

MONTHLY



Review

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Rising Incomes and Credit Support Purchases of Durable Goods and Houses

THE SPEED with which the American economy has expanded since its latest recession has been noteworthy. Gross national product, the value of all goods and services produced in the nation, rose from a seasonally adjusted annual rate of \$427 billion in the first quarter of 1958 to \$467 billion in the first quarter of this year, more than \$20 billion above the pre-recession high reached in the third quarter of 1957. Although second-quarter data are not yet available, GNP in this year's April-June period was probably at an annual rate in excess of \$475 billion. Considering that prices have increased by less than 1 per cent over the past year, "real" GNP has shown an expansion which was only slightly below the rise in "money" GNP.

Industrial production, another important indicator of economic activity, has shown a pattern virtually identical to that of gross national product. The industrial production index, seasonally adjusted, which in April 1958 had reached a recession low of 126 per cent of the 1947-1949 average, rebounded sharply and regained its pre-recession level of 145 in February of this year. Since February, business activity has expanded at an even faster pace than during the previous ten months. In May the industrial production index stood at a seasonally adjusted rate of 152, and rose to an estimated 154 in June. This put the production increase during the March-June period at an annual rate of about 20 per cent.

An important element in the business picture has been the behavior of consumers who, supported by rising incomes and improved job opportunities, have sharply increased their expenditures. Growth in consumer spending, in turn, has favorably affected businessmen's expectations and decisions with regard to future sales. Business plans therefore may have been at least partly responsible for the increased rate of growth in economic activity during the second quarter of this year.

Rising Incomes Lead to Rising Expenditures.

Incomes received by consumers showed remarkable stability during the recession, in contrast to the declines in gross national product and industrial production. Disposable personal income, that is, total personal income minus personal taxes, dropped only slightly from a seasonally adjusted annual rate of \$308.7 billion in the third quarter of 1957 to a recession low of \$306.1 billion in the first quarter of 1958. Two factors which played an important part in preventing a considerably larger drop in this after-tax income were the increase in compensation payments to the unemployed and the decline in income taxes collected from individuals. Reflecting the stability in disposable income, expenditures by individuals and households were virtually unchanged during the recession, declining by less than 1 per cent from peak to trough.

Since the start of the recovery in the spring of last year, both consumer incomes and expenditures have risen sharply. Marked increases in employment, especially this year, longer work weeks, and higher hourly wages have contributed significantly to the rise in wages and salaries. While total personal income was 7.6 per cent higher in May of this year than in April 1958, wage and salary disbursements in May were 10 per cent higher.

Consumer expenditures since the upturn in economic activity have grown at almost the same rate as personal income, and at a slightly faster rate than disposable personal income. Dollar volume of spending by individuals and households was 5 per cent higher in the first quarter of this year than in the same quarter of 1958, a percentage increase virtually identical to that found in personal income. Disposable income grew at a slightly lower rate than consumer expenditures during the same period, an indication that consumers were not inclined to add to their savings at the same rate as the rise in their incomes.

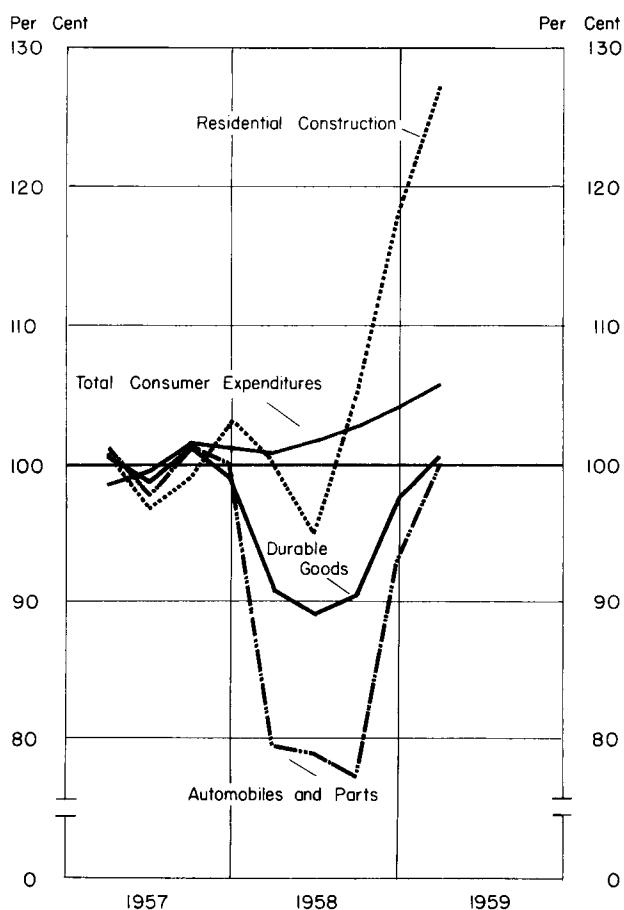
Consumers Show Preference for Durable Goods, Homes.

Although consumers have increased their spending on virtually all types of commodities since the resurgence in economic activity, they have shown strong preferences for homes and other durable consumer items (Chart 1). In retrospect, this is not very surprising; while total consumer expenditures decreased by less than 1 per cent from their pre-recession high to their recession low, spending on durable goods dropped about 12 per cent. Consequently, the sharp increase in demand for durable goods which followed the recession may be at least partly viewed as the natural reaction against the previously experienced decline. First-quarter expenditures on durable consumer items this year were at a seasonally adjusted annual rate of \$40.1 billion, almost identical to the pre-recession peak rate reached in the third quarter of 1957. Indications are that second-quarter data for this year,

although not yet available, have surpassed the pre-recession high by a considerable margin.

Among consumer durables, automobiles experienced the greatest rise in demand. During 1958, approximately 4.6 million passenger cars, including both domestically and foreign produced units, were sold. So far this year, however, sales have run at an annual rate of at least 6 million units, a substantial increase over last year's total, but still well below the record volume of almost 8 million units sold in 1955. One of the best indications of increased preference for automobiles can be discovered in the relationship between total personal consumption expenditures and consumer outlays for automobiles, parts, and accessories. In 1955 consumers spent 7.1 per cent of their total expenditures on cars and related items; in 1958 this figure had dropped to 4.8 per cent, and in the first quarter of this year had climbed back to 5.7 per cent, seasonally adjusted.

Chart 1
PRIVATE EXPENDITURES
Av. 1957 = 100



Note: Total consumer expenditures include outlays for durable consumer goods and one of its major components, expenditures for automobiles and parts, but do not include residential construction expenditures.
Latest data plotted: First quarter 1959

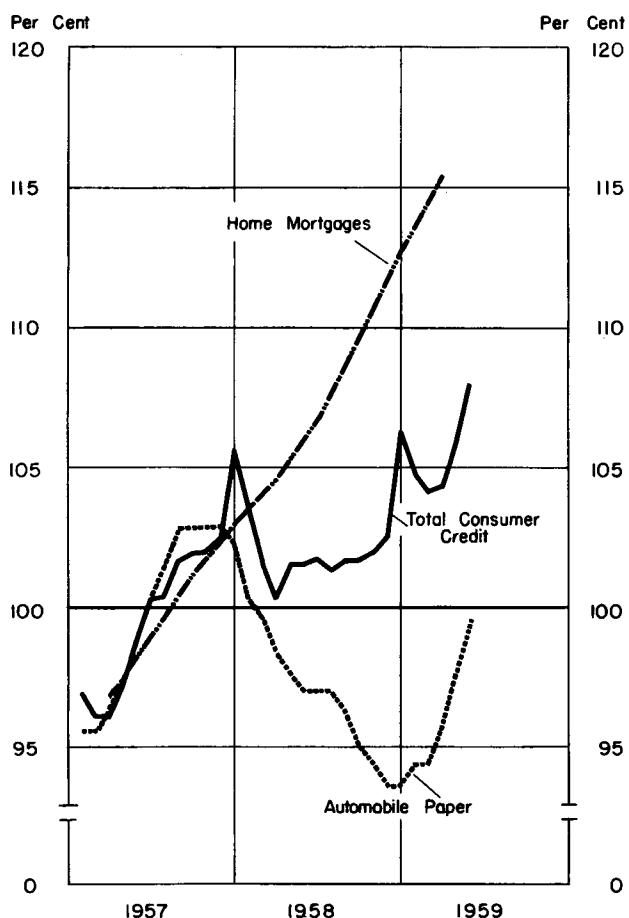
Source: *Survey of Current Business*

Besides showing considerable preference for these durable goods, consumers have increased their demand for homes markedly since last year's business upturn. Total expenditures for residential construction declined from a seasonally adjusted annual rate of \$17.3 billion in December 1957—the high for that year—to \$16.2 billion in April and May 1958. After having reached this recession low, spending on private home construction started to rise swiftly, and surpassed the December 1957 value of residential construction as early as August of last year. In February of this year residential construction expenditures were at a seasonally adjusted annual rate of \$21.8 billion. This sharp growth represented an increase of almost 43 per cent in the rate of spending for homes, surpassing by a considerable margin the rates at which sales of other consumer commodities, except automobiles, have risen since the trough of the recession. Although in recent months expenditures on residential construction have shown a modest downturn, 1959 may be a year of record outlays for private residential building.

Rise in Consumer Credit and Mortgage Debt Accompanies Increased Consumer Spending.

The marked rise in consumer spending on durable goods has, to an important extent, been financed by borrowed funds (Chart 2). Total consumer credit outstanding at the end of May of this year amounted to \$45.8 billion, almost 7 per cent above the total outstanding at the end of the same month a year ago. Consumer instalment credit outstanding at the end of May 1959 was about 9 per cent above the year-ago level.

Chart 2
CONSUMER CREDIT AND MORTGAGE DEBT
OUTSTANDING
Av. 1957 = 100



Note: Total consumer credit includes automobile paper, but does not include home mortgages. Home mortgages are limited to nonfarm 1- to 4-family houses.
Latest data plotted: First quarter 1959—home mortgages, and May 1959—others
Source: *Federal Reserve Bulletin*

Total instalment credit, and especially instalment loans made for automobile financing, has shown some interesting changes during and after the recession. Seasonally adjusted monthly extensions of total in-

stalment credit remained ahead of repayments until January 1958. After January, repayments outstripped extensions until August 1958 at an annual rate of approximately \$1.8 billion.

Between October 1958 and May of this year extensions have again been larger than repayments, the difference amounting to a seasonally adjusted annual rate of about \$3.5 billion. This discrepancy between extensions and repayments appears to have increased with the growing expansion of economic activity; during the January-May period of this year the annual rate amounted to \$4.6 billion, and during May itself to \$5.3 billion.

Repayments of automobile paper exceeded extensions at an annual rate of about \$1.7 billion between January 1958 and November of last year. Since that month, however, extensions have been larger than repayments, with the difference amounting to an annual rate of about \$1.9 billion. From January until June of this year the rate at which extensions exceeded repayments amounted to about \$2.1 billion annually. However, the rate at which automobile paper has expanded in recent months is still far short of the 1955 rate, when extensions exceeded repayments by almost \$3.7 billion.

The rate of increase in residential mortgage debt outstanding has shown very little change in recent years. This is not surprising; data are only compiled quarterly, and the short duration of the recession prevented any large-scale changes in the magnitude of the debt. During the second, third, and fourth quarters of 1958, however, absolute increases in debt outstanding grew continuously larger, reflecting increased expenditures on residential construction. The seasonal slowdown in construction activity during the winter months kept the increase in mortgage debt during the first quarter of this year slightly below the rise experienced in the previous two quarters. However, the expansion was almost 65 per cent larger than in the first quarter of last year.

Bank Credit Increases in Second Quarter

DEMANDS FOR CREDIT by consumers and real estate owners as well as others appeared to have strengthened in the second quarter of 1959. Bank credit and the money supply, adjusted for seasonal influences, continued to expand. Open market operations of the Federal Reserve System plus an increase in member bank borrowing at the central bank provided the reserves necessary for banks to increase their loans and investments.

The Federal Reserve System increased its average

holdings of Government securities by \$510 million from March to June of this year through net purchases in the open market. These transactions indirectly resulted in a credit for a like amount to member bank reserve balances held at the Reserve Banks. In addition, member banks increased their average borrowings from the Reserve Banks by \$290 million from March to June, thereby adding directly to their reserve accounts.

(Continued on page 83)

A New Measure of the Money Supply

IT HAS LONG BEEN RECOGNIZED that changes in the money supply may influence economic activity and prices and that even in a free economy "money will not manage itself." Therefore, in the public interest, it is important to measure as precisely and currently as possible how much money there is in the economy, the proportions of the various types of money within the total, and changes in the quantities from period to period.

Money, broadly speaking, includes whatever is typically accepted within an area in payment for goods and services and in settlement of debt and taxes. In the United States the money supply is most commonly defined as including banks' demand deposits and currency in circulation outside banks. Records of banks, the Federal Reserve System, and the United States Treasury provide convenient sources of data for this measure of the money supply. As is often the case when accounts kept for one purpose are used for another, difficult decisions must be made regarding the selection of items to be used and the ways in which they are to be combined. This article discusses some of the problems of compiling measures of the money supply and presents a measure developed in a somewhat different manner than the one generally employed.

The most widely used measure of the money supply is the one prepared by the Federal Reserve System and published in the *Federal Reserve Bulletin*. It consists of seasonally corrected estimates for the last Wednesday of each month of banks' demand deposits adjusted and currency outside banks.

The basic feature of the alternative series, presented here, is that the member bank demand deposit portion, which makes up about two-thirds of the total money supply, consists of daily averages of deposits for semi-monthly periods instead of the one-day-a-month measures of deposits contained in the previously available series. The daily average member bank deposits are drawn from reports of deposits subject to reserve requirements made by the member banks in connection with determination of their required reserves. Daily average member bank demand deposits adjusted for semi-monthly periods from January 1947 through May 1959 are presented in columns 1 and 3 of Table I.

Estimates of currency and nonmember bank deposits from the earlier series have been combined with the seasonally adjusted daily average member bank deposits to provide a new semi-monthly money supply series parallel in concept with the one-day-a-month series. The semi-monthly series is presented in column 6 of this table.

Over long periods of time the average rates of change of the two series are approximately the same. The major nonseasonal movements of the money supply seem to be depicted in similar fashion by the two series. But Chart I shows certain differences in measurement over relatively short periods which might well be significant insofar as the current rate and direction of change in the money supply are factors in formulating monetary policy. Money supply developments over the first half of 1957 and in July of that year would seem to be subject to different readings depending on which series is used. Comparison of annual rates of change for quarterly periods since 1953, given in Table II, also illustrates the differences in short-run changes shown by the two series. It suggests that the larger erratic variations reported in the series based upon data for only one day a month may reflect, among other things, the limitations of this approach to measurement.

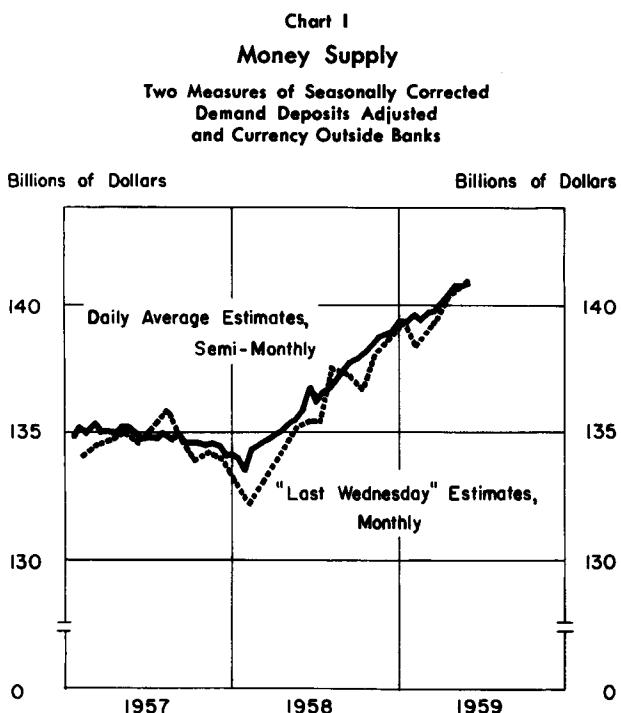


TABLE I

Demand Deposits

MONEY SUPPLY

Adjusted
All Member Banks
(Daily Average Basis)

Daily Average Basis
Private Active Sector
Semi-monthly, 1947-1959
(Millions of Dollars)

Seasonally Adjusted Series

Semi-monthly period	Without seasonal correction (Millions of dollars)	Seasonal adjustment factors (Percent)	Demand deposits adjusted member banks	Demand deposits adjusted nonmember banks	Currency in circulation outside banks	TOTAL Demand deposits adjusted and currency outside banks
1947						
Jan. I	68,221	103.2	66,106	12,201	26,546	104,853
II	67,893	102.8	66,044	12,197	26,547	104,788
Feb. I	66,300	100.3	66,102	12,207	26,551	104,860
II	65,265	98.6	66,192	12,221	26,557	104,970
Mar. I	64,861	98.5	65,849	12,155	26,565	104,569
II	65,274	98.0	66,606	12,289	26,566	105,461
Apr. I	64,980	96.9	67,059	12,365	26,555	105,979
II	66,087	97.7	67,643	12,467	26,529	106,639
May I	66,622	98.2	67,843	12,482	26,489	106,814
II	66,892	98.1	68,188	12,533	26,460	107,181
June I	68,799	99.4	69,214	12,714	26,442	108,370
II	69,181	99.2	69,739	12,802	26,407	108,948
July I	69,720	99.2	70,282	12,896	26,357	109,535
II	70,320	99.7	70,532	12,935	26,302	109,769
Aug. I	70,150	99.6	70,432	12,906	26,244	109,582
II	70,240	99.8	70,381	12,888	26,265	109,534
Sept. I	71,000	100.7	70,506	12,907	26,365	109,778
II	71,200	100.8	70,635	12,934	26,383	109,952
Oct. I	71,000	100.1	70,929	12,999	26,319	110,247
II	71,800	100.9	71,160	13,049	26,271	110,480
Nov. I	71,900	100.9	71,259	13,075	26,237	110,571
II	72,350	101.8	71,071	13,047	26,214	110,332
Dec. I	73,200	102.5	71,415	13,115	26,204	110,734
II	73,750	103.1	71,532	13,148	26,178	110,858
1948						
Jan. I	73,650	103.0	71,505	13,162	26,136	110,803
II	73,450	102.6	71,589	13,186	26,099	110,874
Feb. I	72,200	100.7	71,698	13,205	26,069	110,972
II	71,250	99.5	71,608	13,185	26,024	110,817
Mar. I	71,050	99.2	71,623	13,185	25,996	110,804
II	70,000	98.1	71,356	13,130	25,905	110,391
Apr. I	69,200	96.9	71,414	13,133	25,839	110,386
II	69,600	97.7	71,238	13,094	25,799	110,131
May I	69,900	98.2	71,181	13,061	25,784	110,026
II	70,000	98.4	71,138	13,040	25,777	109,955
June I	70,450	99.4	70,875	12,984	25,776	109,635
II	70,350	98.9	71,132	13,023	25,769	109,924
July I	70,100	99.0	70,808	12,958	25,757	109,523
II	70,400	99.4	70,825	12,954	25,746	109,525
Aug. I	70,650	99.6	70,934	12,963	25,738	109,635
II	70,900	99.8	71,042	12,975	25,733	109,750
Sept. I	71,300	100.4	71,016	12,965	25,733	109,714
II	71,150	100.4	70,867	12,926	25,716	109,509
Oct. I	71,000	100.1	70,929	12,918	25,684	109,531
II	71,500	100.9	70,862	12,891	25,668	109,421
Nov. I	71,500	100.8	70,933	12,894	25,666	109,493
II	71,900	101.4	70,907	12,880	25,631	109,418
Dec. I	72,500	102.5	70,732	12,841	25,563	109,136
II	72,750	103.1	70,563	12,800	25,509	108,872
1949						
Jan. I	72,300	102.5	70,537	12,782	25,467	108,786
II	72,100	102.4	70,410	12,751	25,424	108,585
Feb. I	70,900	100.8	70,337	12,734	25,380	108,451
II	70,000	99.9	70,070	12,678	25,364	108,112
Mar. I	70,200	99.7	70,411	12,726	25,376	108,513
II	69,350	98.4	70,478	12,727	25,376	108,581
Apr. I	68,200	97.1	70,237	12,676	25,364	108,277
II	69,500	98.5	70,558	12,730	25,352	108,640
May I	69,450	98.4	70,579	12,732	25,342	108,653
II	69,550	98.6	70,538	12,726	25,313	108,577
June I	70,100	99.4	70,523	12,725	25,266	108,514
II	69,800	98.9	70,576	12,735	25,222	108,533
July I	69,600	98.5	70,660	12,750	25,182	108,592
II	70,100	99.3	70,594	12,736	25,151	108,481
Aug. I	70,200	99.4	70,624	12,738	25,127	108,489
II	70,300	99.6	70,582	12,728	25,084	108,394
Sept. I	70,800	100.2	70,659	12,740	25,020	108,419
II	70,700	100.1	70,629	12,736	24,975	108,340
Oct. I	70,700	100.1	70,629	12,738	24,948	108,315
II	71,250	100.7	70,755	12,760	24,920	108,435
Nov. I	71,300	100.7	70,804	12,765	24,892	108,461
II	71,800	101.2	70,949	12,788	24,860	108,597
Dec. I	72,850	102.5	71,073	12,809	24,826	108,708
II	73,200	103.1	70,999	12,792	24,809	108,600

Demand Deposits
(Continued)MONEY SUPPLY
(Continued)

Semi-monthly period	Without seasonal correction (Millions of dollars)	Seasonal adjustment factors (Percent)	Demand deposits adjusted member banks	Demand deposits adjusted nonmember banks	Currency in circulation outside banks	TOTAL Demand deposits adjusted and currency outside banks
1950						
Jan. I	73,200	102.6	71,345	12,851	24,808	109,004
II	73,400	102.4	71,680	12,907	24,807	109,394
Feb. I	72,300	100.8	71,726	12,911	24,807	109,444
Mar. I	71,750	99.8	71,828	12,930	24,825	109,583
II	71,250	98.8	72,115	12,984	24,888	109,987
Apr. I	70,800	97.5	72,615	13,068	24,909	110,592
May I	71,600	98.5	72,690	13,078	24,899	110,667
June I	71,800	98.4	72,967	13,127	24,857	110,951
July I	72,100	98.6	73,124	13,151	24,817	111,092
Aug. I	72,600	99.1	73,360	13,189	24,779	111,328
Sept. I	72,850	99.1	73,512	13,219	24,746	111,477
Oct. I	72,600	98.2	73,931	13,303	24,716	111,950
Nov. I	73,300	98.9	74,115	13,346	24,685	112,146
Dec. I	73,700	99.4	74,145	13,359	24,655	112,159
Jan. I	74,050	99.5	74,422	13,416	24,629	112,467
II	74,700	100.0	74,700	13,471	24,611	112,782
Sept. I	75,000	100.1	74,925	13,507	24,601	113,033
Oct. I	75,000	99.7	75,226	13,548	24,602	113,376
Nov. I	75,700	100.7	75,174	13,525	24,613	113,312
Dec. I	75,800	100.7	75,273	13,529	24,626	113,428
I	76,350	101.2	75,445	13,546	24,647	113,638
II	77,700	102.6	75,731	13,582	24,675	113,988
Jan. I	78,650	102.7	76,582	13,709	24,710	115,001
II	78,650	102.7	76,582	13,697	24,738	115,017
Feb. I	77,650	100.9	76,957	13,754	24,776	115,487
Mar. I	77,550	100.4	77,241	13,782	24,820	115,843
II	77,000	99.7	77,232	13,777	24,840	115,849
Apr. I	75,500	97.8	77,198	13,774	24,864	115,836
May I	76,400	98.1	77,880	13,898	24,904	116,682
June I	76,275	98.4	77,515	13,834	24,959	116,308
July I	76,200	98.4	77,439	13,821	25,018	116,278
Aug. I	76,150	99.1	76,842	13,716	25,080	115,638
Sept. I	77,300	99.2	77,923	13,902	25,150	116,975
Oct. I	76,500	98.0	78,061	13,911	25,230	117,202
Nov. I	77,250	98.9	78,109	13,904	25,302	117,315
Dec. I	77,500	98.9	78,362	13,933	25,364	117,659
I	77,300	98.7	78,318	13,910	25,423	117,651
II	78,750	99.8	78,908	13,997	25,475	118,380
Sept. I	79,050	99.8	79,208	14,048	25,524	118,780
Oct. I	78,950	99.3	79,507	14,113	25,570	119,190
Nov. I	80,300	100.6	79,821	14,184	25,613	119,618
Dec. I	80,900	100.9	80,178	14,266	25,655	120,099
I	81,440	101.3	80,395	14,318	25,704	120,417
II	82,700	102.7	80,526	14,352	25,762	120,640
Jan. I	83,950	103.6	81,033	14,457	25,812	121,302
1952						
Jan. I	83,400	103.0	80,971	14,464	25,854	121,289
II	83,700	103.2	81,105	14,507	25,885	121,497
Feb. I	82,500	101.5	81,281	14,557	25,907	121,745
Mar. I	81,700	100.4	81,319	14,583	25,939	121,841
II	81,300	99.7	81,545	14,663	26,015	122,223
Apr. I	79,900	97.8	81,697	14,707	26,041	122,445
May I	79,800	98.1	81,346	14,658	26,075	122,079
June I	80,500	98.4	81,809	14,752	26,117	122,678
July I	80,700	98.4	82,012	14,798	26,184	122,994
Aug. I	81,600	99.3	82,175	14,838	26,278	123,291
Sept. I	82,000	99.3	82,578	14,928	26,338	123,844
Oct. I	80,600	97.9	82,329	14,905	26,366	123,600
Nov. I	81,500	98.9	82,406	14,940	26,407	123,753
Dec. I	82,250	98.6	82,404	14,959	26,463	123,826
I	81,250	98.4	82,571	15,		

Demand Deposits
 (Continued)

MONEY SUPPLY
 (Continued)

Semi-monthly period	Demand Deposits		MONEY SUPPLY				TOTAL Demand deposits adjusted and currency outside banks
	Without seasonal correction (Millions of dollars)	Seasonal adjustment factors (Percent)	Demand deposits adjusted member banks	Demand deposits adjusted nonmember banks	Currency in circulation outside banks		
Apr. I	81,750	97.9	83,504	15,368	27,316	126,188	
II	82,850	99.0	83,687	15,418	27,352	126,457	
May I	82,450	98.7	83,536	15,404	27,394	126,334	
II	82,300	98.4	83,638	15,439	27,419	126,496	
June I	83,350	99.6	83,685	15,469	27,427	126,581	
II	83,050	99.3	83,635	15,474	27,430	126,539	
July I	81,800	97.9	83,555	15,468	27,425	126,448	
II	82,750	98.9	83,670	15,500	27,427	126,597	
Aug. I	82,850	98.6	84,026	15,579	27,438	127,043	
II	82,500	98.3	83,927	15,572	27,452	126,951	
Sept. I	83,150	99.2	83,821	15,561	27,468	126,850	
II	83,150	99.1	83,905	15,590	27,470	126,965	
Oct. I	83,050	98.9	83,974	15,620	27,455	127,049	
II	84,250	100.6	83,748	15,589	27,440	126,777	
Nov. I	84,200	100.6	83,698	15,583	27,424	126,705	
II	84,600	101.1	83,680	15,583	27,406	126,669	
Dec. I	85,950	102.4	83,936	15,633	27,384	126,953	
II	86,650	103.5	83,720	15,601	27,373	126,694	
1954							
Jan. I	86,700	103.2	84,012	15,671	27,375	127,058	
II	86,700	103.1	84,093	15,690	27,364	127,147	
Feb. I	85,250	101.5	83,990	15,666	27,335	126,991	
II	84,150	100.1	84,066	15,674	27,307	127,047	
Mar. I	84,400	100.4	84,064	15,668	27,281	127,013	
II	83,850	99.6	84,187	15,683	27,252	127,122	
Apr. I	82,050	98.1	83,639	15,571	27,217	126,427	
II	83,200	99.0	84,040	15,641	27,201	126,882	
May I	83,900	99.2	84,577	15,740	27,203	127,520	
II	83,350	98.4	84,705	15,759	27,192	127,656	
June I	84,600	99.6	84,940	15,793	27,167	127,900	
II	84,450	99.4	84,960	15,791	27,142	127,893	
July I	83,500	97.9	85,291	15,849	27,117	128,257	
II	84,550	98.9	85,490	15,882	27,093	128,465	
Aug. I	84,350	98.6	85,548	15,888	27,070	128,506	
II	84,300	98.2	85,845	15,938	27,051	128,834	
Sept. I	85,900	99.2	86,593	16,073	27,036	129,702	
II	85,500	99.1	86,276	16,005	27,030	129,311	
Oct. I	85,250	98.9	86,198	15,973	27,035	129,206	
II	86,850	100.2	86,677	16,054	27,036	129,767	
Nov. I	87,350	100.6	86,829	16,082	27,031	129,942	
II	88,200	101.1	87,240	16,160	27,030	130,430	
Dec. I	89,000	102.2	87,084	16,134	27,032	130,250	
II	90,450	103.5	87,391	16,186	27,041	130,618	
1955							
Jan. I	90,250	103.2	87,452	16,185	27,057	130,694	
II	90,350	103.0	87,718	16,231	27,074	131,023	
Feb. I	89,350	101.5	88,030	16,292	27,090	131,412	
II	88,150	100.1	88,062	16,299	27,104	131,465	
Mar. I	88,250	100.1	88,162	16,318	27,119	131,599	
II	87,650	99.5	88,090	16,306	27,136	131,532	
Apr. I	86,750	98.5	88,071	16,303	27,154	131,528	
II	88,300	99.7	88,566	16,395	27,169	132,130	
May I	87,900	99.2	88,609	16,402	27,179	132,190	
II	87,650	98.3	89,166	16,506	27,190	132,862	
June I	87,950	99.1	88,749	16,434	27,201	132,384	
II	88,450	99.5	88,894	16,462	27,222	132,578	
July I	87,400	98.3	88,911	16,463	27,252	132,626	
II	87,850	98.9	88,827	16,446	27,281	132,554	
Aug. I	87,750	98.6	88,996	16,477	27,309	132,782	
II	87,450	98.2	89,053	16,489	27,325	132,867	
Sept. I	88,150	99.2	88,861	16,454	27,331	132,646	
II	88,750	99.5	89,196	16,522	27,345	133,063	
Oct. I	88,450	98.9	89,434	16,572	27,367	133,373	
II	89,300	100.2	89,122	16,522	27,390	133,034	
Nov. I	89,250	100.3	88,983	16,505	27,412	132,900	
II	89,750	100.7	89,126	16,544	27,417	133,087	
Dec. I	91,000	102.0	89,216	16,575	27,407	133,198	
II	92,450	103.5	89,324	16,609	27,423	133,356	
1956							
Jan. I	92,450	103.5	89,324	16,621	27,464	133,409	
II	91,900	102.9	89,310	16,631	27,490	133,431	
Feb. I	90,200	101.2	89,130	16,612	27,500	133,242	
II	89,250	100.0	89,250	16,650	27,514	133,414	
Mar. I	89,400	100.0	89,400	16,694	27,530	133,624	
II	89,080	99.3	89,708	16,767	27,541	134,016	
Apr. I	88,570	98.7	89,737	16,785	27,549	134,071	
II	89,470	99.9	89,560	16,767	27,557	133,884	
May I	88,630	99.0	89,525	16,778	27,564	133,867	
II	87,900	98.0	89,694	16,823	27,578	134,095	
June I	88,920	99.1	89,728	16,841	27,599	134,168	
II	89,610	99.8	89,790	16,863	27,607	134,260	

Demand Deposits
 (Continued)

MONEY SUPPLY
 (Continued)

Semi-monthly period	Without seasonal correction (Millions of dollars)	Seasonal adjustment factors (Percent)	Demand deposits adjusted member banks	Demand deposits adjusted nonmember banks	Currency in circulation outside banks	TOTAL Demand deposits adjusted and currency outside banks
July I	88,260	98.4	89,695	16,855	27,601	134,151
II	88,710	98.9	89,697	16,861	27,592	134,150
Aug. I	88,320	98.6	89,574	16,836	27,582	133,992
II	88,070	98.3	89,593	16,836	27,588	134,017
Sept. I	89,000	99.2	89,718	16,853	27,610	134,181
II	89,395	99.5	89,844	16,869	27,626	134,339
Oct. I	88,900	99.1	89,707	16,833	27,638	134,178
II	90,010	100.2	89,830	16,849	27,664	134,343
Nov. I	90,145	100.3	89,875	16,852	27,705	134,432
II	90,445	100.6	89,906	16,881	27,741	134,528
Dec. I	92,010	102.0	90,206	16,944	27,771	134,921
II	93,255	103.5	90,101	16,929	27,796	134,826
1957						
Jan. I	93,175	103.5	90,024	16,920	27,814	134,758
II	92,835	102.7	90,394	16,995	27,825	135,214
Feb. I	91,185	101.0	90,282	16,982	27,831	135,095
II	90,140	99.6	90,502	17,029	27,827	135,358
Mar. I	90,015	99.8	90,195	16,972	27,811	134,978
II	89,315	99.0	90,217	16,979	27,814	135,010
Apr. I	88,965	98.7	90,137	16,969	27,836	134,942
II	90,400	100.1	90,310	17,004	27,837	135,151
May I	89,260	98.8	90,344	17,009	27,817	135,170
II	88,315	98.0	90,117	16,966	27,830	134,913
June I	89,350	99.3	89,980	16,943	27,874	134,797
II	89,670	99.7	89,940	16,946	27,902	134,788
July I	88,410	98.4	89,848	16,946	27,914	134,708
II	89,280	99.2	90,000	16,995	27,923	134,918
Aug. I	89,130	99.2	89,849	16,989	27,929	134,767
II	88,450	98.4	89,888	17,016	27,943	134,847
Sept. I	89,290	99.6	89,649	16,987	27,966	134,602
II	89,040	99.4	89,577	16,994	27,964	134,535
Oct. I	88,770	99.1	89,576	17,018	27,936	134,530
II	89,790	100.3	89,521	17,030	27,917	134,468
Nov. I	89,900	100.4	89,542	17,053	27,910	134,505
II	90,015	100.6	89,478	17,055	27,910	134,443
Dec. I	90,970	102.0	89,186	17,007	27,918	134,111
II	92,060	103.2	89,205	17,019	27,911	134,135
1958						
Jan. I	91,890	103.2	90,041	16,999	27,890	133,930
II	90,985	102.5	88,766	16,951	27,880	133,597
Feb. I	90,315	101.0	89,421	17,074	27,882	134,377
II	89,130	99.5	89,578	17,107	27,869	134,554
Mar. I	89,320	99.6	89,679	17,136	27,842	134,657
II	88,840	98.9	89,828	17,174	27,843	134,845
Apr. I	88,820	98.8	89,899	17,195	27,873	134,967
II	90,295	100.2	90,115	17,247	27,907	135,269
May I	89,185	98.8	90,268	17,287	27,945	135,500
II	88,780	98.0	90,592	17,367	27,967	135,926
June I	90,835	99.4	91,383	17,542	27,975	136,900
II	90,240	99.5	90,693	17,434	27,986	136,113
July I	89,565	98.4	91,021	17,522	27,999	136,542
II	90,570	99.4	91,117	17,567</		

Steps in measuring the money supply.

The demand deposits used in both the traditional series and in the series presented here are "demand deposits adjusted" of all banks in the United States. Demand deposits adjusted are gross demand deposits

¹ "Gross demand deposits" and "cash items in process of collection" are defined in Federal Reserve regulations as follows:

The term "gross demand deposits" means the sum of all demand deposits, including demand deposits made by other banks, the United States, States, counties, school districts and other governmental subdivisions and municipalities, and all outstanding certified and officers' checks (including checks issued by the banks in payment of dividends), letters of credit and travelers' checks sold for cash, and drafts drawn upon or other authorizations to charge the member bank's reserve account at the Federal Reserve Bank.

The term "cash items in process of collection" means—

(1) Checks in process of collection, drawn on a bank, private bank, or any other banking institution, which are payable immediately upon

less those due to other banks and the U. S. Government and less cash items in the process of collection.¹ Although some questions have been raised concerning whether this is the proper refinement for measuring demand deposits which are money, it was felt that

presentation in the United States, including checks with a Federal Reserve Bank in process of collection and checks on hand which will be presented for payment or forwarded for collection on the following business day;

(2) Government checks and warrants drawn on the Treasurer of the United States which are in process of collection;

(3) Such other items in process of collection, payable immediately upon presentation in the United States, as are customarily cleared or collected by banks as cash items.

Items handled as non-cash collections may not be treated as "cash items in process of collection" within the meaning of this regulation.

Source: Board of Governors of the Federal Reserve System, Regulation D, as amended, effective September 16, 1948, p. 6.

Definitions, Sources, and Methods

Demand deposits adjusted are gross (total) demand deposits other than those due to banks and the United States Government, less cash items in process of collection. Semi-monthly averages of daily figures for all member banks' demand deposits adjusted are reported in a footnote to the Board of Governors' release, "Deposits, Reserves, and Borrowings of Member Banks (J.1)." For the semi-monthly periods from first-half January 1947 through first-half November 1958, the volume of United States Government deposits at member banks was estimated; since then it has been reported by the member banks.

Seasonal adjustment factors for all member bank demand deposits adjusted were prepared by adapting the Barton monthly seasonal adjustment method (*cf.*, *Federal Reserve Bulletin*, June 1941) to twenty-four periods per year, except that a 31-item weighted moving average (using Spencer weights adapted to twenty-four period data) through preliminary seasonally adjusted data was substituted for the free-hand adjustment of the 24-item moving average. The seasonal factors, developed as free-hand curves through ratios of the original data to the weighted moving average, were revised until mathematical tests showed virtually no repetitive movements in the adjusted series. The 1959 seasonal factors are preliminary estimates and subject to revision.

Nonmember demand deposits adjusted are not available on a daily average basis. However, estimates of nonmember demand deposits adjusted for last-Wednesday-in-the-month dates from mid-1947 to date may be calculated from the Board's monthly release, "Assets and Liabilities of All Banks in the United States (G. 7)." Using the once-a-month measures of demand deposits adjusted, ratios were developed of nonmember to all bank deposits. These ratios were then smoothed with a 12-month moving average to suppress whatever seasonal shift of deposits might have taken place between the member and the nonmember sectors. Each of these monthly moving averages, based on twelve last-Wednesday figures, is therefore centered at approximately the middle of the seventh month. A ratio for each semi-monthly period was then obtained by interpolating between the moving average values. Each semi-monthly estimate of nonmember demand deposits adjusted was then determined by applying the interpolated ratio to the corresponding seasonally corrected member bank deposit level.

Currency in circulation outside banks is not available on a daily average basis. However, currency in circulation outside the Treasury and Federal Reserve Banks is available as a reported figure daily. The unadjusted monthly average of daily figures is published in the *Federal Reserve Bulletin*. The Board of Governors has available a seasonally adjusted series based on recently recalculated seasonal adjustment factors for this monthly data. From the seasonally adjusted data, all-bank vault cash (also roughly seasonally adjusted) was subtracted to provide monthly currency outside bank estimates. The approximations of all-bank vault cash were derived from 12-month moving averages through the last-Wednesday-of-the-month data available in the Board's monthly release, "Assets and Liabilities of All Banks in the United States (G. 7)." These monthly seasonally adjusted values for currency in circulation outside the Treasury, Federal Reserve, and banks were then apportioned to their respective semi-monthly periods.

The methods used in deriving estimates of semi-monthly averages of daily figures for currency and nonmember deposits thus necessitate some extrapolation of the moving average values for five months at the end and six months at the beginning of the time series. (The missing opening six monthly values were estimated in various ways from related data.) As a preliminary estimate of the moving average values for the five months at the current end of the series, the last known moving average value is used—i.e., the last known value is extrapolated forward through the remaining five months of data. As a result, the semi-monthly periods affected by the extrapolated moving average values (usually 13 semi-monthly periods) are subject to revision when the actual moving average value becomes known.

the daily average series described here should be consistent with presently accepted definitions.

The deduction of U. S. Treasury balances and interbank accounts is made in order to obtain the volume of privately held deposits. Deposits of state and local governments, however, are not deducted because they are not distinguished from private accounts in the bank reports from which deposit estimates are drawn. Until November 1958, it was necessary to estimate the volume of U. S. Treasury balances from Treasury and other records, but the member banks now make a direct report of the Treasury deposits they hold.

Cash items in process of collection are deducted in order to eliminate a source of double counting in the deposit total reported by the banks. When banks give depositors immediate credit for checks deposited by them, deposits at the bank receiving the checks are increased before the balances in the bank against which the checks were drawn are reduced. Thus, the amount of the checks will be included in the reported deposits of both banks during the time the checks are going through the collection process, causing total deposits for all banks to be overstated unless the value of the checks in process of collection is deducted.

One reason for estimating deposits for a single day of each month has been the availability of data, not only for deposits but also for related bank asset and liability items and Treasury data. The most complete banking figures have been provided by reports of condition supplied by banks to supervisory authorities a few times each year. This source has been supplemented by weekly reports of condition made by the large banks of the country and monthly reports of selected asset items from the non-weekly reporting member banks. In addition, each member bank must make a report on deposits subject to reserve requirements. From these various sources it has been possible to construct for the last Wednesday of each month the "Consolidated Condition Statement for Banks and the Monetary System" which appears in the financial and business statistics section of the *Federal Reserve Bulletin*. The money supply estimates in the traditional series are part of the detail of the balance sheet of the banking and monetary system as a whole, and, according to accounting convention, as balance sheet items necessarily relate to the close of particular days.

The daily average estimates of member bank demand deposits.

The estimates of deposits for one day a month have the advantage of being linked with the other items

in the consolidated statement of condition, but they have certain disadvantages as a time series. Figures for any one day of a month may not be representative of the month as a whole in a series in which day-to-day fluctuations are large.

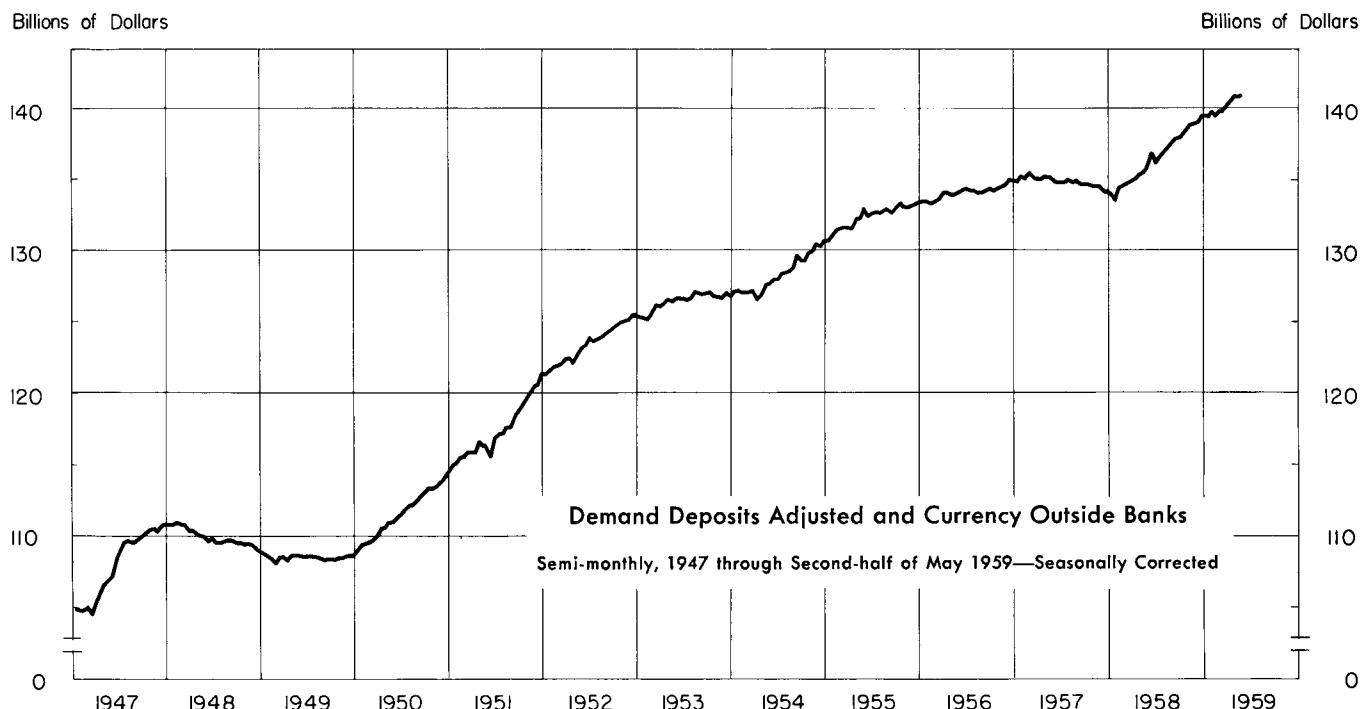
Figures on member bank deposits and related items on a daily average basis for semi-monthly periods can be obtained from member bank reports on their deposits which are required for determining reserve requirements. Central reserve city and reserve city member banks report their daily figures at the end of each week, and the country banks report their daily figures at the end of each semi-monthly period. These reports are combined to provide daily averages of deposits and related items for all member banks for each semi-monthly period. The totals are published in a mimeographed release of the Board of Governors, entitled, "Deposits, Reserves, and Borrowings of Member Banks," with the identification number "J.1." It is from this report that the daily average data on member bank deposits for the semi-monthly money supply series have been drawn. Daily average balances due to banks, cash items in process of collection, and estimates of Treasury balances have been deducted in order to produce a daily average estimate of demand deposits adjusted for semi-monthly periods.

Member bank demand deposits form the bulk of the money supply. To these deposits are added estimates of corresponding data for nonmember banks and estimates of the volume of currency and coin outside the banking system. Because nonmember banks generally report deposits only a few times each year, it is necessary to make estimates for the dates between their report dates. Therefore, the degree of precision in measuring nonmember bank deposits is considerably less than that of member bank deposits.

Since the daily average figures on member bank deposits are available semi-monthly, the estimates used for nonmember bank deposits and currency in the one-day-a-month series were adapted to the semi-monthly reporting period by rough interpolation and added to the daily average member bank deposits. The resulting series, called "Total Demand Deposits Adjusted and Currency Outside Banks" appears in column 6 of Table I.²

² A detailed description of the procedures followed in developing the semi-monthly money supply estimates will be available shortly and will be supplied on request to the Research Department, Federal Reserve Bank of St. Louis.

Chart II
Money Supply
Daily Average Basis



The advantage of a daily average money supply series.

The principal advantage of the daily average measures provided with this article is that they reduce the danger that reported data may be unrepresentative because of the daily variation in deposits. The aggregate level of demand deposits in the United States economy is subject to a considerable amount of daily variation. The importance of this variation may be illustrated by listing some of its sources. The aggregate level of demand deposits adjusted may fluctuate from day to day because of changes in Federal Reserve float, variations in System holdings of United States Government securities, net movements in Treasury balances at Federal Reserve Banks, changes in foreign and certain other deposits with Federal Reserve Banks, and gold flows. Deposits may also rise or fall from day to day as the result of changes in outstanding bank credit, i.e., loans and investments, and yet other factors. Not all these influences on daily changes in the volume of demand deposits adjusted can be detailed here, but certain of them might be noted. For example, demand deposits adjusted fluctuate from day to day because of changes in Federal Reserve float. This is Federal Reserve credit arising from the fact that cash items collected for member banks by the Federal Reserve Banks are credited to

the depositing bank according to a schedule, and actual collection is sometimes not made until after the items have been credited.

A nonseasonal change in float of \$200 million in one day is not unusual; sometimes float rises or falls two or three times this much in a day. By comparison, the average monthly change in the cycle and growth components of the money supply in recent years has been less than \$200 million a month. Thus, the amplitude and timing of changes in float, which are in large part erratic and for which satisfactory seasonal adjustment cannot be made, may substantially influence estimates of the rate of change of the money supply based on one observation per month.

As another example of the influence of certain factors, demand deposits adjusted determined on a one-day-a-month basis may not be representative because of the timing of public subscription to new U. S. Government security issues. If payment date comes one day or a few days before the last Wednesday in the month, private demand deposits are reduced and Treasury balances, either in commercial banks or in the Reserve Banks, are increased. The same shifting from private to U. S. Government demand deposits takes place with Federal tax payments, but these payments generally follow a pattern and can be allowed

for to a considerable extent by a seasonal adjustment. Unevenness of Treasury spending may also sharply influence demand deposits adjusted from day to day.

The accompanying chart shows the money supply as measured by semi-monthly averages of daily amounts from 1947 to the present. In the following table, referred to earlier, annual rates of change in the money supply are given for quarterly periods since 1953.

In recent years there has been an increase in the attention given to changes in the money supply. The daily average figures presented here are believed to have advantages in measuring changes in the money supply over the series that has been in common use. The development of the daily average series is, however, only a provisional step in the continuing search for a still better measure of this important economic variable.

TABLE II
Annual Rates of Change in the Money Supply
Seasonally Adjusted

Quarter	Daily Average Series ¹	Last-Wednesday-of-Month Series ²	Quarter	Daily Average Series ¹	Last-Wednesday-of-Month Series ²
1953			1956		
1st	+2.1%	+2.9%	1st	+2.0	+1.5
2nd	+1.7	+1.3	2nd	+0.7	+1.8
3rd	+1.3	+1.0	3rd	+0.2	-2.4
4th	-0.9	+1.6	4th	+1.5	+2.7
1954			1957		
1st	+1.4	-0.9	1st	+0.5	+0.9
2nd	+2.4	+0.6	2nd	-0.7	+1.5
3rd	+4.4	+6.3	3rd	-0.8	-3.8
4th	+4.0	+3.1	4th	-1.1	-2.1
1955			1958		
1st	+2.8	+5.9	1st	+2.1	+2.4
2nd	+3.2	+1.2	2nd	+3.8	+4.2
3rd	+1.5	+2.4	3rd	+5.3	+3.8
4th	+0.9	+1.2	4th	+4.4	+7.9
			1959		
			1st	+2.0	+2.6

¹ Annual rate of change from semi-monthly period just preceding quarter to last period in quarter.

² Annual rate of change from the last Wednesday of the month preceding to the last Wednesday of the quarter indicated.

Bank Credit Increases in Second Quarter (Continued from page 76)

The member banks, however, were not able to use for support of a credit expansion the entire \$800 million reserves provided by the central bank. A gold outflow, a build-up of foreign balances at the Reserve Banks, and a seasonal drain due to other money market factors absorbed \$430 million of bank reserves. Thus, in the second quarter of this year member banks gained about \$370 million of "basic" reserves (i.e., reserves provided by the central bank adjusted for gold movements and seasonal forces). In the corresponding quarters of 1954-58, member banks gained an average of about \$170 million basic reserves.

Member banks used only a small part of the \$370 million of added basic reserves to support a more than seasonal credit expansion. The bulk of the new reserves was absorbed by nonseasonal movements in float, Treasury operations, currency, and miscellaneous factors. Excess reserves changed only slightly on balance.

Reflecting both a strong demand for funds and an increase in reserve balances, commercial bank credit rose at a relatively sharp rate during the second quarter of 1959. Total loans and investments of weekly reporting banks increased about \$900 million. (1.0 per cent) from the end of March to the end of June. Total loans and investment of these banks on the average showed only a modest increase (0.3 per cent) in the second quarter of 1953, 1955, 1956, and 1957. During

the midst of the 1954 and 1958 recessions bank credit rose more sharply. Strength during the past quarter centered in loans, which rose \$2.9 billion (or over 5 per cent) in the three months, as businesses, real estate owners, and consumers were all heavy net borrowers. Bank holdings of investments declined about \$2.0 billion, offsetting a large portion of the loan increase.

Largely as a result of the expansion in bank credit, the money supply of the nation on a daily average basis rose at the annual rate of 1.4 per cent from the first half of March to the first half of June (latest data available). In the similar periods of 1955, 1956, and 1957—when business activity was also at a high level—the average rate of increase in the money supply was 1.2 per cent per year.

Not only has the money supply increased, but so has its use. Transactions velocity (number of times an average dollar is spent) of demand deposits, except interbank and U. S. Government balances, in reporting banks outside the big financial centers was at the rate of 24.7 times per year in the second quarter of 1959, according to preliminary figures. In contrast, money turned over at the annual rate of 23.8 times in the first quarter of the year, and an average of 21.7 times in the second quarters of 1955, 1956, and 1957. The income velocity (gross national product divided by money supply) of money was approximately 3.40

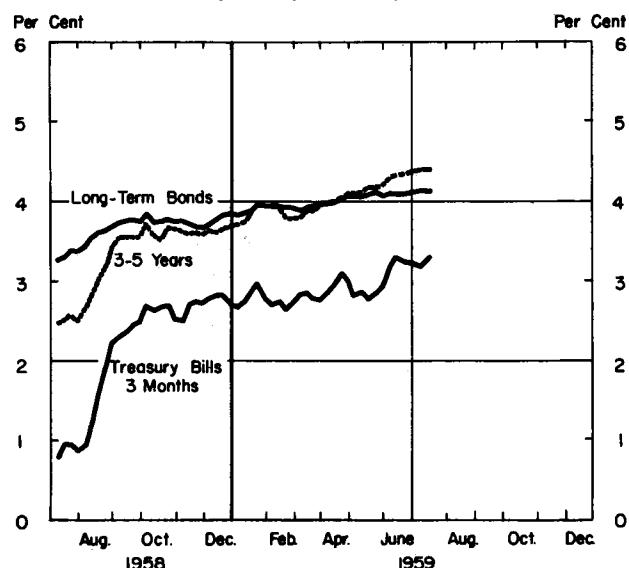
in the second quarter of 1959, as compared to 3.34 times in the previous three months.

Interest Rates.

Despite the rise in the money supply and its rate of use, interest rates continued to climb during the second quarter of 1959. Yields on three-month Treasury bills increased from an average of 2.80 per cent in March to an average of 3.21 per cent in June. Similarly, interest rates on long-term Government bonds advanced from 3.92 per cent in March to 4.09 per cent in June. Rates on highest grade corporates rose from 4.13 per cent to 4.46 per cent over the same period, while those on medium-grade corporates went from 4.85 per cent to 5.04 per cent.

Yields on U. S. Government Securities

Weekly Averages of Daily Figures



Latest data plotted: Week ending July 10th

The rise in interest rates in spite of the expansion in the supply of money and an apparently high rate of saving reflects in large measure a continuing increase in the demand for credit. Mortgage credit outstanding rose about \$5 billion in the second quarter of 1959, compared with \$3½ billion in the corresponding quarter last year. The U. S. Treasury, which was a heavy borrower of funds over the past year, announced an additional cash offering of \$5 billion of Treasury bills on June 25; \$3 billion (dated July 8 and maturing March 22, 1960) were auctioned on July 1; and \$2 billion (dated July 15 and maturing July 15, 1960) were auctioned on July 8. Indications are, however, that Treasury borrowing over the next year should be confined primarily to refundings and providing for seasonal needs, a portion of which al-

ready have been met by this recent offering. On the other hand, business and consumer demands for credit may increase if higher levels of economic activity are attained. For a fuller discussion see "Demand for Credit Strengthens" in the March issue of this Review.

The sharp increase in the demand for funds has caused a situation which some people have referred to as "tight money"; that is, higher interest rates and more unsatisfied seekers of funds. At the same time, more credit is being extended, with the money supply rising and being used more intensively and with saving somewhat higher. Typically, such "tightness" occurs during an improvement in business activity and is characteristic not only of credit but of many other goods and services as well. The housing market is "tighter" than a year ago, with prices firming somewhat and with potential buyers having more difficulty finding desirable homes. Yet, many more houses are being built and sold today than a year ago. Likewise, it seems that there is a "tighter" situation in autos, hides, steel, lumber, and other commodities. Also, it might be said that employment is "tighter", with average weekly earnings of workers in manufacturing 10 per cent above year-ago levels and with employers finding it more difficult to locate qualified workers, especially those with the desired skills, even though there are 2 million more people employed today than there were a year ago.

Reflecting the recent rise in interest rates, yields on money market instruments in early July were above their usual relationship to the discount rate (see table).

Selected Money Market Rates Daily Averages

	1951 thru 1958	May 29, 1959	July 1-10, 1959
Prime rate on Commercial Loans.....	3.34%	4.50%	4.50%
Prime 4-to-6 month Commercial Paper....	2.54	3.63	3.95
Bankers' Acceptances.....	2.05	3.25	3.38
Government securities:			
Treasury bills (3 month).....	1.93	3.08	3.26
9-to-12 month issues.....	2.11	3.93	4.24
3-to-5 year issues.....	2.57	4.20	4.41
Average of above yields.....	2.42	3.77	3.96
Discount Rate (N.Y.).....	2.13	3.50	3.50
Spread between average rate and discount rate.....	.29	.27	.46

As recently as May 29 (the effective date of the most recent increase in the discount rate), an average of money market rates was .27 of 1 percentage point above the discount rate, about the same as the 1951 through 1958 daily average of .29 of 1 percentage point. By July 1-10 the average spread had risen to .46 of 1 percentage point.