Journal of Accountancy

Volume 16 | Issue 3 Article 3

9-1913

Account Analysis in Commercial Banks

Harwell Cloud Thompson

Account Analysis in Commercial Banks*

By Harwell Cloud Thompson

Account analysis in a bank means a distribution of earnings and of expenses to individual deposit accounts in such a manner as to show the amount of profit or loss on any account.

The method of analysis is (1) to reduce to units the earnings and expenses of the bank and (2) to apply these units to the deposit accounts under analysis. Examples of such units are the amount of earnings per annum on a dollar of net deposits, the average cost of collecting an out-of-town cheque deposited, and the average cost of paying and charging a cheque drawn on the bank. Cost units are determined by dividing the whole cost of a given operation for a given period by the number of times that operation was performed during the period. They are not determined by estimating the cost of the operation in a limited number of instances, for the reason that errors in the estimate would be so increased by multiplication that the analysis would be invalidated.

It is apparent that this method of analysis is practically a system of cost accounting, inasmuch as it includes classification of expenses, computation of unit costs, and determination of profit or loss on individual accounts. The terms "cost system" and "account analysis" are both in use to describe the same general operation, and it seems that no distinction in meaning is made. The term "account analysis" is preferable because it is used by most banks which have such a system and because it is more indicative of the special work involved than the more general term of cost accounting. Account analysis, therefore, should be considered a subdivision of cost accounting.

The subject of account analysis is new. A few banks in the large cities have analyzed accounts for a number of years, and most of the large banks in these cities now have more or less fully developed systems. Outside the important financial centers very few banks have made any attempt at systematic analysis. The methods in use are still being improved to secure more accu-

* A thesis for the degree of bachelor of arts in business administration, University of Illinois.

rate results at less cost. There is little literature on the subject. Mr. F. W. THOMAS of Toledo, Ohio, has published a concise treatise in a booklet entitled *Cost Accounting in a Bank*. Mr. GEORGE O. BORDWELL of the First National Bank of San Francisco has issued a pamphlet, *The Analysis of a Bank Account*. Other articles and addresses have appeared in various banking journals, particularly the *American Banker*. The subject is sufficiently large and important to necessitate a volume for adequate treatment.

The purpose of this paper is: (1) to show the value to a bank of a system of account analysis, (2) to outline the principles and methods of a proper allocation of earnings and expenses to individual accounts, and (3) to indicate how the results of analysis may be utilized.

VALUE OF ACCOUNT ANALYSIS

Analysis of accounts establishes a basis for an equitable adjustment of the relations between bank and depositor. The bank serves its depositors in some or all of the following ways: (1) by receiving deposits, (2) by safekeeping funds, (3) by paying cheques, (4) by paying interest on balances, and (5) by rendering incidental services varying from issuing drafts to giving advice. The compensation of the bank is in the use of the funds of its depositors. This compensation has little direct relation to the cost of the services rendered. While the bank makes a reasonable profit on its business as a whole, the reason may be that a loss on some accounts is more than balanced by a large profit on others. A depositor may even withdraw funds before the bank can collect the items deposited, the bank thus actually supplying free capital to the depositor as well as free service in handling his account. Analysis shows the cost of the service rendered by the bank as a basis for a fair adjustment of the terms upon which an account is carried. How such an adjustment may be made will be considered later.

Account analysis protects banks and public against the danger of unintelligent and destructive competition. Such competition seldom exists in small communities, where personal relations are a determining factor in getting business. In the large cities, however, competition for accounts has been carried on by con-

cessions as to terms; the rate of interest allowed on deposits has risen to a point in many cases unprofitable, and in some dangerous, as exerting pressure toward investment of funds at higher rates than consistent with entire safety. This competition takes forms other than high interest rates, for example, heavy investment in imposing bank buildings, expensive advertising, low requirements for opening new accounts, and extension of lines of credit to hold deposit accounts. Some of these forms are doubtless unprofitable. The well managed bank of the future must depend upon numerous small and carefully figured profits and few if any actual losses. The best remedy for uneconomical competition is an accurate knowledge of costs, for few banks would offer concessions which are known to be unprofitable. A knowledge of costs, on the other hand, fosters competition in lowering costs, *i. e.*, in efficiency of operation.

Thus a third advantage of analysis is the facility it affords through cost units of checking the efficiency of departments and of determining by comparisons whether or not costs are too high.

Allocation of Earnings

The purpose of an allocation of earnings is to determine the gross earnings on any deposit account. Therefore all earnings of the bank distinct in their origin from deposit accounts are excluded from the allocation for analysis purposes. Interest on United States bonds used to secure circulating notes of national banks, earnings of bond and foreign exchange departments, and rentals from vault or office space are examples of earnings which should usually be excluded. The largest items included in the analysis are interest on loans and income from investments in bonds and stocks. The former item should be so computed by adding accruals and subtracting prepayments that the actual amount earned during the period is obtained. The actual yield on bonds should be obtained either by reference to a bond table or by amortization.

The figures of a condensed balance sheet and statement of earnings will be useful as an illustration for various steps in the analysis.

BALANCE SHEET *

Resources

Demand, time, and real estate loans	$ 62,074,000
Bonds and stocks	26,838,000
Cash and exchange (including transit)	16,785,000
	$105,697,000

Liabilities

Capital stock, surplus, undivided profits, and reserves	$ 15,686,000
Deposits	90,011,000
	$105,697,000

STATEMENT OF EARNINGS †

FOR THREE MONTHS ENDING ———

Interest and discount on demand, time, and real estate loans	$1,000,000
Yield on stocks and bonds	400,000
Interest on balances in other banks	30,000
	$1,430,000

The first allocation of earnings is between capital funds and deposit funds. Obviously deposit funds have earned only a part of the $1,430,000, the remainder being due to the investment of capital, surplus, undivided profits, and reserves, which collectively constitute capital funds. Mr. THOMAS in his system proposes no division of this nature, but treats interest on capital at an arbitrary rate as a general expense to be apportioned among accounts. If the object of the analysis is to show actual profit or loss, Mr. THOMAS' method cannot be followed: it is impossible to draw an actual distinction between the earning rate of deposit funds invested in bonds or loans and capital funds invested in the same manner.

Inasmuch as the item of cash and exchange including transit is held against deposits, only $90,011,000 less $16,785,000, or $73,226,000, of deposits enters into loans, bonds, and stocks. Capital funds constitute the remaining $15,686,000 of the total investments of $88,912,000. Capital funds therefore claims

* From published statement of Ill. Tr. & Sav. Bk., Chicago, April 5, 1918.
† Assumed to illustrate above balance sheet. Earnings not to be allocated are omitted from statement.

$\frac{15\ 686\ 000}{88\ 912\ 000}$ of the earnings from investments of $1,400,000 or $247,000. To deposit funds is due the $1,153,000 balance of earnings from investments plus the $30,000 interest earned on bank balances held against deposits. The total earnings of deposit funds for the quarter are therefore $1,183,000. If a portion of capital funds were invested otherwise than in securities, that portion would be deducted before apportioning the earnings on those securities. For instance, had the balance sheet shown an item of $5,000,000 for banking house only $10,686,000 of capital funds would have remained to share in the earnings on investments. In short, the balance sheet must be analyzed to discover the proper basis of allocation between capital funds and deposit funds.

The unit of earnings to be used in analysis of individual accounts is the per cent per annum on net balances. Deposits as they appear in the balance sheet are gross; the account of each depositor shows his gross balance. A portion of gross deposits is always represented by cheques which have been deposited and sent out for collection, but which have not yet been realized. This portion of deposits appears among the assets on the balance sheet as transit; no earnings accrue thereon. Net deposits are gross deposits less the amount outstanding in process of collection, *i. e.*, less transit. The net balance of each depositor is his gross balance less uncollected items which he has deposited, Since net deposits only bring earnings, the earning rate must be computed on net rather than gross deposits. In the illustration used above, transit is assumed to be $5,000,000. Net deposits are then, $85,011,000, and earning rate on net deposits, $\frac{1\ 183\ 000}{85\ 011\ 000}$ or 1.4 per cent for the quarter. The rate per annum is four times 1.4 per cent, 5.6 per cent.

It is important in allocating earnings between capital funds and deposit funds and in computing earning rate on net deposits that averages for the period be used exclusively. The ratios which exist on one day are not adequate for a valid apportionment covering a three months' period. The averages need not be carried out to accuracy in cents; a computation using four or five digits would be practically sufficient.

The earning rate on net deposits is to be applied to average net balances of the deposit accounts under analysis. Average

net balance of any account is average gross balance less average amount outstanding in process of collection. An average gross balance is readily obtained by running off daily ledger balances on the adding machine, listing each balance for as many days as it remained unchanged and dividing the total by the number of calendar days in the month; average gross balance of any account upon which interest is paid can be obtained from the interest clerks. The average amount of outstanding items is usually computed by the transit department. A record of all out-of-town items is made for analysis purposes as the items pass through the transit department; the clerks, knowing the number of days required to collect items on any point, make proper entry before the items are sent out. A typical form for this record appears on page 216.

The application of the earning rate on net deposits to the average net balance gives the gross earnings of any account.

The practice of banks as to the period of time upon which the earning rate is based varies. The two bases are: (1) the average rate for a long period of years, and (2) the average rate for the period just past—a month or a quarter. The first basis is designed to eliminate the effect on the results of analysis of periodical fluctuations in interest rates; the second is designed to take account of these variations.

The theory of the fixed rate (first basis) is that all accounts are to be put on a "permanent" basis, that the accounts themselves are expected to be permanent and that an arrangement can be reached under which, without readjustment, an account will yield a fair profit for a long period of years, although single years might show either a loss or a large profit. While a degree of permanency in adjustment is desirable, the theory of the "fixed" rate is open to criticism: (1) a considerable number of accounts are not retained through the long period of years; (2) other elements in the analysis are subject to variation so that the use of a fixed earning rate does not as a matter of fact furnish a basis for a permanent adjustment.

Analysis on the basis of the average rate for the period just past is intended to show the actual profit or loss for that period. The results are not an absolute standard either for a permanent adjustment or for adjustment a year in advance, inasmuch as conditions are constantly changing; however, since adjustment is

FIRST NATIONAL BANK

Account of _____

Account Analysis Department

Date _____

Date	Exchange	AMOUNT OUTSTANDING: 1 day	2 days	3 days	4 days	5 days	6 days	7 days	8 days	9 days	10 days	Total
Total												
Equivalent to for one day												

Total_____

Number days_____

Average _____

a matter of judgment and usually of agreement, the results of a previous period are a very practical guide.

The present practice in analysis is to base earning rate on loanable funds rather than net deposits. The loanable funds of every account analyzed are computed by deducting from net deposits the proportion of reserve held. This step is unnecessary, inasmuch as the earning rate may be applied directly to net balance, the rate merely being lower in proportion to the percentage of reserve carried. In cases where a portion of reserve is on deposit, say at two per cent, in other banks, earnings thereon are added to earnings on loanable funds to show total earnings of the account. This operation may be avoided also by basing the rate on net deposits, because the item of interest on balances in other banks was included in computing that rate. For illustration both methods of computing earnings for a month on an account are shown below:

(1) Using earning rate on loanable funds:	
Average net balance	8,000
Less 40% reserve	3,200
Loanable funds	4,800
Earning rate (assumed as 6% per annum) per month	.0050
Earnings on loanable funds	24
Earnings on 15% carried in other banks at 2%	2
Gross earnings	26
(2) Using rate on net deposits:	
Average net balance	8,000
Earning rate (equivalent of 6% on loanable funds plus 2% on deposits of 15%) .039 per annum per month	.00325
Gross earnings	26

The indirect method might have the advantage of being more readily comprehended when analysis records are submitted to depositors.

The earning rate on loanable funds is sometimes obtained by averaging the rates of yield on loans, weighting each according to the time and amount of the loan. The rate is computed monthly on the basis of the investments made during that month. This rate, therefore, does not represent the actual interest earnings for the month because loans made in a previous month remain unpaid and loans made during a current month run over

into following months; it is useful, however, as an indicator of the work done by loaning officers.

Allocating of Expenses

The most difficult problem of account analysis is to determine the portion of expense which is properly assignable to each deposit account. It is evident from the diverse nature of the expenses of a bank that a single basis for their apportionment would be impossible. A grouping of charges in accordance with their origin and a separate basis of apportionment for each group is necessary to secure accurate and scientific cost units. The practical difficulties of such a grouping and apportionment have kept most banks from carrying their account analysis farther than income analysis, plus a few of the more direct costs, such as interest paid on balances, cost of handling certain classes of items, etc.

Mr. Thomas has included all expenses in his analysis, classifying them as clerical and general. Clerical expense after adding twenty-five per cent of general expense is apportioned on the basis of the number of items handled; the remaining seventy-five per cent of general expense plus interest on capital at six per cent is assessed according to balances. This method has the advantage of simplicity, although at some cost in accuracy of results.

Mr. Geo. O. Bordwell of the First National Bank of San Francisco has suggested eleven groups for the classification of expenses, with a separate basis of apportionment for each group. Mr. Bordwell has a successful system of analysis in operation at his bank, yet it does not appear that an eleven-fold division of the expense account is a part of this system.

The problem demands the exercise of judgment as to the amount of work justified to secure greater accuracy—as to what point would mark the intersection of the ascending curve of labor with the descending curve of increase in accuracy. It must be remembered that very imperfect analysis may be more perfect than the application of the results after they are obtained. On the other hand, since the cost units obtained will be applied to all accounts analyzed for months or even years before the same units are recomputed, the work should be carefully done. Again, the units must be accurate if they are to be of value as indices of departmental efficiency.

The following grouping is now proposed as a classification which is both practicable and accurate:

Group 1. Expenses incident directly to specific accounts, such as interest paid on balances.

Group 2. Expenses dependent upon the activity of accounts, such as expenses of transit department, and reducible to per item costs.

Group 3. Expenses dependent upon the size of net deposits, such as costs of loaning funds, and to be apportioned on the basis of net balances.

Group 4. General expenses not dependent upon deposit accounts.

Groups 1, 2, and 3, the expenses directly chargeable to an account collectively constitute operating charges. The deduction of these charges from gross earnings will show the gross profit or gross value of a deposit account. This value Mr. BORDWELL terms marginal value and defines as the amount of income from an account which would be lost to the bank were the account closed. Group 4 includes administrative or overhead charges. The deduction of a proper proportion of these charges from the gross value of an account will leave its net profit or net value. Mr. BORDWELL's term is average value, which he defines as the amount of earnings in excess of the amount necessary to pay the expenses directly chargeable to the account, its proportion of general or overhead expenses, and its proportion of interest on capital.

The two valuations of an account are adopted so that the analysis will show two things: (1) whether or not the account pays for the expense of handling, (2) whether or not besides paying its own way it contributes a proper share toward the overhead expenses of the bank. Any account which shows a gross value meets the first test; and any account which shows a net value fulfills the second. As a matter of policy, all accounts which have a gross value are to be retained, because the overhead charges go on in any case; at the same time an effort will be made to bring all accounts to a point where they will not show a net loss.

The terms "gross earnings," "operating charges," "gross profits," and "net profits" are borrowed from an ordinary income statement, and are employed because there is no essential

difference in the nature of such a statement and a statement of the same facts in connection with a deposit account in a commercial bank. The use of uniform terminology should aid in making clear the significance of the analysis record.

The expenses of group 1 cannot be reduced to cost units; they are charged directly to the deposit account for which they were incurred. The most important item in the group is interest paid; collection charges not paid by the customer, cost of preparing special customers cheques, etc., should also be charged.

The expenses of group 2—*i. e.*, those dependent upon the activity of accounts—must be reduced to per item units. Since the costs of (1) paying and charging a cheque drawn on the bank, (2) receiving and collecting a cheque on another local bank, (3) receiving and collecting an item on an out-of-town bank are different, accurate analysis requires that separate units be computed. At least two per item costs should be used, one for out-of-town or "transit' items, which cost from two to three cents to handle, and one for local or "clearing house" items, which cost only a fraction of a cent. The costs of handling a local item on another bank and an item drawn on the bank are nearly the same; these two classes of items may therefore be grouped without involving any great inaccuracy.

The following expenses enter into the cost of handling all items:

(1) Salaries and surety bonds of tellers and assistants, including mail tellers.
(2) Salaries of keepers of individual ledgers.
(3) Postage, stationery, and other supplies for these employees.
(4) Portion of expenses for maintaining banking quarters: rent, heat, light, janitor service, fire insurance, depreciation on furniture and fixtures and on adding machines, telephone, and telegraph.

Division of the total of these expenses by the total number of both clearing house and transit items handled during the period gives a unit cost per item which is an element in the per item cost of both transit and clearing house items.

By dividing the expense for clearing house facilities (clearing house assessment, salaries of clerks, and fines) by the sum of

the number of items sent to and received from the clearing house, the unit cost for the clearing house operation is obtained. The sum of this unit and the one previously determined is the per item cost for clearing house items which will be used in analysis of accounts.

The following expenses should be totaled and divided by the number of items handled by the transit department:

(1) Salaries, postage, stationery, and other supplies, of the transit department.

(2) Portion of the expenses as listed above for maintaining quarters.

This unit plus the element first determined above gives the per item cost of transit items.

The charge for per item costs on any account is computed by multiplying the number of items of each class (transit and clearing house) handled during the period of the analysis by the proper units.

The expenses of group 3 are apportioned according to net balances. The expenses of this group include:

(1) Salaries and surety bonds of officers and employees in discount and credit departments.

(2) Legal expenses in loaning funds.

(3) Stationery, postage, other supplies, and portion of expense for maintaining quarters.

(4) Burglary and "hold-up" insurance.

(5) Watchmen's salaries.

The expenses (1), (2), and (3) above must be apportioned between capital and deposit funds in the same manner as earnings were apportioned: the same principles which apply to earnings on loans apply also to expenses in making loans. The expenses (4) and (5) are incident to net balances, since they are incurred for the protection of the reserve held against these balances.

The expenses of group 4 include:

(1) Organization expenses.

(2) Salaries and surety bonds of administrative officers.

(3) Cost of analysis department.

(4) Advertising, donations, subscriptions.

(5) Charges for bank examination.

(6) Portion of expenses for stationery, supplies, postage, and maintenance of quarters not otherwise assigned.
(7) Taxes (except U. S. tax on circulating notes).
(8) A sum sufficient to bring the total net profits of the bank up to a proper rate on capital invested. This rate is arbitrarily taken, and should be sufficiently high to pay dividends and leave a margin for increasing surplus so that the bank may gain in strength.

The basis of apportionment for those general expenses should be either net balance or operating cost. If all expenses incident upon operation, including salaries of officers engaged in supervising the various departments, have been included in groups 1, 2, and 3, the administration charge should be based on net balance. If not, then operating cost would be a proper basis.

The results of account analysis may be conveniently recorded on the following form:

FIRST NATIONAL BANK

ACCOUNT ANALYSIS DEPARTMENT

Account of John Doe, 1 Main Street		Analysis for month of January, 1913
Gross earnings		$26.00
Average gross balance	10,000	
Average amount outstanding	2,000	
Average net balance	8,000	
Earning rate per month	.00325	
Operating cost		23.57
Direct costs	17.67	
Interest paid	16.67	
Collecting charges	1.00	
Per item costs	3.50	
200 C. H. at .055	1.00	
100 transit at .025	2.50	
Percentage costs:		
$8,000 at .0003 per month	2.40	
Gross value		2.43
Administration charge $6.00 per year per $1,000		4.00
Net value, loss of		$ 1.67

This form is sometimes printed on a sheet with the form used for computing the average amount outstanding in process of col-

lection in order that the whole analysis will appear on a single sheet.

A summary record of analysis should be filed for reference at the desk of the officer who conducts relations with the depositor. A card system, using form on page 224, shows the necessary facts:

Methods of Saving Labor in the Analysis Department

An objection urged against account analysis is that it would require too much time and expense. The answer is that a system of analysis should be adapted rather than adopted; it should be adjusted to the organization of each bank so that the system already in use will supply most of the necessary data. Unnecessary work must be avoided. Experience has shown that analysis is practicable when properly done.

In the first place, no account should be analyzed unless the results are needed. Analysis should be made in the following cases:

(1) When requested by an officer of the bank.
(2) When upon superficial examination the value of an account is doubtful.
(3) New accounts, in order that readjustment of terms may be made if necessary.

Part analysis is the determination of part of the data of a complete analysis. It should be used when complete data is unnecessary to show the account either satisfactory or hopelessly unprofitable.

Periodical analysis is complete analysis applied at intervals. Accounts of all country banks should be analyzed periodically to indicate any change in their value.

Analysis for a period of a month is customary. A period of two, three, or more months can be included at one operation, thus saving the monthly computations.

Earning rate on the fixed basis is computed only once in a number of years. If the "actual" basis is used, the rate may be determined once in three months, or—if the rates are steady—once in six months.

A part of the detail of determining the average amount outstanding may be avoided by finding the average number of days

FIRST NATIONAL BANK

Account of _____

Account Analysis Department

Date_____

Date 1913	Av. Gross balance	Av. Net balance	Rate	Gross earnings	Direct costs	Per item costs	Percentage costs	Total Op. cost	Gross value	Net value
Total										

all items of a given account are outstanding. This average is applied to the total amount of transit items deposited, and the result divided by the number of days.

The costs units may be computed at intervals of a year or longer. One large bank has used the same units since the organization of its analysis system seven years ago.

The subdivision of the expense account by departments facilitates the determination of cost units. Thus separate accounts may be set up in the general books for expenses for (1) tellers, (2) bookkeepers, (3) clearing house facilities, (4) transit department, (5) loan and credit departments, (6) maintenance of quarters, and (7) overhead charges. Postage, stationery, and other supplies should be kept on hand and delivered from store only upon departmental requisitions. These requisitions are data for making the charges to the proper expense accounts. An expense ledger with a controlling account in the general ledger is suggested for very large banks. Such a requisition system and expense ledger make possible greater control over expenses of departments as well as greater facility in determining cost units.

The counting of items may be made either the most onerous or the easiest part of the analysis, according to the methods used. It is necessary to know: (1) the number of items of each class deposited by each customer, (2) the number of cheques paid for each account, and (3) the approximate number of items handled by each department. Deposit slips for local customers and remittance forms for correspondent banks providing for a separate listing of each class of items and a numbering of each list automatically determines the number and class of items received on deposit day by day from each customer. A monthly summary gives complete data. The number of cheques paid is readily determined from the cancelled vouchers for the period, either by reference to the serial numbers on the cheques or by actual count. The number of items handled by departments should be counted automatically as they go through the adding machine by an attachment for that purpose. Test counts for a single day taken several times a month would be sufficient to establish a working approximation of the number handled.

For a shorter method of analysis the percentage units (1) earning rate on net deposits, (2) percentage cost on net deposits, and (3) administration charge (if based on net deposits) may be

combined and the resultant applied instead of the separate percentages.

The place of account analysis in the organization of the bank varies in different banks. Usually the work is directed by one of the department heads such as the transit manager or the general books. The working force required is small: one man does all account analysis in a large Chicago bank with the exception of computing the units; in another large bank the work is done by five junior transit clerks during spare time.

Utilizing the Results

The final question in account analysis is what application to make of the results. This question will be considered under three headings: (1) altering relations with customers, (2) checking efficiency of departments, and (3) preventing destructive competition.

A very useful discussion of the application of a knowledge of costs to altering relations with customers is contained in Mr. Thomas' booklet. He points out that tact and discretion are required in approaching a customer whose account shows a loss. The unprofitable condition may be only temporary—caused, for instance, by low interest rates or by a seasonal reduction in the balance kept—and certain to rectify itself without action by the bank. Or the loss shown by the analysis sheet may be more than offset by the advertising value of the account of an influential man or firm. In this case if there is no probability of securing a larger balance by broaching the subject of analysis results, such action would be unwise. Small special accounts kept for convenience by the owners of profitable regular accounts obviously should not be questioned. A valuable asset of any bank is the goodwill of all interests in the community, "moneyed" and "unmoneyed." Every customer likes to think that the bank values his account, no matter how small it is, and any disillusionment is not unlikely to be resented.

Yet in approaching a customer who is able to keep a paying balance and who does not, the bank is protected by the customer's own sense of fairness and self-respect. Actual figures showing that the account costs more than it earns will probably bring forth a larger balance; few customers of this class will wish to

continue to "sponge" after their attention has been called to the fact that their accounts are the cause of loss to the bank.

The request for a larger balance may be made either by letter or in person, preferably by some official well acquainted with the customer. It should always be accompanied by the analysis and an estimate of how large an increase in balance is necessary to make the account profitable. Mr. THOMAS suggests the use of the following letter:

Mr. John Doe, President,
First National Bank.
My dear Sir:

In looking over the reports of our analysis department, I find that the volume of your out-of-town business has shown a progressive increase for some months past, and while I am indeed pleased to note this evidence of your increasing business, I feel obliged to call your attention to the bearing this has on the arrangement now in force with your bank.

The enclosed analysis of your account for the past three months shows that the cost to us of handling your growing out-of-town business has reached a figure which makes the balance originally agreed upon entirely inadequate to meet the present conditions.

I assure you that we keenly appreciate your business, the more so because of the many years of cordial relations that we have enjoyed with you, but I believe, in view of the increased cost of handling your account, that an increase of $75,000.00 in the net average daily balance of your account is necessary in order to put it on a mutually equitable basis, and trust that you will agree with me as to the fairness of this request.

Thanking you in advance for your consideration, and awaiting an expression of your view in the matter, I am, with kind regards.

Very truly yours,
RICHARD ROE, President.

The same purpose may sometimes be better accomplished by an alteration in the collection facilities furnished by the bank than by an increase in balance. The deposit of a smaller volume of out-of-town items for collection at par or a reasonable exchange charge for such items might easily be arranged. The depositor would not be adversely affected if he in turn readjusted matters with his customers so that he would not receive such a volume of out-of-town cheques at par. Prompt instead of deferred depositing might be sufficient to turn a small loss into a profit.

A third possible adjustment is in interest payments. Many bankers are advocating $200, $500, or even $1,000 as a minimum balance upon which to pay interest. A simple solution of the

problem of an unprofitable interest bearing account would be an agreement to credit interest only on average balance in excess of a stated minimum. A reduction of the customary rate of two per cent or a variable rate as is used in England would accomplish the desired result.

It is suggested also that the customer's line of credit be made a function of his average balance. The advantages to the bank of such an arrangement would be (1) an equitable basis for apportioning loanable funds among borrowing depositors and (2) an increase in deposits. The advantage to the customer would be his ability to extend his line of credit within reasonable limits. This proposal is discussed by Mr. SIMMS in an article in *The American Banker.*

The ultimate solution of the problem of the unprofitable small account will be a charge for its care. This has been the practice in England for a long time and the custom has become so universal that it is not looked upon as unusual or improper. The plan is in successful operation in several large New York banks. The Corn Exchange bank charges $1.00 per month for the care of accounts having an average balance of less than $200. Mr. NASH, the president, says of the plan: "We have found it to have resulted in no permanent diminution of our total deposits. The first result was a loss of a very considerable number of depositors, nearly all of whom were worthless to the institution as far as profits were concerned, but their aggregate balances were fully compensated for by the additions which the small depositors who desired to continue their accounts, but who wished to avoid the charge, made to their balances."

A similar plan has been adopted, with satisfactory results, by the Title Guarantee and Trust Company. In country banks the conditions are such that for the present the plan cannot be adopted, but with the better education of both bankers and public the time will undoubtedly come when it will be possible to put such an arrangement into operation.

The second use for the facts of analysis is in checking the efficiency of departments. While this use is secondary to that of altering relations with customers, the statistics required for the latter purpose lend themselves so readily to the former that the opportunity to use them thus should not be lost. The method of segregating expenses by departments has already been indi-

cated, also the method of reducing the total costs to unit costs. The tests of efficiency can be carried to any degree of detail by a mere minute classification of expenses.

The value of cost statistics is cumulative with their multiplication. A single fact about cost is of little significance unless it can be compared with other similar facts in order to note the differences. Thus to make use of the cost units obtained in analysis work a careful comparison should be made with the same units for previous periods. Any marked increases should be located by discovering what items of expense are larger, and checked if not due to proper causes. The general adoption of cost and analysis system by commercial banks will result in comparisons between institutions: the officers who are successful in organizing their departments so as to secure the lowest costs without sacrifice of other considerations will be called to fill more important positions, while their methods will be studied and applied in other institutions. Inefficient officers, on the other hand, will be displaced.

The final application of the facts of account analysis is to the competitive struggle. With cost systems in operation, unintelligent competition will become impossible. The striving for more deposits even at the cost of a part of the bank's earnings will be replaced by a rational competition for paying accounts and for economy of internal operation. Rational competition will bring to the profitable customer the concessions which the value of his account justifies. The small depositor will be required to pay the cost of the facilities he receives. The bank will be assured of a reasonable margin of profit on every account.