

STAFF REPORT

working paper

Staff Report WP-13

NINTH DISTRICT LEADING INDICATORS

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department**

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Which Ninth District economic indicators, if any, lead changes in national economic activity? The analysis to answer this question involved two steps:

- (1) Classification of monthly indicators of district business activity as to their cyclical sensitivity.
- (2) Analysis of all leading district indicators in order to determine their suitability as leading indicators of national economic activity.

Historical data were obtained and plotted for monthly indicators of district business activity, and the cyclical sensitivity of each series was determined. Each series was compared to national business fluctuations as specified by the National Bureau of Economic Research (NBER) research cycle reference dates and classified as to its cyclical timing: leading, coincidental, lagging, or cyclically insensitive.^{1/} The results of this screening are shown in Table 1; 27 monthly indicators were determined to lead changes in national economic activity. The district's business failures and iron ore production series were excluded from this preliminary screening because they do not have stable seasonal patterns.

¹Each series was examined with respect to the 57/58, the 60/61, and the current business contractions. The monthly turning points as determined by the NBER were indicated on each chart, and by visual inspection a decision was made as to each series' cyclical sensitivity. To be classified as a leading indicator, a series had to lead at either the peak or the trough of the business cycle but not necessarily both. A coincidental indicator had to closely approximate both the national peak and trough. A lagging indicator could lag both peaks and troughs in national economic activity or lag either a peak or trough if it coincided with the other turning point. A cyclically insensitive indicator demonstrated no discernible cyclical movements during national business expansions and contractions. All data used were seasonally adjusted, and in some cases adjusted for erratic fluctuations.

Next, each district leading indicator was evaluated to ascertain its suitability as a leader of changes in national economic activity. This was accomplished by devising the following criteria:

- (1) Does it lead at both peaks and troughs? This criterion will determine if the indicator leads just business downturns or both business downturns and upturns.
- (2) Does the district indicator precede or follow movements in the comparable national indicator? If the district indicator generally follows movements in the national indicator, the national figure will provide an earlier warning of changes in national economic activity.
- (3) How erratic is the series? In denoting cyclical changes in economic activity, a smooth series has the advantage of being more likely to give prompt notice of the beginning of a new cyclical phase. A series MCD^{2/} was used to measure the smoothness of a particular series.
- (4) How soon is the indicator available? For an indicator to be valuable in current economic analysis, it must be current.

²"MCD" stands for "months for cyclical dominance" and measures the appropriate time span over which to observe cyclical movements in a monthly series. It is the shortest span in months for which the average percentage change (without regard to sign) in the cyclical component is larger than the average percentage change (without regard to sign) in the irregular component and remains so. Thus it indicates the point at which fluctuations in the seasonally adjusted series become dominated by cyclical rather than irregular movements. This measure was developed by the NBER and is computed using the Census X-11 seasonal adjustment program. The following standard was used in evaluating each series: an MCD of 1 or 2 would indicate a smooth series; 3 or 4, a fairly erratic series; and 5 or 6, a very erratic series.

Each leading indicator was also examined to see how it leads changes in aggregate measures of national economic activity. Table 2 lists these aggregate measures which in most cases approximate the business cycle reference dates established by the NBER. The turning points in the unemployment rate and the Federal Reserve Board industrial production index generally led NBER reference dates at the peaks, but none of these indicators were conclusive leaders of business expansion. Measures of district aggregate economic activity have tended to coincide if not slightly lag national measures. The district unemployment rate, however, has started climbing before the national rate, prior to the national business cycle reaching its peak.

In order to facilitate this analysis, the district's leading indicators will be grouped according to the economic process they represent. The first group to be discussed will be those district indicators of employment and unemployment that lead changes in national economic activity.

EMPLOYMENT AND UNEMPLOYMENT

The data for evaluating these series are contained in Table 3.

1. MANUFACTURING EMPLOYMENT AND ITS COMPONENTS - These district indicators generally lead downturns in the national economy and lag at the upturns, tending to follow very closely the movements in the comparable national series. The district series' lead at the downturns, however, is quite small. There is generally very little erratic movement in the total manufacturing and durable goods series, and they are available approximately three weeks after the end of the month to which they apply. Also, due to the short lead at downturns, these indicators do not lead important national aggregate indicators such as the industrial production index and the unemployment rate.

2. CONSTRUCTION EMPLOYMENT - This indicator leads peaks in the business cycle by approximately a year in both the district and the nation, while it approximately coincides with troughs. Although district construction

employment's lead at downturns is quite substantial, it is an erratic indicator with an MCD of 4. The indicator, however, is available quite promptly and does lead changes in aggregate measures of national economic activity.

3. UNEMPLOYMENT AND THE UNEMPLOYMENT RATE - These indicators in both the district and the nation lead contractions in the national economy but lag the expansions. In general, the district unemployment rate has led changes in the national rate, but this was not the case in 1969. A fairly smooth series, it is available three weeks after the end of the month to which it applies. In addition, it does not lead other aggregate national indicators by a substantial time period.

4. INITIAL CLAIMS AND INSURED UNEMPLOYMENT - Again, these district indicators lead contractions but generally tend to follow expansions. Their lead is very substantial at downturns, and cyclical movements in district initial claims tend to lag those in the nation. One value of these series is that they lead changes in the unemployment rate. Though fairly erratic, these series are available within two to three weeks after the close of the month, and lead aggregate national economic indicators before peaks occur in them.

5. AVERAGE WEEKLY HOURS WORKED IN MANUFACTURING - This indicator's performance in the district approximates that of the national indicator. It has turned down prior to business contractions by a substantial number of months, while its lead before business expansions has been quite small. It is quite an erratic series with an MCD of 4, but the data are available quite promptly.

6. LABOR TURNOVER DATA - Both the national and district indicators -- accession, new hire, separation, layoff, and quit rates -- tend to lead expansion and contractions in national economic activity. They have the drawback of being very erratic, and there is a substantial delay in obtaining them.

7. HELP WANTED ADVERTISING INDEX - This indicator in both the district and the nation leads contractions and coincides with expansions in national economic activity. The lead before contractions is quite long and approximately the same in both the district and the nation. The district series is received about a month before the national series and has an MCD of only 1.

EVALUATION - Construction employment, initial claims, insured unemployment, average weekly hours worked in manufacturing, and the help wanted advertising index all significantly lead contractions in national economic activity, while only the average weekly hours worked in manufacturing series tends to lead expansions. In most cases, performances in the district and the national series are quite similar. In addition, these indicators tend to lead aggregate measures of national economic activity before downturns. District construction employment and average weekly hours worked in manufacturing have the drawback of being quite erratic. District and national indicators are available at the same time in most cases, except for the district help wanted advertising index which arrives before the national figure. Labor turnover data are excluded because of their erratic nature and the substantial delay in receiving them. The unemployment rate leads contractions but by a much smaller time period than the other indicators.

MEASURES OF CONSTRUCTION ACTIVITY

The data for evaluating these series are contained in Table 4.

1. TOTAL CONSTRUCTION CONTRACTS AWARDED - This indicator in both the district and the nation leads both upturns and downturns in national economic activity. Its lead before downturns has been substantial: 17 months in the district and 13 months in the nation as compared to 8 and 10 months in the district and nation, respectively, before expansions. This series also leads major indicators of national aggregate economic activity. It would be an excellent indicator except for its extreme volatility; the series has an MCD of 6. There is a four-to-five-week lag in data availability.

2. TOTAL RESIDENTIAL CONTRACTS AWARDED - This series' characteristics are quite similar to those exhibited by the total contracts awarded series except that it does not lead expansions. The leads at contractions for both the district and national indicators are essentially the same, and both coincide with expansions. This is also a very erratic series and is available after a four-to-five-week time delay.

3. TOTAL NONRESIDENTIAL CONSTRUCTION CONTRACTS AWARDED - This series' lead at downturns is shorter than that of the total and residential contracts awarded series and has a fairly short lead before upturns. The national series generally turns before the district series. The district series did not, however, exhibit any cyclical pattern during the 60/61 recession. The series can be used as a proxy for business investment spending. It also leads national aggregate measures of economic activity. It is quite erratic and is not available until after a four-to-five-week time delay.

4. NUMBER OF HOUSING UNITS AUTHORIZED BY BUILDING PERMITS - This indicator's attributes are very similar to those of the construction contracts awarded series. In addition, it could be considered the district series that is most comparable to the national housing starts series. It is available about three weeks after the end of the month.

EVALUATION - Very sensitive to national economic fluctuations, the district's construction series tend to lead contractions by a considerable amount of time and expansions by a smaller number of months. In addition to exhibiting cyclical patterns during the 57/58, the 60/61, and the recent recession, these series had a pronounced cyclical pattern during the 1967 "mini-recession." The district series' behavior was very similar to that of the comparable national series. These indicators also lead changes in other measures of national aggregate economic activity. Their problem is their extreme volatility. Comparable national figures for these series are generally available at the same

time as the district series, if not before.

MEASURES OF PRODUCTION

The data for evaluating this series are contained in Table 4.

PRODUCTION WORKER MANHOURS - This indicator both in the district and the nation generally leads downturns by about four months, and the national series coincides with upturns while the district series lags upturns by two months. The timing of its cyclical turns approximately coincides with cyclical changes in the national industrial production index. It is a fairly erratic series and is available quite promptly.

EVALUATION - The district production worker manhours series does not significantly lead downturns in aggregate measures of national economic activity and has lagged their upturns.

MEASURES OF SPENDING

The data for evaluating this series are contained in Table 4.

NEW CAR REGISTRATIONS - This district series leads changes in national business contractions by an average of nine months but lags the upturns by five. Its usefulness as a leading indicator is very limited, however, because of its volatile nature and the considerable delay in receiving data.

EVALUATION - It is too erratic and not current enough to be considered a good leading indicator.

MEASURES OF FINANCIAL ACTIVITY

The data for evaluating these series are contained in Table 5. Because these series are only currently available since January 1965, just the 1967 "mini-recession" and the current business contraction are evaluated.

1. TOTAL DEPOSITS, ALL MEMBER BANKS - This series has led both business expansions and contractions in the district and the nation. There is no significant difference between the cyclical patterns of the district and national series. The series' lead is sufficiently long to precede cyclical turns in

measures of aggregate national economic activity. It is a fairly smooth series, and the data are available within two weeks after the end of the month.

2. GROSS DEMAND DEPOSITS, ALL MEMBER BANKS - This series' cyclical characteristics are very similar to the total deposit series'. The district series turned down 11 months prior to the November 1969 peak in national economic activity, while the national series turned down 3 months before it. They both turned up 5 months prior to the 1967 trough in business activity. Although this series is available quite promptly, it is very erratic and has an MCD of 5.

3. TOTAL TIME DEPOSITS, ALL MEMBER BANKS - Although both the district and the national series turned down 11 months prior to the November 1969 turning point, the district series exhibited no cyclical pattern during the 1967 "mini-recession." The national series turned down during both periods of business contraction. It is a very smooth series with an MCD of 1 and is very current with only a two-week time lag.

4. COMMERCIAL AND INDUSTRIAL LOANS, WEEKLY REPORTING BANKS - The district series has displayed a cyclical pattern whereas the national series has not. In the district it has led both business expansions and contractions by about seven months. It is available with only a one-week time lag and is fairly smooth.

5. CHANGES IN SAVINGS CAPITAL AT S&Ls - Both the national and the district series have pronounced and similar cyclical characteristics. The series is very erratic and is not as current as the commercial banking data.

6. LOAN COMMITMENTS HELD AT S&Ls - This series is very similar to the changes in savings capital series. In the district it turned up ten months before business started to expand in 1967, while the national series' lead

was only five months. It is a fairly smooth series with an MCD of 2 and is available within four weeks.

7. MORTGAGE LOANS MADE AT S&Ls - The leads in this district series are somewhat shorter than those observed in the comparable national series and for changes in savings capital and loan commitments. The series is available with a four-week time lag and has an MCD of 3.

EVALUATION - All of these series have led both expansions and contractions in national economic activity. Their leads were also long enough to have preceded the turning points in major measures of national economic activity. The commercial banking series, however, are available before the savings and loan data. The district's commercial and industrial loans series exhibits a pronounced cyclical pattern, while the comparable national series does not. Out of these seven series, the best cyclical indicators seem to be Total Deposits at all Member Banks, Commercial and Industrial Loans at Weekly Reporting Banks, Changes in Savings Capital at S&Ls, Loan Commitments Held at S&Ls, and Mortgage Loans Made at S&Ls.

In addition to the previously described monthly series, our Quarterly Industrial Expectations Survey (QIES) has some usefulness as a leading indicator. There are noticeable similarities between the pattern of the year-over-year percentage changes in quarterly gross national product and the percentage changes in district manufacturing sales on a year-to-year basis. Because the survey asks district manufacturers to forecast the relative year-to-year changes in their sales for the current and next two quarters, it provides some indication of future movements in the national economy. In November 1969, for example, district manufacturers expected their sales growth to weaken during the first half of 1970, and they revised their forecast downward in February 1970. Their sales expectations were realized and the rate of growth in gross national product also slowed during the first half of 1970. In February 1971, district

manufacturers indicated that they expected their sales growth to improve during the last half of 1971, and they held to that forecast in May and August. The results of the fourth quarter QIES did denote a strengthening in third quarter district manufacturing sales, and the gross national product registered a strong year-to-year advance in the third quarter.

CONCLUSIONS

As a result of the preceding analysis, 12 district statistical series have been selected as advance indicators of changes in national economic activity. The 12 indicators and the reasons for their selection are listed in Table 6. All of these indicators have led national business contractions by a sufficient amount of time to provide some warning that the national business climate was softening. Business expansions, however, were led by changes in only the financial and construction indicators while changes in labor market indicators were coincident with an upswing. None of these series measured up perfectly to the four criteria, but the ones listed seem to have best fulfilled them. The financial indicators probably came the closest to meeting the four criteria, while the construction series deviated from them most. The district commercial and industrial loan series had a distinct cyclical pattern, while the national series did not. Comparable national numbers are usually available at the same time as the 12 district series. The district's help wanted advertising index, however, is available a month before the comparable national index.

How useful were these indicators in anticipating changes in national economic activity during the past two years? Charts 1 through 4 show how these indicators have performed during the 31-month period ending in July 1971. By the fall of 1969, using just these indicators, evidence had accumulated that national economic activity was reaching a crest. Although average weekly hours worked in manufacturing were not trending downward, initial claims for unemploy-

ment insurance were climbing, and the district's help wanted advertising index was declining. Construction indicators revealed that residential construction had been declining since early 1969. In addition, the series on changes in loan commitments and mortgage loans made at S&Ls were headed downward. Also, total deposits at district member banks had reached a peak in December 1968 and trended slightly downward thereafter. Commercial and industrial loans had reached their pinnacle in February 1969 and were declining. Then, in November 1969, our QIES disclosed that district manufacturers were expecting their sales growth to taper off.

The NBER has tentatively set November 1970 as the trough of the recent recession. At that time, district leading indicators hinted at recovery. The construction and financial series were headed upward. Labor market indicators, however, were still declining, but this was not contradictory because their troughs have generally coincided with national troughs.

The recovery was very weak, and these district indicators attested to that. Although the indicators related to housing construction continued to climb, nonresidential construction contracts awarded were still weak in mid-1971. The total deposit and commercial and industrial loan series continued to advance; but the number of average weekly hours worked in manufacturing did not start expanding until the spring of 1971, and the district's help wanted advertising index and initial claims for unemployment insurance began rising only the following summer. In addition, the results of the first three QIESs of 1971 disclosed that district manufacturers were anticipating a modest advance in their sales gains. Consequently, these indicators pointed toward expansion in the national economy but were probably not as expansive as would be expected during the early phases of a business upswing.

In this analysis, 12 district statistical series were chosen as good

leading indicators of national economic activity. While all of these indicators lead contraction in business activity, only 7 were conclusive leaders of expansions. In addition, these series do not differ greatly from their national counterparts. Consequently, no unique district indicators could be identified which lead changes in national economic activity significantly in advance of their national counterpart. These series, however, are necessary for analyzing current district conditions, and their value is only slightly diminished because of their inadequacy as predictors.

Table 1. Cyclical Classification of Ninth District Monthly Indicators

Leading		No Cyclical Pattern
(1) Manufacturing Employment	(23) Total Time Deposits, All Member Banks	(1) Mining Employment
(2) Durable Goods Manufacturing Employment	(24) Commercial and Industrial Loans, Weekly Reporting Banks	(2) Transportation, Communications & Public Utilities Employment
(3) Nondurable Goods Manufacturing Employment	(25) Changes in Savings Capital at S&Ls	(3) Finance, Insurance and Real Estate Employment
(4) Construction Employment	(26) Loan Commitments Held at S&Ls	(4) Service Employment
(5) Production Worker Manhours	(27) Mortgage Loans Made at S&Ls	(5) Government Employment
(6) Total Construction Contracts Awarded		(6) Industrial Use of Electric Power, Nondurable Goods
(7) Total Residential Construction Contracts Awarded		(7) Civilian Work Force
(8) Total Nonresidential Construction Contracts Awarded		(8) Separation Rate
(9) Number of Housing Units Authorized by Building Permits		(9) Retail Sales, Minnesota
(10) Unemployment		(10) Average Weekly Earnings in Manufacturing
(11) Unemployment Rate		(11) Total Nonbuilding Construction Contracts Awarded
(12) Initial Claims		(12) Total Loans Adjusted All Member Banks
(13) Average Weekly Hours Worked in Manufacturing		
(14) New Hire Rate		
(15) Quit Rate		
(16) Layoff Rate		
(17) Separation Rate		
(18) Accession Rate		
(19) Help Wanted Advertising Index		
(20) New Car Registrations		
(21) Total Deposits, All Member Banks		
(22) Gross Demand Deposits, All Member Banks		

Coincidental

- (1) Wage & Salary Employment
- (2) Trade Employment
- (3) Industrial Use of Electric Power, Durable Goods
- (4) Accession Rate
- (5) Layoff Rate
- (6) Effective Mortgage Interest Rates

Lagging

- (1) Industrial Use of Electric Power
- (2) Employment

Table 2

Aggregate Measures of National Economic Activity

	Months Lead (+) or Lag (-) at Business Cycle				
	P E A K S			T R O U G H S	
	July 1957	May 1960	Nov. 1969	April 1958	Feb. 1961
Wage and Salary Employment	+4	+1	-4	-1	0
Unemployment Rate	+4	+3	+9	-3	-3
GNP (current dollars)	-1	0	-- <u>1/</u>	+2	+3
GNP (1958 dollars)	-1	+3	+3	+2	0
Industrial Production	+5	+4	+4	0	0
Retail Sales	-1	+1	-- <u>1/</u>	+1	-2

1/ This series did not decline during the recent recession.

Table 3. Measures of Employment and Unemployment

Indicator	Earliest Date Data Available	District Indicator		National Indicator		MCD Ninth District	Time Lag in Receiving District Data
		Average Lead ¹ at Peak	Average Lead or Lag at Trough ²	Average Lead ¹ at Peak	Average Lead or Lag at Trough ²		
Manufacturing Employment	Jan. '54	+ 3	- 2	+ 4	- 1	2	3 weeks
Durable Goods Mfg. Employment	Jan. '56	+ 3	- 2	+ 4	- 1	1	3 weeks
Nondurable Goods Mfg. Employment	Jan. '56	+ 3	- 1	+ 3	- 1	4	3 weeks
Construction Employment	Jan. '54	+12	- 1	+10	+ 2	4	3 weeks
Unemployment	Jan. '58	+11	- 3	+ 5	- 3	2	3 weeks
Unemployment Rate	Jan. '58	+ 8	- 3	+ 5	- 3	2	3 weeks
Initial Claims	Jan. '58	+ 9	- 1	+15	0	3	2 weeks
Insured Unemployment	Jan. '57	+ 8	- 4	n.a.	n.a.	2	3 weeks
Average Weekly Hours Worked in Manufacturing	Jan. '53	+15	+ 3	+13	+ 1	4	3 weeks
Accession Rate	Jan. '58	+ 7	+ 4	+ 5	+ 4	6	7 to 8 weeks
New Hire Rate	Jan. '65	+ 8	n.a.	+ 5	+ 1	4	7 to 8 weeks
Separation Rate	Jan. '65	+ 8	n.a.	+ 7	+ 6	6	7 to 8 weeks
Layoff Rate	Jan. '58	+ 7	+ 7	+ 6	+ 1	6	7 to 8 weeks
Quit Rate	Jan. '65	+ 5	n.a.	+ 8	- 4	2	7 to 8 weeks
Help Wanted Advertising Index	Jan. '59	+ 8	0	+ 7	+ 1	2	3 weeks

¹Depending upon data availability, includes the average lead before the peaks associated with the 57/58, the 60/61, and the current recession.

²Depending upon data availability, includes the average lead before the troughs associated with the 57/58 and the 60/61 recessions.

n.a. = not available

Table 4

Measures of Construction Activity, Production, and Spending

Indicator	Earliest Date Data Available	District Indicator		National Indicator		MCD Ninth District	Time Lag in Receiving District Data
		Average Lead ¹ at Peak	Average Lead or Lag at Trough ²	Average Lead ¹ at Peak	Average Lead or Lag at Trough ²		
MEASURES OF CONSTRUCTION ACTIVITY							
Total Construction Contracts Awarded	Jan. '54	+17	+ 8	+13	+10	6	4 to 5 weeks
Total Residential Contracts Awarded	Jan. '56	+14	+ 1	+13	+ 1	6	4 to 5 weeks
Total Nonresidential Contracts Awarded	Jan. '56	+ 7 ^{3/}	+ 3 ^{3/}	+10	+10	6	4 to 5 weeks
Number of Housing Units Authorized by Building Permits	Jan '62	+ 9	n.a.	+10	+ 2	5	3 weeks
MEASURES OF PRODUCTION							
Production Worker Manhours	Jan. '57	+ 4	- 2	+ 4	0	3	4 weeks
MEASURES OF SPENDING							
New Passenger Car Registrations	Jan. '51	+12	- 5	+12	- 4	6	11 to 12 weeks

¹Depending upon data availability, includes the average lead before the peaks associated with the 57/58, the 60/61, and the current recession.

²Depending upon data availability, includes the average lead or lag before the troughs associated with the 57/58 and the 60/61 recessions.

³Exhibited no cyclical pattern during the 60/61 recession.

n.a. = not available

Table 5

Measures of Financial Activity

Indicator	Earliest Date Data Available	District Indicator	National Indicator	MCD Ninth District	Time Lag in Receiving District Data
		Average Lead ¹ at Peak	Average Lead or Lag ² at Trough		

MEASURES OF FINANCIAL ACTIVITY

Total Deposits, All Member Banks	Jan. '65	+ 8	+ 5	+ 8	+ 7	2	2 weeks
Gross Demand Deposits, All Member Banks	Jan. '65	+ 8	+ 5	+ 3	+ 5	5	2 weeks
Total Time Deposits, All Member Banks	Jan. '65	+11 ^{3/}	n.a. ^{3/}	+ 8	+ 3	1	2 weeks
Commercial and Industrial Loans, Weekly Reporting Banks	Jan. '65	+ 7	+ 6	<u>4/</u>	<u>4/</u>	2	1 week
Changes in Savings Capital at S&Ls	Jan. '65	+12	+ 7	+12	+10	6	4 weeks
Loan Commitments Held at S&Ls	Jan. '65	+ 8	+10	+ 9	+ 5	2	4 weeks
Mortgage Loans Made at S&Ls	Jan. '65	+ 7	+ 4	+12	+ 7	3	4 weeks

¹Includes the average lead before the peaks associated with the 1967 "mini-recession" and the current recession.

²Includes the lead or lag associated with the 1967 "mini-recession."

³Exhibited no cyclical pattern during the 1967 "mini-recession."

⁴Exhibited no cyclical pattern.

n.a. = not available

Table 6

Ninth District Leading Indicators

<u>Leading Indicators</u>	<u>Series Characteristics</u>
Average Weekly Hours Worked in Manufacturing	Series does not lead economic expansions by a substantial period of time but has a significant lead before national economic contractions and is available promptly.
Initial Claims for Unemployment Insurance	Series does not lead economic expansions but has a significant lead before national economic contractions and is available quite promptly.
Help Wanted Advertising Index	Series does not lead economic expansions but has a significant lead before national economic contractions. Available before the comparable national series.
Total Construction Contracts Awarded	Series is erratic and leads expansions and contractions in economic activity. Available with a four-week time lag.
Total Residential Construction Contracts Awarded	Series is erratic, leads expansions and contractions in economic activity, and is available with a four- to five-week time lag.
Total Nonresidential Construction Contracts Awarded	Series is erratic, leads expansions and contractions in economic activity, and is available with a four- to five-week time lag.
Number of Housing Units Authorized by Building Permits	Series is erratic, leads both expansions and contractions in economic activity, and is available quite promptly.
Total Deposits, All Member Banks	Series is smooth, leads both business expansions and contractions, and is available promptly.
Commercial and Industrial Loans at Weekly Reporting Banks	Series is smooth, leads both business expansions and contractions, and is available promptly. The district series has recently exhibited a cyclical pattern not displayed by the national series.
Changes in Savings Capital at S&Ls	Although there is a four- to five-week time lag in receiving data, this erratic series leads both expansions and contractions in economic activity.

(Table 6 continued)

Leading Indicators

Loan Commitments
Held at S&Ls

Mortgage Loans Made
at S&Ls

Series Characteristics

Although there is a four- to five-week time lag in receiving data, series leads both expansions and contractions in economic activity.

Although there is a four- to five-week time lag in receiving the data, series leads both expansions and contractions in economic activity.

Chart 1
 MEASURES OF DISTRICT EMPLOYMENT AND UNEMPLOYMENT
 Seasonally Adjusted

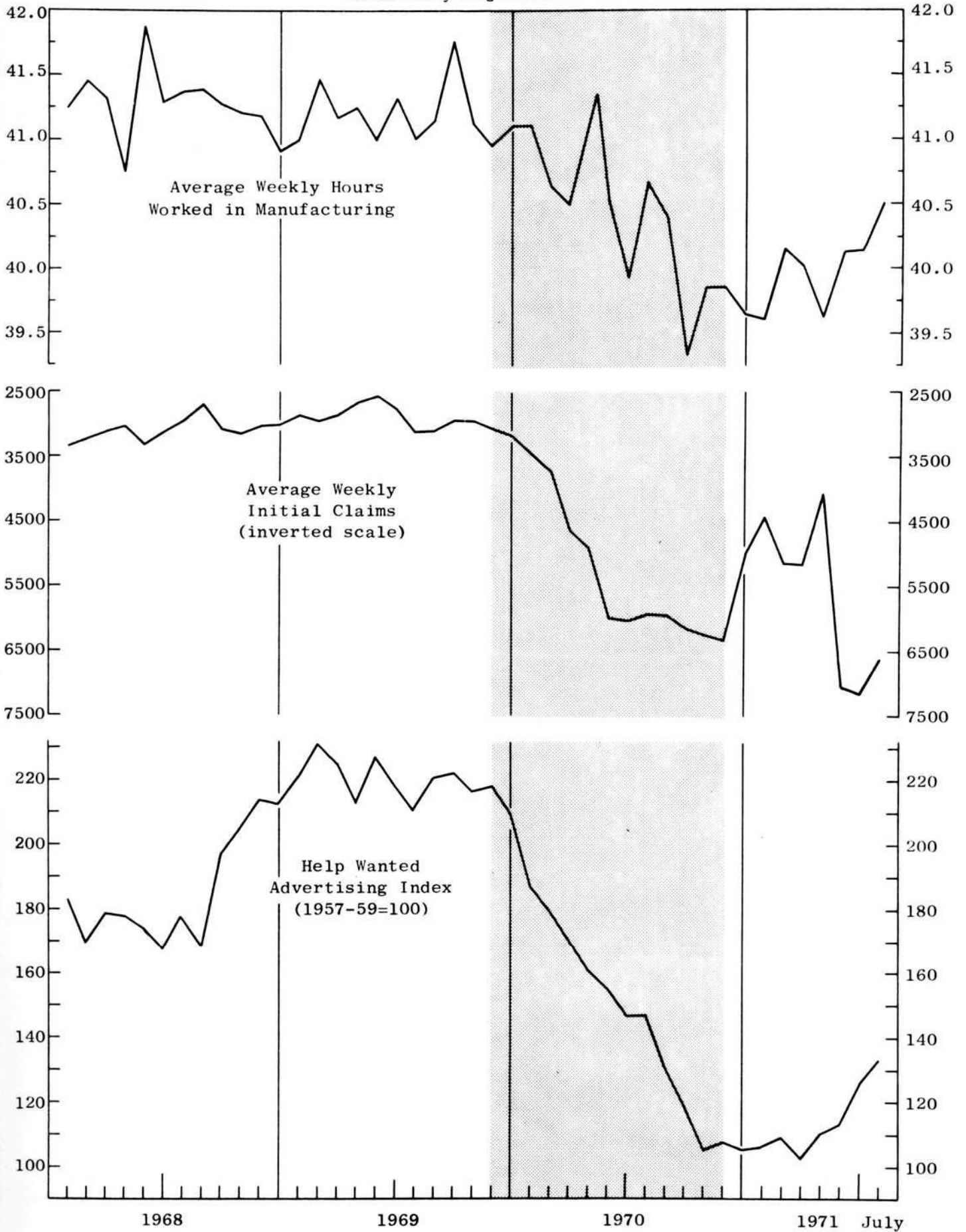


Chart 2. MEASURES OF DISTRICT CONSTRUCTION ACTIVITY
Seasonally Adjusted

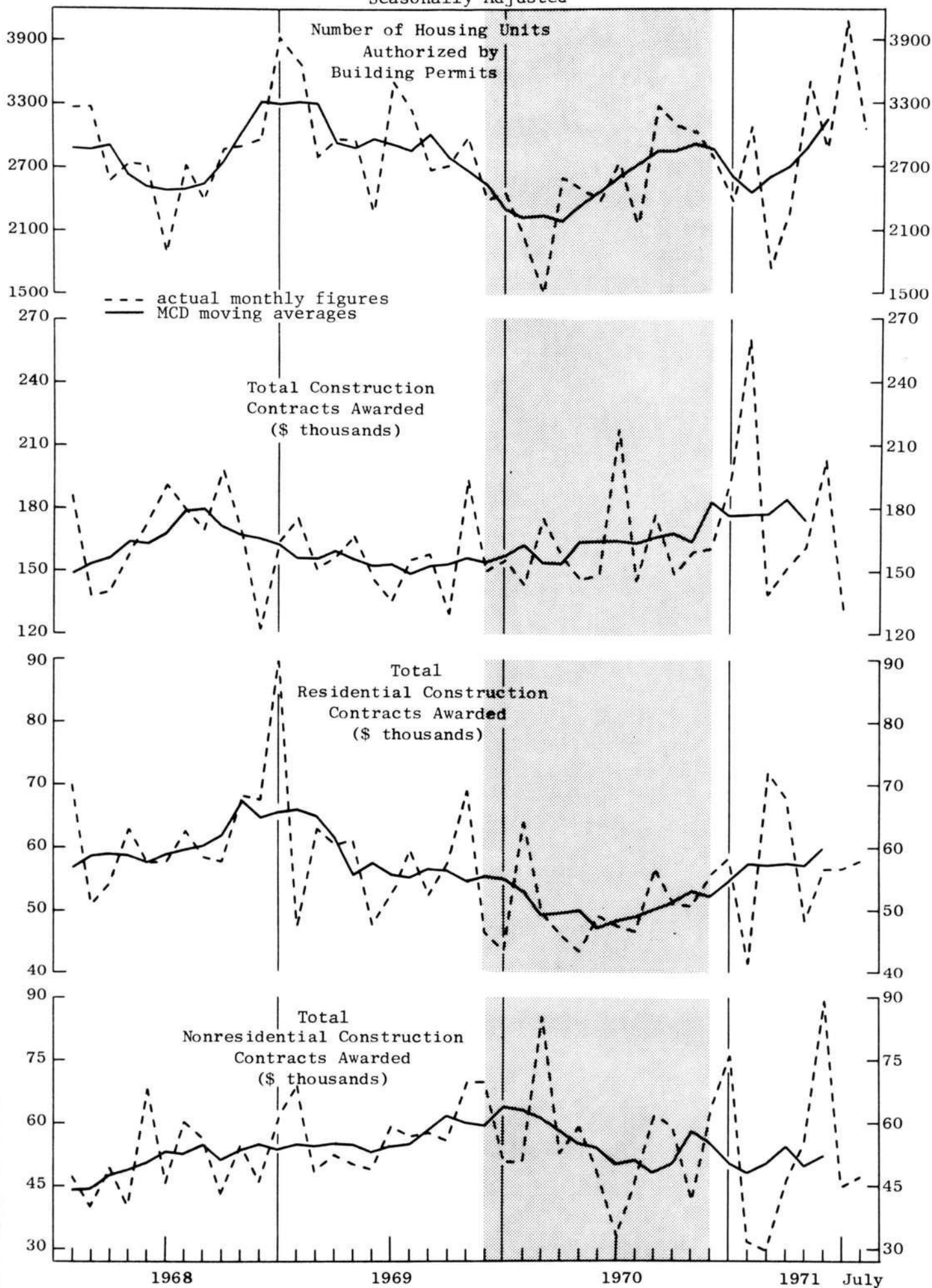


Chart 3. MEASURES OF DISTRICT FINANCIAL ACTIVITY
Seasonally Adjusted

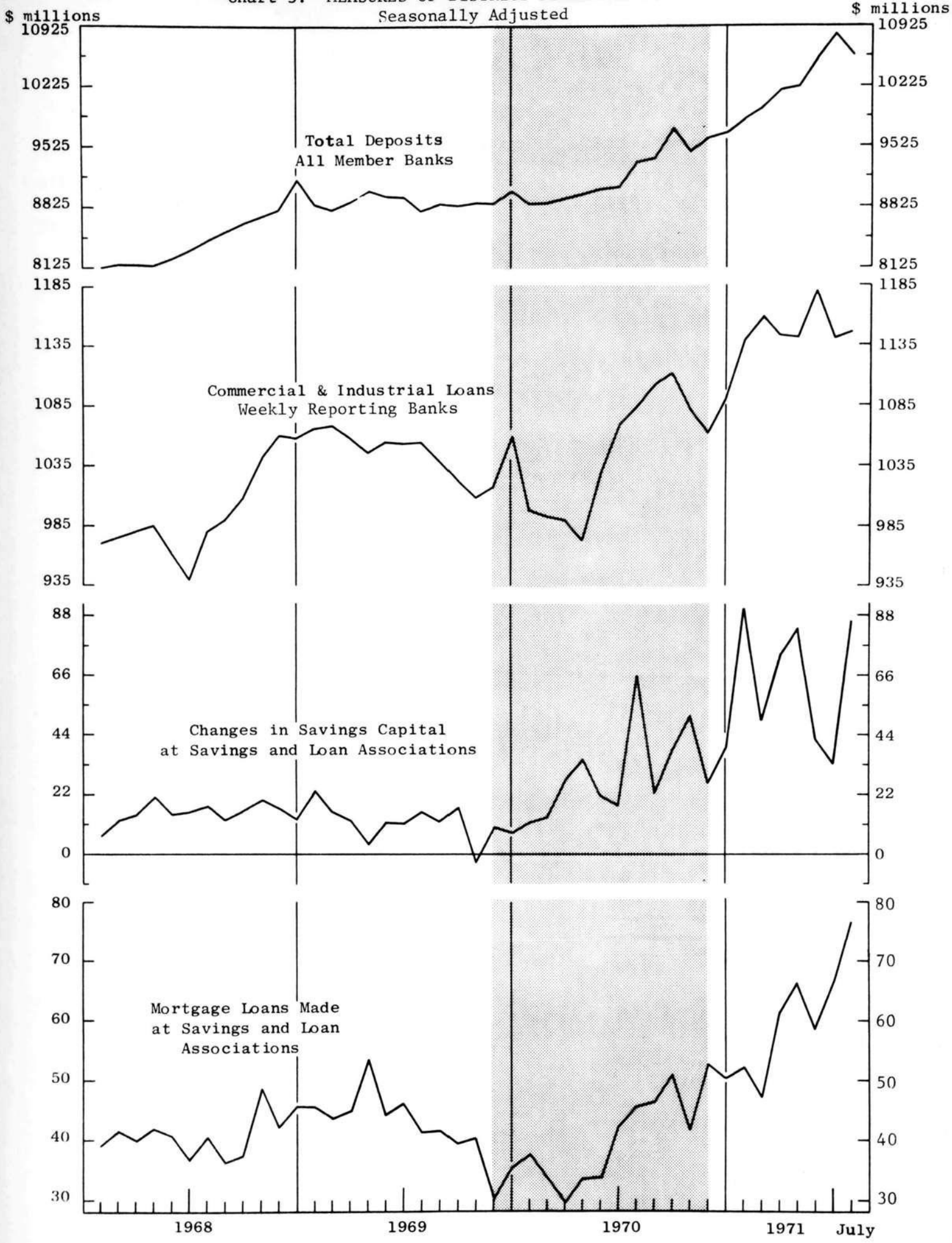


Chart 3. MEASURES OF DISTRICT FINANCIAL ACTIVITY (continued)
Seasonally Adjusted

