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DEMAND DEPOSIT BEHAVIOR PRIOR TO SUSPENSION IN A  
SELECTED GROUP OF BANKS ANALYSIS BY TYPE OF DEPOSIT HOLDER

This report is being sent to you for comments which  
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DEMAND DEPOSIT BEHAVIOR PRIOR TO SUSPENSION IN A SELECTED GROUP OF BANKS  
ANALYSIS BY TYPE OF DEPOSIT HOLDER

The March 1939 Federal Reserve Bulletin presented a preliminary analysis of data recently made available by a Works Progress Administration study of the records of a group of banks suspended in the period 1930-1933. The data introduced there suggested that large demand deposits exhibited a greater instability than small demand deposits. Moreover, the percentage reduction of balances in the period prior to suspension became consistently greater as the size of the account increased.

The present discussion classifies similar statistical material by type of holder. This classification has a twofold purpose. The first is to discover whether or not there exist significant variations in the pre-suspension behavior of the deposits of different types of holders. The second objective is an exploration of the possibility that the variations observed in the behavior of deposits of different sizes are mere reflections of more significant differences in the behavior of deposits owned by different types of deposit holders.

Deposit reductions were measured from a base date to date of suspension. The base dates selected were dates on which banks suspended at different times had not yet experienced serious deposit withdrawals. For the

nine banks suspended before June 30, 1931, the base date is June 30, 1928. The base date is June 30, 1931 for the fifty-eight banks suspended thereafter. In the following pages, deposit balances on the base date are referred to as "normal" balances and the composition of total deposits on the base date is referred to as the "normal" composition. In this article, interbank deposits are treated as a part of total demand deposits.

The results of the investigation may be summarized as follows:

1. Withdrawals from business accounts comprised ~~the largest~~ single item in presuspension demand deposit reductions, accounting for 42% of the total. The contribution of business balances to presuspension deposit reductions was somewhat greater than their "normal" contribution to the composition of total deposits (38.4%). The presuspension reduction of business deposits represented 48% of "normal" business balances.

2. Interbank withdrawals were second in importance, comprising 25.9% of the total presuspension decline in demand deposits. The substantial contribution of interbank withdrawals to deposit losses can be explained by the extreme instability of this class of accounts. Interbank deposits decreased 59.6% of their "normal" level, a percentage decline considerably in excess of those shown by personal demand deposits, business demand deposits, or public funds.

3. Personal deposits contributed 12.9% of the total decrease in demand deposits, slightly less than their share (13.3%) in the composition

of total demand deposits. The presuspension reduction of personal deposits represented 42.6% of "normal" personal balances. Personal accounts are less stable than business accounts of comparable size but because personal balances are predominantly small balances, personal accounts as a whole are more stable than business accounts as a whole.

4. In general, variations distinguishable in the behavior of deposits of different holders are distinctly less pronounced than those discovered in deposits of different sizes. The same general differences in the behavior of accounts of different sizes appear in the data classified by type of holder as in the data for all types of holders.

5. Comparisons of the presuspension behavior of deposits owned by holders engaged in different types of business show relatively minor differences. There appears to be no consistent tendency for withdrawals of certain types of business demand deposits to exceed others.

#### Limitations of the Data

The figures presented in this discussion have been drawn from a group of sixty-seven medium sized banks, suspended during the period November 1930 to March 1933. The size and location of these banks are described in the March 1939 Bulletin, page 179. As the present analysis consists of a reclassification of the same basic data, it is subject to similar statistical qualifications. It should be noted that the figures for the percentage composition of deposits in this article are based on

"Total demand deposits, inclusive of interbank". The category "Miscellaneous demand deposits" includes fraternal, charitable, inactive, unlisted, unidentified and other nonpersonal deposits as well as certificates of deposit. The largest component of miscellaneous demand deposits is unidentified deposits, that is, deposits whose ownership could not be definitely assigned either to a business concern or to a person using the account primarily for nonbusiness transactions. It is probable that the bulk of these deposits are personal balances.

The Allocation of the Presuspension Decrease in Deposits

The figures shown in Table 1 indicate the extent to which the withdrawal of different classes of deposit holders contributed to the total decrease in deposits. The contribution of public funds to the total withdrawal was not large in any group of banks, although the behavior of these deposits was somewhat irregular, showing increases in banks suspending before the end of 1931 and making a small contribution to the total reduction of deposits in banks suspended later. Personal and business deposit reductions were responsible for more than half (54.9%) of all deposit losses, and the bulk of these were withdrawals of business deposits (42%). The major part of business withdrawals in turn was attributable to the larger accounts; those in excess of \$5,000 being responsible for 37% of the total deposit reduction. Interbank withdrawals represent 25.9% of the total decline, a share considerably greater than that of

Table 1

ALLOCATION OF THE DECREASE  
IN TOTAL DEPOSITS BETWEEN BASE DATE<sup>1/</sup> AND DATE OF SUSPENSION  
BY TYPE OF HOLDER

Type of holder	67 sample banks	9 banks suspended before June 30, 1931	14 banks suspended between June 30, and December 31, 1931	44 banks suspended after December 31, 1931
Total decrease in demand deposits, inclusive of interbank	100.0	100.0	100.0	100.0
Public funds	4.3	<sup>2/</sup>	<sup>2/</sup>	8.6
Interbank deposits	25.9	13.6	42.9	25.2
Miscellaneous demand deposits <sup>3/</sup>	14.9	31.9	9.2	12.8
Personal and business	54.9	69.4	48.4	53.4
Personal	12.9	16.6	10.7	12.6
Business	42.0	52.8	37.7	40.8
Less than \$5,000:				
Personal	7.1	9.1	3.9	7.3
Business	5.0	1.9	2.9	6.0
\$5,000 and over:				
Personal	5.8	7.5	6.8	5.3
Business	37.0	50.9	34.8	34.8

<sup>1/</sup> June 30, 1931 for banks suspended after that date; June 30, 1928 for those suspended earlier. For a fuller explanation see p.

<sup>2/</sup> Increase

<sup>3/</sup> Fraternal, charitable, other non-personal, inactive, unlisted, unidentified, and certificates of deposit

all personal accounts. Business and interbank deposits together account for about two-thirds of the total reduction of deposits.

The contribution of a class of deposits to the total deposit decline depends upon two factors. The first is the importance of the class in the original composition of total deposits. Clearly any class representing a very large share of a bank's total deposits may be responsible for substantial deposit reductions even though the accounts in this class are less heavily drawn upon than other accounts. The second factor is the stability of the accounts in the class. It is apparent that any group of accounts showing exceptional instability in times of stress may exercise an influence on deposit losses of substantially greater importance than its contribution to the original composition of total deposits.

In Table 2, the composition of total deposits is compared with the composition of the deposit decline. Interbank deposits constituted about one-fifth of all deposits, but accounted for about one-fourth of deposit reduction. Personal deposits accounted for slightly less than their proportionate share of the deposit decline. The reverse was true of business deposits. If personal and business deposits are divided into comparable size groups, it becomes clear that size is a factor of sufficient importance in deposit reduction to obscure the variations between groups of deposits having different size compositions. Withdrawals from business accounts under \$5,000 represented only 5% of the total deposit reduction, although

Table 2  
 ALLOCATION OF THE DECREASE  
 IN DEMAND DEPOSITS BETWEEN BASE DATE AND SUSPENSION IN ALL SAMPLE BANKS  
 BY TYPE OF HOLDER

Type of holder	Percentage composition of the decrease in demand deposits	Percentage composition of total demand deposits on base date
Total demand deposits, inclusive of interbank	100.0	100.0
Public funds	4.3	10.5
Interbank deposits	25.9	19.1
Miscellaneous <sup>1/</sup> demand deposits	14.9	18.7
Personal and business	54.9	51.7
Personal	12.9	13.3
Business	42.0	38.4
Less than \$5,000:		
Personal	7.1	9.3
Business	5.0	9.3
\$5,000 and over:		
Personal	5.8	4.0
Business	37.0	29.1

<sup>1/</sup> Fraternal, charitable, other non-personal, inactive, unlisted, unidentified, and certificates of deposit.

these accounts constituted 9.3% of total deposits on the base date. Corresponding figures for personal accounts are 7.1% and 9.3%. In the case of accounts of \$5,000 and over, both business and personal accounts showed withdrawals representing a larger share of total deposit losses than their original contribution to total deposits. Large business accounts represented 29.1% of total deposits, but had a substantially greater share in deposit reduction (37%). Large personal accounts constituted only 4% of all deposits, but were responsible for 5.8% of all deposit losses.

Table 3 measures directly the presuspension instability of deposits owned by different types of holders. The decrease in deposits between base date and date of suspension is measured as a percentage of the deposits in each class on the base date. Considering all sample banks, total demand deposits, inclusive of interbank, decreased 43.9%. Over the entire period, interbank deposits exhibit considerably greater percentage reductions than personal or business deposits or public funds; in the case of banks suspending during the last six months of 1931 more than five-sixths of the normal balances in this class of accounts were withdrawn before suspension. Personal accounts are consistently less stable than business accounts of comparable size, but business balances are predominantly large balances and thus business accounts as a whole are less stable than personal accounts as a whole. The percentage reductions in personal accounts exceed those of business accounts in the case of accounts under \$5,000 as well as in the case of accounts of \$5,000 and over.

Table 3

PERCENTAGE CHANGES IN DEMAND DEPOSIT BALANCES BETWEEN BASE DATE AND DATE OF SUSPENSION  
BY TYPE OF HOLDER

Type of holder	67 sample banks	9 banks suspended before June 30, 1931	14 banks suspended between June 30, and December 31, 1931	44 banks suspended after December 31, 1931
Total demand deposits, inclusive of interbank	-43.9	-35.6	-38.9	-47.0
Public funds	-17.8	+80.4	+2.2	-34.5
Interbank deposits	-59.6	-21.1	-84.5	-60.9
Miscellaneous demand deposits <sup>1/</sup>	-35.0	-56.3	-17.5	-33.4
Personal and business	-46.6	-44.2	-37.1	-49.3
Personal	-42.6	-40.7	-31.8	-45.5
Business	-48.0	-45.4	-38.9	-50.6
Less than \$5,000:				
Personal	-33.4	-30.3	-18.0	-37.3
Business	-23.8	-8.7	-10.9	-29.8
\$5,000 and over:				
Personal	-64.5	-69.7	-57.2	-65.0
Business	-55.7	-54.0	-49.4	-57.6

<sup>1/</sup> Fraternal, charitable, other non-personal, inactive, unlisted, unidentified, and certificates of deposit

Table 4 presents a more detailed comparison of the behavior of business and personal deposits of different sizes. The presuspension decrease in personal deposits exceeds the decline in business deposits in each size class shown, but the excess is clearly of a different order of magnitude than the difference in variation of large and small deposits.

Certain classes of accounts show significant variations of behavior in banks suspended during different periods. Both public funds and small business deposits exhibit a tendency toward increasingly heavy withdrawals over the period. Although the contrast in the behavior of small business accounts and large business accounts is marked throughout the period, the rate of reduction in accounts of less than \$5,000 more closely approaches the rate of reduction in larger business accounts in banks suspended after the end of 1931 than in banks suspended earlier. Increasingly heavy withdrawals of public funds and small business deposits may reflect the widening spread of apprehension from the middle of 1931 until the Banking Holiday.

#### Behavior of Business Demand Deposits Classified by Type of Business

In Table 5, business demand deposits are grouped according to the type of business in which their holders are engaged. Similar tabulations are made for accounts less than \$5,000 (Table 6) and for accounts of \$5,000 and over (Table 7). The differences in the percentage reductions shown appear to be too small to justify statement that some types of business accounts are more unstable than others. Such differences as

Table 4  
 PERCENTAGE CHANGES  
 IN BUSINESS AND PERSONAL DEMAND DEPOSITS BETWEEN BASE DATE AND SUSPENSION  
 BY SIZE OF ACCOUNT

Size of Deposit on Base Date	67 Sample Banks	
	Business	Personal
Less than \$500	+11.1	-13.4
500 - 999	-19.9	-38.9
1,000 - 2,499	-27.6	-46.4
2,500 - 4,999	-36.6	-53.8
5,000 - 9,999	-40.3	-59.2
10,000 - 24,999	-50.0	-62.5
25,000 - 49,999	-53.0	(
50,000 - 99,999	-60.4	(-70.8
100,000 - and over	-66.7	(
Total	-48.0	-42.6

Table 5  
 PERCENTAGE CHANGES  
 IN DEMAND DEPOSIT BALANCES BETWEEN BASE DATE AND DATE OF SUSPENSION  
 BY TYPE OF BUSINESS

Accounts of all sizes				
Type of business	67 sample banks	9 banks suspended before June 30, 1931	14 banks suspended between June 30, and December 31, 1931	44 banks suspended after December 31, 1931
All business demand deposits	-48.0	-45.4	-38.9	-50.6
Manufacturing and mining	-51.1	-47.2	-37.4	-54.9
Building and construction	-57.8	-58.8	-53.3	-59.2
Transportation, public utilities, etc.	-44.3	-49.7	-28.4	-43.4
Automobile distribution and related services	-53.6	-54.3	-23.0	-57.4
Trade and service	-40.9	-34.0	-31.6	-44.9
Financial	-50.3	-44.8	-55.6	-50.1
Other, including agriculture				

Table 6  
 PERCENTAGE CHANGES  
 IN DEMAND DEPOSIT BALANCES BETWEEN BASE DATE AND DATE OF SUSPENSION  
 BY TYPE OF BUSINESS

Accounts of less than \$5,000				
Type of business	67 sample banks	9 banks suspended before June 30, 1931	14 banks suspended between June 30, and December 31, 1931	44 banks suspended after December 31, 1931
All business demand deposits	-23.8	-8.7	-10.9	-29.8
Manufacturing and mining		+54.1		
Building and construc- tion	-29.7	-60.4	+18.7	-31.5
Transportation, public utilities, etc.	+15.6	+30.9	-6.0	+17.3
Automobile distribu- tion and related services	-39.4	-21.8	-8.8	-47.8
Trade and service	-28.8	-15.4	-16.0	-34.7
Financial	-15.2	-30.0	-2.1	-14.5
Other, including agriculture				

Table 7  
 PERCENTAGE CHANGES  
 IN DEMAND DEPOSIT BALANCES BETWEEN BASE DATE AND DATE OF SUSPENSION  
 BY TYPE OF BUSINESS

Accounts of \$5,000 and over

Type of business	67 sample banks	9 banks suspended before June 30, 1931	14 banks suspended between June 30, and December 31, 1931	44 banks suspended after December 31, 1931
All business demand deposits	-55.7	-54.0	-49.4	-57.5
Manufacturing and mining		-57.5		
Building and construction	-68.7	-57.6	-67.4	-70.8
Transportation, public utilities, etc.	-48.2	-51.7	-31.6	-48.1
Automobile distribution and related services	-66.1	-76.1	-46.8	-65.7
Trade and service	-49.4	-45.2	-42.5	-52.2
Financial	-59.0	-49.1	-66.9	-59.1
Other, including agriculture		-76.8		

exist become less as the number of banks considered is enlarged. Moreover, no single business class consistently outranks other classes in the percentage of its "normal" balance withdrawn prior to suspension.

Chart 1 compares the variations in presuspension reductions of deposits of different sizes and those of different types of business. The data plotted in the bar diagrams on the left of this chart were presented in Table 6, p. 181, in the March 1939 Federal Reserve Bulletin. The diagrams on the right are plotted from figures presented in Table 5. The bars on the right have been ranked in accordance with the severity of the deposit reductions of different types of business holders when all banks and sizes of accounts are included. The summary bar preceding the size of account diagrams is based on the percentage reductions in total demand deposits; the bar preceding the type of business diagrams is based on total business demand deposits; both sets of basic figures exclude inter-bank deposits.

The chart illustrates the marked contrast both in the extent and the consistency of variation in deposit behavior. The diagrams measuring variations in presuspension reductions in deposits by size of account exhibit a clearly discernible trend of the percentage reduction to increase as the size of the account becomes greater.<sup>1/</sup> This trend becomes more reg-

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<sup>1/</sup> The figures for classes of accounts whose increases in balances are shown because of technical reasons are not charted. For a fuller explanation see March 1939 Federal Reserve Bulletin, p. 182.

ular as the number of banks considered is increased.

Business deposits, when classified by types of business, show no such distinct variation. The arbitrary ranking shown by the bars based on data derived from all the banks in the sample is not followed by the data derived from any of the separate groups of banks, classified according to date of suspension. It is noteworthy also that the extent of the divergence between types of business decreases markedly as the number of banks in the groups considered increases.