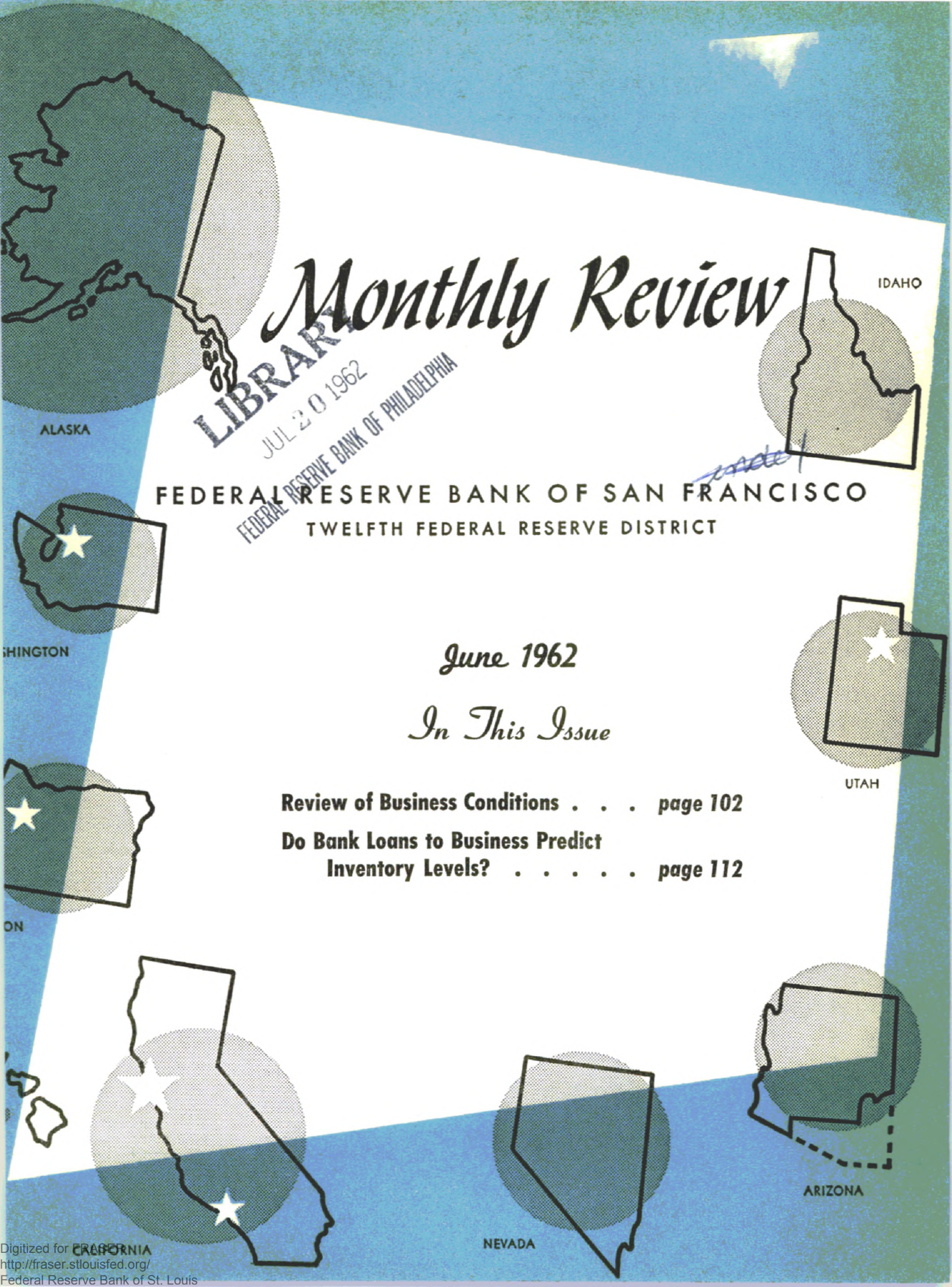

Monthly Review

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TWELFTH FEDERAL RESERVE DISTRICT

June 1962

In This Issue

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Review of Business Conditions

THE precipitate decline in the stock market that took place in the last days of May evokes memories among the older readers (and writers too) of the black days of late October 1929. The folklore of this earlier period abounds in fact and fancy which is being repeated now even unto the third generation. The state of the market as a topic of conversation has largely overshadowed discussion of the underlying conditions which determine the level of economic activity. But just as there are similarities in the two situations so are there differences, and the differences are more striking than the similarities. The principal distinction between the present and 1929 is that the break in the market in 1929 took place after the turndown in general business activity, which is dated as August of that year. In the present situation there has not been any concrete evidence of a setback in business activity though there has been disappointment over the slow rate of growth exhibited so far this year.

Stock prices firmed in the first week of June and regained much of the ground lost in the preceding week. But in the succeeding two weeks the market turned down again and in the third week of the month the average of industrials dropped below 550, representing a three-year low. Stock prices have trended downward since the high point reached in mid-December, but the decline accelerated beginning in April. While stock prices are frequently accepted as an advance indicator of business conditions, they are only one of a number of indicators and the actions of other indicators in April and May did not parallel movements in stock prices; a number of indicators have moved up while the stock market was going down. Industrial production rose 1 point in May to 118 percent of the 1957 average, the fourth consecutive month in which this indicator has advanced. The decline in steel production was countered by gains in other industrial materials, consumer goods, and business equipment. In 1929 industrial production had fallen over 7 percent from its peak in June to October. Construction activity continued to rise in May as new construction put in place was estimated at a seasonally adjusted annual rate of $59.6 billion, up $1.3 billion from April. Housing starts, which have risen only modestly in the current expansion, stood at an annual rate of 1,587,000 units in May, up 3 percent from April and the highest level since May 1959. Total construction awards let during April, while down slightly from March, were 17 percent above April 1961. The cumulative value of contract awards for the first four months of the year ran about 18 percent higher than for the same period a year ago. The upturn in contracts let holds the promise of a rising level of activity in coming months. In 1929 building activity had been declining for several years.

Perhaps most significant in the light of the present situation was the employment picture in May. Total employment rose to a record 68,200,000. The increase of 1,400,000 was about 500,000 more than usual for the month. At the same time unemployment fell by 200,000, slightly more than seasonally, and brought the unemployment rate down to 5.4 percent of the labor force, down 0.1 percent from April and 0.4 percent from December. In the 150 major labor markets, areas designated as having substantial unemployment (6 percent or more of the labor force) fell from 62 to 54 in May, the lowest number since November 1960. Personal income rose by $1.1 billion in May after an increase of $3 billion in April.

The expectations of businessmen and consumers are of particular interest. Surveys conducted in May would seem to show either no change or perhaps some strengthening, but no perceptible worsening. While these surveys

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were made before the precipitate decline in the stock market that occurred in late May and early June, they were taken against the backdrop of a market that had been falling more or less continuously since December. The Securities and Exchange Commission—Department of Commerce survey of manufacturers conducted in May indicated a level of $37.2 billion of outlays for capital spending in 1962. This is an increase of 8 percent over 1961 and shows no aggregate change from the March survey. It was also indicated in a May survey by the Commerce Department that manufacturers expect second quarter sales to increase by about 2 percent over the first quarter, and third quarter sales to rise 2 percent above second quarter sales. Manufacturers expect to accumulate inventories at a slower rate in the second quarter with estimates amounting to $500 million for the second quarter, rising to $700 million in the third quarter. The slowing down in inventory accumulation was evident in the April statistics as all business added $200 million to their inventories, the smallest accretion since August 1961. The decline in second quarter additions to inventories was further reinforced by a poll of purchasing agents in May which indicated a sharp drop from April in inventory buying and new orders. Inventory-sales ratios at all levels of production and distribution appear to be on the conservative side.

While business activity was rising in April and May, though not on a scale befitting earlier expectations, there were evidences of continuing strength in the final demand for goods and services. Preliminary figures indicate that total retail sales fell off somewhat in May after a strong increase in April. However, department store sales reached record levels in May after a vigorous gain in April. On a seasonally adjusted basis auto sales declined in May, although sales for the last 10 days of the month were 254,000 units, a new high for this period and one of the highest levels of sales for a 10-day period on record. Figures for the second 10 days in June indicate that auto sales fell off about 4 percent from mid-May levels. However, sales were at the highest rate for this period since 1955, when June sales also declined slightly from May. Consumer instalment credit rose by $517 million in April, the largest gain in two years. The survey of consumer buying intentions conducted by the Federal Reserve System in April indicated a greater willingness to purchase than was evident in the January survey. More families expressed the intention to buy houses and household durable goods than in January. The number of families expecting to buy used cars was up though the number expecting to buy new cars remained at the January level.

While the prices of common stocks are a sometimes useful indicator of the course of business activity, it is unwise to consider them apart from current developments in other areas of the economy. Economic indicators do not uniformly move up or down at the same time. A turn in the business situation is evident when there is a change in the direction of the movement of a majority of business indicators: special circumstances in one or another sector of the economy may affect specific indicators and they may move at a different rate or in a contrary direction to most of the other significant measures of activity. In 1929, while most eyes were focussed on the Big Board, the business situation had gradually deteriorated. In recent months it is evident that the underlying elements of the business situation have demonstrated basic strength rather than weakness. No clear-cut evidence has yet appeared that there has been a basic change in the expectations of businessmen and consumers as a consequence of the decline in the stock market.

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Nonfarm payroll employment up in April; District insured unemployment down

Following a modest gain in March, nonfarm wage and salary employment in the District (not including Alaska and Hawaii) increased in April by 27,000 or 0.4 percent on a seasonally adjusted basis. Employment in manufacturing and construction registered the largest increases with gains of 0.7 percent and 0.8 percent, respectively. Increases amounting to about 0.3 percent occurred in all other industry divisions except mining and in transportation and public utilities, which experienced declines of about 0.5 percent. Employment in transportation was adversely affected by the West Coast maritime labor dispute involving some 6,000 workers. On a year-to-year basis, nonfarm payroll employment in the District increased by 283,300 or 4 percent. Employment in manufacturing recorded the largest rise with a gain of 5.7 percent; the smallest gains occurred in mining and in transportation and public utilities.

The average weekly number of workers drawing unemployment compensation benefits under regular State programs in the District (including Alaska and Hawaii) fell by 11,000 or 3.7 percent on a seasonally adjusted basis in April to 286,261. At this level the number of insured unemployed represented about 55 percent of the total of unemployed workers in the District. The number of jobless workers receiving unemployment benefits in the nation declined by almost 6 percent during April to 1.7 million. In comparison with April a year ago, the number of insured unemployed was down by about 25 percent in the District and by 34 percent in the nation. As compared with April 1960, one month prior to the general downturn in business activity, the number of insured jobless in the District was up by 5 percent, but in the nation was down by 5.4 percent.

Rate of unemployment on Pacific Coast fell in May

In May, the seasonally adjusted rate of unemployment on the Pacific Coast fell to 5.7 percent of the civilian labor force from 5.8 percent in April. The number of jobless workers dropped to 478,600, a decrease of 1.6 percent. Total civilian employment was unchanged from April, due to a pickup in agricultural activity (which had been delayed by inclement spring weather) which just offset a slight loss in total nonagricultural employment. The decline in nonfarm employment was attributable chiefly to the labor dispute in the construction industry in northern California. The number of wage and salary workers engaged in construction activity in the Pacific Coast States fell by 6.6 percent between April and May. June employment in the construction industry also was affected by the protracted labor dispute.

The improving labor market conditions in the District were reflected by the reclassification in May of Portland, Oregon from an area of "substantial unemployment" (6.0 to 8.9 percent of the work force) to one of "moderate unemployment" (3.0 to 5.9 percent). This was the third movement toward lower unemployment in District labor market areas in as many months. Primary factors contributing to the reclassification of Portland were year-to-year advances in employment in construction, government, and transportation equipment and recent gains in durable goods manufacturing. A further indication of improving labor conditions was the removal of Las Vegas, Nevada from the list of smaller areas of substantial unemployment.

Factory workweek, average weekly earnings increase in April

Average hourly earnings of manufacturing production workers in the District increased

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by 1 cent in April to $2.75, representing a gain of 8 cents over the last year. The average workweek of production workers in manufacturing rose by 0.1 hours to 40.0 hours (not adjusted for seasonal variations), a rise of 0.7 hours over a year ago. As a result of these changes, average weekly earnings rose by 67 cents in April and at $110.00 were $5.07 or 5.1 percent above earnings in April 1961.

District construction awards posted further gains in April

Following a sharp rise in March, the value of construction contracts awarded in the District (not including Alaska and Hawaii) during April registered a slight further gain. At $730 million, total construction awards were 2 percent above March and 15 percent above the value of contracts let during April a year ago. The increase, which contrasted with a 3 percent decline in awards nationally, reflected an 11 percent gain in contracts let for residential construction and a 33 percent rise in contracts for heavy engineering projects (public works and utilities) which together more than offset a 29 percent decline in nonresidential awards. On a cumulative basis, the value of construction contracts let in the District during the first four months of the year was 7 percent greater than during the comparable period a year ago. The gain is attributable to a substantially higher level of residential awards (up 25 percent) and a slightly higher level of nonresidential awards (up 2 percent) which more than offset an 18 percent decline in heavy engineering contracts. This decline contrasts with an 18 percent increase in the value of heavy engineering awards let in the nation over the same period.

Within the District, California accounted for about 69 percent of total construction contracts let during the first four months of the year. This proportion included 71 percent of both residential and nonresidential awards and 63 percent of contracts awarded for heavy engineering projects in the District. Oregon and Washington together accounted for 16 percent of total construction contracts let in the District during this period, including 15 percent of both residential and nonresidential awards and a relatively high proportion (24 percent) of contracts for public works and utilities. The Mountain States (Idaho, Utah, Nevada and Arizona) together accounted for 14 percent of District construction awards, including about the same proportion of residential and nonresidential contracts as Washington and Oregon (15 percent) but a considerably lower proportion (13 percent) of contracts for heavy engineering projects.

While the rising level of contract awards in the District is an "advance indicator" of construction activity in the months ahead, actual construction in the District, as reflected in the number of private housing starts, registered a further increase in April following strong gains in March. The March and April increases, however, were from a very low level in February. In May and early June, however, District construction activity was adversely affected by the strike and lockout in the construction industry in northern California.

District mortgage markets stable during April and May

During April the flow of funds into District savings and loan associations was sharply reduced from the high level attained in March but remained substantially above the net increase in savings in April a year ago. As a result of the April increase the cumulative net growth in share accounts during the first four months of the year exceeded that of a year ago by 30 percent. Mortgage lending in April considerably outpaced the growth in savings and raised the cumulative increase in outstanding mortgage loans during the first four

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months of the year to a level 44 percent above the increase registered during the comparable period of 1961. Loan commitments rose by 5 percent in April and were 46 percent above the year-ago level.

Savings deposits at weekly reporting District member banks registered a net decline in April, apparently as the result of withdrawals for tax purposes. The growth in savings was resumed in May, however, and slightly exceeded the growth in mortgage loans even though the rise in lending gained considerable momentum during the month. For the entire period between year-end 1961 and the end of May, savings deposits at weekly reporting District member banks increased by $513 million, topping the $280 million net growth in real estate loans during this period by a substantial margin. Thus the volume of funds available for mortgage financing still appears to be in ample supply.

Continued stability in District mortgage markets also is reflected in the fact that rates on conventional mortgage loans do not appear to have changed appreciably. A Federal Home Loan Bank survey of rates charged by leading savings and loan associations throughout the nation (but heavily weighted by associations in the West) showed a slight decline in conventional rates for financing newly built houses during early April, but there was an equally slight increase in contract rates on loans to finance the purchase of existing houses. Rates on construction loans also were up slightly from the level prevailing in March.

Nationally, prices paid for Federally insured mortgages sold in the secondary market continued to firm during April and reached a nine-month high, but the average net price paid in the West for FHA for 5¼ percent, 25-year mortgages, as of May 1, remained at $96.70 per $100 of outstanding loan amount, the same as the previous month. The range of prices paid for these mortgages, however, varied between $95.50 and $98.00 during this period. Mortgage holdings of the District office of the Federal National Mortgage Association increased only fractionally in April, the smallest rise since July 1961, reflecting a sharp reduction in secondary market purchases and a sharp rise in sales designed to accommodate a continuing heavy demand for mortgages on the part of private investors. In the face of this demand a significant development occurred in mid-April when the Federal National Mortgage Association posted an increase in the price of mortgages offered for sale in the secondary market. The action was taken to moderate the recent heavy drain of loanable funds into existing mortgages which otherwise might flow into new mortgages and finance new construction.

District lumber markets firmed in April and May

On the basis of complete data, Douglas fir production in April fell about 6 percent below the level of output in March but topped production in April a year ago by about 2 percent. New orders ran ahead of production, were 4 percent above the level of business received during March, and exceeded the volume of new orders received during April 1961 by 13 percent. At the end of April unfilled orders were equal to 48 percent of stocks on hand, about the same as a year ago. On a cumulative basis, both production and new orders during the first four months of 1962 exceeded year-ago levels by about 4 percent. Data from reporting mills indicate that production and new orders in May about matched the levels attained in April.

Pine production in April exactly matched the level of output in March and was about 2 percent above production in April a year ago. New orders rose very slightly during the month and exceeded production by a fair margin. At month-end, unfilled orders were equal to 28 percent of stocks on hand, a somewhat higher ratio than obtained in the

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previous month or in April a year ago. Data from a sampling of mills indicates that production and new orders in May were close to the April levels. During the first four months of the year, production of pine species exceeded output during the comparable period of 1961 by 7 percent, and the volume of new orders topped that of a year ago by 10 percent.

Production of California redwood declined in April, while the volume of incoming orders increased. On a cumulative basis, production during the first four months of the year was 3 percent below output in the comparable period of 1961. New orders during this period fell slightly below production and, in addition, were 14 percent below the level of new business a year ago.

Reflecting stable if not vigorous demand conditions as evidenced by the level of new orders in May, fir and pine prices exhibited little change during the month. As of May 24, Crow's average lumber price per thousand board feet stood at $76.13, representing an increase of 2 cents from April 26. The slight increase was accounted for by a moderately higher price for dry fir; prices for green fir and pine species had no net change over this period. On a year-to-year basis, the aggregate price represented a gain of 55 cents due to higher prices for green fir and pine species which more than offset a lower price for dry fir.

Prospects for Western steel production better than for the rest of the nation

Based on the recent indications that declines in steel output in the Western states have leveled off, the prospects for improvement in Western steel production appear more favorable than for the rest of the nation. The reduction in Western steel output continued to be substantially milder in May and early June than in the nation, having fallen only 1.9 percent from the week ended April 28 to the week ended June 2 compared with a 19 percent reduction for the nation which brought weekly output to a level of 1,586,000 tons, the lowest since mid-March 1961. From the time of the labor agreement at the end of March to the week ended June 2, national steel output dropped 34.4 percent in nine consecutive weekly declines, with the unofficial operating rate falling from 80.3 to 52.7 percent of estimated capacity, while Western steel production declined only 10.5 percent over the period with some intermittent rises.

Orders at both the District and the national level have started to pick up from the low in April, but the existence of 5 million tons of steel accumulated as a strike hedge, which must be worked off by customers, indicates that declines in production will continue to August outside the District, where the greatest stockpiling occurred. In addition, heavy automotive buying, which has prevented national steel output from falling even further, is starting to decline as car makers begin to taper off production of 1962 models. Further indications of the weakness of the steel market outside the District appear in the absorption of freight costs that firms are undertaking in order to reach into more distant markets and in the cuts in the warehouse prices of cold-rolled sheet occurring in Chicago and some other areas. At steel warehouses in the San Francisco area prices have increased, partly offsetting reductions made over the past several months. The employment picture in the Western market stands in sharp contrast to the widespread layoffs and short workweeks occurring in the steel centers outside the District. Major steel companies in the West have been averaging a 40-hour week since the start of the year, and no cutbacks are planned.

Copper demand slightly lower in May

Copper producers generally reported slower, although satisfactory, demand for the

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metal in May, and there are indications that June shipments may fall below their rate in May. The producer price of 31 cents a pound has remained firm for a year, the longest period of price stability since World War II price controls were in force.

The price of scrap copper in the United States and London was cut ½ cent a pound in two moves of ¼ cent each in the last week in May. This reduction brought the smelter buying price for Number 2 copper wire scrap down to 25¼ cents a pound bid, equivalent to about 30½ cents a pound for refined copper made from the scrap and available for shipment in three months. Scrap offerings, which were fairly large before the price cut subsequently declined. Dealers are said to be offering refined copper for as low as 30¼ cents a pound for prompt delivery to nearby points.

Copper labor negotiations which are currently taking place at two of the largest United States firms are not expected to produce a quick settlement, and since a strike vote will be taken soon, authorizing a walkout if necessary, the threat of a strike in the copper industry has not been totally dispelled.

Hired labor is a major cost factor in District agriculture

The number of acres per farm in the District continues to rise. On March 1, the average size of farms in District states varied from 6,216 acres in Arizona to 383 acres in Washington compared with the national average of 336 acres. Because of the size of District farming operations and the production of many labor-intensive crops, hired labor is used to a considerably greater extent in farming operations than is the case elsewhere in the nation. On an annual average basis, about half the workers on District farms are hired workers compared with about one-fourth of the workers on farms nationally. Therefore, anything which influences the supply and/or cost of hired labor has a considerable impact on the profitability of farming operations in the District.

The renewal of efforts to unionize farm workers in California, where almost two-thirds of the employees are hired workers, has apparently prompted many producers of crops requiring substantial amounts of farm labor to make plans to secure insurance coverage, now generally available, to cover out-of-pocket costs of production. The availability of this insurance appears to have removed some of the uncertainty confronting producers. Last year, for example, the reluctance of tomato growers to expand their acreage was overcome to a considerable extent by a one-third increase in the contract price to growers. On the other hand, a record acreage of tomatoes for processing is in prospect this year with no substantial change indicated in the contract price.

District department store sales at high level: auto sales dipped slightly in May

In April Twelfth District department store sales reached their highest level for the year. However, after seasonal adjustment (including an allowance for a difference in the timing of Easter), they showed a 2 percent decline from the record February and March period. Among the major cities in the District, only San Diego, Salt Lake City, and those in Washington State showed significant increases between March and April after adjustment for seasonal variations. These gains were partially attributable to the influence of newly opened stores, but in the case of Seattle and possibly Tacoma the opening of the World's Fair may have had a favorable effect on sales during April. During May the Seattle area continued to show gains over the year-ago period, as sales ran 16 percent higher in the five weeks ended June 2. San Diego and Salt Lake City were higher by 13 percent,

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while total District sales were only 6 percent ahead of May 1961. Nationally, April department store sales after seasonal adjustment continued at the March level and then rose in May to a record level.

Total new passenger car registrations in California during April were 59,937 units, 6 percent below March. However, after adjustment for two less trading days, daily average registrations during April were 2,397, the highest for any month since March 1960 when the daily average rate was 2,539. In May, registrations were nearly 13 percent below the April level, and the daily average rate fell almost 20 percent. In the nation, May new automobile sales were the highest for the month since 1955 and were about 2 percent above April after adjustment for selling day differences.

Primarily as a result of increased automobile financing and personal loans, outstanding consumer instalment credit held by Twelfth District commercial banks rose $50 million during April. Consumer instalment loans held by District banks totaled $2,874 million at the end of April, being the largest amount since March 1961. Auto credit and personal loans outstanding were at record levels. Other consumer goods paper, as a result of special purchases by banks of retail paper that have now been largely repaid by consumers, is $124 million below the level of April 1961.

Loans increase in latter part of May at slower rate

The increase in loan volume at weekly reporting member banks, which started in March with tax borrowing and accelerated in April and the first two weeks in May, tapered off somewhat in the latter part of May. However, the gain of $92 million in loans adjusted[1] from May 9 to the end of the month contrasted with a decline of $426 million nationally. The percentage increase for the District was approximately the same as the percentage decline for the nation. District banks continued to have a substantially higher rate of increase than all other weekly reporting member banks in both real estate loans and "all other" (mainly consumer) loans during this period. Business borrowing again lagged, with commercial and industrial loans showing net declines in both the District and the nation. Seasonal repayments by food, liquor and tobacco dealers and by commodity dealers accounted for the major part of the decrease in business borrowing in the District. The largest gain during this period of any of the business categories was registered by construction firms. In spite of the major declines in the stock market there was practically no change in District bank loans for purchasing or carrying securities, other than United States Governments.

While individual weekly reporting member banks made adjustment in their securities holdings during the last three weeks of May, on an overall basis there were only relatively small changes resulting in some net addition to United States Governments and other securities. Demand deposits adjusted fell $212 million in the latter part of May, but this was partly offset by an increase in United States Government deposits for the three-week period. Time deposits rose by about 1 percent at District weekly reporting banks, a rate of growth somewhat less than for the nation as a whole. Savings deposits accounted for only half the District gain with other time deposits of individuals, partnerships and corporations and deposits of states and political subdivisions also contributing to the increase during this period.

During the two weeks May 9-May 23, District banks placed substantial amounts of their excess reserves in the Federal funds market rather than in Treasury bills in order to take advantage of prevailing rates of 2.50-2.75 per-

[1] Excluding loans to domestic commercial banks and less valuation reserves.

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CHANGES IN SELECTED BALANCE SHEET ITEMS OF WEEKLY REPORTING MEMBER BANKS IN LEADING CITIES

(dollar amounts in millions)

	Twelfth District				United States			
	From May 9, 1962 to May 30, 1962		From May 31, 1961 to May 30, 1962		From May 9, 1962 to May 30, 1962		From May 31, 1961 to May 30, 1962	
	Dollars	Percent	Dollars	Percent	Dollars	Percent	Dollars	Percent
ASSETS:								
Total loans and investments	+118	+ 0.45	+2,313	+ 9.52	+316	+ 0.26	+8,910	+ 7.85
Loans adjusted and investments[1]	+159	+ 0.61	+2,276	+ 9.45	+281	+ 0.23	+8,513	+ 7.59
Loans adjusted[1]	+ 92	+ 0.55	+1,379	+ 8.90	—426	— 0.57	+4,734	+ 6.77
Commercial and industrial loans	— 25	— 0.43	+ 352	+ 6.52	— 56	— 0.17	+1,394	+ 4.43
Real estate loans	+ 65	+ 1.14	+ 438	+ 8.25	+145	+ 1.04	+1,213	+ 9.44
Agricultural loans	+ 7	+ 0.83	+ 160	+23.19	+ 1	+ 0.07	+ 237	+20.77
Loans for purchasing and carrying securities	— 20	— 6.92	+ 32	+13.50	—701	—14.57	+ 236	+ 6.09
Loans to nonbank financial institutions	+ 18	+ 2.16	+ 116	+15.78	+ 97	+ 1.75	+ 579	+11.45
Loans to domestic commercial banks	— 41	—13.71	+ 37	+16.74	+ 35	+ 2.11	+ 397	+30.61
Loans to foreign banks	+ 2	+ 0.84	+ 32	+15.46	— 8	— 1.44	+ 108	+18.46
Other loans	+ 46	+ 1.34	+ 283	+ 8.88	+ 89	+ 0.51	+1,121	+ 6.79
U. S. Government securities	+ 19	+ 0.29	+ 136	+ 2.13	+589	+ 1.86	+ 859	+ 2.74
Other securities	+ 48	+ 1.66	+ 761	+34.86	+118	+ 0.87	+2,920	+26.94
LIABILITIES:								
Demand deposits adjusted	—212	— 1.82	+ 139	+ 1.23	—221	— 0.36	+1,501	+ 2.50
Time deposits	+131	+ 0.91	+1,817	+14.30	+584	+ 1.27	+7,293	+18.61
Savings accounts	+ 69	+ 0.62	+1,162	+11.51	+223	+ 0.70	+3,889	+13.79

[1] Exclusive of loans to domestic commercial banks and after deduction of valuation reserves; individual loan items are shown gross.
Source: Board of Governors of the Federal Reserve System and Federal Reserve Bank of San Francisco.

cent on Federal funds as 90-day Treasury bill yields moved below 2.70 percent. As the Federal funds rate dropped in the last week of May, District banks became, on balance, net purchasers of funds. So far this year District banks have frequently been in a relatively easier reserve position than banks in the rest of the nation for short periods of time and have taken advantage of such situations when the effective rate was relatively high to trade extensively in Federal funds.

Large part of increase in District real estate loans made on nonresidential properties

Added detail for certain types of loans, including real estate loans, can be obtained from Reports of Condition of all Member Banks. The March 26, 1962 Report of Condition for District banks reveals widely divergent movements among the various categories of real estate loans in the first quarter of the year. Surprisingly, the major gain has been in real estate loans secured by other than residential properties and by farm land. Holdings of VA and FHA loans were reduced during this period and the increase in conventional loans on residential property was $1 million less than the net gain in loans secured by farm land. The concentration of loan expansion in the nonresidential category tends to support other evidence indicating residential mortgage loans are in relatively short supply compared with the available mortgage funds held by banks and other financial institutions.

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First-Quarter Change in Real Estate Loans, Twelfth District Member Banks

(thousands of dollars)

Twelfth District	December 31, 1961-March 26, 1962
Real estate loans	
Secured by farm land	+12,127
Secured by residential properties:	
Insured by FHA	−2,591
Insured or guaranteed by VA	−21,546
Not insured or guaranteed by FHA or VA	+10,852
Secured by other properties	+82,808
Total	+81,650

Source: Call Report of Condition of member banks.

The changes in real estate loans in the first quarter of this year contrast with the roughly corresponding periods in 1961 and 1960.[1] In the two preceding years there were net declines in total real estate loans[2] with the only significant increases occurring in the conventional residential loan category.

Automobile loans and single payment loans raise consumer loan volume in first quarter

The detailed breakdown of consumer loans in the March 26, 1962 Call Report for District banks indicates the categories of consumer borrowing responsible for the overall gain of $47 million in consumer loans. As might be expected from the relatively high rate of automobile sales, loans on passenger cars rose by $34 million during this period. The only other category to show a net increase was single payment loans; all other consumer loan categories declined. This loan pattern contrasts with only a nominal increase in 1961,[1] entirely due to loans to a national retailer that were classified as "other retail instalment loans." The net change in total consumer loans in 1960[2] was only half that in the current period, but loans for passenger automobiles as in the current year contributed most of the gain. Single payment loans, on the other hand, declined in the 1960 period, but retail consumer instalment loans (other than for automobiles) and other instalment loans both increased.

[1] Data based on Call Reports of Condition for December 31, 1960, April 12, 1961 and December 31, 1959 and March 15, 1960.
[2] December 1960 data adjusted for change in banking universe.

First-Quarter Change in Consumer Loans, Twelfth District Member Banks

(thousands of dollars)

Twelfth District	December 31, 1961-March 26, 1962
Loans to individuals for personal expenditures	
Passenger automobile instalment loans	+33,534
Other retail consumer instalment loans	−16,979
Residential repair and modernization instalment loans	−4,222
Other instalment loans	−4,876
Single payment loans	+39,265
Total	+46,722

Source: Call Report of Condition of member banks.

[1] Based on Call Report data for December 31, 1960 and April 12, 1961; net changes adjusted for change in the banking universe.
[2] Based on Call Report data for December 31, 1959 and March 15, 1960.

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Do Bank Loans to Business Predict Inventory Levels?

PERIODS of recession and boom in overall business activity are typically accompanied by significant changes in the amount of business inventories. In fact, it is not uncommon for the magnitude of the change in inventories to comprise a substantial proportion of the change in total business activity. Partly for this reason, analysts often focus their attention upon the nature of the inventory cycle itself. Because of the importance of changes in inventories relative to changes in total business activity, it is useful to have prompt and accurate measures of changes in business inventories. Since data on inventories themselves are available only with a lag, analysts have looked for other measures which are available more promptly and which might provide a guide as to probable trends in inventories.

One indicator that has been used for this purpose by some financial analysts is the volume of business loans outstanding at commercial banks. Such loans traditionally have been short-term in character and have tended to be regarded by many as serving, among other uses, to purchase and carry inventories. Data for business loans at selected large urban banks are published weekly and are available with a lag of only one week. It would be helpful for prompt diagnosis if such data could be related to inventory fluctuations. In this study an attempt is made to determine the relationship that exists between business loans and inventories.

As a first step, the relationship between changes in loans to wholesale and retail concerns[1] and changes in inventories held by these firms was examined. There was a fairly close correspondence between the two series, and there were no significant deviations from what appeared to be normal seasonal patterns. Therefore, attention was directed toward the relationship between total business loans of weekly reporting member banks and total manufacturing inventories, including components of the latter. Manufacturing inventories accounted for nearly three-fifths of total business inventories in 1961. Moreover, since changes in these inventories are larger in total magnitude and less seasonal in nature than those in trade inventories, it is of greater analytical significance to be able to predict their movements. An earlier study in the *Monthly Review* indicated that there appeared to be a close relationship between the movements of total manufacturing inventories and business loans at the weekly reporting banks[1]. In that study, an examination of loan and inventory data for the years 1948-56 inclusive indicated that loans and inventories moved upward and downward over the course of the business cycle at roughly the same time. Both series tended to move up or down several months after the turning points in general business activity, however, and the turning points for inventories tended to occur somewhat later than those for loans. The data used at that time were not adjusted for seasonal variation. In both that study and the current one, the dating of the turning points in general business activity is that of the National Bureau of Economic Research.

The following is a brief summary of the main results of the present study. It was found that business loan and manufacturing inventory data, after a common seasonal adjustment, did show a close relationship of

[1] The loan data used in this case are those furnished by many of the weekly reporting member banks which show changes in their larger business loans by industry classifications.

[1] "The Current Reporting Series as a Guide to Business Activity," *Monthly Review*, Federal Reserve Bank of San Francisco, March 1958.

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the nature indicated by the prior study during the period analyzed in the earlier article. During the 1957-58 recession, however, this relationship changed somewhat. Finally, in the expansion of 1958-60 and the recession of 1960-61, the relationship noted in the earlier periods was not at all evident; inventories showed their usual downward course in the latest recession, but business loans maintained roughly the same level reached during the prior expansion. Although a complete analysis of the reasons for this apparent breakdown in a useful predictive relationship was not made in this study, attention is directed to several factors which may possibly explain the deviation from the prior loan-inventory relationship.

Facts and figures

There are several sets of inventory figures which might be used in exploring the loan-inventory relationship. The Department of Commerce publishes monthly data for total manufacturing inventories on a reasonably current basis. It also provides data for manufacturing inventories for a number of individual major industries. The total for all manufacturing inventories is also classified into three main categories—purchased (or raw) materials, goods in process of production, and finished products. Of course, the final product of one industry may often be a "raw" material for another, as in the case of tires and the automobile industry.

The decision to use certain of these data and not others was made on the basis of the loan data available. Many of the weekly reporting banks provide information on business loans by industry classifications. Only changes in their larger loans are reported, however, and neither the coverage nor the classifications are completely comparable to the available inventory data. During the time period covered, there were no obvious changes in the movements of loans and inventories for particular industries which would suggest reasons why the relationship between total manufacturing inventories and total business loans of weekly reporting banks should have changed during more recent years. It did not appear that seasonal adjustment of the data would substantially alter these conclusions, since, in general, the same seasonal elements would presumably be common to both the loan and inventory series for each industry.

It appeared that a more refined analysis of the relationship between business loans and manufacturing inventories could be obtained by using the classifications of inventories by stages of fabrication, that is, purchased materials, goods in process, and finished products. This permits the separation from the total inventory series of those elements which, by prior reasoning, would seem to have the closest relationship to loans. This point will be explained in more detail later on.

The data used here are the monthly figures for total manufacturing inventories, including the three subcategories mentioned above, compiled by the Office of Business Economics of the Department of Commerce. Use is also made of the monthly data for manufacturers' sales published by the Department of Commerce. Seasonal adjustment, using Bureau of the Census procedures, was carried out for each individual set of data on both inventories and loans. The loan series used consisted of the data on "commercial and industrial loans" outstanding on the last Wednesday of the month at weekly reporting member banks of the Federal Reserve System. Since this series has undergone several changes in coverage during the period 1947 through 1961, it was necessary to make some adjustments to preserve consistency over time. The most practical, though not completely satisfactory, adjustment was to add

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POSTWAR CYCLES IN BUSINESS LOANS AND INVENTORIES

(Seasonally adjusted)

CHART 1.
JAN. 1947 – DEC. 1949

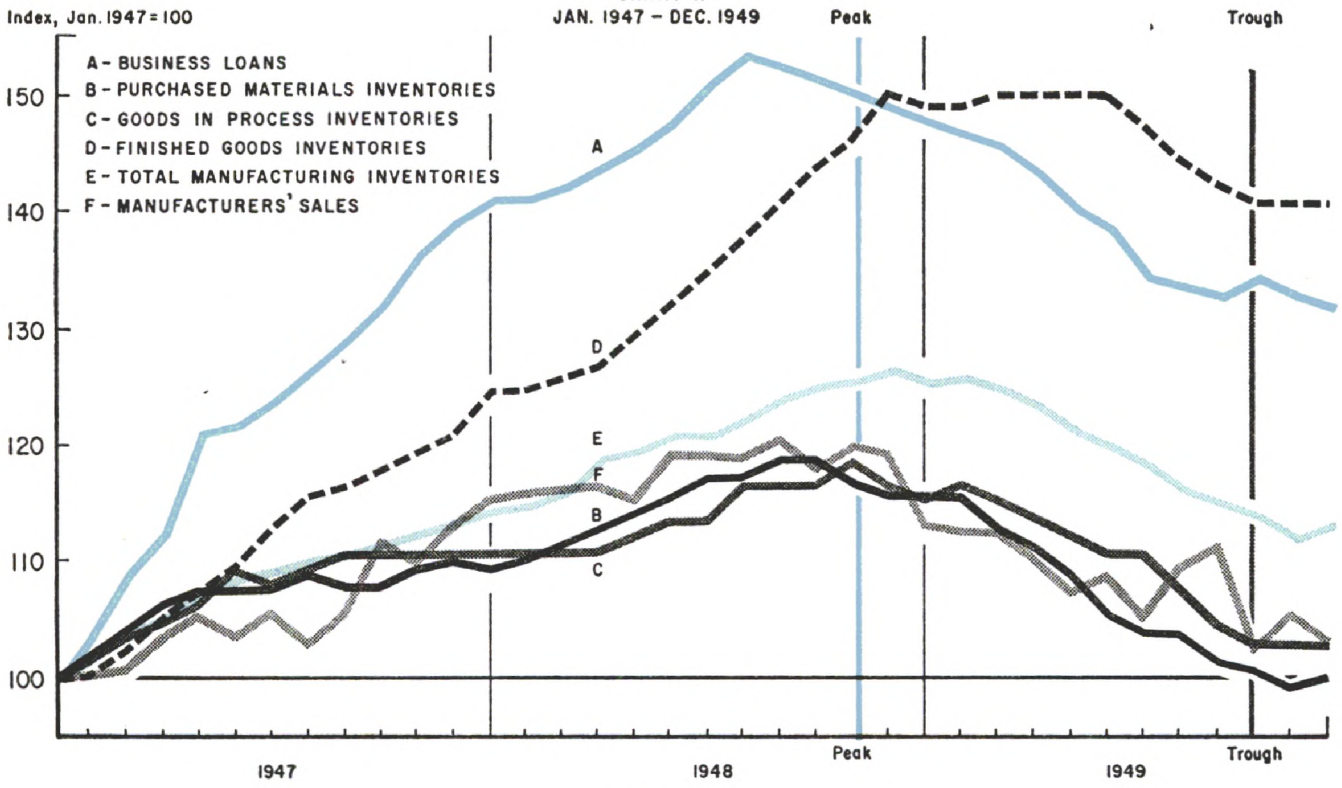
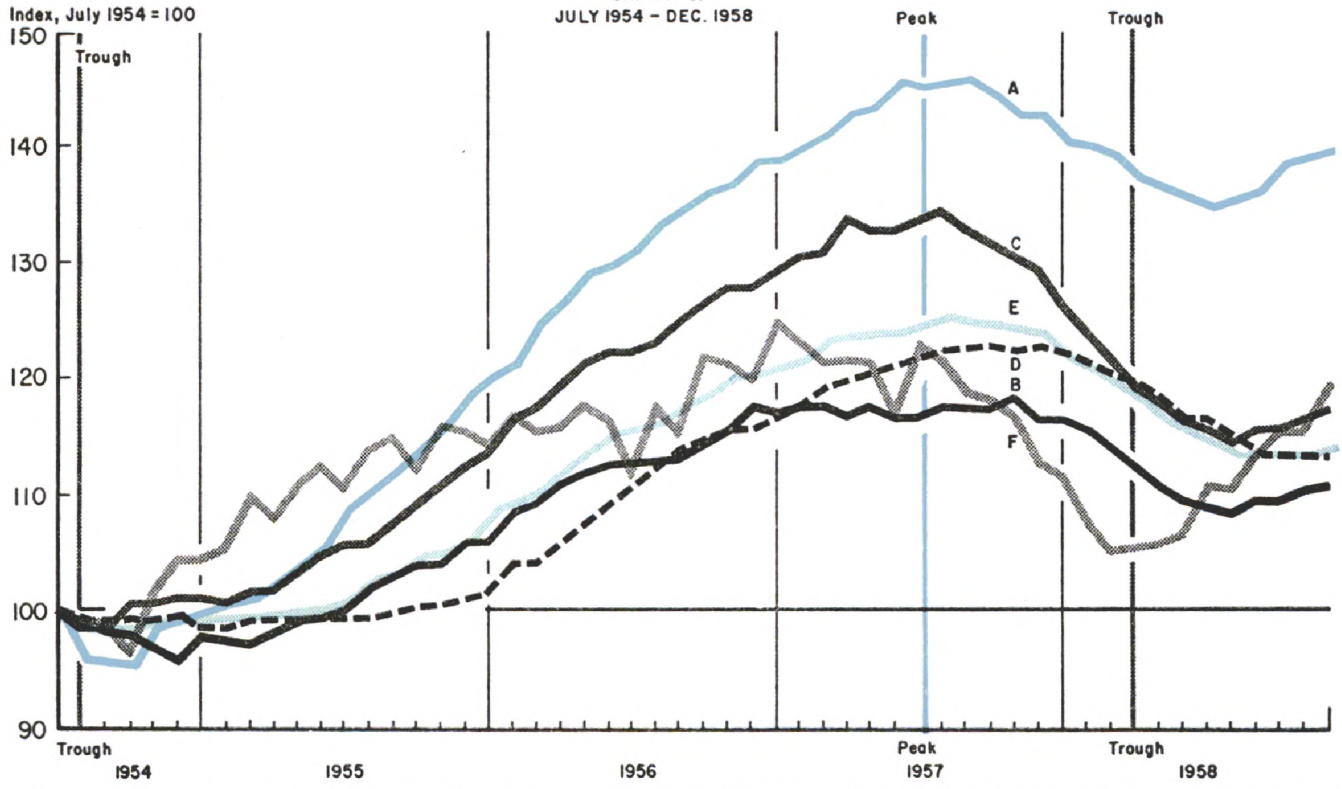


CHART 3.
JULY 1954 – DEC. 1958



Source: For business loans of weekly reporting member banks, Board of Governors of the Federal Reserve System; for manufacturers' inventories and sales, United States Department of Commerce. Seasonal adjustments and conversion to index numbers, Federal Reserve Bank of San Francisco.

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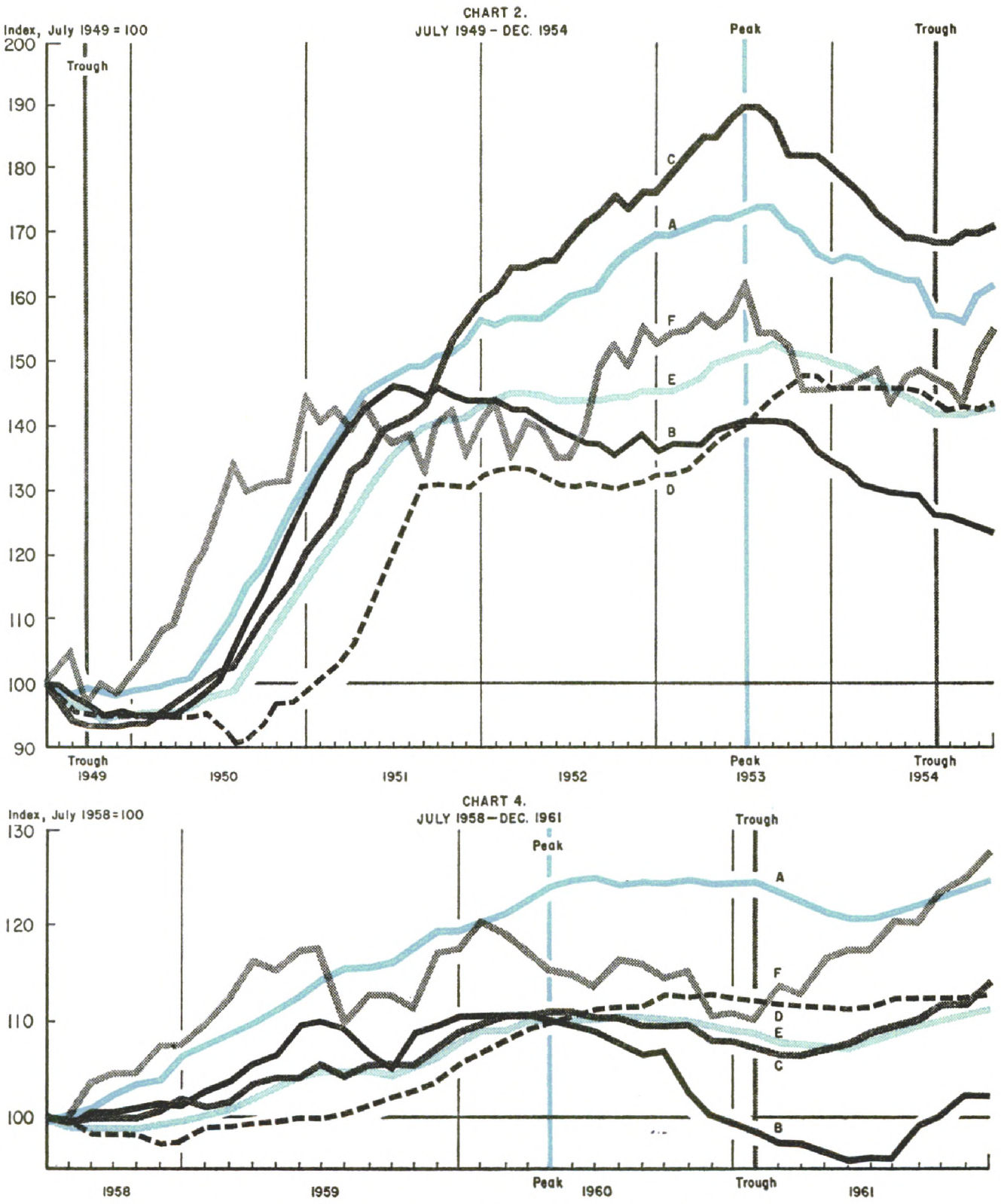
POSTWAR CYCLES IN BUSINESS LOANS AND INVENTORIES

(Seasonally adjusted)



Source: For business loans of weekly reporting member banks, Board of Governors of the Federal Reserve System; for manufacturers' inventories and sales, United States Department of Commerce. Seasonal adjustments and conversion to index numbers, Federal Reserve Bank of San Francisco.

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back the elements that had been taken out over time. Thus, agricultural loans, which had formerly been included in the commercial and industrial loan series, were added to the present series from 1956 onward. Similarly, loans to sales and personal finance companies were added to the present commercial and industrial loan series from mid-1959 onward. Judging by the most recent data, it does not appear likely that movements in purely commercial and industrial loans, which are of primary interest, have been obscured or considerably altered by the inclusion of the other two loan categories. However, the presence of this combination should be considered in evaluating the results.

The trends of business loans and inventories in the postwar period

Both the levels of manufacturing inventories and the volume of loan demand by business firms showed substantial upward trends in the period from 1947 through 1961. The relative increases in loans and inventories differed, however, as can be seen in Charts 1 through 4. These charts present movements of business loans, total inventories, and the inventory components by stage of fabrication. Total sales of all manufacturing firms are also plotted in order to show the general relationship between inventories and sales. All the data have been converted to index numbers for convenience in charting. The period from 1947 through 1961 has been broken up into the four main postwar business cycle movements which have occurred in over-all economic activity. The turning points in activity that have been used are those determined by the National Bureau of Economic Research; the dates for them are listed in Table 1. It is important to distinguish between the turns in general business activity and those in a particular series of data such as business loans, as the two seldom coincide and the differences between them are a matter of considerable interest. The "cyclical" movements of a particular series are often referred to as a "specific cycle" as distinguished from the "reference cycles" in over-all economic activity as set forth by the dates in Table 1.

TABLE 1

TURNING POINTS OF POSTWAR BUSINESS CYCLES

Trough	Peak	Trough
October 1945	November 1948	October 1949
October 1949	July 1953	August 1954
August 1954	July 1957	April 1958
April 1958	May 1960	February 1961

Note: Measurements of the cycles are from trough to trough.
Source: National Bureau of Economic Research.

Interpretation of the movements of a specific series during the general business cycle must always be tempered by considerations of special factors which can account for movements in the specific series which do not seem to conform to what would reasonably be expected on the basis of the changes in over-all activity. An example would be the apparent "subcycle" in purchased materials inventories in 1952-53 which does not correspond to the dating of the reference cycle for general activity; the activities associated with the end of the Korean conflict undoubtedly had a major effect on purchases of raw materials at that time. Despite such special situations, it is apparent that, at least in the first three cycles under consideration, business loans and inventories definitely lagged the turns in the reference cycle. However, in the latest postwar cycle (April 1958 to February 1961 — measuring from trough to trough), this type of relationship was largely lacking.

Business loans (adjusted to include loans to agriculture and to sales and personal finance companies) have shown substantial increases from the troughs to the peaks of all of

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the postwar cycles. The specific troughs and peaks of this series have been fairly close to those in general business activity, as indicated on Charts 1-4, but have generally come somewhat later (with the exception of the peak in November 1948). The lag has varied from one to five months after the reference date and has also shown some tendency to increase over time (the shortest lag occurred in 1953, and the longest in 1961). For example, business loans continued to decline for five months after the low point in general business activity in February 1961, although the decline was at a perceptibly slower rate than in previous recessions. In fact, there was hardly any decline in business loans during the 1960-61 recession, nor has there been to date a substantial post-recession increase in the demand of business firms for bank credit; that contrasts with previous loan experience as well as with the behavior of inventories during the same period.

Before examining the developments in inventories, some rationalization of loan behavior in reference to cyclical movements is appropriate. At first thought, one might expect that movements in business loans would coincide with those in general business activity, aside from random fluctuations. However, a businessman cannot always say with any degree of confidence just when he felt that there had been a definite movement into a general recession or a recovery. Such movements do not affect all firms alike, or at the same time. Even in these days of rapid collection of data, it may be some months before it is clearly evident that a recession or recovery is definitely under way. Assuming that there is some relationship between the level of business borrowing and the flow of business activity, it thus appears that total business loans would not show an immediate response to the beginning of a recession. Further, it is difficult, in general, to reduce the flow of production and/or the levels of inventories in immediate response to a change in sales. If, as might be expected, the level of inventories was related in some way to the level of sales, and loans were related to inventories, the expected lag in the response of loans after the turning points in general business activity would be even greater. If the reference turning points are reasonably accurate indicators of the movements of many diverse economic indicators, it appears that loans actually have responded more quickly than a relatively simple and direct relationship to inventories or to sales of manufacturing enterprises would suggest.

Total inventories held by manufacturing firms have also had a general upward movement during the postwar period. In terms of relative percentage changes, total inventories have not moved upward or downward as much as loans; but the absolute dollar changes have been much larger in inventories than in loans, on the average. Comparisons of the relative percentage changes in the business loan and total manufacturing inventory series show roughly corresponding increases and decreases, with inventories showing the smaller magnitudes except in the 1957-58 recession (see Table 4). The amplitudes of the cyclical movements in total manufactur-

TABLE 2

LEADS AND LAGS OF SPECIFIC CYCLES[1]

	Average Lead (—) or Lag (+) at: Peaks	Troughs
	(months)	
Business loans	+0.50	+3.00
All manufacturing inventories	+2.25	+6.50
Purchased materials	+1.00	+4.50
Goods in process	+0.75	+2.25
Finished goods	+6.00	+7.25
Manufacturers' sales	—2.75	+0.25

[1]Leads and lags are with reference to the turning points shown in Table 1.
Note: Based on seasonally adjusted data.
Source: For business loans, Board of Governors of the Federal Reserve System; for inventories and sales, United States Department of Commerce.

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TABLE 3
LEAD-LAG RELATIONSHIPS AMONG SERIES

	Average Lead (—) or Lag (+) in Relation to					
	Business loans		Manufacturers' sales		Purchased materials	
	Peaks	Troughs	Peaks	Troughs	Peaks	Troughs
	(months)					
Business loans	*	*	*	*	*	*
All manufacturing inventories	+1.75	+3.50	+5.00	+6.25	*	*
Purchased materials	+0.50	+1.50	+3.75	+4.25	*	*
Goods in process	+0.25	—0.75	+3.50	+2.00	—0.25	—2.25
Finished goods	+5.50	+4.25	+8.75	+7.00	+5.00	+2.75
Manufacturers' sales	—3.25	—2.75	*	*	*	*

Note: In each set of two columns, the turning points in the series listed at the top of the column are used as reference points for measuring the leads and lags in the series listed on the left-hand side of the table.
*Not applicable.
Source: For business loans, Board of Governors of the Federal Reserve System; for inventories and sales, United States Department of Commerce.

ing inventories conceal, however, some interesting developments in the three components of this total, and therefore movements in these components will be examined in more detail.

Wheat, flour, and bread—the three stages of fabrication

Total inventories of manufacturers are classified by the stage of production in which they are resting at a given point in time. This type of information enables the analyst to look at those particular inventory figures which may be expected to be most closely related to borrowing from banks. The main consideration in this connection relates to those inventories which require financing of their purchase. To increase his inventories, a manufacturer may draw down cash, or reduce some other element of his assets such as accounts receivable. On the other hand, there may be advantages in increasing his liabilities, such as accounts payable or possibly his loans from banks. In general, an increase in inventories is the reason which has probably been cited most often as an explanation for an increase in business indebtedness at a given time, other things being equal. The relevant question is which of the three types of inventories held by a firm would be the likeliest candidate for responsibility for a loan increase? Finished goods have emerged from the production line and are ready for sale. No additional outlay is required to "buy" them on the part of the potential seller, if storage costs are ignored as, in fact, they can be for most types of production. Goods in the process of production do not need to be financed either, except in the formal sense of equating assets and liabilities; the elements which enter into them have already been purchased—in the form of the raw materials and the labor costs attributable to their reworking into a more finished form. This leaves only purchased materials for which, as the name implies, a definite money outlay is required. The need for financing the purchase seems to enter the picture only at this point, in the sense of some alteration in another asset or liability being required to offset the increased holdings of raw materials.

Therefore, if a relationship exists between bank borrowing and inventories, it would appear that purchased materials and loans should show it. What do the data indicate?

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TABLE 4

AMPLITUDE OF CYCLICAL MOVEMENTS[1]

	Percentage change in series							Average dollar change (millions of dollars)	
	1948-49 P to T	1949-53 T to P	1953-54 P to T	1954-57 T to P	1957-58 P to T	1958-60 T to P	1960-61 P to T	P to T	T to P
Business loans	—13.40	+ 76.85	—10.48	+52.33	— 7.59	+24.36	— 3.06	—2,027	+ 9,510
Total manufacturing inventories	—11.18	+ 61.54	— 7.14	+26.57	— 9.02	+11.13	— 2.73	—3,300	+11,500
Purchased materials	—16.03	+ 47.27	—12.34	+23.23	— 8.57	+11.25	—13.48	—2,000	+ 3,400
Goods in process	—12.82	+102.94	—11.59	+35.25	—14.55	+12.06	— 4.43	—1,400	+ 4,300
Finished goods	—11.11	+ 63.46	— 4.12	+25.77	— 7.80	+15.87	— 1.37	—1,000	+ 4,600
Manufacturers' sales	—14.66	+ 66.75	—12.12	+29.60	—15.38	+26.71	— 9.00	—3,303	+ 7,938

[1] Amplitudes are measured from the peak of the *specific* series to *its* trough, or vice versa. Percentage changes are taken with the initial value as a base (that is, Peak-Trough/Peak). This differs from the measure of amplitude used by the National Bureau of Economic Research.

P = peak; T = trough.

Note: Changes during the 1949-53 period are not completely comparable to those during other postwar expansions, since that period was strongly influenced by developments associated with the Korean conflict.

Source: Calculated from seasonally adjusted data as shown in Charts 1-4.

Purchased materials inventories for all manufacturing enterprises have tended to move up or down after the movements in general business activity, with the exceptions of the peaks in 1948 and 1960. This behavior conforms to the general explanation advanced earlier as to why it is reasonable to expect some lag between changes in the general business climate and changes in inventories and bank loans. Moreover, the turning points for these inventories followed those of business loans fairly consistently through 1958. Thus the picture we have is that of business loans turning down in a recession and up in a period of expansion somewhat after the turn in general business activity (1948 excepted), while purchased materials inventories turn their corners *after* loans have done so, much in the way that a racing driver will follow the racer just ahead through a turn without attempting to pass him while in the turn. However, in 1960, the race seemed to have taken a different turn, with inventories catching up and passing loans (that is, their downturn occurred before that in loans). Having once overtaken loans, purchased goods seem to have slowed down somewhat in 1961 and, though still leading, were not ahead in moving out of recession by quite the same distance.

Just as the emergence of a surprise winner causes some consternation to those who wagered on the favorite, the shift in the lead-lag relationship between purchased materials and commercial loans is a little disturbing to the analyst, especially the subspecies "forecaster." Under these circumstances, is the analyst likely to gain any help from the relationship of loans to either of the other two inventory components? Consider first goods in the process of production. To some extent the amount of funds tied up in this form is not subject to current decisions or short-run alteration, since much depends on the length in time of the production process and preparations for a given "run." One would expect that the volume of items in process would respond to changes in the flow of sales of the final product, but not immediately. There is, in many industries, a certain amount of inflexibility in production scheduling; a firm can seldom afford to run one day and shut down the next day, or even week. Fluctuations in sales can be, and probably

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mainly are, absorbed by alterations in finished goods inventories. Only if there appears to be some definite trend, upward or downward, in a firm's sales would there be a substantial alteration in production volume and in the levels of stocks of goods in process. The original data suggest that these levels may be varied only at intervals, and then by fairly noticeable amounts, although this stair-step pattern would be blurred when numbers of firms and industries are combined. In any case, it appears that movements in goods in process lag those of general business activity but not, on the average, quite as much as purchased materials (see Table 2). The effect of this lag pattern is to provide no useful predictive relationship between this type of inventory and movements in business loans; the turns of the two series coincide, for all practical purposes, at the peaks and actually lead at the troughs, on the average, for the postwar period. It is interesting to look at the turns in goods in process in relation to those of total manufacturers' sales; there are, as shown in Table 3, perceptible lags which are somewhat longer at the peaks than at the troughs.

TABLE 5

CONFORMITY INDEXES

	Average Conformity to Reference Cycle[1]	
	Expansions[2]	Contractions
	(percent)	
Business loans	88	74
Total manufacturing inventories	87	83
Purchased materials	65	88
Goods in process	94	93
Finished goods	83	52
Manufacturers' sales	65	64

Note: Assuming that general business activity increased between the troughs and peaks and declined between peaks and troughs, each series was examined between the reference cycle dates to find the proportion of the total number of months of expansion in which it rose, or months of contraction in which the specific series fell, as applicable. Since the inventory series were rounded, it was assumed that the series rose even if it showed no change, if it had not yet reached a specific turning point.

[1] As dated by the National Bureau of Economic Research.

[2] Includes incomplete expansion of 1947-48.

Source: For business loans, Board of Governors of the Federal Reserve System; for inventories and sales, United States Department of Commerce.

As was noted above, finished goods stocks would be expected to show the least close relationship to business loans. This is verified, on the whole, by the fact that the lags in the turning points of final goods inventories are much longer than the lags in loans, both being measured from the turning points in general business activity. In relation to sales movements even longer lags are evident, with turns in sales tending to come well before those in loans; in fact, there is an average lead of sales in relation to turns in general business activity at the peaks of the cycle. This does not, especially with the variability this lag has displayed in the postwar period, give much grounds for hope of a reliable relation between bank loans and finished goods inventories. It has already been noted that goods in process inventories average a somewhat longer lag at the troughs than at the peaks of the business cycle. This is also true, with much longer lags in both cases, for finished goods.

Business loans not a reliable guide to prospective changes in inventories

The conclusion which emerges from this analysis is that changes in business loans are not a reliable guide to prospective changes in manufacturing inventories. The lag in total manufacturing inventories behind movements in business loans was breached in the trough of the 1953-54 recession, in the peak of the following expansion in 1957, and again in the trough in 1961. The analysis also indicates a reversal of the lead-lag pattern between loans and purchased materials inventories in the 1960-61 period. As already indicated, the relationship in earlier periods had been one of the turn in these inventories occurring *after* the turn in business loans. The recent shift in this pattern occurred primarily because the turn in business loans came much later than usual following the February 1961 trough in general business activity.

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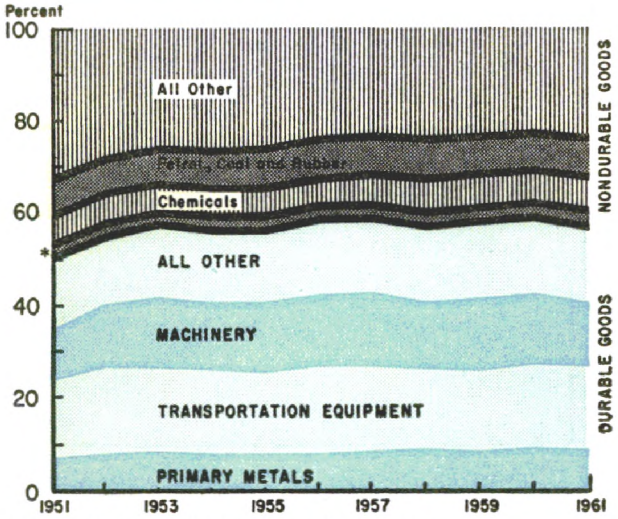
CHART 5

Industries with large firms have tended to increase their shares of total inventories



Source: United States Department of Commerce.

There are many factors which might have affected the loan-inventory relationship recently. A full explanation will not be attempted here, since the principal objective of the present study is to examine the reliability of changes in business loans as a predictor of changes in manufacturing inventories. However, the introduction of some further evidence may cast some light on the mystery.

1960-61: a most unusual time

Several elements in the general business picture during the 1960-61 recession were not entirely in accord with past experience in similar periods. The persistence of a high level of unemployment was accompanied by a maintenance of loan levels not characteristic of prior recessions. Net free reserves were maintained at fairly high levels subsequent to the downturn in May 1960 and provided ample lending capacity to the commercial banks. Total inventories and total sales of manufacturers did not show a really substantial decline during that period, although purchased materials inventories fell off in about the usual degree in response to declining sales. As will be indicated shortly, one measure of manufacturing inventories actually showed a small increase during the three quarters of recession, contrary to the results shown by the Department of Commerce data used in the main body of this study.

In attempting to explain the breakdown of the business loan-inventory relationship, several avenues of approach were tested. Stanback, in a study of postwar inventory behavior,[1] makes several statements relating to the effects on total inventory behavior of shifts in the industrial composition of holdings of manufacturers' stocks. One of these is a hypothesis that shifts in holdings between durable and nondurable goods industries tend to make total inventories more or less sensitive to cyclical influences, for various reasons not pertinent here. On the assumption that such a shift, if it took place, might have a bearing on the present problem, analysis was made of the percentage composition of total manufacturing inventories, by industry. The results, utilizing seasonally unadjusted data, are shown in Chart 5. It is apparent that there has been a slow and fairly steady increase in the proportion of total inventories held by durable goods firms over the period covered in this study (1947-61). There is no indication of a sudden shift in the percentages in 1960 or 1961 which could be associated with the peculiarities of inventory-loan behavior in that period of time. It is also worth noting that the only cases in which given industries show a substantial movement of the kind indicated by the totals for durable goods are such groups as primary metals, transportation equipment, and machinery. On the nondurables side, there were relative gains in the proportion of total inventories held by paper, chemicals, and by petroleum, coal, and rub-

[1]Thomas M. Stanback, Jr., "Postwar Cycles in Manufacturers' Inventories," *Studies in Business Cycles No. 11*, National Bureau of Economic Research, 1962.

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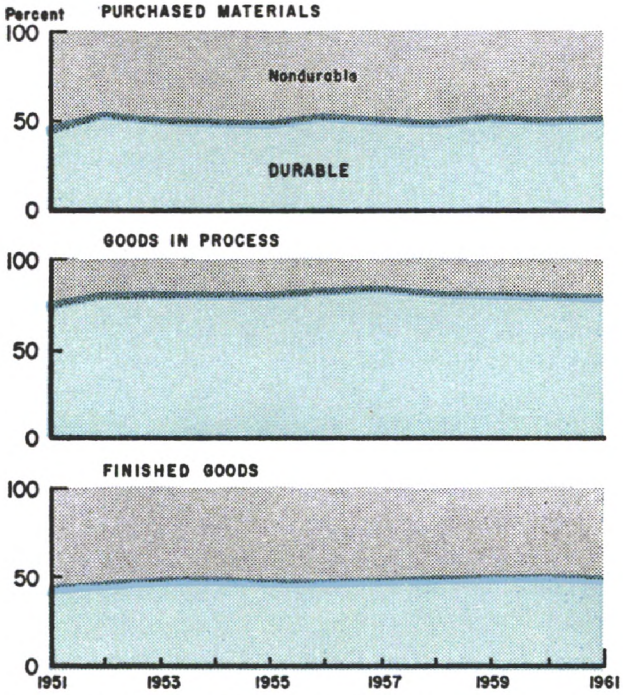
ber producers. It may be significant that these are all industries which are composed of a relatively small number of very large firms, with in some cases a fringe of much smaller firms.

The essentially negative results of the industry-composition inquiry led to an examination of the three stage-of-fabrication components of total inventories, which were originally calculated from separate figures for durable and nondurable goods industries (no breakdown is available by industry, unfortunately). Chart 6 shows the shifts in the relative proportions of each type of inventory held by durable and nondurable goods firms, respectively. For purchased materials inventories, a steady increase occurred in the proportion of the total held by the durable goods firms, which is similar to the finding for total inventories. To a somewhat lesser extent, the same was the case for finished goods stocks and for goods in process; the difference in the latter two cases is that the shifts seem mainly to have taken place in the early 1950's, with relatively little further change thereafter. Again, these results give little clue to the change in the loan-inventory relationship in 1960-61.

A more promising indication is found by taking the three fabrication components as proportions of total manufacturing inventories, using for this purpose the seasonally adjusted data which were already calculated for the main portion of this study.[1] This reveals that the proportion of purchased materials in total inventories declined almost continuously throughout the 1947-61 period, and that of finished goods increased almost as much. Goods in process showed a small increase in proportion to the total, with some fluctuations during the period. What is even more interesting is that there was a decline

CHART 6

Durable goods industries have gradually acquired larger share of inventories



Source: United States Department of Commerce.

of nearly 3 percentage points in the raw materials proportion between mid-1960 and mid-1961. This helps to explain why business loans did not follow total inventory movements as they had in the past. It should be recalled that the purchased materials component would be expected to be most closely tied to bank borrowing by business firms, and that holdings of finished goods are likely to be least responsible for changes in the demand for bank loans.

A further piece of evidence which may be useful in evaluating the change that has occurred in the loan-inventory relationship is provided by the periodic surveys of inventory estimates in relation to sales and unfilled order positions of a sample of manufacturers. These firms are asked quarterly to state whether in their opinion the level of their total inventories is too high, too low, or about right in relation to the factors indicated. Re-

[1] The proportions were calculated from the totals of the three components, since the adjustment process was carried out for each, which had the effect of making small differences between this total and the adjusted figure for total inventories.

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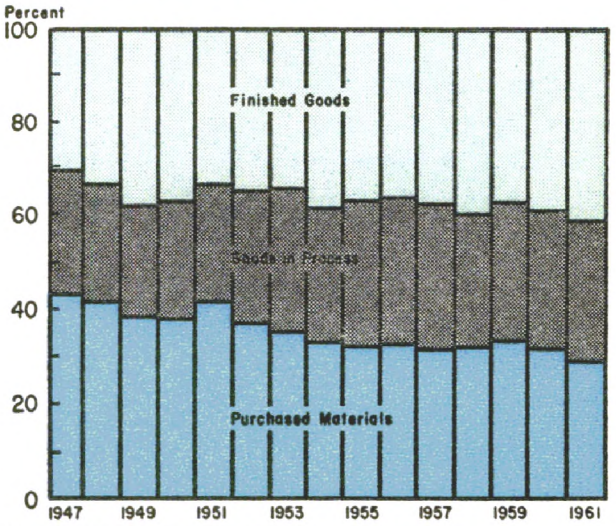
sponses to these inquiries for the period in which they have been made (1957 to date) are shown in Chart 8. Looking at the periods of recession, it will be seen that the proportion of *total inventories* felt to be "too high" was lower in the 1960-61 recession than in the 1957-58 recession, on an average. This implies that firms went into the most recent decline in economic activity with inventory levels "worked down" to levels they felt were easier to live with. Following these inquiries through the course of the two recoveries, it is found that there was a substantial drop in the "too-high" proportion from March to September 1958; from March to September 1961, the decline in the proportion of "too-high" inventories was much smaller and began from a considerably lower level as compared with the prior cycle which had its trough in April 1958. This conforms with other data which indicate that most of the downward adjustment during the last recession in total inventories, and especially in the durable goods industries, occurred between December 1960 and March 1961. However, a direct comparison to the earlier period is not possible, since there was a six-month lag from the March 1958 survey to the next one in September. These indications do not, it should be emphasized, tell us why loan levels remained high in 1960-61; they do tend to show, however, that the general inventory positions of manufacturers were more "comfortable" in 1960-61 than in the previous recession, at least to the extent that this can be judged from the survey data.

Balance sheet data—some puzzling results

A joint effort by the Securities and Exchange Commission and the Federal Trade Commission has been made for some years to provide adequate balance sheet and income statement information relating to

CHART 7

Purchased materials have declined as a share of total inventories



Source: United States Department of Commerce.

United States manufacturing corporations. These data, based on large scale sampling methods, are presented quarterly for all manufacturing corporations (excluding newspapers), for this total broken down by asset size classes, and by industry. It was not feasible to make a seasonal adjustment of these data, and therefore the results would be expected to differ somewhat from those already indicated. In addition, the structure of the information is different from that of the Department of Commerce inventory statistics, and the data are available only quarterly and thus are not comparable to changes based on monthly information of the kind used in the previous tables relating to inventory and loan data.

Certain items based on changes in balance sheet and sales totals are presented in Table 6. Attention may be drawn to several points. Inventory changes during the periods of expansion and contraction in economic activity were, until the last recession, about what would be expected by prior reasoning and in conformity with the results from the monthly data as to relative amounts of rise and fall.

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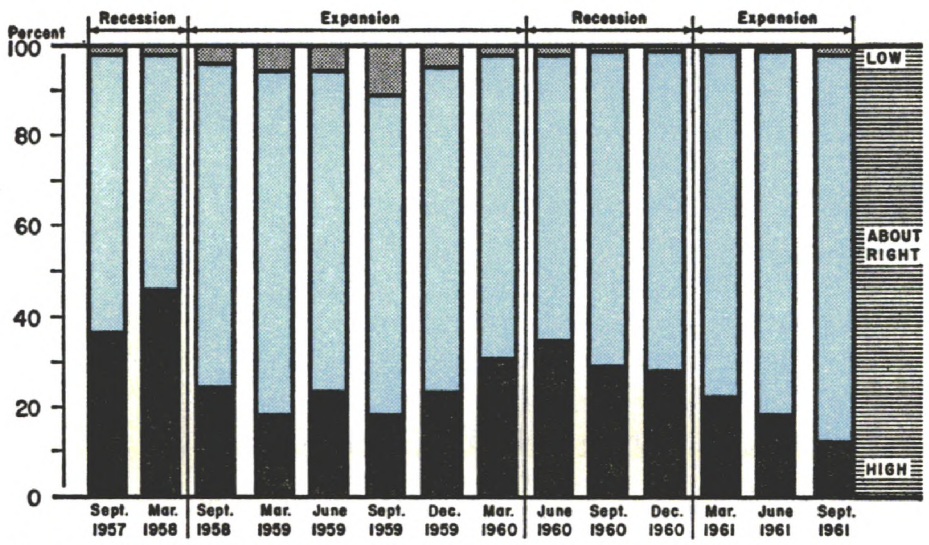
In 1960-61, however, total inventories actually rose, although it is difficult to say whether or not the change is significant within the limits of the accuracy of the data. In any case, it seems plain that these data show a different picture than was painted by the Department of Commerce data. Unfortunately for the conclusions already reached, short-term bank loans also rose, in contrast to their usual decline. On the other hand, corporate liquidity (as measured by the change in holdings of cash and United States Government securities) fell substantially during the same three quarters; it is not clear, judging from prior recessions, whether or not this is to be expected, but it may account for the continued, though small, increase in bank loans. There was also a rise in holdings of receivables, which usually decline in recessions.

CHART 8

Producers reduced inventories to more comfortable levels in 1960-61



Source: United States Department of Commerce.

On the basis of the earlier analysis, a possible explanation of these diverse movements can be advanced with some degree of confidence. It may have been the case that the increase in inventory levels in 1960-61 was due mainly to a failure to reduce stocks of finished goods. The maintenance and increase of prior levels of receivables may be accounted for on the grounds that firms were unable to restrict credit to their customers in the face of declining demand and rising stocks. Possibly because of optimism as to the probable length of the recession and the fact that it did indeed prove to be the shortest in recent history, the usual adjustments in inventories and credit to customers were not made in this instance. However, the conflict shown in inventory movements between these data and those of the Department of Commerce is still not adequately explained, especially since the decline in the latter figures seems well beyond probable limits of error.

Summary and conclusions

To paraphrase Messrs. Gilbert and Sullivan, a forecaster's life is not an 'appy one. In his never ending search for reasonably reliable correlations among different variables, the discovery of a promising relationship is often a matter for celebration. The failure to find a reliable relationship between bank loans and inventories need not necessarily lead to bitter disappointment. It is always well to find out what is not true, and sometimes this type of result may prove more useful in the long run. The lack of a consistent relationship between bank loans and manufacturers' inventories is one of a number of recent indications that require a reassessment of thinking about the factors conditioning the demand for bank loans in

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TABLE 6

CYCLICAL CHANGES IN INVENTORIES AND RELATED ITEMS OF MANUFACTURING CORPORATIONS

(Millions of dollars; data are not seasonally adjusted.)

Period	Phase of Cycle	Changes in					
		Inventories	Short-term bank loans[1]	Long-term bank loans[2]	Liquidity[3]	Receivables	Net Sales
1947-48	Expansion[4]	+ 4,996	+ 312	n.a.	+1,245	+ 1,254	+ 7,461
1948-49	Contraction	— 3,297	— 724	—1,036	+2,988	— 919	— 4,679
1949-53	Expansion	+18,497	+4,187	+1,368	+7,030	+13,360	+28,303
1953-54	Contraction	— 2,159	—1,229	— 880	—1,540	— 1,101	— 5,884
1954-57	Expansion	+13,354	+3,090	+1,498	— 798	+10,177	+19,037
1957-58	Contraction	— 2,896	— 635	+ 155	—1,873	— 1,829	— 5,028
1958-60	Expansion	+ 7,309	+1,552	+ 203	+2,761	+ 7,718	+13,499
1960-61	Contraction	+ 768	+ 297	+ 246	—1,069	+ 553	— 5,500

Note: The changes shown are those occurring in the indicated items between the quarters in which the turning points assigned by the National Bureau of Economic Research occurred. Revisions in the series occurring in 1951, 1956, and 1958 were ignored, since the changes were relatively insignificant and did not alter the main conclusions.

[1] Loans from banks due in one year or less, including instalments on long-term loans.

[2] Loans from banks due in one year or more, excluding short-term instalments due.

[3] Cash and United States Government securities.

[4] Data are available only from First Quarter of 1947 whereas this expansion started from October 1945.

n.a.—Not available.

Source: Federal Trade Commission and Securities and Exchange Commission, *Quarterly Financial Report for Manufacturing Corporations.*

general. Growth in lending of types other than purely business loans has led to the term "department store banking." Similarly, it should not be a surprise to find that business firms do not necessarily associate increases in their stocks with a trip to the bank to obtain a loan. Although such an association is undoubtedly true for many small firms and will continue to be so, large loans to manufacturing enterprises probably stem from a variety of needs and are often only distantly related to some particular item on the firm's balance sheet. Moreover, bank loans provide only a relatively small part of the total financing used by manufacturing firms. In the fourth quarter of 1961, according to the balance sheet data compiled by the Federal Trade Commission and the Securities and Exchange Commission, manufacturing firms obtained only 3 percent of their total liabilities and capital from the traditional short-term (maturing in 1 year or less) bank loan, and only 5 percent of their total financing from all types of bank credit.

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BANKING AND CREDIT STATISTICS AND BUSINESS INDEXES—TWELFTH DISTRICT[1]

(Indexes: 1947-1949=100, except where otherwise indicated. Dollar amounts in millions of dollars)

Year and Month	Condition items of all member banks[2, 7]				Bank debits index 31 cities[4, 5]	Bank rates on short-term business loans[6, 7]	Total nonagricultural employment [11]	Total mf'g employment [11]	Carloadings (number)[5, 11]	Dep't store sales (value)[5]	Retail food prices [7, 8]
	Loans and discounts	U.S. Gov't securities	Demand deposits adjusted[3]	Total time deposits							
1929	2,239	495	1,234	1,790	42	....	...	...	109	30	64
1933	1,486	720	951	1,609	18	....	...	...	59	18	42
1939	1,967	1,450	1,983	2,267	30	....	...	...	87	31	47
1952	8,839	6,619	10,520	7,502	140	3.95	84	82	108	120	115
1953	9,220	6,639	10,515	7,997	150	4.14	86	86	108	122	113
1954	9,418	7,942	11,196	8,699	153	4.09	85	84	103	122	113
1955	11,124	7,239	11,864	9,120	173	4.10	90	90	112	132	112
1956	12,613	6,452	12,169	9,424	190	4.50	95	96	112	141	114
1957	13,178	6,619	11,870	10,679	204	4.97	98	101	103	140	118
1958	13,812	8,003	12,729	12,077	209	4.88	98	96	96	143	123
1959	16,537	6,673	13,375	12,452	237	5.36	104	103	101	157	123
1960	17,139	6,964	13,060	13,034	253	5.62	106	103	95	157*r*	125
1961	18,499	8,278	14,163	15,116	270	5.46	108	102	94	164*r*	127
1961											
May	17,632	7,393	12,865	14,289	265	....	107	101	86	153	127
June	17,578	7,571	12,935	14,371	268	5.50	107	102	90	162	127
July	17,504	7,935	13,206	14,492	267	....	108	102	91	167	126
August	17,779	7,863	13,212	14,656	262	....	108	103	88	157	126
September	18,028	7,955	13,317	14,786	277	5.45	108	103	92	170	125
October	17,901	8,190	13,901	14,867	291	....	109	104	105	164	126
November	18,212	8,182	13,944	14,874	265	....	109	105	106	165	127
December	18,499	8,278	14,163	15,116	293	5.42	109	105	97	175	126
											127
1962											
January	18,646	8,082	13,671	15,448	294	....	110	106	105	166	
February	18,622	7,820	13,163	15,647	289	....	110	106	105	177	128
March	18,906	7,776	13,235	15,939	301	5.50	111	106	103	177	128
April	19,070	7,811	13,706	16,091	312	....	111	107	105	173	128
May	19,328	7,582	13,945	16,352	306	....	111*p*	106*p*	...	166	...

Year and month	Industrial production (physical volume)[5]							Waterborne Foreign Trade Index[7, 9, 10]					
		Petroleum[7]						Exports			Imports		
	Lumber	Crude	Refined	Cement	Steel[7]	Copper[7]	Electric power	Total	Dry Cargo	Tanker	Total	Dry Cargo	Tanker
1929	95	87	78	55	...	103	29	190	150	247	124	128	7
1933	40	52	50	27	...	17	26	110	...	...	72	...	...
1939	71	67	63	56	24	80	40	163	107	243	95	97	57
1951	113	106	112	128	146	116	136	186	194	175	162	140	733
1952	115	107	116	124	139	115	145	171	201	130	204	141	1,836
1953	116	109	122	131	158	113	162	141	138	145	314	163	4,239
1954	115	106	119	133	128	103	172	133	141	123	268	166	2,912
1955	122	106	124	145	154	120	192	166	178	149	314	187	3,614
1956	120	105	129	156	163	131	209	201	261	117	459	201	7,180
1957	106	101	132	149	172	130	224	231	308	123	582	216	10,109
1958	107	94	124	158	142	116	229	176	212	123	564	221	9,504
1959	116	92	130	174	138	99	252	188	223	138	686	263	11,699
1960	110	91	134	161	154	129	271	241	305	149	808	269	14,209
1961	109	92	140	169	171	136	...	...	...	...	...	...	...
1961													
April	114	92	135	168	172	133	283	261	331	163	759	286	13,139
May	111	92	143	169	191	143	285	265	331	171	865	292	15,856
June	111	91	143	188	187	143	289	224	290	128	767	289	13,223
July	110	91	143	157	183	124	293	271	365	138	1,026	297	20,025
August	111	91	140	160	180	107	300	247	322	140	805	277	14,586
September	111	92	142	163	174	138	295	217	317	76	841	277	15,542
October	110	92	144	171	181	149	310	209	310	67	872	307	15,613
November	113	92	144	182	167	147	305	256	331	148	756	264	13,573
December	106	92	141	152	167	145	294	273	371	134	725	272	12,529
1962													
January	105	90	139	165	184	142*r*	...	...	...	...	...	...	...
February	112	92	140	153	187	158	...	...	...	...	...	...	...
March	...	90	142	175	...	150	...	...	...	...	...	...	...
April	...	91	136	192	...	...	...	...	...	...	...	...	...

[1] Adjusted for seasonal variation, except where indicated. Except for banking and credit and department store statistics, all indexes are based upon data from outside sources, as follows: lumber, National Lumber Manufacturers' Association, West Coast Lumberman's Association, and Western Pine Association; petroleum, cement, and copper, U.S. Bureau of Mines; steel, U.S. Department of Commerce and American Iron and Steel Institute; electric power, Federal Power Commission; nonagricultural and manufacturing employment, U.S. Bureau of Labor Statistics and cooperating state agencies; retail food prices, U.S. Bureau of Labor Statistics; carloadings, various railroads and railroad associations; and foreign trade, U.S. Department of Commerce. [2] Annual figures are as of end of year, monthly figures as of last Wednesday in month. [3] Demand deposits, excluding interbank and U.S. Government deposits, less cash items in process of collection. Monthly data partly estimated. [4] Debits to total deposits except interbank prior to 1942. Debits to demand deposits except U.S. Government and interbank deposits from 1942. [5] Daily average. [6] Average rates on loans made in five major cities, weighted by loan size category. [7] Not adjusted for seasonal variation. [8] Los Angeles, San Francisco, and Seattle indexes combined. [9] Commercial cargo only, in physical volume, for the Pacific Coast customs districts plus Alaska and Hawaii; starting with July 1950, "special category" exports are excluded because of security reasons. [10] Alaska and Hawaii are included in indexes beginning in 1950. [11] Index: 1957-1959=100. *p*—Preliminary. *r*—Revised.

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