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NATIONAL ASSOCIATION
of
COST ACCOUNTANTS

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Vol. V July 15, 1924 No. 21

**A Basis for Cost Account-
ing in Banks**

BUSH TERMINAL BUILDING
130 WEST 42nd STREET, NEW YORK

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A Basis for Cost Accounting in Banks

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Chicago, Ill.

BUSH TERMINAL BUILDING
130 WEST 42nd STREET, NEW YORK CITY

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A BASIS FOR COST ACCOUNTING IN BANKS

PUBLICATIONS DEPARTMENT NOTE

While cost accounting had its genesis in the factory, and probably has received its highest development in manufacturing plants, nevertheless, it is steadily spreading into practically all lines of business. One of the interesting and recent developments has been its increasing use by banks, not only for their own purposes, but also for their customers, and as one of the bases for commercial loans. As has been frequently demonstrated, the essential principles of cost accounting can be applied to any business.

The following article is based upon a paper read before the First Western Regional Conference of the N. A. C. A., held in Chicago February 7 and 8, 1924. Two other papers read at that Conference have been issued by the Association as Vol. V, Nos. 14 and 20.

This article does not attempt to describe a complete cost system applicable to banks, but, as the name states, simply outlines the basis for cost accounting in banks.

The author of this article holds the position of staff assistant to the Vice-President and General Manager of the Fairbanks, Morse and Co., Chicago. He received his education in the Chicago Grammar Schools, Armour Scientific Academy and the Armour Institute of Technology. After working in a number of offices and shops, he became manager of the Sack and Order Departments of the Universal Portland Cement Co., a subsidiary of the United States Steel Corporation. Later he was made Assistant Secretary in charge of the Accounting Department of the same company. Mr. Wilson served as chairman of the Package Committee of the Portland Cement Association and also prepared the first uniform cost accounting system devised for the portland cement industry. His next position was Secretary and Treasurer of the Hagar Portland Cement Co. Mr. Wilson left this organization to become Comptroller of the Wright-Martin Aircraft Corporation, Secretary-Treasurer of the Simplex Automobile Co., the Empire Foundry Co., and several other subsidiaries of the Wright-Martin organization. During the war he was drafted into the U. S. Shipping Board Emergency Fleet Corporation, serving successively as Traveling Auditor on the Pacific Coast, Assistant General Auditor and General Auditor. In 1919 he joined the Cuba Cane Sugar Corporation as Comptroller, and later was made Assistant to the General Manager. In this position he had charge of budgets, cost analysis and repair and construction campaigns. After leaving Cuba, Mr. Wilson was retained as a specialist in operating organization and methods by the First National Bank, New York City. While holding this position Mr. Wilson became actively identified with the affairs of the New York Chapter. At one of its meetings he made a very interesting talk, recounting a number of his experiences in cost work in Cuba while serving the Cuba Cane Sugar Corporation. In 1922-23 he was Director in Charge of Publicity of the Chapter, performing his duties in a thoroughly creditable way. In 1923 he accepted the position of Controller with the National Bank of the Republic, Chicago, where he remained for one year until assuming his present duties.

On the surface, there is very little apparent similarity between a bank and a factory, but essentially there is practically no differ-

ence from a cost accounting point of view. Practically, the only difference between the two is that in a bank the raw materials are brought in by the sales department and the finished product is disposed of through the purchasing department, but that is a point of minor difference as far as this article is concerned.

EXPENSE ANALYSIS

Every cost problem resolves itself into two essentials; first, the proper analysis of expense, and, second, the measurement of production, so that production may be studied with reference to the cost to produce.

The expense analysis of a bank is a very simple proposition. Any form of departmental expense analysis suitable for a large office organization will be sufficient. The one point that should be stressed in this connection is the importance of having the expense analysis based on a strictly functional organization chart, with absolute disregard of lines of authority, because the lines of authority on the average bank organization chart are apt to resemble a spool of thread after a kitten is through playing with it. Structurally, the organization in the average bank consists of the following elements:

1. The general executives of the bank and their staffs.
2. A New Business Department, which handles advertising and such specialties in the way of services for customers as the bank has developed.
3. An Auditing and Accounting Department.
4. A Commercial Department, which is the point of contact between the bank and its commercial depositors, and which is responsible for developing the commercial deposits of the bank and for maintaining satisfactory relations with commercial depositors.
5. A Banks Department, which occupies a similar position with respect to other banks that carry accounts with the bank in question.
6. A Savings Department, exercising a similar function with respect to savings depositors.
7. A Loans and Discount Department, to which are subsidiary the Credit and Collection Departments, the discount teller and his staff.
8. A General Administration Department, which is responsible for the provision and maintenance of working quarters, the general administration and clerical personnel of the bank, and for all the routine work involved in receiving and recording deposits, and converting these deposits into available funds. In order to get a proper expense analysis for administrative or cost accounting purposes, this department should be broken up into a number of subordinate units, principal among which would be—

- (a) Office Administration Department
- (b) Office Quarters and Service Department
- (c) Commercial Bookkeeping Department
- (d) Banks Bookkeeping Department
- (e) Savings Bookkeeping Department
- (f) Collection Department
- (g) Transit Department
- (h) Commercial Tellers (receiving, paying, note, draft, etc., who deal almost exclusively with commercial depositors)
- (i) Mail Teller
- (j) In-Clearings Teller
- (k) P. M. Teller
- (l) Listing and Sorting Department
- (m) Analysis Department
- (n) Mail and Messenger Department

Banks are also likely to have associated departments discharging functions which are not strictly of a banking nature, such as a Bond Department, Foreign Department, Trust Department, or a Safekeeping Department.

The sub-analysis of expenses of each of these departments by objects of expense can be handled along conventional lines, excepting that for administrative purposes it would probably be desirable to have special sub-accounts for supper money and employees' bonds. In working out a departmental expense analysis for the bank, it should also be borne in mind that a high degree of interchangeability must exist among the clerical staff, because of the numerous daily, weekly, and monthly peak loads that have to be handled in various departments. There is a strong tendency to split hairs in the matter of payroll distribution, but this is something that should be persistently avoided as long as a fairly general and representative average of accuracy and consistency is obtained.

MEASUREMENT OF PRODUCTION

As a means of approaching the second phase of our problem, that is to say, the measurement of production, let us first of all ascertain the nature of the product of the bank. To do this we will examine the following condensed balance sheet, which may be taken as being representative of bank balance sheets in general:

<i>Resources</i>	
A—Loans	\$23,349,077.14
A—United States Bonds.....	4,702,730.76
A—Other Bonds	2,731,465.43
A—Stock of Federal Reserve Bank.....	90,000.00
A—Equity in Bank Building.....	750,000.00
B—Cash and Exchange.....	12,732,490.29
Total	<u>\$44,355,763.62</u>

Liabilities

C—Capital Stock paid in.....	\$ 2,000,000.00
C—Surplus	1,000,000.00
C—Undivided Profits.....	\$957,364.29
C—Contingent Fund	194,891.51
C—Reserved for Taxes.....	180,378.29
C—Dividend Checks outstanding.....	1,332,634.09
C—Cashier's Checks outstanding.....	26,036.50
D—Special Trust Deposits.....	310,022.09
D—Special Deposit	84,064.88
E—Currency in Circulation.....	1,300,000.00
D—Deposits	1,969,700.00
	<u>36,333,306.06</u>
Total	<u><u>\$44,355,763.62</u></u>

Each of the items in the above balance sheet has been prefixed with a letter for reference purposes, and the various groups to which reference is thus made may be described as follows:

- A—Earning assets, that is to say, assets which produce income.
- B—Non-earning assets. This classification is not strictly accurate, because included under the head of "Cash and Exchange" is certain cash which the bank has on deposit with other banks, and on which a small rate of interest is received.
- C—The capital of the bank, or perhaps it might be better to say the net worth, plus the individual credit of the bank, as represented by its own outstanding Cashier's Checks.
- D—The deposits of the bank.
- E—The liability of the bank (in this case a National Bank) to redeem its outstanding bank notes. This liability is offset by a part of its investment in United States Bonds, which are deposited with the Treasury Department as a guarantee that these notes will be paid when presented.

Eliminating for a moment the circulation liability, and the liabilities representing the proprietorship or credit of the stockholders, we find that the heavy liabilities of the bank are its deposit liabilities, and it is with these deposits that the bank does business, succeeding or failing in accordance with the effectiveness or lack of effectiveness with which the deposits are employed in the form of earning resources. These deposits are the raw material of the bank. They are paid for not only in the way of interest, but also in services of many kinds. The check books that you use, the expense of collecting the checks on other banks, whether in your own or in other cities, which you deposit for the credit of your account, and the labor that must be expended, and the care that

must be taken to safeguard your deposits against the efforts of people who might try to forge your name to checks and to take other liberties with them, are only a few of the more obvious instances of the price which a bank pays for the use of your deposits.

Bank deposits, like other raw materials, are subject to a certain amount of waste and shrinkage in the process of fabrication into a finished product. For instance, the law requires a city bank to keep 13 per cent of its demand deposits and 3 per cent of its time deposits in the Federal Reserve Bank, where these sums do not draw any interest. Therefore, in that instance, while the bank pays for a dollar's worth of raw material in the form of demand deposits, it is only able to get eighty seven cents worth of finished product; that is to say, of funds that it can employ in a profitable way. In addition to this there are other elements of loss and shrinkage. For instance, a bank is obliged to keep on hand at all times substantial amounts of cash for the accommodation of depositors who demand it. Bags of coin, or bundles of bills, never earned any money for anybody while they were lying in a vault. Every bank has outstanding at all times relatively enormous sums, representing checks on other banks, which have been deposited with it, and which are in the process of collection. These items likewise must be deducted from the deposit raw material before the finished product of funds available for loaning or investment can be obtained. We may lay down the principle, therefore, that the product of a bank is the balance of its deposits which are available for loaning, or for investment in some other profitable way; that is to say, its net available funds. These funds can be determined as of the close of business each day, but since daily or even weekly costs are hardly practicable the measure of the production of the bank is determined by the average daily balance for each month of its net available funds.

These funds are derived from various sources, the most typical of which are expressed by the designations Commercial Deposits, Bank Deposits (that is, the deposits of other banks), and Savings Deposits. It is entirely practicable to segregate the raw material under these headings, and to apply to each group the deductions that must be made for reserve, cash, and items in process of collection. In other words, we can get by this means the production of each of the operating departments of the bank. It might be mentioned in passing that while each of these departments is producing the same product, each department is working under such different conditions that the percentage of net available deposits obtained from a given quantity of gross deposits is radically different. In general, the Savings Deposits will give the highest rate of yield of net available funds, and the Bank Deposits will give the lowest yield, because, in addition to being demand deposits the price of these Bank Deposits is a very large volume of collection business. This large volume of collection business natu-

rally increases the investment in items in process of collection, and reduces accordingly the percentage of net available funds.

ASCERTAINING COST OF DEPOSITS

Having established a basis for measuring the production of each of the departments of a bank, the question of ascertaining the cost of these deposits is a simple one. As suggested above, the cost consists of interest and operating expense. The interest paid on each class of deposits is automatically calculated in the course of the regular operations of the bank. The accounting processes of a bank are so organized that the number of items handled by each of the units in the General Administration Department can be ascertained with reasonable accuracy by the simple process of measuring columns of various adding machine sheets and tapes produced in the course of the day's work. The classification of these items under the headings of Bank, Commercial, and Savings Deposits can be obtained in the same manner by column measurements on other sets of sheets. The first set of measurements gives a basis for a cost per item in each of these units. The second measurements give bases for the distribution of the operating expenses of these units to the costs of the various classes of deposits on an item basis. To these figures can be added the general expenses of the Commercial, Banks, or Savings Departments and the cost of each class of deposits is obtained.

USES OF COSTS

And now having outlined in a necessarily brief way the application of the principles of cost accounting to a bank, the one question that demands an answer is, "What is the use?" In answer to that question I would say, first of all, that the greater part of this work consists not in the compilation, but merely in the assembly of figures which are produced in the regular course of business, and which are increasingly valuable as increased use is made of them. For instance, the expense analysis is an invaluable aid to proper management, particularly when it functions, as it should, in connection with a budget plan. A comparison and study of the cost figures and the production figures may very often have an important effect in shaping the general policies of the bank, particularly with reference to its efforts to get new business. For instance, the relative availability of Bank, Commercial, and Savings Deposits is a matter of common general knowledge among bankers, but in the course of our cost accounting work we have produced a means of actually measuring this percentage of availability, and of comparing not only the relationships of the various classes of deposits, but also the trend and tendencies within each class of deposits from month to month. A study of these trends will give the bank executive a line on the efficiency of the operating management of the bank quite comparable with the information that he will get from a study of his expense analyses, while

a study and comparison of the item costs of the various operating departments will also be found to be a useful guide toward economy and increased efficiency. Practically all banks of more than medium size maintain an analysis department, the function of which is to analyze the accounts of the various depositors and determine whether or not these accounts are profitable. The work of these analysis departments has generally been along rather elementary lines. They have made certain basic assumptions regarding costs per item and percentages of availability, and have then proceeded to build up figures purporting to measure the value of individual accounts. Sometimes these assumptions have been wrong to start with, and very often they have been used for such a long period of time that they eventually become wrong anyhow. This plan of cost analysis not only provides actual figures for use in account analysis, but also provides controlling figures whereby the accuracy of the account analysis in total may be proven by balance with the General Ledger of the bank. As an illustration of this, I recall a publication on the cost of bank deposits, issued by one of New York's most progressive banks, in which the profits to the bank of certain deposits were carefully worked out under certain conditions of interest rates, activity, etc. In each case the gross profit on the account was ascertained by taking the amount of deposit less 13 per cent reserve, overlooking absolutely the factors of cash on hand, items in process of collection, etc. Our cost accounting process shows that no class of deposits yields 87 per cent net available funds, unless it is poorly managed Savings Deposits. In the case of Bank or Commercial Deposits the percentage of availability is more likely to run between 65 and 75 per cent. In other words, the New York bank was not making nearly as good a case for itself as it might have done if it had been using actual figures, derived from a properly designed cost system, instead of using a series of assumptions which failed to comprehend all the factors involved.

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