MONTHLY REVIEW

OF

BUSINESS CONDITIONS

ISAAC B. NEWTON, Chairman of the Board and Federal Reserve Agent
Federal Reserve Bank of San Francisco

Vol. X | San Francisco, California, December 20, 1926 | No. 12

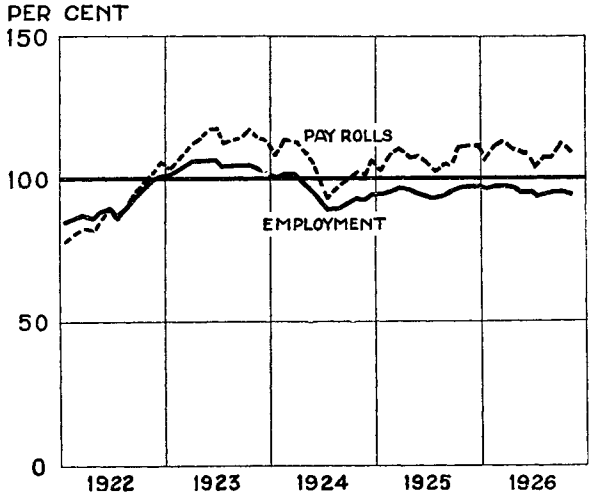
SUMMARY OF NATIONAL CONDITIONS

Activity in manufacturing industries decreased during November and December. Production of important minerals continued in large volume. Indexes of general wholesale prices declined to the lowest levels in more than two years. Firmer money conditions in December reflected the usual seasonal requirements in connection with holiday and year-end activity.

Production. Factory employment and payrolls declined during November, reflecting decreased activity in many important industries. Owing to the large output of minerals, however, the Federal Reserve Board's index of production in basic industries advanced somewhat during the month. Production of bituminous coal and petroleum in recent weeks has exceeded all previous records, and output of copper and zinc during the month of November was in unusually large volume. Pig iron production also increased slightly in November, but steel mill operations in that month and in early December were considerably reduced. Automobile production, which is not included in the index of production in basic industries, declined sharply during November for the second consecutive month and was smaller than in any month since August, 1925. Textile mill activity was maintained during November at approximately the October rate. The value of building contracts awarded showed less than the usual seasonal decline in November and was slightly larger than in November, 1925. Awards for the first half of December likewise exceeded those reported in the corresponding period of last year.

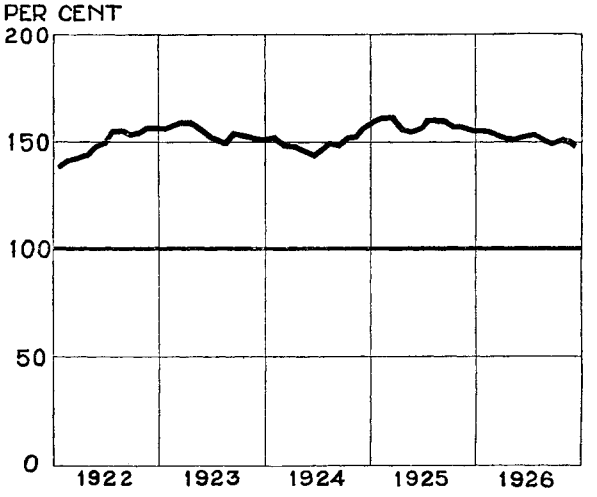
Agriculture. On the basis of December 1st farm prices, the Department of Agriculture estimates the value of 55 principal crops raised in 1926 at $7,802,000,000 compared with $8,950,000,000 in 1925. The major part of the decrease is accounted for by declines of $580,000,000 and $260,000,000, respectively, in value of the cotton and corn crops. Total value of the wheat crop increased by nearly $40,000,000.

Trade. In November, distribution of merchandise at wholesale and retail showed the usual decline from the activity of early autumn. Compared with a year ago, wholesale trade was in about the same volume and retail trade increased. Sales of department stores were about seven per cent larger than last year and those of leading mail order houses were six per cent larger. Stocks of merchandise carried by wholesale firms declined further in November and were smaller at the end of the month than a



FACTORY EMPLOYMENT AND PAYROLLS

Federal Reserve Board's indexes of factory employment and payrolls (1919=100). Latest figures, November, employment, 95.2; payrolls, 108.8.



WHOLESALE PRICES

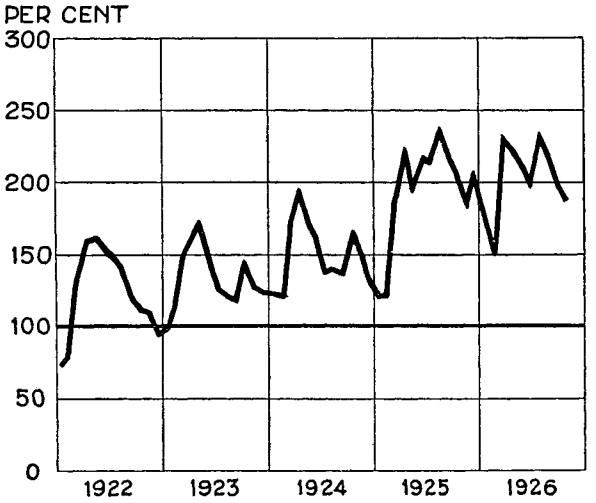
Index of U. S. Bureau of Labor Statistics (1913=100, base adopted by Bureau). Latest figure, November, 148.1.

year ago. Inventories of department stores, however, increased slightly more than is usual in November. Freight car loadings declined during November and December from the record high levels of October, although the movement of coal continued heavy.

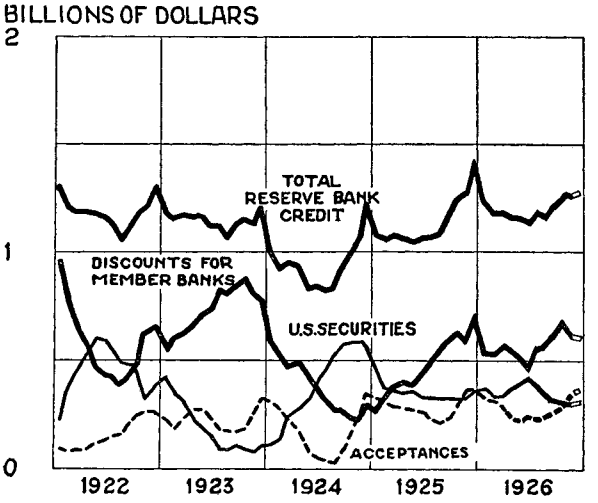
Prices. The general level of wholesale prices declined in November and prices of many important basic commodities decreased further in the first half of December. The Bureau of Labor Statistics index of wholesale commodity prices for November was 148, the lowest figure since July, 1924. Bituminous coal prices increased sharply during October and the early part of November, but in recent weeks have declined by about two-thirds of the previous rise. Petroleum prices have been reduced since early in November, and there have also been declines in pig iron, copper, zinc, lead, and silver. The fall in prices of agricultural commodities which has persisted with few interruptions for over a year, continued during November. Prices of the grains, however, have risen somewhat since the latter part of that month. Prices in the clothing materials and house furnishings groups have declined steadily during recent months to the lowest levels of the post-war period.

Bank Credit. Loans and investments of member banks in leading cities increased by over $100,000,000 during the four weeks ending December 15th, reflecting in part the growth in the demand for credit and currency that usually occurs in December. The increase was in loans on securities, while commercial loans declined somewhat from their seasonal high point in November. The volume of reserve bank credit showed the usual seasonal increase after the middle of November, but was lower than in the corresponding period of 1925, partly because there was a smaller increase this year in the amount of money in circulation.

Money market conditions became slightly firmer in December than at the end of November. Commercial paper rates were unchanged, but open market rates on bankers' acceptances advanced by one-eighth of one per cent and call rates on security loans averaged higher for the month.



BUILDING CONTRACTS AWARDED
Index of value of building contracts awarded as reported by the F.W.Dodge Corporation, (1919=100). Latest figure, November, 188.



RESERVE BANK CREDIT
Monthly averages of daily figures for 12 Federal Reserve Banks. Latest figures are averages of first 21 days in ~~November~~ DECEMBER.

TWELFTH FEDERAL RESERVE DISTRICT CONDITIONS

Statistical Summary—	November, 1926	October, 1926	November, 1925	October, 1925	November, 1926¶ compared with Nov., 1925	Oct., 1926
Bank Debits—21 cities*	$2,843,766	$3,127,210	$2,825,317	$3,072,578	0.7	— 9.1
Bank Debits—Index Numbers†—20 cities	153	162	151◊	151	1.3	— 5.6
Building Permits—20 cities	$24,289,678	$27,650,152	$27,884,388	$32,335,188	—12.9	—12.2
Retail Sales—32 stores—Index Numbers†	169	158	161	158	5.0	7.0
Savings Deposits—68 banks*§	$1,215,481	$1,209,664	$1,133,700◊	$1,128,326◊	7.2	0.5
Lumber Production—4 associations—board feet*	678,939	790,376	683,770	726,098	— 0.7	—14.1
Petroleum Production‡—California—barrels	639,104	611,808	636,530	645,648	0.4	4.4
Flour Production—14 companies—barrels	495,531	512,685	510,946	512,120	— 3.0	— 3.3
Reporting Member Bank Loans and Discounts‖*	$1,298,726	$1,295,015	$1,202,161	$1,188,910	8.0	0.3
Reporting Member Bank Deposits‖*	$1,712,483	$1,684,618	$1,640,433	$1,629,595	4.4	1.7
Federal Reserve Bank Discounts‖*	$38,249	$50,890	$50,368	$50,308	—24.1	—24.8
Federal Reserve Bank Reserve Ratio‖	75.0	71.5	71.6	70.5	4.7	4.9

*In thousands. †Adjusted for seasonal variations—1919 monthly average=100. ‡Daily average production. §Not comparable with all figures published in previous Reviews. ‖December 15 and November 17, 1926, and December 16 and November 18, 1925. ¶Percentage increase or decrease (—). ◊Revised.

Agricultural Activities

The United States Department of Agriculture's final estimates of production and value of the principal crops of the Twelfth Federal Reserve District, together with comparative figures for the United States, are given in Table "A." Publication of these figures has not served to alter materially conclusions based on earlier forecasts, namely, that the district's agricultural output this year was slightly in excess of both the 1925 output and the average output for the five years 1919-1923.

During the period when the bulk of this year's crops was moving to market, the general agricultural price level was approximately 9 per cent lower than in the 1925 crop moving season.* In the absence of an equally large downward movement of prices of non-agricultural products, this decline represented a decrease in unit purchasing power of farm products. Because of abundant yields, however, it is estimated that aggregate financial returns to farmers during 1926 will not be much below those of 1925.

The California **grape** shipping season ended with the rains of late November. Shipments to December 4, 1926, had totaled 62,727 carloads, a decrease of 17 per cent from the 75,535 carloads shipped during the 1925 season to December 5th. At least part of the decrease represented a decline in shipments of fresh raisin grapes, and is reflected in the large 1926 production of raisins which is estimated at 270,000 tons. In 1925 there were 182,500 tons of raisins produced in California and during the past seven years, production has averaged 197,357 tons.

Carlot shipments of California **oranges** and **lemons** during the 1925-1926 shipping season to October 31 (as shown in Table "B"), were 17.9 per cent and 29.3 per cent larger, respectively, than the five-year (1919-1923) average shipments of these fruits. Estimated production of navel oranges of the 1926-1927 crop remains unchanged at 11,800,000 boxes, compared with a crop of 10,100,000 boxes in 1925-1926. Growing conditions thus far in the season have been favorable.

Cotton ginned in Arizona and California prior to December 1, 1926, totaled 168,857 bales, compared with 140,409 bales ginned to the same date in 1925. Estimated production of cotton in these states and in the United States is shown in the following table:

COTTON PRODUCTION—ARIZONA, CALIFORNIA, AND UNITED STATES*

	December 1, 1926†	Ginnings§ 1925	1924	Average‡
Arizona	115,000	118,588	107,606	79,157
California	128,000	121,795	77,823	63,269
Total	243,000	240,383	185,429	142,426
United States	18,618,000	16,103,679	13,627,936	11,517,399

*In 500-pound bales. †Estimated production. ‡Five-year (1921-1925). §Census figures.

Shipments of **apples** from Idaho, Washington, and Oregon totaled 32,410 carloads for the season to December 4, 1926, compared with 33,281 carloads for the corresponding period in 1925. Financial returns to growers have been below those of recent years.

Heavy seasonal rains fell throughout the Twelfth District in late November, benefiting fall-sown **grain** crops and livestock **ranges.** **Livestock** generally are entering the winter season in good condition and feed is plentiful. Demand for feeder cattle and lambs has exceeded the supply.

Industrial Activity

Seasonal decreases in industrial activity and volume of **employment** were reported throughout the district during November, 1926, and industrial activity generally was slightly below the levels of a year ago. Number of workers on payrolls of important industries in California

*The United States Department of Agriculture's farm price index stood at 130 (August, 1909-July, 1914=100) in October, 1926, compared with 143 in October, 1925. The United States Bureau of Labor Statistics' index number of prices of non-agricultural products moved from 164 (1910-1914=100) to 160 during the same period.

(A) *Production and Value of Farm Crops—*

	Production*						Value*			
	Twelfth District			United States			Twelfth District		United States	
Unit	1926	1925	5-Year Average†	1926	1925	5-Year Average†	1926	1925	1926	1925
Wheat (all)....bu.	103,368	100,328	115,641	832,305	669,361	856,178	$119,498	$132,756	$997,589	$947,993
Barley ....bu.	42,933	45,816	40,338	191,182	218,002	174,329	25,709	33,235	109,677	127,653
Rice ....bu.	7,986‡	4,738‡	7,645‡	41,006	33,959	41,357	10,462	8,055	44,988	52,246
Beans ....bu.	6,459‖	5,704‖	5,147‖	17,139	19,100	12,096	18,959‖	21,173‖	50,232	62,388
Cotton ....bales	243	220	116	18,618	15,603	10,543	...	20,790	1,016,346	1,419,873
Hay (tame)....tons	14,454	15,799	13,738	86,377	86,474	83,334	161,342	189,257	1,216,678	1,209,496
Potatoes ....bu.	41,726	35,611	36,584	357,800	323,243	391,465	44,768	57,227	506,721	605,327
Sugar Beets ....tons	913°	1,932°	2,229°	7,537	6,932	6,986	...	...	59,706	...
Apples¶ ....boxes	40,182	37,379	35,454	117,285	95,727	89,700	27,989	47,194	85,618	117,284
Peaches ....bu.	21,252‡	16,251‡	15,644‡	68,425	46,565	46,527	19,977‡	14,626‡	67,079	65,086
Pears ....bu.	14,320◊	10,557◊	7,690◊	25,644	19,820	16,351	11,921◊	14,823◊	22,742	27,944
Oranges ....boxes	...	20,400‡	18,946‡	33,900§	34,500§	27,846§	...	67,320‡	...	107,505§
Lemons‡ ....boxes	7,200	6,000	4,527	...	...	...	14,400	18,000	...	...

Indexes# (Production)	Twelfth District 1926	1925	1924	1923	1922	1921	1920	1919
Grains[1]	92.7	94.5	59.3	121.1	88.9	106.6	93.5	90.0
Field Crops[2]	117.0	110.3	91.3	100.4	96.2	93.5	109.3	100.6
Fruits[3]	120.9	109.4	99.2	127.0	108.0	82.4	89.8	92.7

*000 omitted. †1919-1923. ‡California. ¶Commercial crop. §California and Florida. #1919-1923 average=100. [1]Wheat, oats, barley. [2]Beans, cotton, potatoes, rice, sugar beets. [3]Apples, peaches, pears, prunes, raisins, oranges, grapes. ‖California and Idaho. °California, Idaho, and Utah. ◊California, Oregon, and Washington.

and Oregon, for which figures are available, was smaller during November, 1926, than during November, 1925. Figures are presented in Table "C."

Further evidence of contraction in volume of residential and industrial **building** construction is contained in figures showing the number and value of building permits issued in 20 principal cities of the district during November, 1926. The figures of value were between 12 and 13 per cent below similar figures for both the previous month and the same month a year ago. During past years the average decline in value of building permits issued in these cities during November as compared with October has been approximately 11 per cent.

BUILDING PERMITS IN 20 CITIES
Per Cent Increase or Decrease (—)

	Months in 1926 compared with same Months in 1925				Month in 1926 compared with preceding Month	
	Monthly		Year-to-date			
	No.	Value	No.	Value	No.	Value
November	—13.8	—12.9	—12.2	—13.9	—17.7	—12.2
October	—12.8	—14.5	—12.1	—13.9	— 0.2	5.1
September	—10.9	—17.3	—12.0	—13.9	7.0	— 9.3
August	—12.3	—18.2	—12.1	—13.5	8.5	— 8.4
July	—12.6	— 4.5	—12.1	—12.9	— 2.6	—12.6
June	—12.0	— 7.3	—12.0	—14.1	1.7	25.6
May	—15.3	—25.8	—12.0	—15.5	—11.3	—17.8
April	—12.7	—15.7	—11.2	—12.8	—13.5	— 3.4
March	— 7.8	— 9.8	—10.7	—11.6	37.1	35.7
February	—11.2	—18.1	—12.6	—12.8	— 4.4	— 8.3
January	—13.8	— 7.3	....	....	3.5	—21.3

The United States Bureau of Labor Statistics' index number of building materials prices rose 1.1 per cent during November, and, at 174 (1913 prices=100) for that month, was 1.1 per cent below the figure reported a year ago. The Aberthaw index of the total cost of constructing a reinforced concrete factory building continued at 197 (1914=100), the level maintained since September.

Lumber production, as reported by 179 mills of four associations in this district, decreased seasonally during November, 1926, but exceeded shipments and new orders received by 7 per cent and 17 per cent, respectively. Unfilled orders on the mills' books were smaller in volume and stocks of unsold lumber larger at the close of November than at the close of October. The cut of lumber was slightly smaller during November, 1926, than during November, 1925.

LUMBER ACTIVITY*

	Nov., 1926 (board feet)	Oct., 1926 (board feet)	Nov., 1925 (board feet)	First Eleven Months 1926 (board feet)	First Eleven Months 1925 (board feet)
Production	678,939	790,376	683,770	8,100,258	7,324,630
Shipments	634,949	722,749	602,164	7,957,081	7,212,871
Orders	580,325	709,414	661,081	7,763,569	7,158,585
Unfilled Orders†	444,868	486,604	386,268	...	...
No. of Mills Reporting‡	179	181	176	181	192

*As reported by four associations, 000 omitted except in case of number of mills reporting. †Reported by three associations. The figures are not strictly comparable with other figures appearing in the table. ‡Average.
Source: National Lumber Manufacturers Association.

Reported daily average production of **petroleum** in California during November was 4.5 per cent larger than during October, 1926, and slightly larger than during November, 1925. Indicated consumption increased 5.1 per cent during November, 1926, and was larger than production. Stored stocks declined during November, 1926, to 118,830,709 barrels at the end of the month, the lowest level since August, 1925, when they stood at 117,570,336 barrels. The general trend of stored stocks of petroleum has been downward in California since March, 1926.

PETROLEUM—California

	Average Daily Production (barrels)	Indicated Average Daily Consumption (Shipments) (barrels)	Stored Stocks at End of Month (barrels)	New Wells Number Opened	New Wells Daily Production (barrels)
Nov., 1926..	639,104	641,805	118,830,709	91	62,588
Oct., 1926..	611,808	610,795	118,911,731	73	50,986
Nov., 1925..	636,530	585,949	126,206,832	85	28,404
Sept., 1923*.	858,750	†	†	93	139,960

*Peak of production. †Comparable figures not available.
Source: American Petroleum Institute.

Figures of national **non-ferrous metal** production, together with a guide to the proportionate importance of this district in such production, follow:

	NON-FERROUS METALS National Production			Per Cent of Total Produced in 12th Dist. in 1925*
	Nov., 1926	Oct., 1926	Nov., 1925	
Copper (short tons) (mine production)	75,240	75,643	67,897	64.5
Lead (short tons) (crude)	52,722	53,809	49,230	47.7
Zinc (short tons) (slab)	55,062	54,979	46,485	8.8
Silver (oz.) (commercial bars)	4,920,000	5,011,000	4,777,000	69.0

*Including all of Arizona, the five southeastern counties of which are in the Eleventh Federal Reserve District.

(B) *Agricultural Marketing Activity—*

Monthly	Exports Wheat* Portland and Puget Sound (1000 bu.)	Exports Barley* San Francisco (1000 bu.)	Carlot Shipments Apples* 12th Dist. (cars)	Carlot Shipments Oranges† Calif. (cars)	Carlot Shipments Lemons† Calif. (cars)	Livestock Receipts at Eight Markets in 12th District Cattle and Calves	Hogs	Sheep	Cold Storage Holdings‡ 12th District Butter (1000 lbs.)	Cold Storage Holdings‡ 12th District Eggs (1000 cases)
November, 1926	4,626	884	7,561	3,085	617	132,941¶	203,707¶	238,581¶	3,895	179
October, 1926	6,041	482	18,186	2,868	801◊	135,913	195,782	328,662	5,259	292
November, 5-year average (1919-1923)	2,461	808	10,185	2,190	395	126,670§	185,703§	220,839§	2,652‖	153‖
Cumulative	**Crop Year**					**Calendar Year**				
To November 30, 1926	24,818 (24.3)	5,525 (13.9)	35,875 (63.2)	3,085	617	1,194,305¶	1,872,363¶	3,205,675¶		
To November 30, 1925	7,003 (7.0)	8,792 (19.2)	34,977 (64.3)	7,571	1,071	1,208,321	2,051,514	3,122,231		
Five-year average to November 30th (1919-1923)	13,495 (11.7)	7,784 (19.3)	30,597 (60.4)	6,136	831	1,050,001§	1,784,703§	2,893,335§		

Figures in parentheses indicate percentage of new crop only. *Season begins July 1st. †Season begins November 1st. ‡At end of month. §1921-1925. ‖1922-1926. ◊Revised. ¶Preliminary.

Recent acceleration of the decline in **silver** prices, which has been in progress since November, 1925 (see page 95 of this Review), has been of concern to the entire commercial metals mining industry of the district. Silver, in addition to being mined alone, is an important by-product of the copper and lead mining industries, and a large part of the district's total silver output comes from copper-silver and lead-silver ores. Some mines producing silver only are reported to have found production unprofitable at the present price level. Lower silver prices have also tended to reduce profits of those copper and lead producers whose ores carry silver in appreciable quantities.

Output of **flour,** as reported by 14 milling companies in this district, declined by less than the usual seasonal amount during November, 1926, as compared with October, 1926, but was 3 per cent less than in November, 1925, and 17 per cent smaller than the five-year (1921-1925) average output for that month. Contrary to the experience of past years, stocks of flour in millers' hands increased (by nearly 10 per cent) during November, and on November 30th, were over 16 per cent larger than one year ago. Reported holdings were, however, nearly 5 per cent smaller than five-year (1921-1925) average holdings at the close of November.

FLOUR MILLING*	Nov., 1926	Oct., 1926	Nov., 1925	Five-Year Average Nov., 1921-1925
Output (bbls.)...	495,531	512,685	510,946	594,663
Stocks†				
Flour (bbls.)...	444,207	404,657	381,467	465,724
Wheat (bu.)...	3,136,369	4,157,397	4,479,321	3,667,416

*Consolidations have reduced the number of reporting companies but have not seriously affected the comparability of the figures. †At end of month.

Erratum—The table on the canned **salmon** pack appearing on page 85 of the November, 1926, Review was given with complete figures and not, as erroneously indicated, in thousands.

(C) *Employment*—

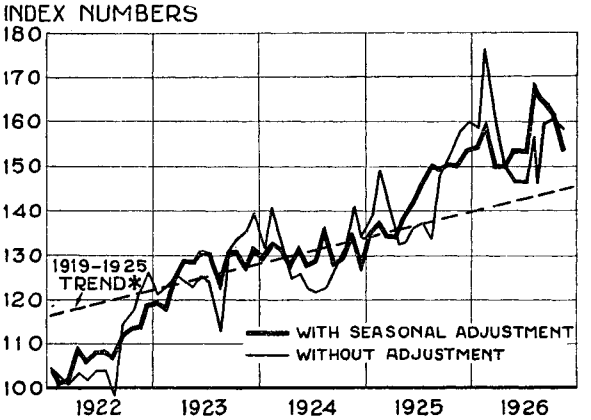
Industries	California No. of Firms	California No. of Employees Nov., 1926	California No. of Employees Nov., 1925	Oregon No. of Firms	Oregon No. of Employees Nov., 1926	Oregon No. of Employees Nov., 1925
All Industries	**647**	**147,105** (—0.1)†	**147,220**	**106**	**17,946** (—6.2)†	**19,136**
Stone, Clay and Glass Products.	41	8,293 (4.9)	7,902	6	137 (—12.2)†	156
Lumber and Wood Manufactures ..	100	26,483 (—2.9)†	27,273	45	13,354 (—8.6)†	14,603
Textiles	13	2,359 (—3.7)†	2,449	5	928 (—9.4)†	1,024
Clothing, Millinery and Laundering.	58	6,225 (2.6)	6,065	8	549 (—0.7)†	553
Foods, Beverages and Tobacco...	136	26,908 (—1.8)†	27,406	33	2,364 (5.5)	2,240
Water, Light and Power	4	7,532 (—13.2)†	8,682	..	...	...
Other Industries*.	283	66,833 (2.0)	65,527	..	...	...
Miscellaneous	12	2,472 (29.0)	1,916	9	614 (9.6)	560

*Includes the following industries: metals, machinery and conveyances; leather and rubber goods; chemicals, oils and paints; printing and paper goods. †Decrease.
Figures in parentheses indicate percentage changes from November, 1925.

General Business and Trade

Business activity in the Twelfth Federal Reserve District declined during November, 1926. Total volume of trade transacted continued large, however, and was greater than in November, 1925, even if allowance be made for the extra business day during November of the present year.

Daily average debits to individual accounts (**bank debits**), as reported by banks in 20 principal cities of the district, were 1.4 per cent less in November than in October, 1926, whereas



BANK DEBITS—TWELFTH DISTRICT
Index for 20 principal cities, Phoenix, Arizona, not included, (daily averages, 1919 average=100). Latest figures, November, with adjustment, 153; without adjustment, 159.

*Based upon average month to month increase during the years 1919 to 1925 inclusive.

ordinarily there is a seasonal increase from October to November of 4.1 per cent. This bank's index of bank debits, which is corrected for usual seasonal movements, declined during November, 1926, for the fourth consecutive month, standing at 153, compared with 162 in October, 1926, and 151 in November, 1925.

BANK DEBITS—Twelfth District
Index for 20 Principal Cities*

	Nov., 1926	Oct., 1926	Sept., 1926	Nov., 1925
Without Seasonal Adjustment...	159	161	160◊	158
With Seasonal Adjustment.....	153	162	164	151

*Daily averages, 1919 average=100. ◊Revised.

(D) *Building Permits*—

	November, 1926 No.	November, 1926 Value	November, 1925 No.	November, 1925 Value
Berkeley	212	$ 552,585	405	$ 871,828
Boise	57	62,353	57	52,754
Fresno	110	93,768	138	122,479
Long Beach	338	513,905	378	1,751,700
Los Angeles	2,943	8,688,255	3,409	8,412,440
Oakland	791	1,809,968	1,016	2,271,056
Ogden	20	44,650	33	619,385
Pasadena	234	579,213	259	952,643
Phoenix	100	194,155	93	227,867
Portland	908	2,099,925	1,038	3,121,195
Reno	21	37,850	16	22,200
Sacramento	182	369,378	254	1,551,360
Salt Lake City.....	91	389,880	88	259,510
San Diego	745	2,001,466	741	1,329,801
San Francisco	765	3,293,891	863	3,478,843
San Jose	97	500,490	103	222,210
Seattle	800	2,280,840	844	1,452,840
Spokane	160	219,415	170	271,070
Stockton	79	235,711	96	163,347
Tacoma	179	321,980	247	729,860
District	8,832	$24,289,678	10,248	$27,884,388

Value of district sales at **wholesale,** reported to this bank by 171 firms in eleven lines of trade, declined 7.6 per cent during November, 1926, as compared with October, 1926. The reported decline was smaller than that which usually occurs at this season of the year (estimated at 12 per cent), but in interpreting the figures account must be taken of the occurrence of five Sundays in October, 1926, which reduced the number of trading days. Compared with November, 1925, reported value of trade at wholesale during November, 1926, declined 0.8 per cent, a decrease accentuated by the fact that there was one more business day in November of this year than in November of last year. It is doubtful if the difference in trade value amounted to more than 5 per cent on a daily average basis, however, and it should be remembered that the general level of wholesale prices during the past month was 7 per cent lower than a year ago. It should also be remembered that trade at wholesale was more active during the fourth quarter of 1925 than at any time since 1920.

WHOLESALE TRADE

	No. of Firms	Percentage increase or decrease (—) in Value of Sales: Nov., 1926 compared with Nov., 1925	Nov., 1926 compared with Oct., 1926	Oct., 1926 compared with Oct., 1925
Agricultural Implements	15	8.5	—26.5	7.2
Automobile Supplies	13	2.2	1.9	— 6.5
Automobile Tires	16	16.9*	— 8.1	— 7.6
Drugs	7	4.7	—13.8	9.1
Dry Goods	23	— 9.7	—10.9	—13.4
Electrical Supplies	9	14.9	— 2.1	12.7
Furniture	15	9.8	10.1	—15.6
Groceries	22	—10.4	— 6.5	— 7.9
Hardware	16	1.5	— 9.7	— 3.2
Shoes	11	5.8	—14.3	5.1
Stationery	24	8.7	— 3.3	2.2

*Part of this increase due to the resumption in November by certain of the larger companies of "spring dating" sales, or the practice of allowing credit on sales made in autumn months until March, April, and May of the following year. This practice was not followed by these companies during the autumn of 1925.

Reports of 69 **retail** stores in this district indicate that value of sales at retail was nearly 5 per cent larger during November, 1926, than during November, 1925, an increase due only partially to the larger number of business days in November, 1926. This bank's index of sales for 32 department stores (doing approximately 85 per cent of reported retail business) which is corrected for seasonal fluctuations, stood at 169 (1919 monthly average sales=100) during November, 1926, compared with 161 in November, 1925, and 158 in October, 1926. The advance in the index from October to November was due to the fact that actual sales decreased by less than the usual seasonal amount, again the result partly of changes in the number of business days referred to above.

DEPARTMENT STORE SALES—Index Numbers
(1919 Monthly Average=100)

	Los Angeles (6)*	Oakland (5)*	San Francisco (8)*	Salt Lake City (4)*	Seattle (5)*	Spokane (3)*	District (32)*
Without Seasonal Adjustment							
Nov., 1926	253	151	155	118	106	102	167
Oct., 1926	241	182	151	127	112	132	170
Sept., 1926	231	140	139	110	114◊	115	157
Nov., 1925	230	145	153	122	102	98	159
With Seasonal Adjustment							
Nov., 1926	253	149	150	111	108	97	169
Oct., 1926	234	168	139	107	101	99	158
Sept., 1926	265	147	150◊	112	105◊	112	171
Nov., 1925	231	143	148	115	104	93	161

*Figures in parentheses indicate number of stores. One store included in district figures not included in cities shown above. ◊Revised.

Prices

Further slight declines in commodity prices occurred during November, 1926, and the United States Bureau of Labor Statistics' wholesale price index stood at 148.1 (1913 prices=100) for that month, compared with 149.7 in October, 1926, and 157.6 in November, 1925. Group index numbers of prices for farm products, foods, cloths and clothing, metals, chemicals and drugs, house furnishings, and miscellaneous articles declined again during November, while similar index numbers for fuel and lighting and building materials advanced slightly.

The United States Department of Agriculture's index number of farm prices for November, 1926, was unchanged from a month ago at 130 (1909-1914=100). The Bureau of Labor Statistics' index number of non-agricultural commodities advanced from 160.0 in October to 161.0 (1914=100) in November. The ratio between these two indexes, an indication of the purchasing power of farm products, declined from 81.2 to 80.7. A year ago this ratio was 87 (pre-war purchasing power ratio=100).

Prices for **livestock** at Chicago during November, 1926, were generally below the levels of September and October, 1926, and, with the exception of hog prices, were lower than during November, 1925. During November, 1926, prices for **sheep** and **lambs** ranged from 14 to 49 per cent lower and **cattle** prices averaged three per cent lower than in November, 1925, while prices for **hogs** averaged approxi-

(E) *Bank Debits**—

	November, 1926	November, 1925	Eleven Months 1926	Eleven Months 1925
Berkeley	$ 19,510	$ 16,809	$ 211,373	$ 198,716
Boise	13,422	14,213	147,301	135,373
Fresno	50,850	51,465	433,131	411,187
Long Beach	41,816	45,055	540,207	514,712
Los Angeles	831,027	781,740	9,527,163	8,577,537
Oakland	142,335	149,807	1,831,093	1,543,780
Ogden	20,769	38,641	223,273	281,836
Pasadena	34,767	32,767	403,867	379,379
Phoenix	28,126	28,362	280,324	255,937
Portland	190,052	165,274	2,009,683	1,819,240
Reno	8,733	8,286	100,832	94,383
Sacramento	30,081	37,215	354,990	400,495
Salt Lake City	68,557	79,336	778,496	769,299
San Diego	60,699	55,845	701,298	600,283
San Francisco	935,605	946,872	11,495,661	10,374,837
San Jose	30,347	29,527	294,920	281,979
Seattle	200,085	204,236	2,339,337	2,202,965
Spokane	52,099	52,824	612,754	568,235
Stockton	27,733	28,807	294,126	286,450
Tacoma	42,110	40,375	500,075	476,733
Yakima	15,043	17,860	148,588	144,998
District	$2,843,766	$2,825,317	$33,228,492	$30,318,354

*000 omitted.

mately 6 per cent higher than a year ago. Representative Chicago quotations are shown in Table "F." Prices paid for best grade livestock at six markets of the Twelfth Federal Reserve District during November, 1926, compared favorably with prices paid during November, 1925.

Wheat prices declined during November. Quotations for May contract wheat at Chicago during the week ending December 3, 1926, ranged from $1.39¾ to $1.41¼ per bushel, compared with prices of $1.43⅜ to $1.44¾ per bushel quoted a month ago, and a range of from $1.48¾ to $1.50⅝ per bushel on October 23rd, the 1926 high point for this contract. On December 14, 1926, quotations ranged from $1.37⅞ to $1.38⅞ per bushel.

The **cotton** market steadied during November, following the drastic price declines of September and October. Prices during November fluctuated within narrow limits at levels slightly above the low point for the year, reached on October 21st. The average price for the month was approximately 37 per cent lower than in November, 1925. Early in December, quotations moved downward, spot prices of middling uplands cotton at New Orleans ranging from 11.68 to 12.49 cents per pound for the week ending December 3, 1926. On December 9, 1926, the quotation was 11.90 cents per pound and one year ago this grade of cotton was quoted at 19.28 cents per pound. The general trend of **wool** prices, as indicated by an average of 98 quotations on the Boston market, has been downward since March, 1925. The decline from January to December, 1926, was 15.5 per cent. The average on December 3, 1926, at 67.15 cents per pound, was 0.7 per cent lower than a month ago and 17.4 per cent lower than on December 4, 1925.

Prices for beet **sugar**, f. o. b. San Francisco, rose steadily throughout November, increasing sixty cents per 100 pounds during the month. The quotation advanced from $5.80 per 100 pounds on November 6, 1926, to $6.30 on December 8, 1926. A year ago sugar was quoted at $5.35 per 100 pounds.

Prices for **non-ferrous metals** have declined steadily during 1926, and have generally been lower than prices during 1925. During November, 1926, the monthly average price of **silver** at New York was 54.141 cents per ounce, the lowest price recorded since November, 1915, when the average stood at 51.714 cents per ounce. The trend of silver prices has been downward since November, 1925, the decline during the present year amounting to approximately 20 per cent. The following table shows low and high monthly average silver prices during the period 1915 to 1926:

MONTHLY AVERAGE PRICES OF SILVER, NEW YORK
(Cents per ounce)

November, 1926, low	54.141
September, 1925, high	71.570
March, 1921, low	56.023
January, 1920, high (all-time peak)	132.827
August, 1915 (all-time low)	47.163

The national **lumber** price index published by "The Lumber Manufacturer and Dealer" stood at 29.80 for November, 1926, compared with 30.28 for October, 1926, and 30.42 for November, 1925.

Banking and Credit Situation

The banking and credit situation in the Twelfth Federal Reserve District during the year 1926 can best be reviewed in the light of credit movements during immediately preceding years.

In 1924 a downward movement of business activity coincident with a large increase in funds available for credit extension resulted in a rising ratio of deposits to loans at member banks, greatly reduced borrowings at the Federal Reserve Bank, and a low level of interest rates. The deposit loan ratio advanced to a peak of 144.6 on October 15, 1924; discounts at the Federal Reserve Bank of San Francisco reached the lowest point since June, 1917; the rediscount rate of the Reserve Bank was lowered from 4½ to 4 per cent on June 10th and from 4 to 3½ per cent on August 25th.

During 1925, business activity expanded rapidly and total loans and discounts of reporting member banks increased throughout the year. Increase in deposits did not keep pace

(F) *Commodity Prices*—

Commodity		Unit	December 3, 1926	One Month Ago	One Year Ago
Wholesale Prices, U. S. Bureau of Labor (1913=100)			148.1	149.7	157.6
Purchasing Power of Farm Products (U. S. Dept. of Agriculture)*			80.7	81.2	87.0
Cattle (Native Beef)	Weekly average price at Chicago	100 lbs.	$10.60	$9.90	$9.95
Lambs	Weekly average price at Chicago	100 lbs.	12.60	13.50	16.10
Hogs	Weekly average price at Chicago	100 lbs.	11.90	12.55	11.15
Wheat	Chicago contract price for May wheat	bu.	1.39¾–1.41¼	1.43⅜–1.44¾	1.67–1.72¼
Wool	Average of 98 quotations at Boston	lb.	67.15	67.59¢	81.33¢
Apples	Extra Fancy Winesaps, f. o. b. Pacific Northwest	box	1.30–1.35	1.25–1.40	2.00–2.15
Oranges	Navels, Fancy, wholesale at San Francisco	box	4.25–5.75	Not Quoted	5.75–6.00
Prunes	Size 40/50 in 25-lb. boxes, f. o. b. California	lb.	.06¾–.07¼	.06¾–.07¼	.08½–.09
Raisins	Thompson Seedless, Bulk in 25-lb boxes, f. o. b. California	lb.	.07½	.07½	.07¾
Canned Peaches	Cling, Choice, 2½s, f. o. b. California	doz.	2.20	2.20	2.20
Butter	92 score at San Francisco	lb.	.46	.46	.50¼
Copper	Electrolytic, monthly average at New York	lb.	13.576¢	13.862¢	14.353¢
Lead	Monthly average at New York	lb.	8.005¢	8.402¢	9.739¢
Silver	Monthly average at New York	oz.	54.141¢	54.505¢	69.223¢
Lumber (Softwood)	Weekly Index, United States†		29.80‡	30.28	30.42

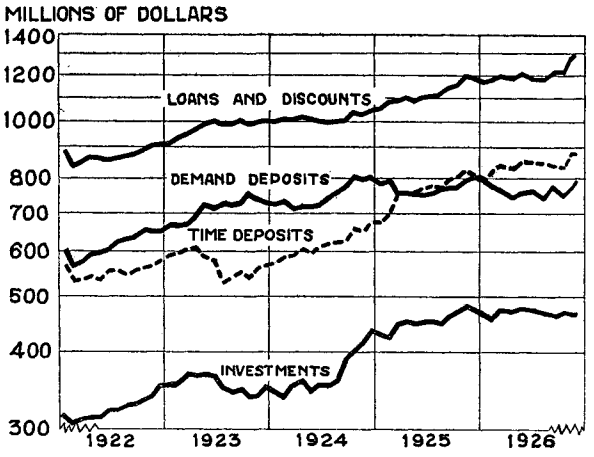
*Ratio of farm prices (August, 1909-July, 1914=100) to wholesale prices of non-agricultural commodities (1910-1914=100).
†As published by "The Lumber Manufacturer and Dealer." ‡December 10, 1926.

with expansion in loans, the ratio of total deposits to total loans declined (from 144.0 to 134.0), and borrowings from the Federal Reserve Bank of San Francisco increased. On November 23, 1925, the rediscount rate at the Reserve Bank was raised to 4 per cent where it now stands.

REPORTING MEMBER BANKS*—Twelfth District
(In Millions of Dollars)

	Condition		
	Dec. 15, 1926	Dec. 16, 1925	Dec. 17, 1924
Total Loans	1,299	1,202	1,048
Commercial Loans	972	923	829
Loans on Securities	327	279	220
Investments	475	480	426
Total Loans and Investments	1,774	1,682	1,474
Net Demand Deposits	818	829	804
Time Deposits	878	778	666
Borrowings from Federal Reserve Bank	33	44	4

*Total resources of reporting banks are approximately 50 per cent of total resources of all banks, and 71 per cent of total resources of all member banks in the Twelfth Federal Reserve District. Reporting banks embrace member banks in Los Angeles, San Francisco, Oakland, Portland, Tacoma, Seattle, Spokane, Ogden, and Salt Lake City.



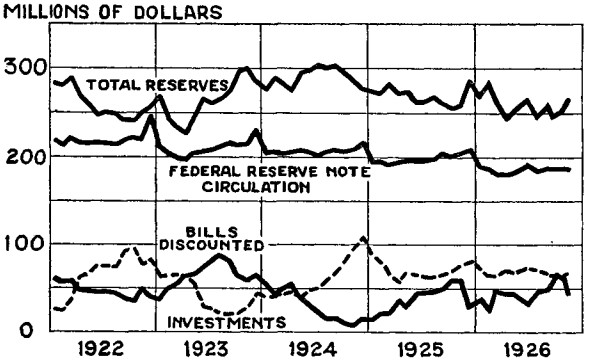
MEMBER BANK CREDIT—TWELFTH DISTRICT
Figures for about 65 member banks in leading cities, as of last Wednesday of each month. Latest figures, November 24.

Business activity was at high levels during the first weeks of 1926, but a downward movement soon set in which continued into the second quarter of the year. Commercial loans of the reporting member banks declined during this period, but their total loan account held steady. A decrease in total deposits accompanied the business recession and the ratio of deposits to loans declined. There was a renewal of business activity during the summer of 1926, and while bank loans increased slightly deposits increased by larger amounts so that the ratio of deposits to loans moved upward. Discounts at the Federal Reserve Bank of San Francisco were reduced. Business activity attained record proportions during the third quarter of 1926. Loans and discounts at reporting member banks increased more rapidly than did deposits and the ratio of deposits to total loans again declined, while discounts at the Federal Reserve Bank of San Francisco again increased.

There have been signs of recession in business activity during the fourth quarter of 1926, but seasonal influences have served to maintain trade volume. Total loans and discounts at reporting member banks have continued to increase, as have total deposits in lesser degree. The ratio of deposits to total loans continued to decline, and on November 24th, at 129.6, reached the lowest level since 1921. On December 15, 1926, it stood at 131.9. The continued expansion in loans, coincident with sharply increased deposits and also with a reduction in discounts at the Federal Reserve Bank of San Francisco, indicates that the recession in business noted during recent months has not been of sufficient magnitude nor sufficiently prolonged to result in liquidation of bank credit in this district.

FEDERAL RESERVE BANK OF SAN FRANCISCO
(In Millions of Dollars)

	Condition		
	Dec. 15, 1926	Dec. 16, 1925	Dec. 17, 1924
Total Bills and Securities	106	122	109
Bills Discounted	38	50	9
United States Securities	37	39	54
Bills Bought	31	32	45
Total Reserves	274	274	288
Total Deposits	178	176	166
Federal Reserve Note Circulation	188	208	216



RESERVE BANK CREDIT—TWELFTH DISTRICT
Figures for Federal Reserve Bank of San Francisco, as of last Wednesday of each month. Latest figures, November 24.

On December 8, 1926, the Treasury Department announced an issue of Treasury certificates of indebtedness of Series TS-1927, dated and bearing interest from December 15, 1926, payable September 15, 1927, with interest at the rate of 3¼ per cent per annum, payable March 15 and September 15, 1927, subscriptions to be paid for in cash or by exchange of specified Government securities. Books for the issue were closed on December 9th, total subscriptions amounting to $992,168,500 and total allotments to $229,264,500. In this district allotments amounted to $13,425,000 of a subscription total of $95,422,000. The allotment to the Twelfth Federal Reserve District was exceeded only by allotments made to the Second (New York), Third (Philadelphia), and Seventh (Chicago) Federal Reserve Districts.

Seasonal Variation in Business Activity

Introduction

In a general statement concerning the Monthly Review, published in the April, 1926, issue, the following observation was made:

> "While it has not been considered wise to attempt any forecast of business conditions, it has seemed proper to interpret the meaning of current events as fully as can be done with assurance. To this end, statistical methods are used in an attempt to reduce the mass of figures which are currently available in business and finance to comprehensible form. The meaning of the data reflecting general business conditions becomes clear only when we have considered similar figures of previous years, and at the same time have made allowance for usual seasonal changes and for the usual growth that takes place from year to year, in keeping with the growth of population. For these reasons figures of bank debits, for example, published currently have little meaning for the average man because he has not the detailed knowledge to enable him to judge current figures in the light of all the necessary qualifications. It is possible, however, by recognized statistical processes to make some allowances before figures are presented in the Review."

From time to time inquiries have been received by the Division of Analysis and Research of the Federal Reserve Bank of San Francisco regarding methods of adjustment for seasonal variation and the significance of figures so adjusted. For use in answering such inquiries a brief explanatory statement has been prepared, and it now seems desirable to anticipate future inquiries by giving that statement general distribution.

What Seasonal Variation Is

To illustrate both the nature of seasonal variation and methods of allowing for its influence, it has been found convenient to use this bank's index of department store sales in the Twelfth Federal Reserve District. Sales of department stores, like sales in most other lines of business, are not distributed evenly throughout the twelve months of the year. From experience we know that December sales are usually greater in value than those of any other month in the year, that value of sales is usually smaller in January than in December, smaller in February than in January, larger in March than in February, and so on from month to month. These monthly variations tend to occur year after year regardless of the relative degree of prosperity of general business, and regardless of the growth or decline of activity in particular lines of business. The causes of such variation are numerous, including changes in needs and interests of consumers at various seasons of the year, differences in the number of working days per month, and sales policies or buying habits. It is this characteristic distribution of business throughout the year, recurring year after year, which is called the seasonal distribution of business. Those fluctuations in volume of sales and production, in volume of employment, and in practically all types of business activity, which are the result of this seasonal distribution of business, are known as seasonal fluctuations or **seasonal variations.**

Adjustment for Seasonal Variation

Various methods have been developed for measuring seasonal variation in business activity and for adjusting sales or production figures for such variation. The purpose of this article, however, is to present briefly the principle involved in measuring seasonal variation, not to outline statistical methods of making such measurement.† Here it is sufficient to say that there is no single best method. The method to be used should be the one found best adapted to the data being studied.

Measures of seasonal movement are merely measures of the average movement from month to month which occur year after year. Numerical measures of seasonal variation are obtained by determining what the average‡ variation has been for a period of years. In its simplest terms this consists of finding out what per cent of the year's business is, on the average, done in each month of the year. For convenience in handling the figures the total of the average year's business is assumed to equal 1200 (the monthly average then being 100), and the amount of business transacted in each month is expressed in per cent of the monthly average. These latter figures constitute the **indexes of seasonal variation**, or, more briefly, the **seasonal indexes.**

For example, average monthly department store sales in the Twelfth Federal Reserve District are assumed to equal 100. It is found that over a period of years only 89 per cent of the average monthly sales are made in January, and only 77.1 per cent in February. The seasonal indexes for January and February, therefore, are 89.0 and 77.1, respectively. The following table gives the seasonal indexes used in adjusting department store sales in the Twelfth Federal Reserve District for seasonal variation.

DEPARTMENT STORE SALES—TWELFTH DISTRICT
Indexes of Seasonal Variation*

Per Cent of Average		Per Cent of Average		Per Cent of Average	
January	89.0	May	104.3	September	93.0
February	77.1	June	93.3	October	108.9
March	98.6	July	88.3	November	100.1
April	97.8	August	96.9	December	157.7
				Total	1200.0
				Average	100.0

*The indexes of seasonal variation given in this table apply to the District as a whole and cannot be applied to a city or to an individual store.

†Recent textbooks on statistics describe these methods. Later developments in method or technique may be found in Journals of the American Statistical Association. ‡In obtaining this average, allowance is made for the growth (usually upward) of business, which would naturally tend to increase sales as the year progressed.

The adjusted figures in index number form are presented in the accompanying chart and in the table on page 94 of this Review.

In making the adjustment for seasonal variation, actual sales figures for a particular month are divided by the seasonal index for that month. Thus, sales for the month of January (perhaps $18,724,000) are divided by the January seasonal index (89.0) and the resulting figure ($21,038,202) represents January **sales adjusted for seasonal variation.**

Construction of Indexes

An index number merely expresses in another way the actual data to be presented. The use of an index number promotes ease of interpretation of unfamiliar figures. In this case, the index number expresses sales figures in terms of percentages. The year 1919 has been taken as the base period, that is, average monthly sales during 1919 equal 100 per cent. To obtain the index number of sales for any particular month, sales during that month are divided by average monthly sales during 1919 and the result multiplied by 100. For example:

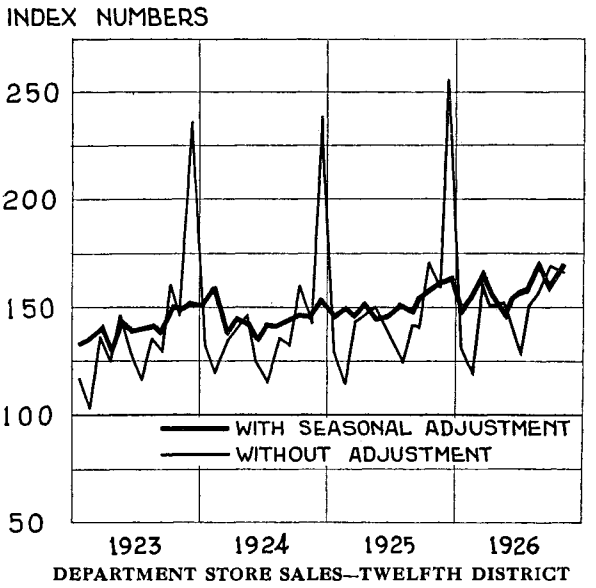
$$\begin{aligned} &\text{1919 annual sales} = \$1{,}800{,}000 \\ &\text{1919 monthly average} = \$1{,}800{,}000 \div 12 = \$150{,}000 \\ &\text{1923 November sales} = 210{,}000 \\ &\text{Index for November, 1923} = \frac{210{,}000}{150{,}000} \times 100 = 140 \end{aligned}$$

In constructing the index adjusted for seasonal variation, the same procedure is followed, except that sales figures adjusted for seasonal variation by the method given in the preceding section are substituted for the actual sales figures.

Significance of Seasonally Adjusted Indexes

Month to month comparisons of sales at retail usually do not give accurate information regarding the state of trade except to those accustomed to making mental allowance for the large seasonal variations which distort such comparisons. To illustrate: an increase of 27.9 per cent in value of department store sales during March, 1927, as compared with February, 1927, would not of itself indicate an unusually high level of activity in trade at retail because, ordinarily, there is an increase of 27.9 per cent in sales during March, as compared with February, a fact indicated by the indexes of seasonal variation given above. Obviously, the condition (as contrasted with the volume) of trade at retail would have shown no improvement during March, 1927, and this fact would be reflected by the seasonally adjusted index, which would remain, during March, at the February level.

The accompanying chart shows indexes of department store sales in the Twelfth Federal Reserve District. The light line shows the index based upon actual sales. The heavy line shows the index based upon sales adjusted for seasonal variation, i. e., it shows fluctuations other than those due to seasonal influences. If both the heavy and the light curves move upward it indicates that sales have either increased by more than the usual seasonal amount or increased when ordinarily in the past they have decreased. If the heavy curve moves upward and the light curve downward, it indicates that sales during that period declined by less than the usual seasonal amount. If the heavy curve moves downward and the light curve upward, it indicates that sales have failed to increase by the usual seasonal amount. If both curves move downward, it indicates that sales have either declined by more than the usual seasonal amount or declined when ordinarily in the past they have increased. It is much easier to observe the ebb and flow of business activity as represented by the heavy curve than it is to deduce the facts of business activity from the record of business volume given by the light curve.



DEPARTMENT STORE SALES—TWELFTH DISTRICT

Index of 32 Stores in 7 cities (1919 monthly average=100). Latest figures, November, with adjustment, 169; without adjustment, 167.

Changes in Seasonal Variation

Seasonal variations may be relatively constant year after year, as in the case of a well established business selling seasonal goods. Recent investigations, however, have shown that seasonal variations may tend to shift from year to year in some lines of business, building construction being a typical example. Where there is such a tendency, measures of seasonal variations are obtained by determining what the average movement is and then ascertaining to what extent this movement shifts each year.*

*During the past three years, methods of determining to what extent seasonal variations change from year to year have been presented in the Journal of the American Statistical Association.

INDEX

INDEX