

FEDERAL RESERVE BANK  
OF NEW YORK

Circular No. 45

Official Signatures

Note:

Circulars Nos. 17, 27, 39, 45, 49 and 70 containing facsimile signatures of the bank's officers issued between February 1915 and June 1917 were, on instruction from Governor Strong, destroyed as and when new signature circulars were issued.

# FEDERAL RESERVE BANK OF NEW YORK

NEW YORK CITY, August 1, 1916.

TO THE CASHIER.

SIR:

Cancelling all former authorizations, please find attached facsimile specimen signatures of the officers now authorized to sign on behalf of this Bank.

Respectfully,

BENJ. STRONG, JR.,  
Governor.

Mr. BENJAMIN STRONG, JR., Governor, will sign:

*Benj. Strong Jr.*

Mr. PIERRE JAY, Chairman  
and Federal Reserve Agent, will sign:

*Pierre Jay*

Mr. ROBERT H. TREMAN, Deputy Governor, will sign:

*R. H. Tremen*

Mr. GEORGE FOSTER PEABODY, Vice-Chairman  
and Deputy Federal Reserve Agent, will sign:

*George Foster Peabody*

Mr. J. F. CURTIS, Secretary, will sign:

*J. F. Curtis*

Mr. LOUIS F. SAILER, Cashier, will sign:

*L. F. Sailer*

Mr. LAURENCE H. HENDRICKS, Asst. Cashier, will sign:

*L. H. Hendricks*

Mr. EDWIN R. KENZEL, Assistant Cashier, will sign:

*E. R. Kenzel*

Mr. H. M. JEFFERSON, Auditor, will sign:

*H. M. Jefferson*

SHORT METHOD

ANALYSIS OF DEPOSITORS' ACCOUNTS

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FEDERAL RESERVE BANK OF NEW YORK

JULY, 1916

## PREFACE

The analysis of a depositor's account is the process of determining the profit or loss on the account and is governed by the usual principles of cost accounting. In the application of those principles it is found that four general factors are to be considered:

1. The amount of the depositor's balance that can be loaned or invested,
2. The amount of income that such a balance when loaned produces at the average net rate on loans and investments,
3. The amounts of all disbursements and other revenue directly traceable to the account, and
4. The amount of the bank's general expense which should be equitably apportioned to the account.

**DETERMINING GROSS PROFIT OR LOSS:** A certain amount of preparatory work is necessary in order to apply 1, 2 and 3. This work will include: finding the net yield on money loaned, the time necessary to collect items, average reserve maintained, etc., etc.

By the use of these figures in connection with those of a given account, it will be possible to determine the gross profit or loss in a very few minutes, a result that in many cases will be considered a sufficiently reliable gauge of the value of the account.

**DETERMINING NET PROFIT OR LOSS:** If it is desired to ascertain the net profit or loss, a portion of the general expenses must be included. This, also, will require some preparatory work (the method is briefly described on pages 6 and 7), which, however, ordinarily need be done only once during the year.

A greater part of the effort to offer a workable plan has been devoted to the disposition of item 4. As any apportionment as exact as theory demands might prove too expensive for a smaller bank to operate, the method is considerably abridged and averages have been adopted throughout.

The figures employed are hypothetical, intended only to illustrate the method, and, therefore, should not be used for comparison with actual results.

**THE METHOD OF ANALYSIS ADOPTED** herein is divided into two parts; first, example forms A and B, analyzing and assembling the information concerning an account, followed by notes of explanation to be found on pages 4 and 5; and, second, tables 1 and 2 with accompanying rules indicating the distribution of overhead or general expenses.

## ANALYSIS OF ACCOUNT

JOHN DOE

Name of Depositor

September, 1915

Period of Analysis

Date	Daily Balances		Amounts in Transit				Exchange	
	Dr.	Cr.	1 Day	2 Days	4 Days	8 Days	Paid	Received
1		\$1,900.			\$500.		\$.25	\$.50
2		2,000.	\$1,200.					
3		3,010.	1,800.		500.			
4		3,765.		\$1,900.		\$100.		
5		3,765.						
6		1,800.	500.			50.		
7	\$300.				80.			
8		1,000.			270.			
9		4,900.	1,000.					
10		2,200.				500.		
11		3,000.		2,000.	400.			
12		3,000.						
13		4,500.	1,500.		150.			
14	200.					270.		.30
15		2,700.			510.			
16		3,500.	2,000.					
17		3,900.	1,000.		70.			
18		4,200.		3,000.		180.	2.50	3.50
19		4,200.						
20		2,100.			200.			
21		5,700.	1,500.			400.		
22		4,500.			300.			
23	500.							
24		4,360.	1,000.		120.			
25		2,300.		1,000.	200.			
26		2,300.						
27		2,800.						
28		1,500.						
29		2,400.						
30		2,200.						
31								
Totals	\$1,000.*	\$83,500.	\$11,500.	\$7,900.	\$3,300.	\$1,500.	\$2.75 (d)	\$4.30 (e)

(a) One day's interest on overdraft, say 17c.  
 (b) Average \$2,750 per day in a 30-day month.

(\*) Supposedly unavoidable debits used for illustration in analysis.

\$11,500 for 1 day \$11,500  
 7,900 for 2 days 15,800  
 3,300 for 4 days 13,200  
 1,500 for 8 days 12,000  
 Divide by 30 \$52,500  
 (c) Average per day \$ 1,750

## SUMMARY OF ANALYSIS

JOHN DOE

Name of Depositor

September, 1915

Period of Analysis

## INCOME Earning Balance

1. Average daily balance ( (b)—Form A ) .....	\$2,750
2. LESS: Average in transit ( (c)—Form A ) .....	<u>1,750</u>
3. NET CASH daily balance .....	<u>\$1,000</u>
4. LESS: Reserve,	
In Vault .....	( 4 % ) \$40
With Federal Reserve Bank .....	( 8 % ) 80
With reserve agents .....	( 0 % ) 0
INCOME EARNING REMAINDER .....	<u>120</u>
	( 88 % ) <u>\$880</u>

## GROSS Profit or Loss

Income earning remainder employed as follows:

	Expense	Income
With reserve agents .....	( 0 % ) at 0 %	
5. With other banks .....	( 3 % ) at 2 %	.05
6. Loaned and invested .....	( 85 % ) at 4.763 %	3.37
7. EXCHANGE:		
Received on items ( (e)—Form A ) .....		4.30
Paid for collection ( (d)—Form A ) .....	2.75	
8. INTEREST:		
Received on overdrafts ( (a)—Form A ) .....	\$1,000 at 6 %	.17
Paid on average balance ( (b)—Form A ) .....	\$2,750 at 2 %	4.52
MISCELLANEOUS:		
	7.27	7.89
GROSS PROFIT ✓ LOSS	.62	
	7.89	7.89

## NET Profit or Loss

✓  
Gross profit or loss brought down .....

OVERHEAD COST:

9. Charge for ACTIVITY .....	163 items at .0233 each	3.80	
10. Charge for SIZE—cash balance .....	\$1,000 at 2.05 per annum	.17	
11. Charge for NUMBER .....	at 4.08 per annum	.34	
		4.31	.62
NET PROFIT ✓ LOSS ✓			3.69
		4.31	4.31

NOTE: Numerals in heavy-faced type refer to explanations on pages 4 and 5.

## NOTES EXPLAINING HOW FORMS A AND B ARE USED IN PRACTICE.

The first point to be ascertained is what portion of the account is available to the Bank for loaning purposes. This entails the deduction of the items in transit and the Reserve percentage from the Balance carried on the account. The analysis provides for a period of one month and arrives at the balance available for loaning purposes as follows:

### INCOME EARNING BALANCE.

- (1) **Average daily balance for month:** This is taken from the figures which represent ledger balances shown on Form A.
- (2) **Amount in Transit:** All items received for deposit are listed daily according to the number of days required to collect them and at the end of the month the totals are multiplied by the respective number of days, and the resulting total figure divided by the number of days in the month. This will give the average Amount in Transit daily.
- (3) **Net Average Daily Balance:** The difference between the two above amounts will be Net Average daily balance. This is the true or cash balance.
- (4) **Reserve:** The portions of the Net Balance carried as Reserve (on which no interest is received) are next ascertained and set out as a deduction.

### GROSS PROFIT OR LOSS.

- (5) **Excess Reserve:** The percentage of total deposits (sometimes known as Secondary Reserve), carried with correspondents for various reasons, is then taken into consideration. The same percentage of the Net Balance of the Depositor's account is also taken, and deducted from the Net Daily Balance of the account. Any interest received on such Excess Reserve is taken into account in the Income column on the Summary.

The remainder of the Net Balance is the balance available to the Bank for loaning purposes, on which is figured (for one month) interest at the average net rate received on loans for the current period, and the result extended into the "income" column.

- (6) **Interest on balance available for loaning purposes:** In this example the total interest on \$1,220,000, loaned or invested, by the bank is assumed to be \$73,200. Deducting the expenses against this, estimated at \$15,086 (see Table I, page 6), a net average earning rate of 4.763% per annum on loans is reached.
- (7) **Exchange:** Exchange received from customers, and exchange paid on items received from them, are listed daily in the columns provided for that purpose on Form A, and the totals of these columns carried into the Summary (Form B).
- (8) **Interest:** The actual amount of interest paid to the customers or the actual amount collected from customers on overdraft balances is next brought into the Summary.

The above items of Income and Expense together with any miscellaneous revenue or expense in connection with the particular account, such as special check book furnished or sold to the customer, salable exchange received from him or furnished to him at a profit or loss, will give the gross profit or loss of the account.

### NET PROFIT OR LOSS.

To determine the net profit or loss the general expenses of the bank have still to be considered and the proportion thereof applicable to customers' accounts ascertained and spread over the various accounts.

I. To find this proportion, the expenses of the bank are first divided among the different kinds of business done by the bank. (See example, Table I.)

The principal divisions in a country bank are:

**DEPOSITORS' CHECKING ACCOUNTS:** These are charged with all expenses incidental to obtaining and handling depositors' accounts, and looking after the bank's reserves. The expenses incidental to the investing of the depositors' money come under the next head, that of:—

**CAPITAL, SURPLUS, UNDIVIDED PROFITS AND LOANS:** These are charged with all expenses incidental to making loans and investments and the carrying on of the general business of the bank not covered by special divisions.

**SAVINGS AND CERTIFICATES:** These are charged with all expenses incidental to obtaining and looking after these accounts. The expense of investing the funds is borne by Capital and Surplus division.

**OTHER DIVISIONS:** These include currency, foreign exchange, brokerage, credit department, trust department, etc. In the example given, details have not been carried out but the expenses simply grouped together under "Other Divisions."

In Table I, page 6, the distribution of expenses among these divisions is given with explanations following.

II. The expenses applicable to depositors' accounts having thus been obtained, they have still to be apportioned among the individual depositors.

They must be divided according to:

1. Activity of Accounts.
2. Size of Accounts.
3. Number of Accounts.

This further subdivision is shown in Table II.

The result of the method of ascertaining the profit or loss on an individual account can now be arrived at.

Tables I and II have shown how to arrive at expenses applicable to depositors' accounts and also how to subdivide this total according to activity, size and number of accounts. In the example given the figures are as follows:

1. Activity .....	\$8,891.00
2. Size .....	2,053.00
3. Number .....	4,752.00
<hr/>	
Total Expense of Depositors' Accounts.....	\$15,696.00

These expenses are now apportioned to the individual depositors as follows:

- (9) **Activity:** This expense is distributed to the individual accounts according to the number of items handled in each account whether debits or credits. In the example given the total number of items handled by the bank in the year was 380,388. The entire activity expense of the bank was \$8,891.00 making the cost \$.0233 per item. There were 163 items in this particular depositors' account, making the proportionate charge for activity expense against this account \$3.80 for the month.

NOTE: A more accurate method would sub-divide the items into classes, such as: Home, Town, Country, Clearing House, etc., and obtain the cost of each. For obvious reasons such detail is omitted in an abridged method.

- (10) **Size:** This expense is apportioned to the accounts according to the amount of balance carried. Assuming in this example that the deposits of the bank are one million dollars and the "Size" distribution \$2,053., it will be seen that the apportionment will be at the rate of \$2.05 per \$1,000. per year, or \$.17 for one month.
- (11) **Number:** This expense is divided equally over the number of accounts irrespective of activity or size. In the example given there are 1165 depositors. The total expenses are \$4,752.00, making a charge of \$4.08 per annum or 34 cents per month against each depositor.

These figures complete the analysis which shows that the bank is sustaining a loss at the rate of \$3.69 a month or \$44.28 a year on this depositor's account.

The analysis brings out the following facts:

1. That uncollected items are being credited as cash, making the apparent balance of the account more than twice the real balance.
2. That interest is being paid on such uncollected items.
3. That the bank is incurring considerable expense due to the activity of the account and a lesser amount due to its size and its relation to the total number of accounts.



**TABLE I**  
DISTRIBUTION OF EXPENSE ACCORDING TO DIVISIONS OF BUSINESS

Expense Accounts	Depositors' Checking Accounts	Capital, Surplus and Undivided Profits and Loans	Savings and Certificates	Other Divisions of Business	Totals
Officers' Salaries.....	\$3,300	\$6,600	\$550	\$550	\$11,000
Employees' Salaries.....	5,200	650	325	325	6,500
Rent.....	4,250	1,250	1,000	1,000	7,500
Taxes.....		5,000			5,000
Stationery and Printing, etc.....	1,000	250	125	125	1,500
Other Supplies.....	333	83	42	42	500
Telephone and Telegraph.....	333	83	42	42	500
Postage.....	417	104	52	52	625
Light and Heat.....	170	50	40	40	300
Insurance.....	50	300	25	25	400
Surety Bonds.....	75	50	25	25	175
Depreciation (or maintenance).....	568	156	133	133	1,000
Bad Debts and Special Loss.....		500			500
Miscellaneous.....					
<b>TOTALS .....</b>	<b>\$15,696</b>	<b>\$15,086</b>	<b>\$2,359</b>	<b>\$2,359</b>	<b>\$35,500</b>

#### RULES FOR DISTRIBUTION ACCORDING TO DIVISIONS OF BUSINESS.

**Officers' Salaries:** The division of this expense depends on the organization of each particular bank. The general rule to be followed is that the officers' salaries should be applied to each branch of the business according to their value to that branch. This is to some extent arbitrary, but if equitably estimated will be sufficiently accurate.

**Employees' Salaries:** These should be apportioned according to the branch or branches in which employed. The division should be made on a time basis and presents no difficulty.

**Rent, Light and Heat:** This is divided among the divisions according to the space occupied. Space not chargeable direct to any division, such as lobby, should be apportioned ratably among divisions according to the space they occupy.

**Taxes:** These are charged to the division to which they apply—*e. g.*, General Taxes and Income Tax to Capital and Surplus and Loans. Taxes on bank building according to the rules for the division of rent. In the example given the bank does not own the bank building and therefore pays no taxes on real estate.

**Stationery and Printing, etc., Telephone and Telegraph, Postage, Other Supplies:** These expenses should be divided according to the actual amount consumed by each division. It is not necessary to make any elaborate analysis before dividing them over the different divisions of the bank's business, a careful survey of the work done in each will enable a fair approximation to be made with very little loss of time.

**Insurance, Surety Bonds:** As there are different classes of insurance they are treated accordingly. Premiums for Burglary insurance and surety bonds should be divided according to the divisions of the bank's business, *i. e.*, the proportion due to the insurance of the reserves in vaults will be applicable to Depositors' checking accounts and to Savings accounts, and the insurance of securities to Capital and Surplus. Fire insurance would be divided in the same proportions as Rent.

**Depreciation (or Maintenance):** This is divided according to its nature. If the bank owns its building, the maintenance and depreciation would be apportioned to the divisions according to the rules laid down for Rent, as would depreciation of general fixtures. Depreciation of furniture or fixtures of a particular division would be charged accordingly.

**Bad Debts and Special Losses:** These are charged to Capital, Surplus and Loans as a general rule.

**TABLE II**  
**EXPENSE OF DEPOSITORS' CHECKING ACCOUNTS (FROM TABLE 1)**  
Distributed According to Activity, Size and Number

Expense Accounts	Activity	Size	Number	Total
Officers' Salaries.....	\$1,100	\$1,100	\$1,100	\$3,300
Employees' Salaries.....	2,600	886	1,734	5,200
Rent.....	2,188		1,062	4,250
Taxes.....				
Stationery and Printing, etc.....	666		334	1,000
Other Supplies.....	222		111	333
Telephone and Telegraph.....	222		111	333
Postage.....	313		104	417
Light and Heat.....	128		42	170
Insurance.....	26	12	12	50
Surety Bonds.....		75		75
Depreciation (or maintenance).....	426		142	568
Bad Debts and Special Losses.....				
Miscellaneous.....				
<b>TOTALS.....</b>	<b>\$8,891</b>	<b>\$2,053</b>	<b>\$4,752</b>	<b>\$15,696</b>

**RULES FOR DIVISION OF DEPOSITORS' CHECKING ACCOUNTS EXPENSES,  
ACCORDING TO ACTIVITY, SIZE AND NUMBER OF ACCOUNTS.**

**Officers' Salaries:** This expense is divisible among all of the above headings. No exact basis for division is possible which will apply to all banks. The proportion should be judged by the character of the business and the number of officers. In this case, equal parts have been assumed, to avoid long explanation.

**Employees' Salaries:** These should be divided on a time basis—*i. e.*, the time spent on handling items should go into the activity column, the time spent on bookkeeping should go into the number column, the time of watchmen should go into the size column. These figures would vary according to the bank. In an active country bank, the activity portion might run about one-half to three-fourths. In a small country bank with few transactions, the greater portion of Employees' salaries would be applicable to number.

**Rent, Light and Heat; Fire Insurance:** As a minimum force is necessary to handle inactive accounts, a certain portion of Rent, say one-fourth, should go to number. The balance goes to activity, as the additional space is necessitated by the increasing volume of business.

**Stationery and Printing, etc.: Other Supplies, Telephone and Telegraph:** These are divided according to consumption—*e. g.*, ledgers go to number, supplies used in handling items to activity.

**Postage:** Should go to activity and number, say three-fourths and one-fourth, respectively.

**Burglary Insurance:** Should go into size column, as also the premiums on Surety bonds.

**Depreciation (or Maintenance):** Depreciation of Furniture and Fixtures and Equipment is divided as follows:—to activity, that portion which applies on the Fixtures, etc., of the branches handling items only; to size of accounts, depreciation of vaults; to number, the remainder. The major portion of Maintenance of Building goes into activity.