

1906

# Cost of handling checking accounts

John F. Wilson

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## Recommended Citation

Wilson, John F., "Cost of handling checking accounts" (1906). *Individual and Corporate Publications*. 81.  
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# Cost of Handling Checking Accounts

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REPRINTED FROM THE BANKERS' MAGAZINE



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Cost of Handling

Checking Accounts

**I**N this issue of *THE BANKERS' MAGAZINE* we publish an article entitled "Cost of Handling Checking Accounts," from the pen of JOHN F. WILSON, who for several years was assistant national bank examiner stationed at Chicago.

Mr. WILSON explains succinctly his plan for figuring the cost of conducting checking accounts; to use his words: "A system which shall determine the expense of handling each depositor's account."

Briefly stated, it is a formula for prorating the operating expenses of a bank against its several customers' accounts on a scale established by counting the items; it also determines the measure of profit, or if the account is an unprofitable one, it shows the loss.

Unlike many other so-called "cost systems," this plan involves no expense; it can be applied to any bank from the smallest in the market town to the largest on Broadway. It calls for no special skill, change of methods or extra clerical force.

## COST OF HANDLING CHECKING ACCOUNTS.

BY JOHN F. WILSON.

MANAGER DEPARTMENT OF BANK EXAMINATIONS, WILKINSON. RECKITT,  
WILLIAMS & CO.

A COST system which would allot to each depositor the amount of expenses entailed in handling his account would undoubtedly be of great assistance to bankers. It is the endeavor of the writer to outline, in the following paragraphs, a workable and economical scheme whereby such a result may be obtained.

### SOURCES OF A BANK'S REVENUES AND EXPENDITURES.

The fund with which the ordinary bank does business is created and maintained by the contributions of its shareholders and its depositors. The former, once they are paid in, remain stationary, or are supplemented by the accumulations of undivided profits. The depositors' contributions, on the contrary, fluctuate daily, though the grand total of balances may be held practically at a normal level.

The accounts of shareholders, as such, entail very little labor or expense, and the apportionment of profits is simplicity itself, because all are treated ratably—share for share. But a cost system which shall determine the expense of handling each depositor's account is a problem of greater difficulty.

Analysis of a bank's expenses will show that they are caused in greater part by the daily inward and outward flow of deposits and withdrawals; and that it is the *number* of checks and items in and out, rather than their amounts, which requires the employment throughout the country of an army of tellers, bookkeepers and clerks to handle them. The payrolls of eight representative Chicago banks disclose the following facts: Four commercial banks with aggregate deposits of \$242,400,000 employ 1,319 officers and clerks; four savings banks and trust companies with aggregate deposits of \$168,000,000 employ only 360 officers and clerks. It thus appears that, equalizing deposits, the employees in the commercial banks outnumber those in the savings banks by more than two and one-half to one. It should be further noted that none of the four banks in the commercial group has either a savings or a trust department, while three in the savings' group receive commercial accounts and conduct trust departments, the volume of the latter not being included in the deposits as stated.

These facts and figures are significant, and clearly point out that commercial or checking accounts require much more labor and expense

to handle than do savings or non-checking accounts. It follows that the more active an account is, that is to say, the more checks and items there are to be handled, the greater the cost.

If then, disregarding considerations of policy and indirect advantage, the value of a depositor's account depends so largely upon the number of transactions involved in conducting it, the procedure to compute the gain or loss is plainly indicated, and, briefly stated, is as follows:

Ascertain the total number of items handled, in and out, from all sources, for say twelve months, and at what total cost to the bank in salaries, rent and general expenses. The total cost divided by the total number of items gives the rate per item. The rate per item applied to the number of items handled for any depositor during any period, long or short, gives first cost. The difference between *first cost* and the *earning power* of the depositor's average balance for the same period determines the net gain or loss to the bank in the account under analysis.

#### VARYING CHARACTER OF DEPOSIT ITEMS.

Aside from the labor involved in the daily count of the multitude of items handled, the application of this rule would be simplified if all deposits were in currency or coin, or in any other one substitute or medium of exchange. But the items are of various kinds; they may be divided into three general classes:

- (1) Currency or coin.
- (2) Local checks, including those drawn on the receiving bank.
- (3) Out-of-town checks.

Each of these requires different treatment according to its class, and the amount of labor and expense varies likewise. Then there is the labor and expense of handling the checks drawn by the depositor, some of which are paid over the counter in currency, and others through the clearing-house.

It will be seen that the varying character of the items interposes complications at the very outset, and that a mere item-for-item enumeration will not serve. Nor is an exhaustive tabulation of costs by classification and sub-classification of labor and expense necessary. A simpler and much more economical solution of the difficulty is found in the use of a table or scale by which the variations which attach to the different classes of items are adjusted *in the count*. It is suggested therefore that in making up the total number of all items handled during the year, or those handled for any depositor for the period his account is under analysis, the method of procedure shall be to count:

Each deposit ticket, credit ticket and debit ticket.....	as one item.
Each check paid.....	as one item.
Each local check deposited or cashed.....	as one item.
Each out-of-town check deposited or cashed.....	as two items.

Each deposit of currency or coin of \$200 or less..as one item.  
Each deposit of currency or coin of \$200 to \$400..as two items.  
(Larger amounts in proportion.)

These comparative estimates are based upon the time and labor required to care for and finally dispose of the items according to their class. The figures are arbitrary, but may be said to fairly represent the consensus of expert opinion in half a dozen or more large banks. Some modifications of the rule in this and other directions will doubtless be necessary to fit the varying conditions which prevail in different banks, but it is evident that the use of a scale of some sort in the count will save much of the time and minutiae of analysis which otherwise must be expended if the cost of items is computed separately.

#### APPORTIONING THE BANK'S EXPENSES.

Having thus laid down the proposition that the number of items of all kinds deposited, plus the number of all checks paid or cashed during a given period, is the true basis for a calculation of cost, and having suggested a scale by which the several kinds of items may be brought to a parity, it is next in order to consider what portion of the bank's expenditures is properly chargeable to the maintenance of the deposit line, and what portion to other branches of the business.

For the purposes of this discussion, the bank's business may be divided between two main departments, namely:

Department A.—Making loans and investments.

Department B.—Handling deposits and paying checks.

To Department A should be charged salaries and expenses of the discount and credit departments, taxes (because they are levied on capital and surplus, not on deposits), and a proportion of rent, officers' salaries, postage, light, heat, and items of general expense. The total of these expenses deducted from the gross income gives the net income in Department A and determines the percentage of net profit derived from the average amount in the loan and investment fund during the period under analysis. "The loan and investment fund," as before indicated, is on any day the aggregate of the capital, surplus, undivided profits, and deposits. A portion of this fund is loaned or otherwise invested; a portion is on hand in actual cash; a portion is on deposit with correspondents; and a portion is outstanding in transit or in process of collection. The fact that a bank's earning power is curtailed by legal restrictions as to reserve, limit as to loans to any one borrower, cash items outstanding in transit, a slack demand for money, or poor management in securing desirable paper, does not directly operate either to diminish or increase the deposit balance or the expenses chargeable to same. Hence it appears proper to base the calculation of income and expense in Department A upon the total average amount of capital,



undivided profits, and deposits, rather than upon the average amount actually employed at interest.

As exchange received is presumed to provide for exchange paid, neither need be considered a factor in computing income and expense in Department A, nor in cost of conducting Department B.

A separate analysis is required to determine if a loss or a gain in exchange is being made in any particular account.

Semi-annual duty and other expenses on circulating notes, together with the income on the bonds which secure them, should also be eliminated and treated apart from the subject here discussed.

Interest paid, since it applies only to special cases, must also be considered by itself and not as an inevitable expense in handling general deposits in Department B, nor as chargeable to Department A by spreading it over the entire loan fund. In other words, the amounts paid for interest should be charged in analysis to particular accounts and not to all the accounts.

The expenses in Department A having been computed as above and the same having been deducted from the total general expenditures for the year (with the exceptions as noted), it is obvious that the residue is the cost of handling deposits (Department B), and that this latter amount, divided by the total number of items handled (compiled according to the scale), gives the cost per item. But a deduction or allowance should be made for "general administration" and to equalize expenses between active accounts and those which change infrequently or not at all during long periods. It is therefore suggested that, say one-tenth of one per cent. of the average deposits be deducted from the "residue" before finally computing the cost per item.

The cost per item applied to any depositor's transactions, together with the equalization charge of one-tenth of one per cent. per annum on his average balance, determines the cost of handling his account for any period. Having ascertained the cost of handling, it only remains to apply Department A's rate of net profit (which once computed is always known) to the depositor's average balance to determine the gross earnings in his account. And the difference between the cost of handling and the gross earnings is the net gain or loss to the bank in the account. If interest is paid, the amount thereof must of course be added to the cost and so deducted from the gross profit.

#### DEMONSTRATION OF THE RULE.

Let us suppose a bank in the national system, located in a central reserve city and doing business as "The Twelfth National Bank."

We will also suppose that the general balance-sheet as submitted shows the results of a full year's business, and that the various balances as they appear therein, with the exception of the income and expense accounts, are approximately as they have averaged for the twelve months ending December 31.

## THE TWELFTH NATIONAL BANK.

GENERAL BALANCE-SHEET AS AT CLOSE OF BUSINESS DECEMBER 31.

RESOURCES.	LIABILITIES.
Loans and discounts.... \$7,300,000	Capital..... \$1,000,000
United States bonds to secure circulation..... 100,000	Surplus..... 500,000
Other bonds..... 300,000	Undivided profits..... 50,000
Due from banks..... 1,700,000	Deposits..... 10,000,000
(\$1,100,000 balances ( 600,000 cash items in transit	Circulating notes..... 100,000
Cash and clearing-house checks..... 2,400,000	Profit on circulation(net) 1,000
Five per cent fund..... 5,000	Exchange received — 12 months..... 25,000
Taxes paid—12 months, 18,000	Interest and discount—12 months..... 401,000
Exchange paid — 12 months..... 24,000	
Interest paid—12 months 120,000	
General expenses — 12 months..... 110,000	
Total..... \$12,077,000	Total..... \$12,077,000

Upon the above general balance-sheet is based the following statement of income and expenses in Departments A and B:

### STATEMENT OF INCOME AND EXPENSES IN DEPARTMENTS A AND B FOR TWELVE MONTHS ENDING DEC. 31.

#### DEPARTMENT A (Loans and Investments).

Income:			
Interest on other bonds.....	\$10,500	rate 3½	per cent.
Interest on balances with correspondents....	20,000	rate 2	per cent.
Interest on loans and discounts.....	370,500	rate 5	per cent.
Deduct:			
\$401,000			
Expenses, discount and credit de- partments, and proportion of off- icers' salaries, rent, postage, etc..	\$20,000		
Taxes .....	18,000	38,000	
		\$363,000	Estimated net profit in Dept. A (excluding inter- est-paid and ex- change).

As the average amount in the loan and investment fund during the year was \$11,600,000, the profit in Department A as above was  $3\frac{1}{8}$  per cent. on that amount.

#### DEPARTMENT B (Handling Deposits).

Expense:			
General expense account.....	\$110,000		
Deduct Dept. A proportion.....	20,000	\$90,000	Estimated cost of handling deposits (excluding inter- est-paid and ex- change).
Deduct 1-10 of 1% of average deposits, to equalize expenses of inactive accounts ..	10,000	\$80,000	Equalized cost of handling "items."

If the total number of items handled during the year (compiled according to the scale) was 3,200,000, the cost per item was  $2\frac{1}{2}$  cents.

APPLICATION OF THE RULE TO AN INDIVIDUAL ACCOUNT.

The above estimates of income and expense applied to an individual depositor's account make the following showing:

*Analysis of John Doe's Account for Sixty Days.*

Deposits and credits.....	20	Yearly Expense:	
Local checks deposited.....	30	660 items at $2\frac{1}{2}$ cents each..	\$16.50
Out-of-town checks deposited,		Equalization charge of 1-10	
5x2 .....	10	of 1 per cent. on his average	
Currency deposited (10 amounts		balance of \$500.....	.50
all under \$200) .....	10		
Checks paid .....	40	Cost per annum.....	\$17.00
		Yearly Income:	
Total items 60 days .....	110	$3\frac{1}{8}$ per cent. on his average	
or 660 per year.		balance of \$500 (gross profit	
		per annum) .....	15.62
		Net loss per annum.....	\$1.38

The loss to the bank on Mr. Doe's small and moderately active account appears to be \$1.38 per year.

In the absence of any compensating advantage peculiar to his case, there could be no impropriety in requiring him to maintain a larger balance or to pay for the service rendered. No reasonable depositor would ask his bank to care for his account at a loss; indeed, he would expect and prefer that the bank should receive a fair return in exchange for the expense and risks incurred.

If the foregoing rule for computing cost is correct in theory, the expense of handling deposits, under the conditions supposed to exist in "The Twelfth National Bank," is  $2\frac{1}{2}$  cents per item plus one-tenth of one per cent. on each depositor's average balance; and, exclusive of interest paid, the net earnings of the loan fund are  $3\frac{1}{8}$  per cent. on the average amount in that fund (employed and unemployed) during the year.

It is not claimed that the same results will follow the application of the rule in any existing bank. All the figures used in the illustrations are merely estimates, but they are well within the bounds of probability, and it is believed that the suggested method of procedure lays down a workable basis for a reasonably approximate computation of the cost of handling checking accounts.

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