System, is general director of the System's work related to problems of defense. His office will act in collaboration with that of Mr. Donald Nelson, who serves the Commission as Coordinator of Purchases and also as Director of Small Business Activities.

In the Sixth Federal Reserve District, Mr. Malcolm Bryan, Vice President, has been designated as officer in charge of defense activities for the Federal Reserve Bank of Atlanta. Officers in immediate charge in branch bank cities are: Mr. Lewis M. Clark, Managing Director of the New Orleans Branch; Mr. P. L. T. Beavers, Managing Director of the Birmingham Branch; Mr. Joel B. Fort, Jr., Managing Director of the Nashville Branch; and Mr. T. A. Lanford, Cashier of the Jacksonville Branch.

possibly expect to have a net advantage in this sphere, for as a raw-material and "gray-goods" producing area, many of the finished goods contracts of the North will require the inclusion of semi-finished manufactures generally typical of southern production. Furthermore, the classes of defense goods in which this District has received its largest contracts—construction and textiles—are those in which the number of out-of-District subcontracts will be least, for construction is largely an on-the-spot job using local materials, and surely such finished textiles as the District makes are almost certain to contain southern cotton and "gray-goods."

While our measure of productive capacity is subject to a wide margin of error, it does permit the conclusion that defense contracts have been geographically distributed much more nearly in accordance with productive capacity than one might have expected.—E. H.

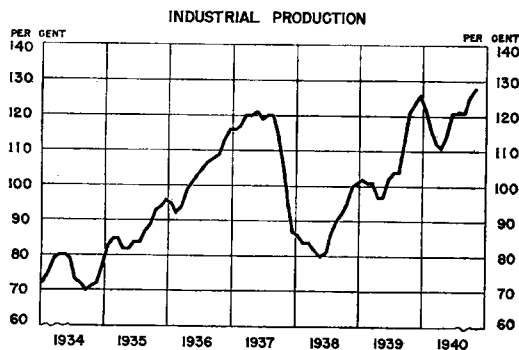
SIXTH DISTRICT BUSINESS INDICATORS

	Indexes (1923-1925 average = 100, except as noted)																										
	Adjusted			Unadjusted																							
	Oct. 1940	Sept. 1940	Oct. 1939	Oct. 1940	Sept. 1940	Oct. 1939																					
RETAIL SALES* (1935-1939 Av. = 100)																											
DISTRICT (47 Firms).....	112	122	110	125	132	122																					
Atlanta.....				134	150	123																					
Birmingham.....				121	140	133																					
Nashville.....				117	120	123																					
New Orleans.....				116	125	121																					
RETAIL STOCKS																											
DISTRICT (22 Firms).....	81	76	78	90	81	87																					
Atlanta.....	158	138	144	177	152	161																					
Birmingham.....	78	73	76	85	75	84																					
Nashville.....	59	58	55	67	63	62																					
New Orleans.....	66	62	66	72	65	73																					
WHOLESALE SALES																											
TOTAL.....				80	70	80																					
Groceries.....				58	53	55																					
Dry Goods.....				76	74	84																					
Hardware.....				148	119	130																					
Drugs.....				117	109	115																					
CONTRACTS AWARDED																											
DISTRICT.....				150	89	79																					
Residential.....				112	80r	96																					
Others.....				175	95	67																					
Alabama.....				143	150	75																					
Florida.....				142	83	58																					
Georgia.....				113	75	122																					
Louisiana.....				43	69	129																					
Mississippi.....				105	129	36																					
Tennessee.....				293	98	46																					
BUILDING PERMITS																											
20 CITIES.....				91	73	81																					
Atlanta.....				115	57	51																					
Birmingham.....				27	34	135																					
Jacksonville.....				278	86	75																					
Nashville.....				30	22	16																					
New Orleans.....				33	83	32																					
PIG IRON PRODUCTION*																											
Alabama.....				132	130	122r																					
COAL PRODUCTION (1935-1939 Av. = 100)																											
TWO STATES.....	118	132	126	127	130	134																					
Alabama.....				134	131	131																					
Tennessee.....				111	126	141																					
COTTON CONSUMPTION*																											
THREE STATES.....				205	186	190																					
Alabama.....				249	225	223																					
Georgia.....				187	169	178																					
Tennessee.....				201	187	162																					
EMPLOYMENT (1932 Av. = 100)																											
SIX STATES.....				137	132	138																					
Alabama.....				148	142	142																					
Florida.....				96	91	105																					
Georgia.....				153	147	154																					
Louisiana.....				132	128	135																					
Mississippi.....				112	103	118																					
Tennessee.....				136	133	136																					
PAYROLLS (1932 Av. = 100)																											
SIX STATES.....				196	188	185																					
Alabama.....				266	252	232																					
Florida.....				96	91	92																					
Georgia.....				219	209	204																					
Louisiana.....				166	162	159																					
Mississippi.....				148	134	150																					
Tennessee.....				182	178	179																					
ELECTRIC POWER PRODUCTION*																											
SIX STATES.....				404	416r	381																					
Alabama.....				493	537	455																					
Florida.....				512	493r	446																					
Georgia.....				237	261	225																					
Louisiana.....				677	678	667																					
Mississippi.....				90	78	105																					
Tennessee.....				333	312	321																					
<table border="0" style="width: 100%;"> <tr> <td></td> <td colspan="6" style="text-align: center;">Statistics (000 Omitted)</td> </tr> <tr> <td></td> <td>Oct. 1940</td> <td>Sept. 1940</td> <td>Oct. 1939</td> <td colspan="3" style="text-align: center;">Year to Date</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>1940</td> <td>1939</td> <td></td> </tr> </table>								Statistics (000 Omitted)							Oct. 1940	Sept. 1940	Oct. 1939	Year to Date							1940	1939	
	Statistics (000 Omitted)																										
	Oct. 1940	Sept. 1940	Oct. 1939	Year to Date																							
				1940	1939																						
COMMERCIAL FAILURES																											
Number (Actual, not 1000's).....	53	43	80	563	602																						
Liabilities.....	\$ 858	\$ 488	\$ 1,145	\$ 5,868	\$ 7,154																						
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	Sept. 1940	Aug. 1940	Sept. 1939	Year to Date																							
				1940	1939																						
FARM INCOME**																											
SIX STATES.....	75,695	51,724	96,862	476,421	512,188																						
Alabama.....	12,089	5,048	13,904	62,568	65,893																						
Florida.....	3,355	4,603	2,504	81,046	96,971																						
Georgia.....	25,351	21,856	22,850	103,235	99,262																						
Louisiana.....	9,528	7,253	18,287	69,452	74,686																						
Mississippi.....	15,879	5,788	26,866	75,368	88,369																						
Tennessee.....	9,693	7,176	12,451	84,752	87,017																						

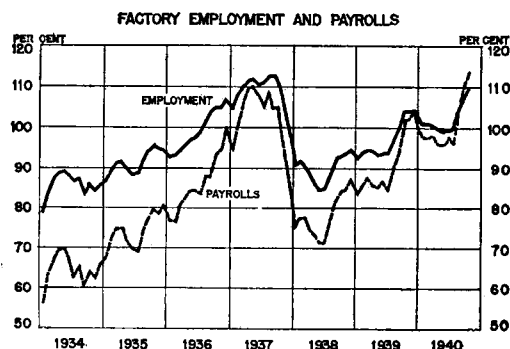
* Indexes of retail sales, electric power, pig iron and coal production, and cotton consumption are on a daily average basis.

** Includes Government benefit payments.

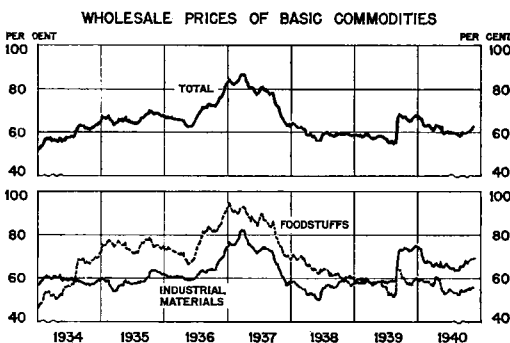
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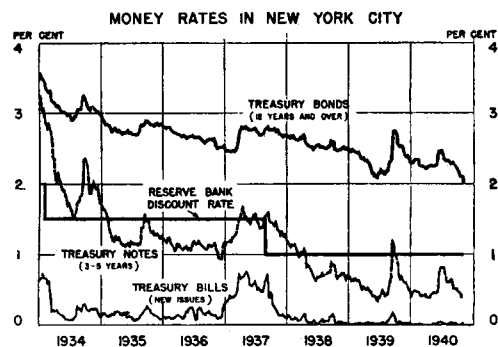
Index of physical volume of production, adjusted for seasonal variation, 1935-1939 average = 100. By months, January, 1934, to October, 1940.



Indexes of number employed and payrolls, without adjustment for seasonal variation, 1923-1925 average = 100. By months, January, 1934, to October, 1939. Indexes compiled by U. S. Bureau of Labor Statistics.



Federal Reserve groupings of Bureau of Labor Statistics' data. Thursday figures, January 4, 1934, to November 7, 1940.



For weeks ending January 6, 1934, to November 9, 1940.

National Summary of Business

Prepared by the Board of Governors of the Federal Reserve System

INDUSTRIAL output rose sharply in October and the first half of November and prices of basic commodities advanced further. New orders both for defense purposes and for civilian needs continued in large volume.

Production

Volume of industrial production, as measured by the Board's seasonally adjusted index, rose further in October to about 128 per cent of the 1935-1939 average as compared with 125 in September and 126 at the peak reached last December.

Increases in output were marked in the automobile and textile industries. In the rayon industry, where production in September had been curtailed by a strike, activity increased considerably and cotton textile mills were also more active. Mill sales of cotton goods have been large since the middle of August, reflecting increased civilian and military demand, and have been in excess of production during most of this period. At wool textile mills, where activity had risen sharply in September, there was a further increase in October. Backlogs of orders in this industry are now of considerable size owing to a large volume of orders received during the past two months, particularly from the Government. Automobile production rose to about 500,000 cars and trucks, the largest monthly total since the spring of 1937, and retail sales of both new and used automobiles were reported to be large for this time of year.

In the steel and machinery industries activity continued at a high rate in October. In the first half of November steel ingot production advanced slightly further and was at about 96 per cent of capacity. This high rate of output is expected to be maintained for some time to come, according to trade reports, as new orders for steel have continued large. Lumber production, which had risen sharply since midsummer, declined less than seasonally in October. New orders for lumber were somewhat below the high rate of August and September but remained above production, reflecting in part continued Government demands.

Bituminous coal production declined sharply in October but in the first half of November showed some increase. In this industry output had been maintained in large volume during the summer owing in part to considerable stocking of coal in anticipation of higher prices. Anthracite production also declined in the first half of October but rose sharply in the latter part of the month owing in part to seasonal influences. Crude petroleum production, which had been curtailed during most of the summer, increased further in October.

Value of construction contract awards increased in October, following a decline in the previous month, according to figures of the F. W. Dodge Corporation and the Federal Reserve Bank of San Francisco. Changes in the amount of contract awards in recent months have reflected principally fluctuations in contracts for public projects. Awards for private construction have shown about the usual seasonal changes, following a sharp rise in July and August.

Distribution

In October department store sales declined considerably from the advanced level of the two preceding months, while sales at variety stores, which also had been large in August and September, increased seasonally. In the early part of November department store sales increased somewhat.

Total loadings of revenue freight in October were maintained at about the level reached in September. Shipments of miscellaneous merchandise increased further, while loadings of coal showed a sharp decrease. In the first week of November freight-car loadings declined by less than the usual seasonal amount.

Wholesale Commodity Prices

Prices of basic commodities continued to advance from the middle of October to the middle of November, with the chief increases in industrial materials, particularly lead, hides, wool, and textile yarns. The general index of wholesale commodity prices rose further by about 1 per cent in this period, reflecting increases in prices of some finished goods as well as of materials.

Bank Credit

Total loans and investments at reporting member banks in 101 leading cities have increased substantially since the end of September. Commercial loans showed sizable increases both in New York City and in other leading cities. Following reductions during August and September, holdings of United States Government obligations at these banks also increased. Federal Reserve System holdings of Government obligations were reduced by \$180,000,000 between September 25 and November 13.

United States Government Security Prices

After rising moderately during the latter part of October prices of United States Government securities advanced sharply in the early part of November. The quotation on the 1960-65 bonds reached a new high level at about 110¼, and the yield on this issue declined to 2.12 per cent compared with 2.25 per cent in October and 2.26 per cent in June 1939 and again in April 1940. The average yield on 3 to 5 year Treasury notes declined to less than ¾ of 1 per cent.

An Index of Coal Production in Alabama and Tennessee

Coal mining is a sick industry. At the beginning of the century the mineral provided 90 per cent of the nation's mechanical energy, but, as everyone knows, it has consistently lost rank since then to its competitors, oil, natural gas, and water power, until at the present time it provides a scant 50 per cent of total energy. Since 1900 the nation's consumption of mechanical energy has almost quadrupled, but coal, first obtaining an inferior share of the market's growth, has since the early '20's suffered an absolute decline in the number of energy units provided.

This Review has published data on the coal industry in the Sixth District for many years, reporting the number of tons produced in Alabama and Tennessee. These data have now been indexed, and adjusted for seasonal variation.

Referring to the chart of this new series, on page 6, it will be noticed that the depression of the coal industry since the early '20's has been even more severe in this District than in the nation. This greater decline of coal mining in the District is largely accounted for by the fact that the heavy industries of the nation have remained relatively depressed throughout the past decade, and the collateral fact that the mines of Alabama and Tennessee are twice as dependent upon the activity of the heavy industries as are the mines of the country at large [in 1937, 33 per cent of this District's coal was consumed in making coke, the fuel of the iron and steel industry, as compared with 17 per cent of the nation's coal]. This fact, explaining our poorer showing in past years, may at the same time provide a brighter prospect, for the task of rearmament falls mostly upon the heavy goods industries, and if we have properly assigned the cause of our greater depression, we may expect the District's coal industry to improve relative to the nation in the near future.

According to 1939 production figures, Alabama and Tennessee, the only states producing coal in significant quantities in the District, have respective ranks of eight and eleven among the thirty-four coal producing states, and produce, respectively, 3.1 and 1.3 per cent of the nation's coal. Although the contribution of these states to the national total is small, the coal industry represents an important element in the industrial pattern of these states, particularly in Alabama. Adamson² estimates that in 1929 the mining industry distributed 6 per cent of that state's non-agricultural income, while Department of Commerce estimates for the same year indicate that the national mining industry accounted for only 3 per cent of the national non-agricultural income.

The District's coal production is, however, small in relation to its consumption, for Alabama and Tennessee do not produce enough coal to supply the six states, and perhaps not even enough to supply themselves. No data exist on the consumption of coal in the District for heating purposes. The *Minerals Year Book* estimates that in 1939 about 30 per cent of the national coal output was used for heating, but no estimates are provided on a state or regional basis.

¹Unadjusted indexes for Alabama and Tennessee individually are available upon request.

²Adamson, W. M., *Income in Counties of Alabama*, University of Alabama, 1939, p. 86.

We may be sure, however, that, owing to our warmer climate, our larger proportion of rural population, and our lower per capita income, our six states do not consume for domestic and commercial heating their proportionate share. State data on the industrial consumption of coal do exist, and, supplemented with a rough state allocation of coal consumed by railroads in the "Southern Region," provide the basis of the table on page 6. As the table shows, coal uses of industry and railroading alone consumed in 1937, the latest year for which all the data are available, 15 per cent more coal than the District produced.

► The original data for the District index of coal production are collected by the Bituminous Coal Division of the Department of the Interior. The final figures released by this agency are based upon detailed annual reports of production and mine operations furnished voluntarily by the coal producers. These figures, however, are usually about 18 months late, and the agency therefore estimates current production on the basis of the railroad carloadings of all important coal carriers, shipments by river, and reports from a number of mining companies and operators' associations. Although the difference between the preliminary estimates and the final figures is usually very slight, it is our intention to make the necessary revisions in our index at the time of the issuance of the final data for each year. In the present index the final figures extend through the year 1938.

Since the data are released as aggregate net tons of coal produced by states, no problems of sampling and weighting were encountered, and a very simple method of index number construction was therefore adequate: for each month the daily average of the total coal produced in Alabama and Tennessee was related to the daily average of the total coal produced in those states during the base period 1935-1939. The years 1935-1939 were selected as a base because, as has been suggested in these columns before, this base permits the index to fluctuate more nearly around the 100 mark, and, having been adopted by many government departments, it facilitates comparison with other economic series.

Serious problems were encountered, however, in adjusting the series for seasonal variation. Because of the greater dependence of the District's coal industry upon the steel industry and other non-domestic users, output is little, if at all, affected by changes in the weather, and does not assume, therefore, as regular a seasonal pattern as one might expect. In addition to this difficulty, the occurrence of industry-wide strikes, particularly noticeable in the chart in

INDEX OF COAL PRODUCTION — ALABAMA AND TENNESSEE
1935-1939 daily average = 100
Unadjusted Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1921	137	115	96	90	94	98	92	98	110	126	116	92	105
1922	123	139	147	105	126	146	138	148	145	161	170	176	144
1923	182	169	171	165	160	159	159	159	168	163	164	143	163
1924	177	166	152	116	112	116	119	130	159	168	169	168	146
1925	176	155	134	127	130	133	145	164	178	173	188	185	157
1926	192	173	158	149	136	144	152	156	169	175	202	183	165
1927	210	199	195	150	135	134	133	157	161	147	140	132	158
1928	161	149	142	144	138	129	132	130	144	150	153	150	143
1929	161	164	139	139	143	131	134	136	149	154	125	162	145
1930	163	146	126	131	124	116	109	111	122	128	136	132	129
1931	132	118	118	106	105	97	93	97	101	94	96	87	104
1932	79	74	75	64	64	54	52	60	71	85	87	83	71
1933	80	76	61	61	67	71	95	99	93	74	75	82	78
1934	92	107	94	49	96	79	74	72	76	80	82	88	83
1935	96	110	107	71	85	86	66	73	72	14	61	105	79
1936	114	120	95	104	91	88	94	97	115	112	132	133	108
1937	126	132	144	22	87	109	113	112	119	118	117	115	110
1938	102	109	92	81	83	70	73	86	102	111	117	122	97
1939	129	130	124	22	46	99	108	108	119	134	136	136	108
1940	147	144	126	128	131	125	121	123	130	127			

Reconnaissance

PER CENT DECREASE ▼ PER CENT INCREASE

Retail Sales

Wholesale Sales

Building Permits

Contracts Awarded

Cotton Consumption

Pig Iron Production

Coal Production

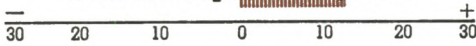
Employment

Payrolls

Bank Debits

Bank Loans and Investments

Demand Deposits—adjusted



Sixth District Statistics for October 1940 compared with October 1939

(Continued from Page 1)

► Construction contracts awarded in October increased 68 per cent over the September total, residential awards were up 40 per cent, and "All Other" contracts rose 83 per cent, and building permits at twenty cities increased 26 per cent. Textile activity increased 10 per cent in October and was up 27 per cent from the midsummer level. Steel mill activity in the Birmingham area was at 105 per cent of capacity during October, as compared with an average of 94.3 per cent for the country, and in the first three weeks of November the Alabama rate was 109 per cent and that for the country 96 per cent.

PRODUCTION AND CONSUMPTION OF BITUMINOUS COAL IN THE SIXTH FEDERAL RESERVE DISTRICT AND THE UNITED STATES FOR THE YEAR 1937¹—(Thousands of Net Tons)

	PRODUCTION ²			CONSUMPTION				
		Coke Industry ²	Manu- facturing ³	Electric Power ⁴	Class 1 Railroads ⁵	Other ⁶	Exports ²	Total
Alabama.....	445,531	74,502	88,459	44,766	82,667	7	7	7
Florida.....	12,440	5,802	1,121	280	1,807	7	7	7
Georgia.....			30		1,881	7	7	7
Louisiana.....			739	33	2,284	7	7	7
Mississippi.....			27		799	7	7	7
Tennessee.....			240	22	1,408	7	7	7
Six States.....	5,213	1,110	2,076	859	1,311	7	7	7
United States.....	17,653	5,912	7,173	694	9,490	138,103	13,145	441,642

¹ The latest year for which all data are available. ² Minerals Year Book, 1939. ³ Biennial Census of Manufacturers, 1937. ⁴ Minerals Year Book, 1939, and Electric Power Statistics, 1937. ⁵ Total consumption of Southern Region (Minerals Year Book, 1939) allocated to states on basis of miles of road owned, 1937 (Statistical Abstract, 1939). ⁶ Largely an estimate of coal used for domestic and commercial heating. ⁷ No data available.

(Continued from Page 5)

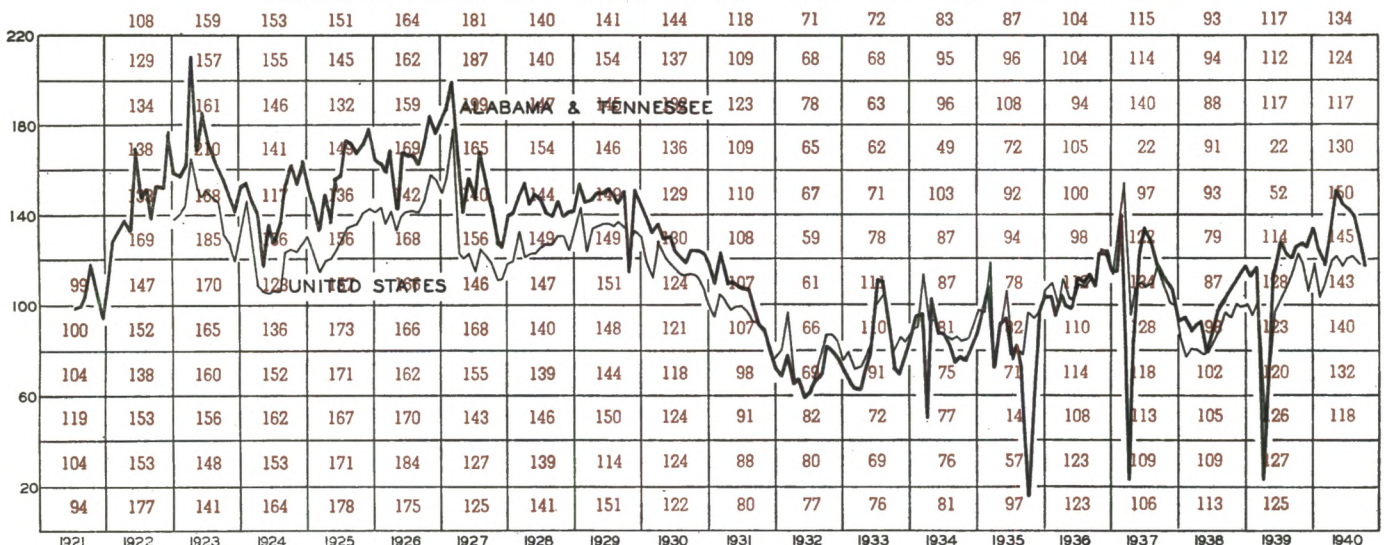
1934, 1935, 1937, and 1939, makes it impossible to isolate the seasonality of the series with orthodox methods. A freer method was therefore adopted.³ The final seasonal adjustment is not too happy, but, since the method of seasonal adjustment adopted selects the seasonal factor for any point to a considerable extent on the basis of the factor's ability to smooth the curve, there is good reason to believe that the seasonally adjusted series is not smooth simply because it does not contain any very important regular seasonality.—J. E.

³ Strikes in the District's mines cause the unadjusted index to drop close to zero. The usual method of seasonal adjustment calculates percentages of a 12-months moving average of the data, which percentages provide the seasonal factors. The assumption involved is that a 12-months moving average is capable of depicting the true cyclical and trend movements of the data, thus isolating the seasonality. However, in a series so deeply scarred by strikes, a moving average cannot properly depict the cycles, for a strike causes the moving average to fall sharply six months before, and rise equally sharply six months after, the event. These shifts are totally unrelated to the true cyclical pattern, and they make impossible the calculation of rational seasonal factors by this method. Therefore, the 12-months moving average was raised, free-hand, throughout the strike periods to approximate the appearance the curve would have had without strikes.

Further, there is no good reason to believe that so rigid a tool as a 12-months moving average can reveal the true cyclical pattern of a series even if there are no strikes, for it does not reach the peaks or troughs of the series, lags at turning points, and accommodates itself to any random movement with step-like adjustments 6 months before and after the event. Consequently, a method that by the use of a 12-months moving average seeks to find the seasonal elements as residuals is no more objective than one that with an equally rough assumed seasonality seeks to find the cyclical movements as residuals. For this reason free-hand adjustments of the 12-months moving average were not confined to periods affected by strikes but were made wherever such adjustments improved the regularity of the seasonal pattern throughout an appreciable number of months.—E. H.

NEW INDEX OF COAL PRODUCTION IN ALABAMA & TENNESSEE - 1935-1939 = 100

COMPARED WITH BOARD'S INDEX OF COAL PRODUCTION IN THE UNITED STATES - 1935-1939 = 100



Red figures are the seasonally adjusted index of coal production in Alabama and Tennessee.