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DEPOSITS AT COMMERCIAL BANKS: MONTHLY ESTIMATES

OUR MONTHLY DEPOSIT SERIES, in seasonally adjusted form only, are sums of estimates for various classes of banks for which monthly interpolators were available.

Total deposits adjusted, 1907–1914, and demand deposits adjusted and time deposits adjusted, 1914–1919, are sums of monthly estimates for: (a) New York State national banks; (b) New York State non-national banks plus all commercial banks in the nine other urbanized states and the District of Columbia; and (c) all commercial banks in the thirty-eight rural states. The estimates for (a) and (b) were interpolated between call dates by Method R₂, using as the related series monthly series derived from weekly reports of various clearinghouse banks, seasonally adjusted. The estimates for (c) were interpolated between call dates by Method L.

Demand deposits adjusted and time deposits adjusted, 1919–1945, are each sums of figures for member and nonmember banks. We processed the basic monthly member bank series that the Federal Reserve System published for various monthly dates, beginning April 1923, to conform to Wednesday dates closest to the end of the month and to our definitions of demand and time deposits adjusted. From June 1919 through March 1923, published monthly data are available only for weekly reporting member banks. We constructed estimates for non-weekly reporting member banks from regressions for 1923–28 between deposits at nonweekly reporting banks and deposits at weekly reporting member banks (for demand deposits, weekly reporting member banks outside New York City).

The monthly nonmember bank figures, 1919-45, are interpolations between the call date figures presented in Table 33, by Method L from 1919 to April 1923 and by Method R₂ from then on, using monthly changes in deposits at member banks in so-called smaller places as the related series.

From January 1946, seasonally corrected Federal Reserve monthly data for demand and time deposits adjusted carry forward our monthly series for member and nonmember banks combined.

1. Deposit Estimates, Monthly, 1907-19

To interpolate the call date figures by months, 1907-19, the classes of banks shown in Table 32 were revised by combining New York State nonnational banks with the commercial banks of the nine other urbanized states and the District of Columbia. The following data were then tested for use as interpolators of these figures and of New York national bank figures:

a. Net deposits. Net deposits are deposit liabilities subject to reserve requirements. The legal definition on the basis of which national banks computed their reserve requirements varied from time to time, but in general net deposits were defined as the excess of amounts due to banks over amounts due from banks and float, plus gross deposits including U.S. government deposits¹ but excluding amounts due to banks. We have information on net deposits of New York City banks that used the clearinghouse (some of which were and some of which were not members of the clearinghouse) and an approximation to net deposits of New York City banks that did not use the clearinghouse.²

¹ The Secretary of the Treasury abolished reserves against government deposits on Sept. 29, 1902. This exemption was extended and given formal status by the Act of May 30, 1908. The New York Clearing House Association, however, continued to include government deposits with total deposits in calculating the percentage of reserves held by its member banks. Cf. A. P. Andrew, "The Treasury and the Banks under Secretary Shaw," *Quarterly Journal of Economics*, Aug. 1907, pp. 536-539. With the creation of the Federal Reserve System, reserve requirements against U.S. government deposits were restored until Apr. 24, 1917.

² *Commercial and Financial Chronicle*, May 1907-Oct. 1914, presents net deposit data for banks using the New York City clearinghouse (both members and nonmembers) except for Oct. 1907-Jan. 1908 when no data are reported for nonmembers. (For the distinction between nonmembers using the clearinghouse and banks not in the clearing-

b. Net demand and net time deposits. Net demand and time deposits are those deposit liabilities subject to reserve requirements. These data are available for banks using the New York City clearinghouse.³ Net demand deposits through April 23, 1917, were defined as the excess of demand amounts due to banks over demand amounts due from banks and cash items in process of collection, plus gross demand deposits including U.S. government deposits but excluding amounts due to banks. Beginning April 24, 1917, U.S. government deposits were exempted from reserve requirements. Net time deposits included time deposits of individuals, partnerships, corporations, states and municipalities, and postal savings redeposited in national banks.

c. Gross deposits. This category comprises all deposit liabilities of commercial banks, whether due to other banks, the U.S. government, or the public. We have information on gross deposits at clearinghouse banks (mostly national) in six cities (reserve city centers in the national banking system), and at New York City state banks and trust companies (nonnational banks) not in the clearinghouse. (The latter are the same banks for which an approximation to net deposits is available, described under item *a* above.) In addition, gross deposit data are known for New York state banks and New York trust companies and for each group for Greater New York City and for outside Greater New York City as well as for New York State as a whole.⁴

house, see J. G. Cannon, *Clearing Houses*, pp. 150-156.) Through June 1911, U.S. government deposits are separately shown though included in the net deposit figures. Net deposits of trust company members are first shown beginning July 1911; net deposits of other commercial bank members are shown separately.

This source, as well as New York State Superintendent of Banks, *Annual Report on Banks of Deposit and Discount*, 1908-1917, presents the data beginning Feb. 1908 for New York City state banks and trust companies not in the clearinghouse. Since these banks did not compute reserve requirements in the manner of national banks, net deposits could only be approximated. The approximation is presented as total deposits minus amounts due from New York City banks and trust companies (through June 1914) and amounts due from reserve city depositories (beginning July 1914) and also less clearinghouse exchanges (beginning Oct. 1914) and U.S. government deposits (beginning July 18, 1917).

³ *Commercial and Financial Chronicle*, beginning Dec. 1914. We copied the data through 1923 only, although they are available beyond this year. The data are given separately for members and nonmembers of the clearinghouse and also within each of these classes for members and nonmembers of the Federal Reserve System. Beginning with the end of May 1917, U.S. government deposits are shown separately from other deposits but for members and nonmembers of the clearinghouse combined.

⁴ The sources and coverage of the data (after 1907) are as follows: (a) A. P. Andrew, *Statistics for the United States, 1867-1909*, pp. 149-50 [Chicago, May 1907-Dec. 1908]. (b) E. W. Kemmerer, *Seasonal Variations in the Relative Demand for Money and Capi-*

d. Other deposit series. For Boston and Philadelphia various other deposit series are available when gross deposits are no longer reported for their clearinghouse banks:⁵

<i>Series</i>	<i>Clearinghouse Banks</i>	
	<i>Boston</i>	<i>Philadelphia</i>
	<i>Data Available Beginning</i>	
Demand deposits less duplications	December 1914	August 1917
Demand deposits adjusted	September 1919	August 1917
Time deposits	December 1914	August 1917
Due to banks	December 1914	August 1917
U.S. government deposits	September 1919	August 1917

e. Net demand deposits and net time deposits of weekly reporting member banks. These data⁶ begin in December 1917.

All these data come in the form of weekly averages, except that beginning February 1908, the net deposit figures for New York City clearinghouse member banks are also available as actual figures, dated Saturday of each week, and the weekly reporting member bank series is on a Friday basis through April 1921.

We used the averages, dating them as of Wednesday, the midpoint of the week, and constructed series in call date form, taking the figure for the weekly Wednesday date closest to a call date as the call date figure. If the underlying data changed in composition during the period for which a series was developed, discontinuities between consecutive call dates were avoided. These call date series were then seasonally corrected and tested as potential interpolators of the data in Table 32.

tal in the United States, pp. 269, 274, 275 [St. Louis, New Orleans, and San Francisco, May 1907–Dec. 1908]. (c) Boston Clearing House Association, *Statement of the Associated Banks of Boston, as returned to the Clearing House, 1907–14* [Boston, May 1907–July 1914]. (Deposits adjusted also available.) (d) *The American Banker*, 1907–17 [Philadelphia, May 1907–June 1917]. (Due to banks also available. Beginning May 1912, exchanges for the clearinghouse are included in the figures for gross deposits but are also separately shown. Beginning August 1916, clearinghouse members are classified as national banks or trust companies.) (e) New York State Superintendent of Banks, *Annual Report on Banks of Deposit and Discount, 1908–17* [New York, Dec. 1908–Dec. 1917]. (The data are continued in *Commercial and Financial Chronicle*, 1918–20. The series for outside Greater New York is discontinued after March 1918; the series for in Greater New York is discontinued after July 1920. The latter source, 1907–17, also presents the gross deposit data for Philadelphia and Boston and U.S. government deposits at clearinghouse banks of the latter city.)

⁵ The source is the *Commercial and Financial Chronicle*. For Philadelphia clearinghouse banks a breakdown is given of national bank and trust company data.

⁶ From *Federal Reserve Bulletin*.

Beginning December 1917, time deposit data for weekly reporting member banks were also tested.

To test these interpolators we computed values of u and v for the middle dates in successive overlapping triplets of call dates, and computed correlation coefficients and regression coefficients from these values. The interpolators that we selected on the basis of these tests, the test coefficients of correlation, and the regression coefficients that we used for interpolation were as follows:

<i>Interpolator</i>	<i>Series to be Interpolated</i>	<i>Period Tested and Interpolated</i>	<i>r</i>	<i>b</i>
1. New York City clearinghouse member banks, net deposits.	New York State national banks, total deposits adjusted.	May 1907– June 1914	+ .666	.435
2. New York City banks using the clearinghouse, net demand deposits.	As above, demand deposits adjusted.	Dec. 1914– June 1923	+ .630	1.242
3. As above, net time deposits.	As above, time deposits adjusted.	Dec. 1914– June 1923	+ .530	.325
4. New York City nonnational (state) banks plus clearinghouse banks of a selected group of cities, gross deposits.	New York State nonnational banks plus all commercial banks in the nine urbanized states and the District of Columbia, total deposits adjusted.	May 1907– June 1914	+ .562	.350
5. Boston and Philadelphia clearinghouse banks, demand deposits less duplications.	As above, demand deposits adjusted, 1914–1917; demand deposits less duplications, 1917–1923.	Dec. 1914– June 1923	+ .689	.195
6. Weekly reporting member banks, time deposits.	As above, time deposits adjusted.	Dec. 1917– June 1923	+ .640	.312

TABLE 35

Deposits Adjusted at All Commercial Banks, May 1907 - June 1919
(seasonally adjusted, in millions of dollars)

Part I. Total Deposits Adjusted, May 1907 - May 1914

Wednesday Nearest End of Month	National Banks of New York State (1)	Nonnational Banks of N. Y. State, and All Commercial Banks of 9 Urbanized States and D. C. (2)	All Commercial Banks	
			38 Rural States (3)	United States (4)
1907				
May	656	5,666	3,621	9,942
June	654	5,638	3,626	9,918
July	668	5,643	3,630	9,941
Aug.	668	5,610	3,625	9,898
Sept.	662	5,500	3,581	9,743
Oct.	662	5,333	3,545	9,540
Nov.	673	5,190	3,510	9,373
Dec.	674	5,034	3,475	9,183
1908				
Jan.	690	4,880	3,448	9,018
Feb.	708	4,850	3,432	8,990
Mar.	731	4,972	3,430	9,133
Apr.	749	5,050	3,428	9,227
May	757	5,199	3,428	9,384
June	756	5,317	3,430	9,503

July	769	5,419	3,449	9,637
Aug.	796	5,510	3,493	9,799
Sept.	815	5,564	3,530	9,908
Oct.	837	5,634	3,571	10,042
Nov.	861	5,740	3,621	10,221
Dec.	833	5,775	3,662	10,271
1909				
Jan.	821	5,872	3,712	10,405
Feb.	813	5,908	3,738	10,459
Mar.	814	5,971	3,764	10,549
Apr.	829	6,036	3,789	10,654
May	829	6,133	3,811	10,773
June	834	6,222	3,832	10,889
July	843	6,263	3,864	10,970
Aug.	836	6,308	3,904	11,049
Sept.	840	6,317	3,963	11,120
Oct.	825	6,318	4,036	11,179
Nov.	814	6,318	4,072	11,204
Dec.	820	6,384	4,088	11,292
1910				
Jan.	815	6,348	4,109	11,272
Feb.	828	6,391	4,136	11,355
Mar.	841	6,454	4,163	11,458
Apr.	812	6,432	4,175	11,419
May	793	6,403	4,189	11,385
June	785	6,418	4,201	11,404
July	805	6,385	4,193	11,383
Aug.	833	6,397	4,187	11,417

(continued)

TABLE 35 (continued)

Wednesday Nearest End of Month	National Banks of New York State (1)	Nonnational Banks of N. Y. State, and All Commercial Banks of 9 Urbanized States and D. C. (2)		All Commercial Banks	
				Rural States (3)	United States (4)
1910					
Sept.	840	6,455	4,234	11,530	
Oct.	820	6,528	4,294	11,642	
Nov.	826	6,573	4,307	11,706	
Dec.	825	6,626	4,306	11,756	
1911					
Jan.	840	6,659	4,317	11,816	
Feb.	858	6,691	4,330	11,879	
Mar.	873	6,717	4,341	11,931	
Apr.	890	6,831	4,354	12,074	
May	897	6,890	4,364	12,151	
June	918	6,922	4,379	12,219	
July	921	6,964	4,400	12,285	
Aug.	924	6,929	4,417	12,270	
Sept.	916	6,997	4,459	12,373	
Oct.	901	7,113	4,513	12,527	
Nov.	885	7,216	4,557	12,659	
Dec.	917	7,255	4,588	12,760	
1912					
Jan.	940	7,312	4,610	12,862	
Feb.	957	7,323	4,633	12,913	

Mar.	957	7,373	4,667	12,997
Apr.	955	7,378	4,692	13,025
May	968	7,388	4,712	13,068
June	985	7,442	4,744	13,170
July	974	7,463	4,774	13,212
Aug.	977	7,487	4,804	13,268
Sept.	961	7,479	4,865	13,305
Oct.	960	7,517	4,920	13,397
Nov.	959	7,564	4,973	13,496
Dec.	969	7,551	4,993	13,513
1913				
Jan.	971	7,574	5,009	13,553
Feb.	965	7,617	5,038	13,621
Mar.	950	7,561	5,077	13,588
Apr.	945	7,586	5,080	13,611
May	928	7,546	5,082	13,555
June	946	7,500	5,072	13,519
July	958	7,493	5,062	13,513
Aug.	977	7,566	5,098	13,641
Sept.	986	7,661	5,141	13,787
Oct.	985	7,706	5,175	13,866
Nov.	974	7,740	5,187	13,901
Dec.	979	7,773	5,197	13,949
1914				
Jan.	989	7,815	5,205	14,009
Feb.	997	7,824	5,213	14,034
Mar.	1,021	7,887	5,232	14,140
Apr.	1,041	7,938	5,249	14,228
May	1,056	8,019	5,271	14,347

(continued)

TABLE 35 (continued)
Part II. Adjusted Demand and Time Deposits, June 1914 — May 1917

Wednesday Nearest End of Month	Adjusted Demand Deposits			Adjusted Time Deposits		
	National Banks of New York State (1)	Nonnational Banks of N. Y. State, and All Commercial Banks of 9 Urbanized States and D.C. (2)	All Commercial Banks 38 Rural United States (3)	National Banks of New York State (5)	Nonnational Banks of N. Y. State, and All Commercial Banks of 9 Urbanized States and D.C. (6)	All Commercial Banks 38 Rural United States (7)
1914						
June	998	5,308	3,367	62	2,661	1,919
July	1,015	5,314	3,341	65	2,648	1,933
Aug.	1,058	5,292	3,307	70	2,618	1,949
Sept.	1,088	5,358	3,274	73	2,702	1,954
Oct.	1,069	5,338	3,237	70	2,784	1,953
Nov.	1,059	5,417	3,223	69	2,747	1,957
Dec.	1,033	5,469	3,214	67	2,700	1,961
1915						
Jan.	1,050	5,482	3,252	73	2,730	1,975
Feb.	1,061	5,603	3,283	81	2,739	1,987
Mar.	1,072	5,627	3,276	86	2,771	2,005
Apr.	1,074	5,670	3,267	92	2,776	2,024
May	1,073	5,742	3,282	99	2,857	2,041
June	1,098	5,826	3,300	103	2,866	2,057
July	1,108	5,883	3,327	104	2,851	2,083

Aug.	1,109	5,947	3,360	10,416	107	2,845	2,114	5,066
Sept.	1,195	6,084	3,408	10,688	104	2,947	2,136	5,187
Oct.	1,381	6,318	3,469	11,168	112	3,067	2,164	5,343
Nov.	1,401	6,378	3,530	11,309	115	3,121	2,190	5,427
Dec.	1,349	6,478	3,595	11,422	127	3,240	2,217	5,584
1916								
Jan.	1,399	6,589	3,660	11,648	124	3,231	2,262	5,617
Feb.	1,468	6,696	3,711	11,875	124	3,279	2,299	5,702
Mar.	1,397	6,734	3,790	11,921	131	3,269	2,334	5,735
Apr.	1,353	6,770	3,896	12,019	141	3,347	2,378	5,866
May	1,399	6,779	3,939	12,117	149	3,447	2,413	6,009
June	1,387	6,801	3,982	12,170	159	3,395	2,449	6,003
July	1,355	6,870	4,082	12,307	179	3,466	2,495	6,138
Aug.	1,429	6,975	4,164	12,569	163	3,445	2,529	6,137
Sept.	1,453	7,101	4,233	12,786	164	3,562	2,565	6,291
Oct.	1,474	7,220	4,306	13,001	166	3,651	2,610	6,427
Nov.	1,472	7,346	4,378	13,196	171	3,780	2,648	6,599
Dec.	1,381	7,497	4,483	13,362	175	4,018	2,702	6,895
1917								
Jan.	1,502	7,591	4,540	13,633	178	4,040	2,752	6,970
Feb.	1,523	7,679	4,596	13,798	184	3,933	2,803	6,920
Mar.	1,516	7,759	4,641	13,917	191	3,967	2,847	7,005
Apr.	1,484	7,795	4,709	13,988	204	3,991	2,899	7,094
May	1,571	7,773	4,802	14,146	205	4,058	2,929	7,192

(continued)

Mar.	2,036	8,462	5,664	1,045	15,117	228	4,107	3,164	7,499
Apr.	2,128	8,502	5,729	1,218	15,141	226	4,127	3,175	7,527
May	2,104	8,612	5,734	1,951	14,499	220	4,082	3,189	7,491
June	2,055	8,561	5,710	1,562	14,764	218	4,127	3,207	7,552
July	2,133	8,500	5,723	1,506	14,850	222	4,178	3,227	7,628
Aug.	2,125	8,496	5,754	1,374	15,001	229	4,193	3,276	7,698
Sept.	2,137	8,708	5,935	990	15,790	230	4,208	3,305	7,743
Oct.	2,153	9,045	6,092	2,133	15,157	230	4,216	3,328	7,774
Nov.	2,083	8,871	6,124	1,462	15,615	238	4,291	3,372	7,901
Dec.	2,011	8,981	6,155	411	16,686	236	4,499	3,430	8,165
1919									
Jan.	2,015	9,105	6,261	991	16,390	246	4,592	3,500	8,338
Feb.	2,068	9,197	6,368	1,452	16,131	256	4,663	3,570	8,489
Mar.	2,040	9,286	6,505	989	16,843	264	4,697	3,635	8,596
Apr.	2,098	9,448	6,616	1,073	17,089	264	4,721	3,684	8,669
May	2,065	9,494	6,711	1,170	17,100	264	4,765	3,738	8,768
June	2,173	9,486	6,821	977	17,503	266	4,852	3,812	8,930

Notes to Table 35

Note: For sources of series used as interpolators, see Chap. 14, footnotes 2-6.

Source, by Column

Part I

1. These estimates were derived by interpolation by Method R_2 to Wednesday nearest end of month between the call date figures for total deposits adjusted of New York State national banks from Table 32, Part I, col. 1. Weekly average net deposits of member banks of the New York City clearinghouse served as the interpolator. This series is available in three differently constituted segments:

(a) May 20, 1907-June 7, 1911, nontrust companies exclusive of U.S. government deposits; (b) June 7, 1911-Sept. 1, 1911, nontrust companies inclusive of U.S. government deposits; (c) Sept. 1, 1911-June 30, 1914, trust companies plus other commercial banks inclusive of U.S. government deposits.

The weekly figures were attributed to Wednesday. Both a call date and a monthly series were constructed from the weekly figures, the Wednesday nearest the call date serving as the call date, the Wednesday nearest the end of month as the end of the month. Each series was separately corrected for seasonal variation. The value of b used was 0.435.

2. These estimates were derived by interpolating by Method R_2 to Wednesday nearest end of month between the sum of call date figures for New York State nonnational banks, from Table 32, Part I, col. 2, and for all commercial banks of nine urbanized states and D.C., from the same table, col. 6. Weekly average gross deposits of nonnational banks in New York City and of clearinghouse banks of a group of selected cities served as the interpolator. Totals of the cities reporting at each date were obtained, with two totals for dates when a change in composition or in number of cities occurred. The resulting discontinuous series of segments was linked together to make a hypothetical continuous series in both call date and monthly form, each corrected for seasonal variations. The value of b used was 0.350.

3. Interpolation by Method L between call date figures of Table 32, Part I, col. 9.

4. Sum of cols. 1, 2, and 3.

Part II

1. *June-Dec. 1914*: Total deposits adjusted of New York State national banks were estimated as for Part I, using segment c of the interpolator and the same value of b . Call date ratios of demand to

Notes to Table 35 (continued)

time deposits in these banks were computed from Table 32, Parts II and IV, col. 1, and interpolated by Method L to end of month. Time deposits equal deposits adjusted divided by the sum of the ratio and unity; demand deposits equal total deposits minus time deposits.

Jan. 1915–May 1917: These estimates were derived by interpolating by Method R₂ to end of month between call date figures for New York State national banks, from Table 32, Part II, col. 1. Weekly average net demand deposits of New York City banks using the clearinghouse, including government deposits which are not separately reported, served as the interpolator.

A call date series and a monthly series were constructed from these data (see note to Part I, col. 1), and used for the monthly interpolation. The value of *b* used was +1.242.

2. *June–Dec. 1914:* Total deposits adjusted of New York State nonnational and all commercial banks in nine urbanized states and D.C. were estimated using as the related series weekly average gross deposits at New York State nonnational banks and at clearinghouse banks in Philadelphia and Boston, 1914–17, and the same value of *b* as for Part I. Call date ratios of demand to time deposits at these banks were computed from Table 32, Parts II and IV, sum of cols. 2 and 6, and interpolated by Method L to end of month. Time deposits equal total deposits adjusted divided by the sum of the ratio and unity; demand deposits equal total deposits minus time deposits.

Jan. 1915–May 1917: These estimates were derived by interpolating by Method R₂ to end of month between call date figures for New York State nonnational banks and for all commercial banks in nine urbanized states and D.C., from Table 32, Part II, col. 2 plus col. 6. Weekly average demand deposits less duplications of Boston clearinghouse banks and, beginning Sept. 1917, of Philadelphia clearinghouse banks served as the interpolator. The value of *b* was +0.195.

3. Interpolation by Method L between call date figures of Table 32, Part II, col. 9.

4. Sum of cols. 1, 2, and 3.

5. *June–Dec. 1914:* Same as for Part II, col. 1. *Jan. 1915–May 1917:* These estimates were derived by interpolating by Method R₂ to end of month between call date figures for New York State national banks from Table 32, Part IV, col. 1. Weekly average net time deposits of New York City banks using the clearinghouse served as the interpolator. The value of *b* was +0.325.

6. *June–Dec. 1914:* Same as for Part II, col. 2. *Jan. 1915–May 1917:* Total deposits adjusted at these banks were estimated as for Part I, col. 2, using the same value of *b*. Demand deposits adjusted of these banks as estimated in Part II, col. 2, were subtracted. The residuals are time deposits adjusted.

7. Interpolation by Method L between call date figures of Table 32, Part IV, col. 9.

8. Sum of cols. 5, 6, and 7.

Notes to Table 35 (continued)

Part III

Beginning Jan. 1918, cols. 4 and 6 dates are for Friday nearest end of month; other columns are Wednesday throughout.

1. Same as for Jan. 1915–May 1917 in col. 1 of Part II of this table, except that national bank call date figures come from Table 32, Part III, col. 1. Government deposits, which are now shown separately, were added to net demand deposits of New York City banks using the clearinghouse, the interpolator series.

2. Same as for Jan. 1915–May 1917 in col. 2 of Part II of this table, except call date figures come from Table 32, Part III, col. 2 plus col. 6.

3. Interpolation by Method L between call date figures of Table 32, Part III, col. 9.

4. *June–Nov. 1917*: A sum of government deposits in certain clearinghouse banks and estimated amounts in nonclearinghouse banks. Government deposits in banks using the New York City clearinghouse and beginning Sept. 11, 1917, the Philadelphia clearinghouse were obtained for weekly Wednesday dates nearest call dates and nearest end of month. The call date figures were subtracted from call date figures for all commercial banks from Table 32, Part III, col. 15, to obtain residuals for nonclearinghouse banks. Interpolation by Method L between the latter call date figures to end of month yielded estimates which were added to the end-of-month clearinghouse data to obtain all commercial bank figures. *Dec. 1917–June 1919*: A sum of government deposits in (a) weekly reporting member banks, (b) nonweekly reporting member banks, and (c) nonmember banks, for Friday nearest end of month.

a. Weekly reporting member bank figures were corrected for seasonal variations, 1917–26.

b. To get nonweekly reporting member bank figures in monthly form we first estimated call date figures for these banks and then interpolated by Method L to end of month between the call dates. The call date estimates were derived in two steps because of the high daily variability in government deposits. For example, government deposits in weekly reporting member banks at dates closest to call dates sometimes exceed reported call date deposits for all member banks. Accordingly, we first constructed a call date series for weekly reporting member banks by interpolating by Method L between two neighboring weeks to the exact call date, subtracted this series from seasonally unadjusted member bank call date figures (from *Banking and Monetary Statistics*, p. 73), and expressed the nonweekly reporting member bank residual figure as a ratio to the weekly reporting member bank figure at call dates. We applied this ratio to the seasonally adjusted weekly reporting figure for the

Notes to Table 35 (concluded)

- Friday (or Wednesday) nearest to the end of each month that was closest to each call date. This gave the call date series for nonweekly reporting banks that we interpolated by Method L.
- c. Interpolation by Method L between call date figures of Table 43, col. 3, were added to the member bank figures.
 5. Sum of cols. 1, 2 and 3 minus col. 4.
 6. Same as Jan. 1915–May 1917 for col. 5 of Part II of this table.
 7. *June–Dec. 1917*: Same as Jan. 1915–May 1917 for col. 6 of Part II of this table. *Jan. 1918–June 1919*: Table 32, Part IV, cols. 2 plus 6, interpolated by Method R₂, using net time deposits of weekly reporting member banks, Friday nearest end of month, as related series. The value of *b* was + 0.312.
 8. Interpolation by Method L between call date figures of Table 32, Part IV, col. 9.
 9. Sum of cols. 6, 7, and 8.

No monthly interpolators of the call date figures for the thirty-eight rural states were tested because the call date figures are, in the main, interpolations (by Method L) between annual data.

The interpolators selected above were obtained in monthly form, corrected for seasonal. These monthly interpolator series were additional, over and above the call date series already constructed for testing purposes. The monthly series were derived from Wednesday figures closest to the end of the month (except for the weekly reporting member bank series which was on a Friday basis through April 1921). Monthly estimates were computed on the basis of the appropriate call date estimating equations. The final results, including the interpolations by Method L for the thirty-eight rural states, are given in Table 35.

For the period June 30–December 31, 1914, we lacked monthly interpolators of demand and time deposits adjusted, respectively, at New York State national banks. We therefore computed monthly total deposits adjusted, in the same way as for May 1907–June 1914 and distributed the total between demand and time deposits by using a ratio of demand to time deposits interpolated by Method L between the ratios at call dates.

For New York nonnational banks plus all commercial banks in the nine urbanized states and the District of Columbia we lacked monthly interpolators of demand and time deposits adjusted, June–December 1914, as well as a monthly interpolator of time deposits, December 1914–December 1917. Using the same interpolator as for May 1907–

June 1914, we estimated total deposits adjusted June 1914–June 1917, and total deposits less duplications, June–December 1917. Between June and December 1914 we distributed the total between demand and time deposits by using a ratio of demand to time deposits interpolated by Method L between the ratios at call dates. Beginning December 1914, we subtracted our estimates of demand deposits adjusted from the estimates of total deposits adjusted to get time deposits adjusted. Beginning June 1917, we subtracted our estimates of demand deposits less duplications from the estimates of total deposits less duplications.

Beginning June 1917, we have monthly estimates of demand deposits less duplications for each of the three classes of banks comprising our commercial bank total. To get demand deposits adjusted we deducted an estimate of U.S. government deposits (Table 35, Part III, column 4) from demand deposits less duplications. The derivation of this estimate is described in Chapter 17 below.

2. Deposits at Member Banks, Monthly, 1919–45

The monthly estimates of deposits at member banks are based on various published series available for the period 1919–45.⁷ Beginning April 1923, data are available for all member banks. For earlier months, data are available only for weekly reporting member banks. The presentation of our estimates for nonweekly reporting banks and all member banks, June 1919–March 1923, will be simplified by discussing first the published all member bank series and then the earlier estimates.

Published Figures for All Member Banks, 1923 on

The published figures required adjustment on two counts: (a) their dating; and (b) their composition.

a. Dating. From April 1923 through December 1928 the monthly deposit figures were of a given Wednesday: through October 1927, either the next-to-the-last or the last of the month, thereafter, the first or the second Wednesday of the month. From January 1929 through March 1944, monthly averages of daily figures were published, there-

⁷ Weekly reporting member bank figures, June 1919–Apr. 1923: *Banking and Monetary Statistics*, Board of Governors of the Federal Reserve System, Washington, D.C., 1943, pp. 132–136. All member bank figures, Apr. 1923–Dec. 1946: *Annual Report of the Federal Reserve Board, 1927*, p. 108; *1928*, p. 116; *1933*, p. 168; *1934*, p. 154; *1935*, p. 153; *Banking and Monetary Statistics*, p. 42; *Federal Reserve Bulletin, 1942–1947*.

after semimonthly averages of daily figures. We adjusted these figures so that they might be considered to represent the Wednesday closest to the end of the month. This adjustment was made on the basis of weekly reporting member bank data. Because these data are available weekly, it is possible to construct a series from them dated, on the one hand, approximately like the published monthly series—the dating which is not acceptable to us—and, on the other hand, at Wednesdays nearest the end of the month—the dating we want. The deposit figures shown in the weekly reporting member bank returns are constituted exactly like those of the all member bank returns. Further, during 1923–45, demand deposits at weekly reporting banks represent about 70 per cent of all member bank demand deposits; time deposits represent about 50 per cent. We therefore used Method R_1 to interpolate between the all member bank data at monthly dates on which they were reported to the monthly dates we desired to use. For this interpolation we used deposits of weekly reporting member banks as the related series.

We compiled the series for weekly reporting member banks to be used as the interpolator dated as follows: For 1923–28, as of the Wednesday of the month exactly corresponding to the all member bank series and as of the Wednesday closest to the end of the month; for January 1929 through March 1944, as of the midpoint of the monthly averages of weekly figures and as of the Wednesday closest to the end of the month; thereafter as of the midpoint of semimonthly averages of weekly figures and as of the Wednesday closest to the end of the month.

The method was used for both demand and time deposits. It was also used to interpolate a monthly figure between the reported figures for February and April, 1933, to fill the gap in the data for all member banks that occurred in March of that year.

The member bank demand deposit series, adjusted for dating, required seasonal correction. The time deposit series did not.

b. Composition. The composition of the published monthly member bank demand and time deposit series changed, 1923–45.

The following demand deposit items were reported:

(1) Net demand deposits, April 1923–December 1935; (2) Gross demand deposits, January 1936–April 1943; (3) Demand deposits adjusted, May 1943–December 1945.

1. Net demand deposits is a legal definition on the basis of which member banks compute their reserve requirements. From April 24, 1917, through August 23, 1935, net demand deposits were defined as

the excess of demand amounts due to banks over demand amounts due from banks and cash items in process of collection, plus gross demand deposits excluding amounts due to banks and U.S. government deposits. The Banking Act of 1935 changed this definition so that net demand deposits are now the sum of all demand deposits including amounts due to banks and U.S. government deposits minus cash items in process of collection and demand balances with domestic banks.⁸

Net demand deposits are larger than demand deposits adjusted. We wanted to eliminate this excess monthly. At call dates we know the exact difference.⁹ We tested various monthly interpolators of this difference, seasonally adjusted, selecting as the best the difference between amounts due to banks and balances due from banks of weekly reporting member banks, also seasonally adjusted. Values of u and v computed from the middle call dates of successive overlapping triplets of call dates for the period April 3, 1923, to December 1935 had a correlation of +0.528, and b had a value of 0.468. Accordingly, we estimated the difference by interpolating between the call dates by Method R₂, using as the related series weekly reporting member figures for Wednesday nearest the end of the month, and this value of b .

2. Gross demand deposits are also larger than demand deposits adjusted. The difference between gross demand deposits and demand deposits adjusted was known exactly at call dates for all member banks and weekly for all weekly reporting member banks.¹⁰ We needed to know as well the difference for nonweekly reporting member banks at monthly dates between call dates. Ninety per cent of the difference between gross demand deposits and demand deposits adjusted of member banks was accounted for by the difference in these items of weekly reporting member banks. Both of these series were seasonally adjusted, and the data for weekly reporting member banks closest to call dates were subtracted from the member bank call date figures. We could not find a satisfactory interpolator for the call date nonweekly reporting member bank residual and therefore interpolated monthly values by Method L between call dates. The sum of the weekly reporting member bank differences and the estimated nonweekly reporting member bank

⁸ In Apr. 1943 an amendment to the law exempted U.S. government war loan deposit accounts from reserve requirements.

⁹ *Banking and Monetary Statistics*, 1943, pp. 73-75.

¹⁰ *Banking and Monetary Statistics*, pp. 73-74, and *Member Bank Call Report*.

differences, for Wednesday closest to the end of each month, was subtracted from the member bank series of gross demand deposits to obtain demand deposits adjusted.

3. Beginning May 1943, the published figures corresponded with our definition of demand deposits adjusted, and after adjustment for dating no further changes in the published figures were necessary.

The published monthly Federal Reserve series of time deposits at member banks, April 1923–December 1945, represented time deposits against which reserves had to be maintained. In addition to time deposits of individuals, partnerships, corporations, states, and municipalities, the series included postal savings redeposited in member banks and, beginning June 1928, interbank time deposits and, beginning February or March 1939, U.S. government time deposits.¹¹ The latter three components of the published series are not included in time deposits under our definition of the term. We therefore made monthly estimates of the amount of these components and deducted them from the published monthly member bank data.

We know postal savings deposits in all member banks for call dates since June 1921. Beginning March 29, 1939, this item and U.S. government time deposits were reported either as one figure or separately. Member banks were not required to distinguish between interbank demand and interbank time deposits until March 1939 and showed all interbank deposits as demand deposits. Weekly reporting member banks did not show postal savings separately until January 1938, and beginning February or March 1939, combined them with U.S. government time deposits. They did not distinguish between the two classes of interbank deposits until September 1934.

We were not able to discover a satisfactory monthly interpolator of the member bank call date series of postal savings, interbank, or U.S. government time deposits. Until data from weekly reporting member banks became available for these series, we interpolated monthly by Method L between the call date figures. When weekly reporting member

¹¹ Postal savings after Apr. 24, 1917, were subject to the same reserve requirements as time deposits, although by their terms they were demand deposits. The Banking Act of 1933 changed the terms under which these deposits were made to conform to the definition of time deposits.

United States Treasurer's time deposits, open account, were first established in Nov. 1938, but were not segregated from other government deposits until early 1939.

bank figures existed, we subtracted them at dates closest to call dates from the member bank call date figures and interpolated for nonweekly reporting member banks by Method L between the residual call date figures.

Estimates for All Member Banks, 1919-23

Demand Deposits. For the period before April 1923, we have net demand deposits of weekly reporting member banks but not of nonweekly reporting member banks. Weekly reporting member banks are classified according to their location in and outside New York City. An estimate of nonweekly reporting member bank deposits was made by regressing deposits of this class of banks on deposits of weekly reporting member banks outside New York City, April 1923-December 1928, both seasonally adjusted. The correlation coefficient was $+0.836$. The estimated nonweekly reporting member bank series was added to weekly reporting member bank data for Friday closest to the end of the month, June 1919-April 1921, and Wednesday closest to the end of the month, May 1921-March 1923. From this series the difference between net demand deposits and demand deposits adjusted had to be subtracted, as for the later published data. Again the difference at call dates for all member banks was known. Data on interbank deposits and balances of weekly reporting member banks, however, were available only beginning April 1920. For all member banks we interpolated as follows: June 1919-May 4, 1920, by Method L between the call date difference series; thereafter by Method R₂, using the difference between interbank deposits and balances of the weekly reporting member banks series as the related series and a value of b of $.387$ based on a test correlation for 1920-23, for which the correlation coefficient was $+0.435$.

The final monthly member bank demand deposits adjusted series is shown in Table 36, column 1.

Time Deposits. For the period before April 1923, as for net demand deposits, we know time deposits of weekly but not of nonweekly reporting member banks. The coefficient of correlation between time deposits of nonweekly and of weekly reporting member banks, April 1923-December 1928, is $+0.99$. We therefore estimated time deposits in nonweekly reporting member banks, June 1919-March 1923, on the basis of the regression equation for 1923-28. The estimated nonweekly reporting member bank series was added to weekly reporting member

bank data for Friday closest to the end of the month, June 1919–April 1921, and Wednesday closest to the end of the month, May 1921–March 1923. From this series monthly values interpolated by Method L between call date figures of postal savings in member banks were subtracted.¹² The final monthly member bank time deposits adjusted series is shown in Table 36, column 4.

3. Deposits at Nonmember Banks, Monthly, 1919–45

For June 1919–June 1923, we estimated monthly demand deposits adjusted and time deposits for nonmember banks by interpolating by Method L the corresponding call date series. We resorted to Method L after testing as possible interpolators deposits at all weekly reporting member banks and at weekly reporting member banks outside New York City. Both gave poor results for both demand and time deposits.

For 1923–45 we estimated monthly demand deposits adjusted and time deposits for nonmember banks by interpolating by Method R₂ between the corresponding call date series, using various monthly member bank series as interpolators. Monthly deposit series are available not only for all member banks (these series are described in section 2 above), but also from April 1923 to December 1928, according to the population of the city in which the member banks were located, as follows: population less than 5,000; 5,000 to 15,000; 15,000 to 100,000; 100,000 and over. Such data are also available for the whole period 1923–43, for the first two classes combined—described as smaller places—and for the two remaining classes combined—described as larger places. We tested and found satisfactory the series for smaller places as interpolators of the call date nonmember bank figures. Before these tests were made, the published figures for smaller places were adjusted for changes in the classification of cities by size of population.¹³

¹² Before June 1921 data are available on postal savings in national but not in state member banks.

¹³ The classification of cities according to population was based on the 1920 Census of population for 1923–31, on the 1930 Census for 1931–40, on the 1940 Census for 1940–46. Our problem was to smooth the differences introduced by the shift in the classification of cities and towns from smaller to larger centers resulting from Census changes. For the decadal years for which overlapping data based on the new and the preceding Census were available, the monthly figures of deposits at banks in smaller centers were expressed as ratios of deposits at all member banks and the ratios averaged annually. The difference between these averages of monthly ratios may be regarded as

TABLE 36

Adjusted Demand and Time Deposits at Member, Nonmember, and All Commercial Banks, June 1919 - December 1945
(seasonally adjusted, in millions of dollars)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1919						
July	12,474	5,316	17,790	4,484	4,720	9,204
Aug.	12,633	5,438	18,071	4,594	4,755	9,349
Sept.	12,770	5,590	18,360	4,737	4,799	9,536
Oct.	13,006	5,711	18,717	5,077	4,835	9,912
Nov.	13,158	5,757	18,915	5,245	4,820	10,065
Dec.	13,574	5,673	19,247	5,323	4,719	10,042
1920						
Jan.	13,344	5,732	19,076	5,569	4,796	10,365
Feb.	13,517	5,787	19,304	5,662	4,873	10,535
Mar.	13,678	5,855	19,533	5,775	4,970	10,745
Apr.	13,455	5,910	19,365	5,833	5,047	10,880
May	13,490	5,841	19,331	5,881	5,092	10,973
June	13,397	5,735	19,132	5,977	5,139	11,116
July	13,393	5,701	19,094	5,990	5,132	11,122
Aug.	13,310	5,661	18,971	6,103	5,124	11,227
Sept.	13,255	5,629	18,884	6,151	5,117	11,268
Oct.	13,088	5,596	18,684	6,173	5,111	11,284
Nov.	12,799	5,580	18,379	6,217	5,098	11,315
Dec.	13,085	5,575	18,660	6,288	5,082	11,370
1921						
Jan.	12,710	5,446	18,156	6,407	5,033	11,440
Feb.	12,672	5,318	17,990	6,390	4,984	11,374
Mar.	12,375	5,157	17,532	6,420	4,923	11,343
Apr.	12,238	5,032	17,270	6,443	4,875	11,318
May	12,266	4,984	17,250	6,434	4,852	11,286

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1921						
June	11,964	4,944	16,908	6,425	4,832	11,257
July	11,829	4,913	16,742	6,362	4,809	11,171
Aug.	11,959	4,889	16,848	6,413	4,791	11,204
Sept.	11,781	4,864	16,645	6,413	4,772	11,185
Oct.	12,018	4,834	16,852	6,526	4,749	11,275
Nov.	12,152	4,809	16,961	6,544	4,731	11,275
Dec.	12,125	4,785	16,910	6,545	4,713	11,258
1922						
Jan.	12,021	4,815	16,836	6,512	4,700	11,212
Feb.	12,189	4,845	17,034	6,699	4,691	11,390
Mar.	12,192	4,860	17,052	6,782	4,708	11,490
Apr.	12,723	4,870	17,593	6,901	4,746	11,647
May	12,916	4,878	17,794	6,960	4,776	11,736
June	13,107	4,886	17,993	7,222	4,806	12,028
July	13,146	4,969	18,115	7,446	4,841	12,287
Aug.	13,035	5,039	18,074	7,607	4,868	12,475
Sept.	13,212	5,109	18,321	7,559	4,896	12,455
Oct.	13,204	5,197	18,401	7,680	4,931	12,611
Nov.	13,075	5,267	18,342	7,688	4,958	12,646
Dec.	13,715	5,345	19,060	7,860	5,000	12,860
1923						
Jan.	13,609	5,359	18,968	7,827	5,067	12,894
Feb.	13,621	5,374	18,995	7,908	5,134	13,042
Mar.	13,155	5,389	18,544	8,216	5,201	13,417
Apr.	13,428	5,366	18,794	8,218	5,289	13,507
May	13,525	5,340	18,865	8,278	5,360	13,638
June	13,350	5,315	18,665	8,327	5,431	13,758
July	13,334	5,318	18,652	8,297	5,448	13,745

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1923						
Aug.	13,239	5,350	18,589	8,374	5,458	13,832
Sept.	13,303	5,412	18,715	8,408	5,473	13,881
Oct.	13,383	5,468	18,851	8,463	5,508	13,971
Nov.	13,317	5,514	18,831	8,504	5,547	14,051
Dec.	13,385	5,573	18,958	8,572	5,559	14,131
1924						
Jan.	13,342	5,522	18,864	8,545	5,610	14,155
Feb.	13,252	5,482	18,734	8,733	5,622	14,355
Mar.	13,302	5,453	18,755	8,813	5,638	14,451
Apr.	13,367	5,495	18,862	8,929	5,662	14,591
May	13,489	5,517	19,006	8,954	5,680	14,634
June	13,729	5,553	19,282	9,055	5,711	14,766
July	14,012	5,602	19,614	9,170	5,741	14,911
Aug.	14,226	5,717	19,943	9,268	5,763	15,031
Sept.	14,452	5,805	20,257	9,426	5,783	15,209
Oct.	14,436	5,876	20,312	9,575	5,813	15,388
Nov.	14,770	5,909	20,679	9,640	5,840	15,480
Dec.	14,544	5,942	20,486	9,707	5,852	15,559
1925						
Jan.	14,799	5,994	20,793	9,788	5,923	15,711
Feb.	14,916	6,061	20,977	9,907	5,938	15,845
Mar.	14,760	6,097	20,857	10,040	5,935	15,975
Apr.	14,863	6,148	21,011	10,071	5,959	16,030
May	14,977	6,217	21,194	10,204	5,985	16,189
June	15,163	6,273	21,436	10,285	6,044	16,329
July	15,110	6,415	21,525	10,310	6,092	16,402
Aug.	15,364	6,660	22,024	10,384	6,132	16,516
Sept.	15,509	6,824	22,333	10,478	6,167	16,645

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1925						
Oct.	15,404	6,888	22,292	10,533	6,220	16,753
Nov.	15,304	6,917	22,221	10,584	6,272	16,856
Dec.	15,145	6,977	22,122	10,616	6,324	16,940
1926						
Jan.	15,211	6,925	22,136	10,739	6,352	17,091
Feb.	15,320	6,900	22,220	10,798	6,346	17,144
Mar.	15,329	6,821	22,150	10,831	6,332	17,163
Apr.	15,153	6,712	21,865	10,950	6,309	17,259
May	15,577	6,580	22,157	11,070	6,299	17,369
June	15,681	6,424	22,105	11,153	6,304	17,457
July	15,372	6,462	21,834	11,184	6,326	17,510
Aug.	15,493	6,488	21,981	11,266	6,325	17,591
Sept.	15,440	6,478	21,918	11,280	6,307	17,587
Oct.	15,245	6,467	21,712	11,346	6,285	17,631
Nov.	15,326	6,448	21,774	11,363	6,265	17,628
Dec.	14,995	6,461	21,456	11,330	6,243	17,573
1927						
Jan.	15,174	6,361	21,535	11,517	6,298	17,815
Feb.	15,335	6,332	21,667	11,814	6,313	18,127
Mar.	15,540	6,283	21,823	11,796	6,360	18,156
Apr.	15,423	6,286	21,709	11,896	6,386	18,282
May	15,903	6,281	22,184	12,018	6,438	18,456
June	15,593	6,252	21,845	12,111	6,477	18,588
July	15,555	6,311	21,866	12,189	6,505	18,694
Aug.	15,699	6,372	22,071	12,241	6,499	18,740
Sept.	15,443	6,437	21,880	12,341	6,483	18,824
Oct.	15,588	6,437	22,025	12,378	6,522	18,900
Nov.	16,132	6,406	22,538	12,661	6,550	19,211
Dec.	15,533	6,348	21,881	12,624	6,650	19,224

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All	Member Banks (4)	Non- member Banks (5)	All
			Com- mercial Banks (3)			Com- mercial Banks (6)
1928						
Jan.	15,976	6,335	22,311	12,838	6,675	19,513
Feb.	16,084	6,325	22,409	12,897	6,722	19,619
Mar.	16,050	6,302	22,352	13,146	6,734	19,880
Apr.	16,411	6,290	22,701	13,238	6,731	19,969
May	16,226	6,282	22,508	13,363	6,724	20,087
June	15,594	6,242	21,836	13,370	6,730	20,100
July	15,791	6,303	22,094	13,278	6,721	19,999
Aug.	15,519	6,387	21,906	13,295	6,712	20,007
Sept.	15,723	6,448	22,171	13,177	6,766	19,943
Oct.	15,841	6,549	22,390	13,294	6,833	20,127
Nov.	15,946	6,542	22,488	13,232	6,812	20,044
Dec.	16,015	6,586	22,601	13,293	6,845	20,138
1929						
Jan.	15,736	6,544	22,280	13,213	6,867	20,080
Feb.	15,924	6,485	22,409	13,179	6,855	20,034
Mar.	15,954	6,430	22,384	13,110	6,817	19,927
Apr.	16,068	6,412	22,480	12,996	6,771	19,767
May	15,788	6,395	22,183	13,029	6,719	19,748
June	15,904	6,374	22,278	13,043	6,686	19,729
July	16,559	6,437	22,796	12,944	6,773	19,717
Aug.	16,052	6,500	22,552	12,962	6,845	19,807
Sept.	16,058	6,535	22,593	12,970	6,942	19,912
Oct.	17,947	6,485	24,432	13,028	6,863	19,891
Nov.	15,255	6,396	21,651	12,799	6,736	19,535
Dec.	16,239	6,395	22,634	12,791	6,642	19,433
1930						
Jan.	15,508	6,417	21,925	12,969	6,649	19,618
Feb.	15,842	6,348	22,190	12,869	6,651	19,520
Mar.	16,357	6,262	22,619	13,164	6,653	19,817

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1930						
Apr.	16,076	6,189	22,265	13,044	6,661	19,705
May	15,521	6,110	21,631	13,189	6,659	19,848
June	15,593	6,019	21,612	13,346	6,664	20,010
July	15,836	5,895	21,731	13,321	6,622	19,943
Aug.	15,588	5,769	21,357	13,468	6,565	20,033
Sept.	15,726	5,682	21,408	13,523	6,515	20,038
Oct.	15,789	5,603	21,392	13,603	6,465	20,068
Nov.	15,880	5,473	21,353	13,343	6,370	19,713
Dec.	15,795	5,318	21,113	12,873	6,259	19,132
1931						
Jan.	15,586	5,157	20,743	12,920	6,172	19,092
Feb.	15,843	5,047	20,890	13,116	6,113	19,229
Mar.	15,933	4,964	20,897	13,081	6,043	19,124
Apr.	15,399	4,954	20,353	13,235	5,975	19,210
May	15,083	4,910	19,993	13,135	5,891	19,026
June	15,003	4,885	19,888	12,876	5,839	18,715
July	15,019	4,725	19,744	12,771	5,737	18,508
Aug.	14,743	4,509	19,252	12,606	5,539	18,145
Sept.	14,758	4,322	19,080	12,207	5,357	17,564
Oct.	13,957	4,216	18,173	11,484	5,161	16,645
Nov.	13,731	4,121	17,852	11,130	4,969	16,099
Dec.	13,267	4,023	17,290	10,705	4,740	15,445
1932						
Jan.	12,733	3,878	16,611	10,429	4,630	15,059
Feb.	12,716	3,770	16,486	10,287	4,516	14,803
Mar.	12,689	3,678	16,367	10,220	4,432	14,652
Apr.	12,536	3,595	16,131	10,184	4,359	14,543
May	12,303	3,482	15,785	10,103	4,257	14,360

(continued)

Derivation of Estimates

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1932						
June	12,126	3,364	15,490	9,864	4,167	14,031
July	11,856	3,248	15,104	9,899	4,080	13,979
Aug.	12,013	3,188	15,201	9,849	4,004	13,853
Sept.	12,130	3,140	15,270	9,805	3,941	13,746
Oct.	12,235	3,158	15,393	9,874	3,970	13,844
Nov.	12,551	3,162	15,713	9,778	3,978	13,756
Dec.	12,356	3,155	15,511	9,716	3,974	13,690
1933						
Jan.	12,632	3,016	15,648	9,641	3,886	13,527
Feb.	11,550	2,844	14,394	9,007	3,618	12,625
Mar.	10,915	2,628	13,543	7,789	3,129	10,918
Apr.	11,352	2,485	13,837	7,840	2,868	10,708
May	11,977	2,453	14,430	7,810	2,841	10,651
June	11,864	2,419	14,283	8,019	2,836	10,855
July	11,822	2,379	14,201	8,228	2,845	11,073
Aug.	11,923	2,342	14,265	8,240	2,837	11,077
Sept.	12,014	2,327	14,341	8,258	2,832	11,090
Oct.	12,195	2,315	14,510	8,269	2,805	11,074
Nov.	12,386	2,328	14,714	8,235	2,770	11,005
Dec.	12,585	2,335	14,920	8,290	2,758	11,048
1934						
Jan.	12,881	2,348	15,229	8,437	2,797	11,234
Feb.	13,436	2,350	15,786	8,512	2,804	11,316
Mar.	13,833	2,366	16,199	8,661	2,831	11,492
Apr.	13,932	2,393	16,325	8,818	2,873	11,691
May	14,017	2,415	16,432	8,893	2,908	11,801
June	14,043	2,442	16,485	9,061	2,944	12,005
July	14,411	2,520	16,931	9,093	2,934	12,027
Aug.	14,899	2,600	17,499	9,188	2,919	12,107

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1934						
Sept.	14,701	2,696	17,397	9,179	2,894	12,073
Oct.	15,191	2,776	17,967	9,271	2,917	12,188
Nov.	15,552	2,833	18,385	9,197	2,964	12,161
Dec.	15,323	2,890	18,213	9,272	3,015	12,287
1935						
Jan.	16,022	3,004	19,026	9,392	2,995	12,387
Feb.	16,541	3,112	19,653	9,452	2,960	12,412
Mar.	16,428	3,117	19,545	9,556	3,002	12,558
Apr.	16,752	3,126	19,878	9,730	3,061	12,791
May	16,924	3,134	20,058	9,696	3,112	12,808
June	17,364	3,127	20,491	9,688	3,162	12,850
July	17,584	3,163	20,747	9,702	3,163	12,865
Aug.	18,835	3,217	22,052	9,708	3,146	12,854
Sept.	18,288	3,288	21,576	9,846	3,125	12,971
Oct.	18,561	3,315	21,876	9,916	3,119	13,035
Nov.	18,965	3,427	22,392	9,906	3,177	13,083
Dec.	18,608	3,544	22,152	10,038	3,268	13,306
1936						
Jan.	18,643	3,484	22,127	10,041	3,284	13,325
Feb.	18,957	3,598	22,555	10,085	3,280	13,365
Mar.	18,967	3,598	22,565	10,103	3,282	13,385
Apr.	19,544	3,588	23,132	10,369	3,284	13,653
May	20,344	3,572	23,916	10,358	3,293	13,651
June	20,737	3,644	24,381	10,391	3,320	13,711
July	20,763	3,805	24,568	10,480	3,355	13,835
Aug.	20,629	3,837	24,466	10,545	3,377	13,922
Sept.	21,058	3,860	24,918	10,611	3,389	14,000
Oct.	20,930	3,912	24,842	10,648	3,404	14,052
Nov.	21,085	3,954	25,039	10,613	3,412	14,025
Dec.	21,381	4,004	25,385	10,699	3,429	14,128

(continued)

Derivation of Estimates

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1937						
Jan.	21,128	4,004	25,132	10,780	3,450	14,230
Feb.	21,400	3,987	25,387	10,971	3,458	14,429
Mar.	21,621	3,970	25,591	10,918	3,463	14,381
Apr.	21,492	3,964	25,456	10,932	3,482	14,414
May	21,149	3,951	25,100	11,061	3,502	14,563
June	21,124	3,951	25,075	11,082	3,526	14,608
July	20,987	3,985	24,972	11,183	3,560	14,743
Aug.	20,743	3,952	24,695	11,235	3,606	14,841
Sept.	20,672	3,873	24,545	11,325	3,643	14,968
Oct.	20,184	3,790	23,974	11,298	3,655	14,953
Nov.	20,057	3,709	23,766	11,240	3,647	14,887
Dec.	19,899	3,666	23,565	11,219	3,656	14,875
1938						
Jan.	20,126	3,699	23,825	11,288	3,651	14,939
Feb.	20,351	3,711	24,062	11,370	3,631	15,001
Mar.	20,484	3,659	24,143	11,279	3,620	14,899
Apr.	20,369	3,619	23,988	11,304	3,612	14,916
May	20,022	3,584	23,606	11,270	3,611	14,881
June	20,190	3,555	23,745	11,315	3,612	14,927
July	20,429	3,597	24,026	11,234	3,604	14,838
Aug.	21,159	3,611	24,770	11,281	3,598	14,879
Sept.	21,417	3,622	25,039	11,228	3,588	14,816
Oct.	21,672	3,719	25,391	11,246	3,591	14,837
Nov.	22,171	3,789	25,960	11,182	3,587	14,769
Dec.	22,268	3,863	26,131	11,252	3,595	14,847
1939						
Jan.	22,165	3,821	25,986	11,315	3,593	14,908
Feb.	22,049	3,755	25,804	11,349	3,586	14,935

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1939						
Mar.	22,503	3,706	26,209	11,396	3,582	14,978
Apr.	22,643	3,759	26,402	11,461	3,594	15,055
May	22,778	3,803	26,581	11,441	3,601	15,042
June	22,788	3,853	26,641	11,473	3,622	15,095
July	23,545	3,930	27,475	11,505	3,614	15,119
Aug.	24,283	3,985	28,268	11,519	3,603	15,122
Sept.	24,905	4,043	28,948	11,499	3,592	15,091
Oct.	25,194	4,103	29,297	11,549	3,612	15,161
Nov.	26,044	4,148	30,192	11,507	3,617	15,124
Dec.	25,618	4,178	29,796	11,627	3,612	15,239
1940						
Jan.	26,103	4,145	30,248	11,621	3,626	15,247
Feb.	26,563	4,126	30,689	11,701	3,642	15,343
Mar.	27,051	4,097	31,148	11,823	3,652	15,475
Apr.	26,826	4,125	30,951	11,751	3,671	15,422
May	27,510	4,155	31,665	11,805	3,686	15,491
June	27,988	4,165	32,153	11,862	3,703	15,565
July	28,359	4,203	32,562	11,845	3,699	15,544
Aug.	28,389	4,245	32,634	11,890	3,698	15,588
Sept.	28,753	4,288	33,041	11,947	3,692	15,639
Oct.	29,232	4,364	33,596	11,932	3,689	15,621
Nov.	29,663	4,426	34,089	11,971	3,673	15,644
Dec.	30,142	4,491	34,633	12,101	3,664	15,765
1941						
Jan.	30,709	4,505	35,214	12,113	3,702	15,815
Feb.	31,744	4,492	36,236	12,180	3,721	15,901
Mar.	32,286	4,469	36,755	12,206	3,789	15,945
Apr.	32,288	4,553	36,841	12,285	3,729	16,014
May	32,955	4,644	37,599	12,261	3,710	15,971

(continued)

TABLE 36 (continued)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1941						
June	32,453	4,722	37,175	12,273	3,674	15,947
July	33,419	4,789	38,208	12,285	3,667	15,952
Aug.	33,311	4,809	38,120	12,326	3,655	15,981
Sept.	33,663	4,854	38,517	12,358	3,660	16,018
Oct.	33,273	4,978	38,251	12,414	3,686	16,100
Nov.	33,676	5,106	38,782	12,327	3,681	16,008
Dec.	33,383	5,231	38,614	12,276	3,652	15,928
1942						
Jan.	34,506	5,114	39,620	12,083	3,609	15,692
Feb.	35,019	5,096	40,115	11,998	3,580	15,578
Mar.	35,429	5,097	40,526	11,897	3,551	15,448
Apr.	36,392	5,105	41,497	11,948	3,542	15,490
May	37,231	5,028	42,259	11,949	3,554	15,503
June	37,361	4,954	42,315	12,037	3,579	15,616
July	38,730	5,095	43,825	12,106	3,601	15,707
Aug.	39,435	5,336	44,771	12,247	3,618	15,865
Sept.	40,026	5,674	45,700	12,347	3,641	15,988
Oct.	41,409	5,972	47,381	12,468	3,667	16,135
Nov.	41,811	6,181	47,992	12,528	3,665	16,193
Dec.	42,421	6,434	48,855	12,593	3,669	16,262
1943						
Jan.	43,695	6,598	50,293	12,943	3,699	16,642
Feb.	45,821	6,722	52,543	13,075	3,720	16,795
Mar.	47,468	6,772	54,240	13,110	3,747	16,857
Apr.	45,894	7,180	53,074	13,239	3,774	17,013
May	46,060	7,323	53,383	13,506	3,814	17,320
June	49,618	7,312	56,930	13,654	3,880	17,534
July	51,651	7,472	59,123	14,025	3,934	17,959
Aug.	54,699	7,680	62,379	14,369	3,979	18,348

(continued)

TABLE 36 (concluded)

Wednesday Nearest End of Month ^a	Adjusted Demand Deposits			Adjusted Time Deposits		
	Member Banks (1)	Non- member Banks (2)	All Com- mercial Banks (3)	Member Banks (4)	Non- member Banks (5)	All Com- mercial Banks (6)
1943						
Sept.	47,127	7,615	54,742	14,311	3,997	18,308
Oct.	47,904	7,698	55,602	14,610	4,008	18,618
Nov.	50,253	8,166	58,419	14,771	4,085	18,856
Dec.	52,838	8,415	61,253	15,038	4,102	19,140
1944						
Jan.	51,005	8,441	59,446	15,375	4,163	19,538
Feb.	51,669	8,494	60,163	15,533	4,204	19,737
Mar.	52,280	8,827	61,107	15,798	4,277	20,075
Apr.	53,359	8,959	62,318	16,182	4,358	20,540
May	54,753	9,134	63,887	16,542	4,437	20,979
June	53,628	8,705	62,333	16,750	4,494	21,244
July	54,053	8,739	62,792	17,133	4,551	21,684
Aug.	55,733	9,210	64,943	17,535	4,649	22,184
Sept.	56,544	9,664	66,208	17,977	4,752	22,729
Oct.	58,049	10,208	68,257	18,661	4,844	23,505
Nov.	59,703	10,473	70,176	18,837	4,902	23,739
Dec.	57,089	10,338	67,427	19,250	4,960	24,210
1945						
Jan.	59,710	10,358	70,068	19,563	5,091	24,654
Feb.	60,881	10,343	71,224	20,054	5,201	25,255
Mar.	62,139	10,671	72,810	20,463	5,325	25,788
Apr.	62,509	10,803	73,312	20,936	5,418	26,354
May	62,845	10,895	73,740	21,274	5,502	26,776
June	61,711	10,468	72,179	21,608	5,596	27,204
July	62,771	10,712	73,483	22,202	5,717	27,919
Aug.	63,352	11,158	74,510	22,767	5,850	28,617
Sept.	64,110	11,554	75,664	23,260	5,957	29,217
Oct.	64,299	12,013	76,312	23,694	6,045	29,739
Nov.	64,945	12,149	77,094	23,821	6,073	29,894
Dec.	63,970	12,221	76,191	24,137	6,110	30,247

Notes to Table 36

^aFriday nearest the end of month for cols. 1 and 4 before May 1921, Wednesday in all other cases.

Source, by Column

1. Estimates were constructed for four separate subperiods.
- a. *June 1919–Mar. 1923*: (i) An estimate of net demand deposits at nonweekly reporting member banks was added to net demand deposits at weekly reporting member banks (from *Banking and Monetary Statistics*, pp. 132–136), to get totals for all member banks. The estimate for nonweekly reporting member banks was computed from the estimating equation

$$Y = 25.0 + 0.673X,$$
 where Y = net demand deposits at weekly reporting member banks outside New York City,
 and X = net demand deposits at nonweekly reporting member banks. This equation was calculated by least squares (correlation coefficient, +0.836) from figures for Wednesday nearest end of month, Apr. 1923–Dec. 1928. For this period, net demand deposits at nonweekly reporting member banks was estimated by subtracting seasonally adjusted weekly reporting member bank figures from seasonally adjusted all member bank figures (*Annual Report of the Federal Reserve Board*, 1927, p. 108; 1928, p. 116). Net demand deposits at weekly reporting member banks outside New York City are from *Banking and Monetary Statistics*, pp. 200–205.
 - (ii) Net demand deposits are larger than demand deposits adjusted. The difference was estimated by interpolating by Method L between call date differences, June 1919 to May 1920; thereafter, by Method R₂, using as the related series the difference between interbank deposits and balances at domestic banks of weekly reporting member banks. The value of b was 0.387. The difference estimates were subtracted from net demand deposits.
- b. *Apr. 1923–Dec. 1935*: (i) Net demand deposits of all member banks, monthly (from *Annual Report of the Federal Reserve Board*, 1927, p. 108; 1928, p. 116; 1933, p. 168; 1934, p. 154; 1935, p. 153), adjusted to represent the Wednesday closest to the end of the month, and also to fill the gap in the data for all member banks in Mar. 1933, by interpolation by Method R₁, using as the related series data for weekly reporting member banks adjusted as described in text. The member bank net demand deposits series adjusted for dating required seasonal correction.
 - (ii) The call date differences, for all member banks, between net demand deposits and demand deposits adjusted (*Banking and Monetary Statistics*, pp. 73–75), were seasonally adjusted. The differences were interpolated to end of month by Method R₂, using as the related series seasonally adjusted interbank balances *minus* bal-

Notes to Table 36

ances with domestic banks of weekly reporting member banks, *ibid.*, pp. 136-151. The value of b was 0.468. In 1927 there was a change in the coverage of the related series. Through Jan. 1927 reports on amounts due to banks and balances due from banks were received from weekly reporting member banks only in the twelve Federal Reserve Bank cities; thereafter from all weekly reporting member banks. The differences between due to and due from banks shown in the source at the Wednesday nearest the call date of Dec. 31, 1926, and the following call date of Mar. 23, 1927, are therefore not comparable. The series limited to the twelve Reserve Bank cities are, however, shown together with the new all-weekly reporting data in the *Federal Reserve Bulletin* for some months after Jan. 1927. We used the twelve-city figures through Mar. 23, 1927; the Wednesday figure closest to Mar. 23, 1927, was used on the revised basis in the computation of the interpolator for the following period. In Aug. 1935 the definition of net demand deposits was changed by the Banking Act of 1935. Call date difference figures between net demand deposits and demand deposits adjusted on June 29, 1935, and Nov. 1, 1935, are therefore not comparable. We needed an estimate of net demand deposits for Nov. 1, 1935, on the old basis, to interpolate a value for July, and an estimate for June 29, 1935, on the new basis, to interpolate values for end of Aug., Sept., and Oct. For Nov. 1, 1935, we computed an estimate of net demand deposits on the old basis by adding separate computations for net demand deposits for each reserve class of member banks. Because the old definition permitted offsetting of amounts due to banks only against amounts due from banks (as well as cash items), and the reserve classes differ in respect of the preponderance of amounts due to or balances due from banks, the computation of net demand deposits, when based on aggregate figures for member banks rather than individual bank figures, should be limited to aggregates for banks in the same reserve class. If computed for all member banks as a whole, the total of net demand deposits is considerably smaller than the sum of the results for separate reserve classes. The latter in turn is smaller than the sum of individual bank net demand deposits. This is because the net due to banks that a particular bank counts as part of its net demand deposits will be offset in an aggregate by the balances due from banks of another bank for which there has not been a corresponding due to banks. See *Banking and Monetary Statistics*, p. 66. For June 30, 1935, we used a published estimate of net demand deposits on the new basis (*Federal Reserve Bulletin*, Sept. 1936, p. 700).

- c. *Jan. 1936-Apr. 1943*: (i) A published monthly series of gross deposits at all member banks in the form of monthly averages of daily figures was adjusted to represent the Wednesday closest to the end of the month by the same procedure as for Jan. 1929-Dec. 1935, described above. Gross demand deposits at all member banks are

Notes to Table 36 (continued)

from *Banking and Monetary Statistics*, p. 42 and *Federal Reserve Bulletin*, monthly issues, 1942-43. Gross demand deposits at weekly reporting member banks, the sum of individual, partnership, and corporation demand deposits, certified and officers' checks, deposits of states, counties, and municipalities, due to banks, and U.S. government demand deposits, are from *Banking and Monetary Statistics*, pp. 152-163, and *Federal Reserve Bulletin*, monthly issues, 1942-43. The member bank gross demand deposits series, adjusted for dating, required seasonal correction.

(ii) Gross demand deposits are larger than demand deposits adjusted. The difference between these two measures of deposits is known for all member banks at call dates (*Banking and Monetary Statistics*, p. 75 and *Member Bank Call Report*, 1942-1943), and for weekly reporting member banks (the sources listed in (i) above). For nonweekly reporting member banks a call date series was obtained by subtracting the weekly reporting member bank differences series at Wednesday nearest call dates from the call date difference series for all member banks, both seasonally adjusted. Monthly estimates were obtained by interpolation of this call date residual difference series by Method L to Wednesday nearest the end of the month, added to the corresponding difference for weekly reporting member banks, and the total subtracted from the monthly member bank gross demand deposit series.

- d. *May 1943-Dec. 1945*: Beginning May 1943 there is a published monthly series of demand deposits adjusted at all member banks. This series required adjustment only for dating and seasonal variation, not for conceptual discrepancies. The data come in the form of monthly averages of daily figures through Mar. 1944, semimonthly averages thereafter. The procedure in adjusting the dating is the same as described for Jan. 1929-Dec. 1935, above. All data are from monthly issues of the *Federal Reserve Bulletin*.
2. Estimates were constructed for four subperiods.
 - a. *June 1919-June 1923*: Interpolation by Method L to Wednesday nearest end of month between call date figures, Table 33, Part I, col. 17.
 - b. *June 1923-Dec. 1935*: The call date figures, Table 33, Part I, col. 17, were interpolated to end of month by Method R₂. The value of *b* was 0.627. As the related series we used net demand deposits at member banks in smaller places from the sources listed for this series at all member banks, in col. 1, above. These data were adjusted: (1) For changes in the classification of cities by size of population (see text, Chap. 14, footnote 13). (2) To shift the series to Wednesday dates nearest end of month. This was done by interpolation by Method L. (3) To estimate a missing observation for Mar. 1933. This was done by interpolation by Method L between the Feb. and Apr. adjusted estimates. (4) To allow for a change in the definition of net demand deposits in Aug. 1935. To do this we had to

Notes to Table 36 (continued)

- derive estimates of net demand deposits at member banks in smaller places for June 29, 1935, on the new basis and for Nov. 1, 1935, on the old basis. The published estimate for June 1935 on the new basis for all member banks, mentioned in col. 1 above, was multiplied by the average ratio of net demand deposits at member banks in smaller places to net demand deposits at all member banks, Sept.-Dec. 1935, both on the new basis. The estimate for Nov. 1935 on the old basis for all member banks, which we constructed and which is discussed in col. 1 above, was multiplied by the ratio of net demand deposits at member banks in smaller places to net demand deposits at all member banks in June 1935, both on the old basis. (5) For seasonal.
- c. *Jan. 1936-June 1943*: The call date figures, Table 33, Part I, col. 17, were interpolated to end of month by Method R₂. The value of *b* was 1.156. For the related series we used gross demand deposits at smaller places, from the sources listed for this series at all member banks, in col. 1, above. These data were adjusted: (1) For changes in classification of cities by size of population. (2) To shift the series to Wednesday dates nearest the end of the month. This was done by interpolation by Method L between the monthly figures closest to the desired Wednesday date. (3) To derive an estimate for the call date, Dec. 31, 1935. Since gross demand deposits at member banks in smaller places were not published for dates before Jan. 1936, the figure was derived by multiplying gross demand deposits at all member banks on that date (see the *Member Bank Call Report*) by the ratio in Jan. 1936 of gross demand deposits at member banks in smaller places to gross demand deposits at all member banks. (4) To estimate figures for gross demand deposits at member banks in smaller places after mid-Apr. 1943, when this series was discontinued. The successor series is country bank gross demand deposits excluding interbank deposits at member banks in smaller places. The interpolator used for the balance of the period through 1945 (demand deposits adjusted at country member banks) first became available in July 1943. Gross demand deposits at member banks in smaller places was therefore estimated for end of Apr., May, and June by adding estimates of interbank deposits to the figures for country member banks in smaller places. The interbank deposits estimates were derived by multiplying monthly figures for interbank deposits at country member banks by the ratio of interbank deposits at member banks in smaller centers during the last half of Apr. 1943 (from *Federal Reserve Bulletin*, 1943, p. 636) to interbank balances at country member banks in May 1943. (5) For seasonal.
- d. *July 1943-Dec. 1945*: The call date figures, Table 33, Part I, col. 17, were interpolated to end of month by Method R₂, using as the related series demand deposits adjusted at country member banks (from the *Federal Reserve Bulletin*, published as monthly averages

Notes to Table 36 (continued)

of daily figures through Mar. 1944, semimonthly averages thereafter), and interpolated by Method L to Wednesday dates nearest the end of the month. This series did not require seasonal correction. The value of b was 1.1252.

3. Col. 1 plus col. 2.
4. Estimates were constructed for four subperiods.
 - a. *June 1919–Mar. 1923*: (i) An estimate of net time deposits at nonweekly reporting member banks was added to net time deposits at weekly reporting member banks (from *Banking and Monetary Statistics*, pp. 132–136), to get totals for all member banks. The estimate for nonweekly reporting member banks was computed from the estimating equation

$$Y = +1219.0 + 0.777X,$$
 where Y = net time deposits at weekly reporting member banks, and X = net time deposits at nonweekly reporting member banks. This equation was calculated by least squares from figures for net time deposits at nonweekly reporting member banks; computed by subtracting weekly reporting member bank figures from all member bank figures (*Annual Report* of the Federal Reserve Board, 1927, p. 108; 1928, p. 116). Figures for net time deposits at weekly reporting member banks are from *Banking and Monetary Statistics*, pp. 136–140, at Wednesday nearest call dates and end of month, Apr. 1923–Dec. 1928. The correlation coefficient was +0.99. (ii) Net time deposits includes Postal Savings System deposits at member banks. Monthly estimates of these deposits were deducted from net time deposits to get time deposits adjusted. Monthly estimates of postal savings at member banks were derived by Method L to end of month between call date figures (from *ibid.* p. 73). Before June 1921 the call date figures represent postal savings at national banks only; such deposits at state member banks on that date amounted to approximately \$13 million, according to this source.
 - b. *Apr. 1923–Aug. 1928*: (i) A published monthly series of net time deposits at all member banks, dated as of a particular day of the month, was adjusted to represent the Wednesday closest to the end of the month. See the detail for col. 1, above. No seasonal variation was observed. (ii) Monthly estimates of postal savings at member banks were deducted as described above for June 1919–Mar. 1923.
 - c. *Sept. 1928–Sept. 1934*: (i) Same as for 1923–28 above, except that published figures are monthly averages of daily figures. (ii) Monthly estimates of postal savings, as above, and of interbank time deposits (now also included in net time deposits), were derived by interpolation by Method L to end of month between call date figures (from *ibid.*, p. 78). The estimates were deducted from net deposits.
 - d. *Oct. 1934–Dec. 1945*: (i) Same as for 1923–28, except that published figures are monthly averages of daily figures through Mar. 1944, thereafter semimonthly averages.

Notes to Table 36 (continued)

(ii) Monthly estimates of (a) postal savings redeposited in member banks (beginning Feb. 1939, inclusive of U.S. government time deposits) and (b) interbank time deposits, were deducted from net time deposits to get time deposits adjusted. (1) For Oct. 1934–Feb. 1938 all member bank postal savings figures at end of month were derived by interpolation by Method L between call date figures (from *ibid.*, p. 75). For Mar. 1938–Dec. 1945 all member bank postal savings figures at end of month are the sum of known weekly and estimated nonweekly reporting member bank figures. From the first Wednesday in Jan. 1938 on, postal savings at weekly reporting member banks were reported (*ibid.*, pp. 157–163, and *Federal Reserve Bulletin*, monthly issues, 1942–46). The first call date for which there was a Wednesday figure no more than three days distant came on Mar. 7, 1938. Hence starting that month the weekly reporting member bank figures were used. These figures include U.S. government time deposits beginning Feb. 1939. To get nonweekly reporting member bank figures, we subtracted the foregoing data at Wednesday nearest call dates from all member bank call date figures (from *Banking and Monetary Statistics*, p. 75, and *Member Bank Call Report*, 1942–45), and interpolated the residuals by Method L to end of month. (2) All member bank interbank time deposits at end of month are the sum of known weekly and estimated nonweekly reporting member bank figures. From the first Wednesday in Sept. 1934 through 1941 interbank time deposits at weekly reporting member banks included deposits of domestic and foreign banks (*Banking and Monetary Statistics*, pp. 149–163); and thereafter of domestic banks only (*Federal Reserve Bulletin*, monthly issues, 1942–46). In the latter source interbank deposits of foreign banks at weekly member banks are not broken down into demand and time categories, and we made no estimate of this breakdown. The first call date for which there was a Wednesday figure no more than three days distant was Oct. 17, 1934. Hence we used the weekly reporting member bank figures starting that month. These banks hold 85 per cent of interbank time deposits at all member banks. We subtracted the seasonally adjusted weekly reporting member bank figures at Wednesday nearest call dates from all member bank figures: through 1941 these included deposits of domestic and foreign banks (*Banking and Monetary Statistics*, p. 78); thereafter the member bank figures included deposits of domestic banks only (*Member Bank Call Report*, 1942–45). We then interpolated the residual series by Method L to end of month. The amount of interbank time deposits of foreign banks at all member banks not deducted from net time deposits, 1942–45, is about \$12 million, at the highest.

5. Estimates were constructed for two subperiods.

- a. *June 1919–June 1923*: Interpolation by Method L to Wednesday nearest end of month between call date figures, Table 33, Part II, col. 11.

Notes to Table 36 (concluded)

- b. *July, 1923–Dec. 1945*: The call date figures (Table 33, Part II, col. 11 through Apr. 4, 1942; thereafter col. 17) were interpolated by Method R₂, using as the related series net time deposits at member banks in smaller places – beginning Apr. 1943, including only country member banks in smaller places – (from Federal Reserve Board, *Annual Report*, 1927, p. 108; 1928, p. 116; 1933, p. 168; 1934, p. 154; 1935, p. 153; *Banking and Monetary Statistics*, p. 42; *Federal Reserve Bulletin*, monthly issues, 1942–46). These data further described in col. 2, above, were adjusted as follows: (1) For changes in Census designations of smaller places; (2) To shift the figures to Wednesday dates nearest the end of month by interpolation by Method L between the monthly figures closest to the desired Wednesday date; and (3) To supply a figure for Mar. 1933, by interpolation by Method L between the reported figures for Feb. and Apr. No seasonal movement was observed in the final series. The value of *b* was 1.051.
6. Col. 4 plus col. 5.

After adjustment for Census changes, the monthly data were shifted to Wednesday dates nearest the end of the month by interpolation by Method L between the monthly figures closest to the desired Wednesday date. In this way also monthly figures for March 1933 were interpolated between the February and April reported figures that had been corrected for Census changes. Net demand deposits, 1923–35, and gross demand deposits, January 1936–March 1943, required seasonal corrections; time deposits, 1923–43, did not.

Beginning May 1943, the Federal Reserve breakdown of deposits at all member banks into banks in larger and smaller centers was discontinued. New series were introduced: gross demand deposits excluding interbank deposits and also time deposits at country member banks in smaller places; time deposits at all country member banks. Beginning July 1943, figures for demand deposits adjusted at all country member

the measure of accumulated change in the distribution of deposits by cities over a period starting from the midpoint of the Census year preceding and reaching its peak at the midpoint of the new Census year. Because an assistant misunderstood our instructions, the adjustment actually made was limited to the terminal five years of each decade. At the much later time when the error was discovered, we decided it was not worthwhile to recompute the adjustment from the midpoint of the prior Census year to the midpoint of the new Census year. Accordingly, the adjustment for changes in the classification of cities was as follows: The difference between the annual average ratios for the year based on the new Census and on the preceding Census was decumulated backward in equal monthly amounts until the zero point at the month that was the midpoint of the decade, 1921–31, and 1930–40; these ratio differences were then subtracted from the monthly ratios of deposits at banks in smaller centers to deposits at all member banks for corresponding months; multiplying all member bank deposit figures by these adjusted ratios yielded figures of deposits in smaller centers corrected for Census changes.

banks were shown. By interpolation by Method L of these data, published as monthly averages of daily figures, we derived series at Wednesday dates nearest the end of the month.

In order to test and use these monthly series as interpolators of our call date nonmember bank figures, we also adjusted their original dating to call dates and seasonally corrected these call date figures when necessary. We then computed values of u and v from the middle call dates of successive overlapping triplets of call dates for relevant periods. The results of these test correlations for the series we finally used and the values of b obtained are tabulated below.

<i>Demand Deposits Adjusted at Nonmember Banks and:</i>	<i>r</i>	<i>b</i>
Net demand deposits, member banks in small places, June 1923–December 1935	+ .455	.627
Gross demand deposits, member banks in smaller places, December 1935–December 1942	+ .595	1.156
Demand deposits adjusted, all country member banks, December 1942–June 1946	+ .771	1.125

Time Deposits at Nonmember Banks and:

Time deposits, member banks in smaller places, June 1923–December 1942; and country member banks in smaller places, June 1943–June 1946	+ .727	1.051
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We did not recognize any discontinuity in the time deposit series used as interpolator by reason of the change in its designation in April 1943. Before that date, the series covered *all* member banks in smaller places, after that date, only country member banks in smaller places.

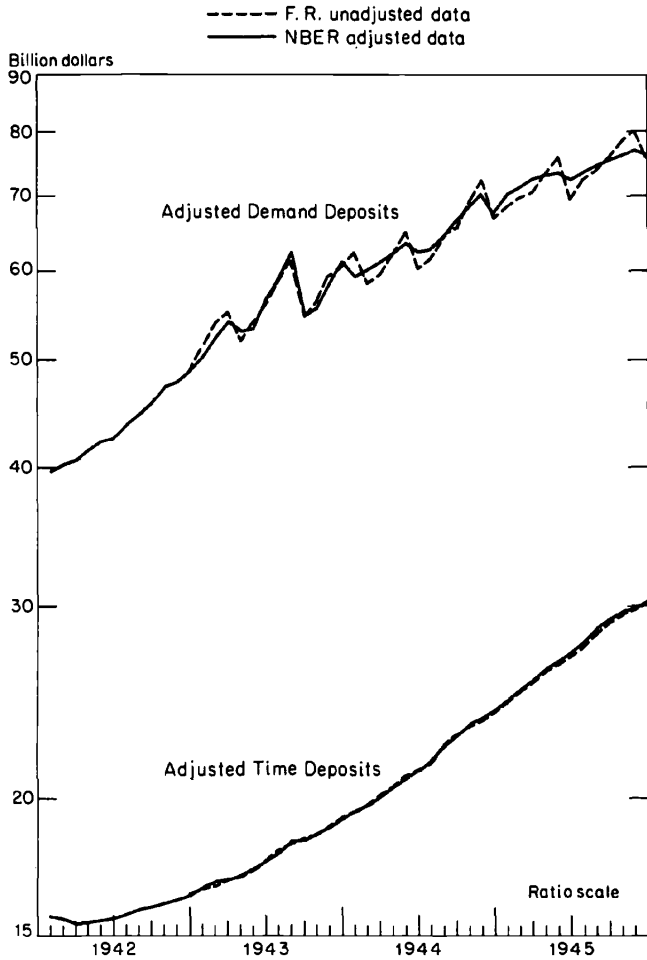
The final monthly nonmember bank estimates for demand and time deposits adjusted, respectively, derived by using the above interpolators, are shown in Table 36, columns 2 and 5. Summations of member and nonmember bank estimates are shown in columns 3 and 6.

4. Federal Reserve Monthly Data, 1946 to Date

For the period since 1945 we made no estimates of our own but used those of the Federal Reserve. For end-of-month dates beginning December 1942 there are published Federal Reserve figures of demand and time deposits adjusted at all commercial banks. Chart 7 shows our

CHART 7

Two Estimates of Commercial Bank Demand and Time Deposits, 1943-45



SOURCE: *Federal Reserve Bulletin*, monthly issues beginning Feb. 1944 and Table 36, cols. 3 and 6.

series, January 1942–December 1945, for adjusted demand and adjusted time deposits, seasonally adjusted, and the Federal Reserve series, December 1942–December 1945, for adjusted demand and adjusted time deposits, seasonally unadjusted. The time deposit series are virtually indistinguishable on the same chart. The separate demand de-

posits series are more easily discernible. Our demand deposits series is apparently a fairly good correction of the Federal Reserve series during the period in which they overlap. The August 1943 peak in our series is higher than in the Federal Reserve series, but this may not be an overcorrection, since during this period August is not seasonally low. Accordingly, the peak movement was not smoothed.

Seasonally adjusted figures of end-of-month demand deposits adjusted were published by the Federal Reserve for monthly dates beginning January 1946.¹⁴ We use these figures to continue our series in 1946. Since the Federal Reserve did not seasonally adjust the end-of-month adjusted time deposit series, we made the adjustment ourselves for the four years that the estimates so dated were reported.¹⁵ We use the seasonally adjusted figures in 1946 to continue our adjusted time deposit estimates.

For the period since 1947 we use Federal Reserve seasonally adjusted monthly averages of daily figures of adjusted demand and adjusted time deposits in the latest revision available.¹⁶

5. Reliability of the Estimates

As a test of our member-nonmember bank estimates, we computed, for the national-nonnational breakdown, monthly estimates, 1919-22, of demand and time deposits adjusted that are similar to the estimates for the years before 1919. We compared these estimates with those constructed for the member-nonmember bank breakdown (see Chart 8). Differences in the levels of the alternative estimates are more striking than the differences in month-to-month variation. Estimates of time deposits at all commercial banks are higher when they are a summation of member and nonmember bank estimates than when they are a summation of national and nonnational bank estimates. The member-nonmember totals of demand deposits adjusted tend to be lower than the national-nonnational totals. As Table 35, Part III, shows, in order to construct demand deposits adjusted for the national-nonnational break-

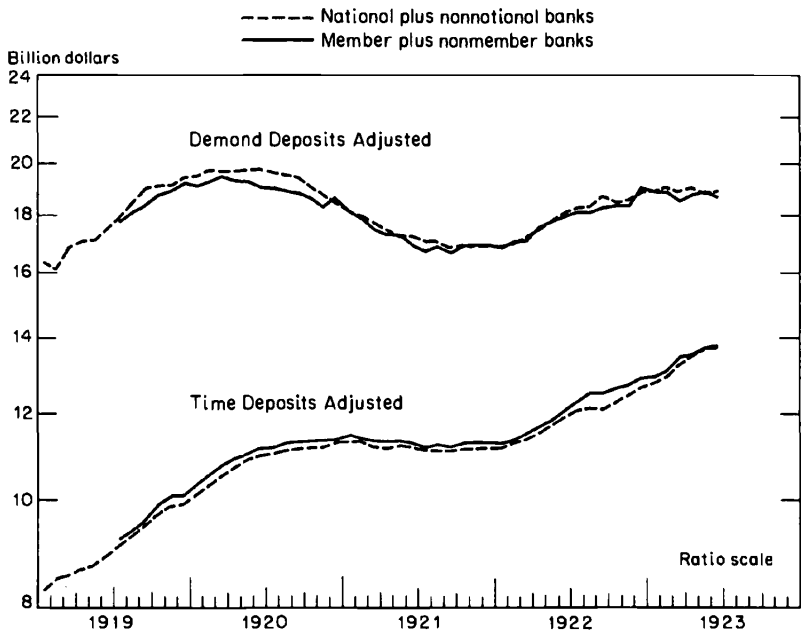
¹⁴ *Federal Reserve Bulletin*, Feb. 1960, p. 135.

¹⁵ *Ibid.*, monthly issues beginning Feb. 1944 and continuing through Feb. 1947. See Chapter 8, section 4, for a review of the changes in dating of the Federal Reserve monthly estimates since 1947.

¹⁶ *Ibid.*, Oct. 1969, pp. 790-793.

CHART 8

Two Estimates of Commercial Bank Demand and Time Deposits, 1919-23



SOURCE: Unpublished estimates extending Table 35, Part III, cols. 5 and 9, and Table 36, cols. 3 and 6.

down beginning June 1917, it was necessary to deduct an estimate of government deposits from estimates of demand deposits less duplications. For the member-nonmember bank breakdown this procedure was not required. Particularly during the latter half of 1919 and 1920 there are marked discrepancies between the national-nonnational and member-nonmember bank estimates of demand deposits adjusted.

We accepted the member-nonmember summations in preference to the national-nonnational summations, 1919-23, because a much larger proportion of the former total was based on directly reported rather than interpolated data. In general, this distinction holds for the two periods 1907-19 and 1919-45 for which we present estimates. It reflects the fact that for member banks we had at the outset a basic monthly series, although it was not constituted precisely as we wished and there-

fore required some adjustment; for nonmember and national and non-national banks we had only call date figures and such monthly interpolators as were available. The percentage of directly reported monthly data for national and nonnational banks separately is therefore negligible. Such data are directly reported only when a call date coincides with the end-of-month date (see Table 37). For banks in New York, the nine urbanized states, and the District of Columbia, the related series we used for interpolation impress us favorably. Although our monthly figures for all banks in the thirty-eight rural states were obtained by interpolation by Method L, the reader should bear in mind that for national banks the data are known for five or six call dates annually during the period covered. On the average then, only every other monthly figure for the national bank component had to be estimated. Deposits at national banks in the thirty-eight rural states, 1907-14, were approximately 45 per cent of deposits in all banks in those states; demand deposits, 1914-23, about the same percentage; and time deposits, 1914-23, about a third of the corresponding figures for all banks in the thirty-eight rural states. For nonnational banks in the rural group, however, we know little more than the June bench-mark data, between which we interpolated monthly estimates by Method L.

In brief, the national-nonnational bank deposit totals seem to us a good approximation, the member-nonmember bank totals, a better approximation to the true movements of the series.

TABLE 37

Reported and Interpolated Deposits in Various Classes of Banks at End of Month as Percentages of Total Deposits Adjusted, Demand Deposits Adjusted, and Time Deposits Adjusted, 1907-45

Class of Banks and Period Covered	Per Cent of Total			
	Reported (1)	Interpolated		Total Cols. 1+2+3 (4)
		By Method L (2)	By Method R (3)	
<i>Total Deposits Adjusted</i>				
1907-14				
New York State national banks	-	-	7.0	7.0
New York State nonnational banks and all banks, 9 urbanized states and District of Columbia	1.0	-	55.0	56.0
All commercial banks, 38 rural states	-	37.0	-	37.0
Total	1.0	37.0	62.0	100.0
<i>Demand Deposits Less Duplications,^a or Demand Deposits Adjusted</i>				
1914-19				
New York State national banks	0.3	-	10.7	11.0
New York State nonnational banks and all banks, 9 urbanized states and District of Columbia	1.6	-	52.4	54.0
All commercial banks, 38 rural states	1.1	33.9	-	35.0
Total	3.0	33.9	63.1	100.0

Notes to Table 37

^aU.S. government demand deposits are 0.07 per cent of demand deposits less duplications, 1917-19.

^bRepresents correction of net demand deposits to obtain demand deposits adjusted; for June 1919-Apr. 1920, the correction was made by Method L.

^cRepresents estimate of net demand deposits at nonweekly reporting member banks.

^dRepresents correction of call date differences between gross demand and demand deposits adjusted at nonweekly reporting member banks.

^eFrom June to Dec. 1914, by interpolation using Method L.

^fFrom June to Dec. 1914, by interpolation using Method L; from Jan. 1915 to Dec. 1917, a residual derived from two sets of estimates.

^gRepresents correction of net time deposits to obtain time deposits adjusted.

^hRepresents estimate of net time deposits at nonweekly reporting member banks.