

AN ANALYSIS OF THE REVENUE RECOGNITION PROBLEM
OF CONSUMER FINANCE COMPANIES USING
PRECOMPUTATION

Thesis for the Degree of D. B. A.
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Ernest Irving Hanson
1963



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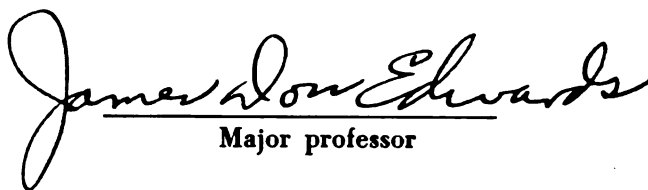
AN ANALYSIS OF THE REVENUE RECOGNITION PROBLEM
OF CONSUMER FINANCE COMPANIES
USING PRECOMPUTATION

presented by

Ernest Irving Hanson

has been accepted towards fulfillment
of the requirements for

D.B.A. degree in Accounting


Major professor

Date August 1, 1963





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ABSTRACT

AN ANALYSIS OF THE REVENUE RECOGNITION PROBLEM OF CONSUMER FINANCE COMPANIES USING PRECOMPUTATION

by Ernest I. Hanson

The incorporation of the concept of precomputation into the small loan laws of a number of states in recent years has given rise to a revenue recognition problem in the consumer finance industry. When a loan is made under precomputation the finance charges are calculated from the schedule of rates per month specified in the law as if the contract were to be paid exactly according to schedule. The precomputed charges are then added to the face of the note. This amount is divided by the number of monthly instalments in the contract to arrive at an equal amount for each payment.

The revenue recognition problem analyzed in this thesis concerns the manner in which the precomputed finance charge is to be allocated over the life of the contract. The problem involves differentiating between the amount to be recognized as current revenue of a specific month and the amount to be carried forward in the "un-earned finance charges" account as being applicable to future periods.

The study is divided into five phases. The first phase examines the nature of the phenomenon giving rise to

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the thesis problem--precomputation--and enumerates the advantages and disadvantages of its use. The second phase deals with current practice and presents the principal methods used to allocate the precomputed finance charges. These are the effective rate, sum-of-the-digits, straight line, liquidation, and fixed percentage procedures. The priority and residuary techniques are also covered. The third phase considers the effects of the various methods on the flow of reported revenue and other financial data under selected situations of changes in the characteristics of loans made. The fourth phase investigates the accounting thought underlying revenue recognition in order to establish guidelines to use in the determination of a sound approach to the allocation of precomputed charges. In the course of the analysis in this phase, the distinction between the recognition of revenue and the earning of revenue in many situations is noted. The fifth phase applies the previously established guidelines to the consumer finance company situation and delineates an appropriate allocation approach.

Conclusions and recommendations drawn from this study include the following:

1. There are currently a number of "generally accepted" methods by which precomputed finance charges may be allocated over the life of an instalment contract.

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2. The different allocation methods can cause considerable variation in reported financial data. Since these methods do not take full cognizance of the major underlying cost factors which generate the revenue, the variations in reported data are not reflective of differences in economic effort, but are instead distortions in the informational process.

3. Accounting thought does provide appropriate guidelines for the recognition of revenue. The guidelines are based upon such concepts as the active nature of costs and the earning of revenue, the matching of costs and revenue, and cost homogeneity.

4. A revenue allocation approach is recommended which is based upon the functional cost activities of consumer finance firms. These functional cost activities are composed of the costs of acquisition, the costs of servicing, and the costs of forbearance and risk assumption. The recommended approach is significant since it places the primary emphasis for the recognition of revenue on the earning of the revenue. It represents an application to a specific industry of a current focus in accounting thought which stresses the desirability of recognizing revenue as it is earned rather than recognizing it at the time of the occurrence of a restricted set of events.

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OF CONSUMER FINANCE COMPANIES
USING PRECOMPUTATION

By

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CHAPTER I

INTRODUCTION

Accounting is information. The many definitions of accounting emphasizing the functions of recording, classifying, and summarizing financial data¹ tend to obscure the primary purpose of engaging in these activities --namely, the provision of pertinent information to interested parties. Given this as the primary objective of accounting, it follows that one of the more important functional activities of the accountant involves communication. The accumulation of financial data is useless unless it is effectively communicated to those for whom it is gathered.

The users of financial data are many and varied. Stockholders, creditors, financial analysts, governmental agencies, employees, unions, customers, and potential investors are among the parties interested in the financial statements of a business enterprise. The existence of such diversity is significant to the accountant concerned with

¹Three such definitions, those of Maurice Moonitz, F. Sewell Bray, and the committee on terminology of the American Institute of Certified Public Accountants, are found in Maurice Moonitz, The Basic Postulates of Accounting, Accounting Research Study No. 1 (New York: American Institute of Certified Public Accountants, 1961), p. 23.

the preparation of an entity's accounting reports. He cannot operate under the assumption that accounting is dominated by any one group. All groups in total are best served by reports reflecting the accountant's objective determination of their contents. Acquiescence to the desires of any one group which leads to a deviation from an objective determination can only result in a lessening of the reliance of all other users on the statements.

At the present time, an enterprise's published financial statements usually consist of a balance sheet reflecting financial position, an income statement providing the results of operations, and a statement of retained earnings analyzing changes in the retained earnings account. The articulation of these statements with each other results from their reliance upon the same underlying data. Their interrelatedness, however, does not prevent one statement from receiving greater emphasis than the others.

For many years the balance sheet received the greatest prominence. This was due in large part to the emphasis given to the examination of balance sheet data by nineteenth century British auditing practice. Early American accounting and auditing practices drew upon these British roots. Statutory provisions and court decisions also influenced the prominence of the balance sheet. Bankruptcy cases and dividend suits turned on the issue of solvency and thus relied heavily on balance sheet data for their

solutions.

The income statement currently is receiving the greatest emphasis. Explanations for its increased prominence are numerous. The growth of the corporate system, with its separation of ownership from the management of entities, is a contributing factor since it created widespread interest in the measurement of enterprise performances. Tax laws focusing on business and personal income are also partially responsible for the central position now given income measurement. To one prominent writer, it is only a natural and inevitable phenomenon. In his view, the income statement is, and always has been, accounting's "center of gravity."² Although the reasons are varied, the outcome is the same--the income statement occupies the prime position among published accounting reports.

The determination of net income for an accounting period is a result of the allocation of revenues and expired costs to that period. The emphasis on income measurement, then, focuses attention on the determination of these periodic positive and negative elements--revenues

²A. C. Littleton, Structure of Accounting Theory, Monograph No. 5 (Urbana, Illinois: American Accounting Association, 1953), pp. 18-35. Littleton devotes an entire chapter to the development of his hypothesis "that the extensive need for dependable determinations of periodic net income makes the income statement the most important product of enterprise accounting."

and expired costs. Many of the problem areas of accounting, such as depreciation accounting, are concerned with ascertaining appropriate methods for the allocation of incurred costs to accounting periods. Of equal importance are problems dealing with revenues. "The ascertainment of the revenue figure is a problem in itself, Indeed, the development of methods by which the amount of gross earnings may be determined on a rational basis is one of the most serious tasks facing the accountant."³

The complexity of the situation is due to the necessity of determining income for periods typically shorter than the life span of the enterprise. The indefinite lives of most businesses today make it impractical to await their termination points before undertaking income computations. The demands of the information-users for regular and periodic reports is an overriding consideration. The nature of the resultant reports is well put by William Paton:

There is no more difficult problem of quantitative measurement and interpretation than that of determining the earnings of a complex business institution for a given period of time, especially when the period is short. The typical enterprise is a continuing entity, and setting up the report of operations and resulting earnings for a particular month, quarter, or year, . . . means that many living fibers of activity must be cut, more or less artificially, that estimate and judgment must be relied upon at numerous points.

³William A. Paton, Accounting Theory (Chicago: Accounting Studies Press, Ltd., 1962), pp. 443-444. This work was originally written in 1922 as a doctoral dissertation at the University of Michigan.

On the other hand, the amount and trend of profits as shown by a series of such reports, carefully and consistently prepared, are reasonably dependable facts, of real service in guiding the actions of interested parties.⁴

The breaking-up of economic events into arbitrary time periods means the operational results for a period are tentative in nature. The timeliness of such reports, though, offsets their inconclusiveness.

One of the elements necessary for effective communication, regardless of the setting, is that the set of symbols and assumptions used by the message encoder, or preparer, correspond to the set employed by the message decoder, or receiver.⁵ And the accounting situation, with its very existence centered on the provision of financial information, is no exception. In fact, the need for widespread congruency of symbols and assumptions between encoders and decoders is particularly evident in the area of financial information since many of the decisions of various information-users are based upon comparisons of the reports of numerous entities, particularly those within the same industry. Of course, before there can be such a congruency between accountants and the users of their information, it is necessary for accountants (the encoders) to

⁴William A. Paton, Advanced Accounting (New York: The Macmillan Company, 1941), p. 19.

⁵Wilbur Schramm (ed.), The Process and Effects of Mass Communication (Urbana, Illinois: The University of Illinois Press, 1954), pp. 4-7.

achieve uniformity among themselves.

Precisely the opposite situation prevails. A consequence of having to cut artificially the "many living fibers of activity" is that a wide diversity of accounting practices applicable to similar situations has arisen. These variations receive an aura of respectability through being deemed "generally accepted" by the accounting profession.

The question of uniformity versus flexibility of practices is a much debated issue in accounting. There is little doubt, however, that the informational value of accounting reports is inhibited so long as the present level of flexibility enables methods to be selected principally with an eye toward their effects on the minimization, maximization, or stabilization of income. Samuel Hepworth enumerates, for example, many techniques which are available to smooth periodic income.⁶ The smoothing may be accomplished by taking advantage of the wide latitude allowed in accounting for deferred charges, inventories, intangible assets, property acquisitions, depreciable assets, non-recurring charges and credits, and reserves. Such a broad band of "accepted" practices increases the likelihood of a report presenting an "accepted" accounting picture more favorable to a particular interest

⁶Samuel R. Hepworth, "Smoothing Periodic Income," The Accounting Review, XXVIII (January, 1953), pp. 32-39.

group than would a report prepared within more uniform parameters. The outcome, as previously noted, can only be decreased confidence in the reports by other interested parties.⁷

There is strong agitation for the introduction of much greater uniformity in accounting practices. Leonard Spacek writes "the accounting profession must . . . prepare reports that every one can use without adjustment for alternative accounting methods."⁸ The general purpose of the relatively new research program of the American Institute of Certified Public Accountants is the continuation of the

⁷Consider the following quote from "Goodyear Widens Its Lead," Forbes Business and Finance, LXXXVI (August 1, 1960), p. 16:

"There is also another symptom of Goodyear's new order of efficiency, but it is perhaps more suggestive than conclusive. In every year since 1955, whether or not its sales volume was temporarily trending up or down, Goodyear has been able to increase its earnings. There are so many ways of accomplishing this by mere book-keeping tricks that financial specialists are wont these days to view any such performances skeptically. So many costs can at option legitimately be anticipated or deferred, expensed or capitalized, that no corporate earnings figure is now regarded by sophisticates as . . . objective."

Similarly, Steven S. Anreder, "Pitfalls for the Unwary," Barron's National Business and Financial Weekly, XXXXII, Part 2 (December 24, 1962), p. 3 notes: "Accounting varies from industry to industry. In fact, even among companies in the same field practices are so diverse as to make comparisons of earnings less than meaningful."

⁸Leonard Spacek, "The Need for an Accounting Court," The Accounting Review, XXXIII (July, 1958), p. 371.

"effort to determine appropriate practice and to narrow areas of difference and inconsistency in practice."⁹

The breadth of uniform practices within the economy is an important consideration. This writer believes that uniformity of practices on the industry level is essential. Arthur M. Cannon is of the same opinion:

Nevertheless, the circumstances of a particular industry are likely to be such that reasonable uniformity may be attained and, therefore, the usefulness of their resulting statements enhanced by the comparability of different business entities within the industry.¹⁰

The requirements for effective communication and the beliefs of many within the accounting profession pinpoint the need for greater uniformity of accounting practices. The accounting profession itself must take the lead in initiating action toward this goal. Hesitancy to do so may lead to other institutions, such as the Securities and Exchange Commission, exercising various degrees of power to force changes.¹¹

⁹"Report to Council of the Special Committee on Research Program," The Journal of Accountancy, CVI (December, 1958), p. 62.

¹⁰Moonitz, op. cit., p. 43, footnote.

¹¹"SEC Commissioner Seeks More Uniformity in Accounting Practice," The Journal of Accountancy, CXV (March, 1963), p. 9. The question raised by Commissioner Whitney is whether the SEC's restraint in the use of its power to prescribe methods to be followed "has been and continues to be in the public interest and in the interest of investors."

It is within this broad setting of the contemporary accounting scene that the following proposal concerning the recognition of revenue in the consumer finance industry is presented.

Nature of the Problem

In recent years the small loan laws of many states have been changed to allow the use of "precomputation" in the lending practices of consumer finance companies. Employment of this concept permits consumer finance personnel to determine total loan charges at the time a loan is made rather than calculating charges as each monthly instalment is paid. The predetermined finance charge is added to the loan principal and this sum is divided by the number of contract instalments to get a series of even monthly payments for the borrower. The result is a new accounting problem for the consumer finance industry.

The accounting problem which presents itself is how to allocate the precomputed finance charge (i.e., revenue) over the life of an instalment loan contract. At the time a loan is made, the predetermined charge is entered in an "unearned finance charges" account.¹² The apportionment problem involves differentiating between (a)

¹²Other titles used for this account in statements are unearned interest charges, unearned discount, deferred income, and unearned income.

the amount of revenue to be recognized as current revenue of a specific month and (b) the amount to be carried forward in the "unearned finance charges" account as being applicable to future periods. There are a number of allocation methods currently in use in the consumer finance industry. As this writer will demonstrate in Chapter IV, these alternative methods may produce varying results in financial statements ostensibly reporting the same economic events.

Significance of the Problem

The significance of the thesis problem is clearly demonstrable given the general setting established earlier in the introduction. The problem deals specifically with many of the troublesome areas broadly defined earlier. First, the important area of the ascertainment of revenue is at the core of the problem. Second, the diversity of methods used to allocate the finance charge is an instance of the existence of a broad range of accepted accounting practices which serve to distort the informational value of financial statements. In addition to the effect on reported revenues and earnings in the income statement, important balance sheet ratios are influenced. The percentage relationship of the unearned finance charges account to total notes receivable is one such ratio. This ratio is significant since it indicates the proportion

of future revenue contained in notes already booked. The balance of net notes receivable, that is, total notes receivable less the unearned finance charges, is also affected and this, in turn, influences the current ratio. Third, the numbers of parties involved in the preparation and use of financial statements incorporating one or another of the various methods emphasizes the need for greater uniformity of practice in the consumer finance industry.

The third point needs elaboration since it demonstrates the increasing significance of the thesis problem in an absolute sense, that is, in terms of the numbers of affected providers and users of financial data. As small loan laws of additional states are changed to permit the predetermination of finance charges, it is evident that a larger number of persons, both accountants and statement users, will be involved. There is also another dimension to the area of interested users. It concerns developments in the financing of consumer finance companies since World War II.

The postwar growth of consumer credit made it necessary for consumer finance companies to construct well-balanced financial programs in order to meet their enhanced needs for funds. This led to the establishment of diversified programs of short- and long-term financing, and to the creation of financial connections with an increasing

number of lenders.¹³ The cultivation of these varied sources of funds has more or less paralleled the growth of precomputation in the consumer finance industry.

The importance of the concomitant increase in the number and diversity of parties interested in the financial statements of companies in the consumer finance industry is evident. If decisions based upon the statements by these parties are to be well-founded, the comparability of data from the various companies is essential.

Dissertation Objectives

As the preceding discussion suggests, the selection of an apportionment method is not of such a nature that it should be based solely upon the "personal choice" of each company's accountant from a spectrum of "accepted" practices.¹⁴ The solution to the problem instead calls for a uniform approach anchored to the bedrock of accounting theory. A primary objective of this dissertation is to establish a theoretically sound and feasible approach to the allocation of finance charge revenue over the life of an instalment loan contract.

¹³John M. Chapman and Frederick W. Jones, Finance Companies: How and Where They Obtain Their Funds, (Columbia University: Graduate School of Business, 1959), p. 37.

¹⁴As advocated by Robert R. Marshall, "Accounting Under Precomputation," Personal Finance Law Quarterly Report, XIV, No. 2 (Spring, 1960), p. 64.

A prerequisite for the fulfillment of the above objective is a knowledge of present practice and its impact on financial statements. Consequently, a second objective of this study is to present a description and analysis of current practice.

Approach to the Problem

Source material for this study includes the pertinent literature found in accounting and business periodicals, textbooks, reference books, and publications of professional organizations. Numerous annual reports of finance companies have been examined. The subject files of two national public accounting firms have also contributed much data included in this study.

Following this introductory chapter, there are six additional chapters. Chapter II discusses the nature and growth of consumer finance companies and the concept of precomputation. Such a discussion is necessary, not only because the study deals with a particular industry, but also because the nature of particular accounting practices cannot be considered apart from their environmental setting.

Chapters III and IV are concerned with current practice and its possible impact on financial statements. Chapter III presents the principal methods used to allocate the precomputed finance charges. Chapter IV considers the effects of the various methods on the flow of reported



revenue and other financial data under selected situations of changes in the characteristics of loans made.

Chapter V investigates the accounting thought underlying the recognition of revenue. From an examination of the various revenue recognition bases and the matching concept, a framework for the determination of a proper approach to the allocation of precomputed finance charges is established.

Chapter VI applies the framework established in Chapter V to the consumer finance company situation. Consideration of the cost structure of the consumer finance entity provides the basis for the delineation of an appropriate allocation approach.

Chapter VII is a summarization chapter wherein the author restates the significant findings of the preceding chapters.

CHAPTER II

THE CONSUMER FINANCE INDUSTRY AND PRECOMPUTATION

The first half of this chapter discusses the nature and development of the consumer finance industry and its role in the structure of consumer instalment credit. Familiarity with the industry is desirable because, first, the thesis problem concerns this segment of the economy and, second, the development and setting of a particular industry influences to some extent the accounting practices employed within the industry. The latter half of the chapter examines the phenomenon giving rise to the thesis problem--precomputation.

The Consumer Finance Industry

Development

The roots of lending reach deep into antiquity. Since even the most primitive human societies had some form of private property, the history of lending probably dates back to these beginnings of civilization. The custom of taking interest on loans also reaches back many centuries. As early as 4000 B.C. there are evidences of

interest being charged in the Babylonian civilization.¹

The consumer finance industry in the United States is of comparatively recent origin. The industry is composed of companies engaged in the business of making instalment loans to individuals and families under state regulatory and enabling laws, commonly known as small loan laws. The industry is essentially a product of the mass market for personal loans that developed during the time of the industrial revolution.

The effects of this economic and social upheaval, such as the mechanization of industry, the urbanization of population, and the growth of the wage system, significantly changed the way of life for many. Prior to the creation of an industrial society, the economy had been composed of individuals who were predominantly self-sufficient and who provided for their needs through direct production. By the turn of the twentieth century, however, a large part of the population could obtain food, clothing, and shelter only by purchases out of their current wages or savings. When the flow of cash wages to a family was interrupted or some other emergency requiring extra cash arose, the need

¹Louis N. Robinson and Rolf Nugent, Regulation of the Small Loan Business (New York: Russell Sage Foundation, 1935), p. 18 citing H. F. Lutz, Money and Loans in Ancient Babylonia ("University of California Chronicle," Vol. XXVI, No. 2; Berkley: University of California Press, April, 1924), pp. 125-142.

for funds from another source became of the utmost importance.

The laws during this period lagged behind reality. Usury statutes carried forward from the colonial days typically limited the rate of interest that could be charged on all loans to 5 or 6 per cent a year, 6 per cent being the most common.² These usury laws were originally constructed for commercial transactions requiring large loans, usually well-secured, and between parties of fairly equal bargaining power. The rates, however, would not permit economically sound lending of numerous small sums.³ Since the demand for small loans could not be met legally, the need was met primarily by illegal lenders, or "loan sharks."

The unregulated loan shark took advantage of his position and used many different subterfuges to get around the usury laws. Charges in excess of the maximum allowable interest rate were frequently concealed as fees and costs for paper. The use of "hazard agreements" was another technique. Repayments of an advance were conditioned upon such things as the borrower not losing an arm or leg or both. By including such negligible contingencies in the contract, it was hoped that the transaction would not be

²Ibid., p. 65.

³This is due to the existence of many expenses which remain relatively constant regardless of the size of loan granted. For a mathematical demonstration of this point refer to Milan V. Ayres, Instalment Mathematics Handbook (New York: The Ronald Press Company, 1946), Chapter XVII.

considered within the usury statutes since there was ostensibly not "a fixed obligation to pay." A different method was to sell the borrower a piece of cheap jewelry at the time the loan was made; the interest on the loan being at the legal rate, but the sale of the jewelry netting an exorbitant profit. Other devices used included salary purchases and payments for alleged quarantees.⁴

Concern for this situation led to a variety of state legislation during the first decade of the twentieth century. Some states enacted general prohibitive statutes which, due to their low rates, would have done away with all small loans had they been enforceable. Other states attempted to fix rates high enough to enable profitable lending in small amounts. However, the net result of these legislative efforts up to 1910 was negligible. The prohibitive statutes were unenforceable and merely resulted in the lender increasing his charges to compensate for his additional risk while the permissive statutes were characterized by inadequacy, either in allowable rates or in supervisory provisions.

In 1911, Massachusetts passed the first effective small loan legislation. Five other states--Oregon, New Jersey, Ohio, Pennsylvania, and Michigan--had passed

⁴Jackson R. Collins, "Evasion and Avoidance of Usury Laws," Law and Contemporary Problems, VIII (Winter, 1941), pp. 54-72.

similar legislation by the end of 1915. Providing much assistance in some of these legislative battles was the Russell Sage Foundation, a philanthropic institution formed in 1907. With these legislative experiences as background, representatives of the Russell Sage Foundation, remedial loan societies, and commercial lenders drafted a model bill in 1916. Known as the Uniform Small Loan Law, it served as the pattern for small loan legislation enacted in many states.

Since consumer finance companies owe their existence to legislation exempting small-sum lending from the general usury statutes, the drafting of the Uniform Small Loan Law and its subsequent revisions have been significant steps contributing to their development. The Russell Sage Foundation, to keep up with changing conditions, revised its model law six times before withdrawing from the small loan field in 1945. In 1948, the National Consumer Finance Association, an organization of companies operating under small loan laws, published a Model Consumer Finance Act which closely follows the Uniform Small Loan Law. The regulatory features of both models consist of provisions with respect to: (1) licensing by state supervisory official, (2) supervision by state official having powers to enforce and interpret the law, (3) authorization of adequate charges to permit a complete service, (4) limitation of charges, (5) regulation of contract provisions, (6) disclosure of

terms and status of loan transactions, (7) prohibition of evasions and subterfuges, and (8) penalties and enforcement powers.⁵

By September 1, 1961 there were thirty-six states having laws similar to the Uniform Small Loan Law. Ten others had laws containing elements of the Uniform Small Loan Law, but were classed as dissimilar by the National Consumer Finance Association.⁶

Role in the Structure of Consumer Instalment Credit

The position of consumer finance companies in the structure of consumer instalment credit can be analyzed on the basis of two classifications: the purpose for which the credit is granted and the type of institution extending the credit. Table 1 integrates these two classifications using data as of December 31, 1962.

⁵Monograph on the Consumer Finance Industry for the Commission on Money and Credit (Washington, D.C.: National Consumer Finance Association, 1960), p. 13, footnote.

⁶Roster of Consumer Finance Companies (Washington, D.C.: National Consumer Finance Association, 1961), p. 3.

TABLE 1*

CONSUMER INSTALMENT CREDIT OUTSTANDING
 BY TYPE OF CREDIT AND INSTITUTION
 DECEMBER 31, 1962
 (AMOUNTS IN MILLIONS OF DOLLARS)

Institution	Type of Credit				Totals
	Per- sonal Loans	Repair and Modern. Loans	Auto- mobile Paper	Other Cons. Goods Paper	
Consumer Finance Companies	\$ 3,602	\$. .	\$ 187	\$ 342	\$ 4,131
Commercial Banks	4,286	2,238	9,574	2,811	18,909
Sales Finance Companies	1,452	170	7,449	3,123	12,194
Other Financial Institutions	3,374	882	1,890	427	6,573
Automobile Dealers	. .	. .	284	. .	284
Retail Outlets	. .	. .	. .	6,152	6,152
Totals	\$12,714	\$3,290	\$19,384	\$12,855	\$48,243

*Source: Federal Reserve Board, Federal Reserve Bulletin, XXXIV (March, 1963), pp. 374-375, and Federal Reserve Statistical Release G. 22, "Consumer Credit at Consumer Finance Companies, December 1962," (February 5, 1963), p. 1.

Types of Instalment Credit.--As Table 1 indicates, the personal loan market is but one of a series of consumer credit markets which encompasses credit extended to buy automobiles, credit granted to purchase other consumer durable goods, and credit used for repair and modernization of homes. The personal loan market is a significant credit market, though, since it comprised 26 per cent of the instalment credit outstanding as of December 31, 1962. The importance of consumer finance companies in this market is shown by the fact that on this same date their loans outstanding constituted 28 per cent of the total personal instalment loans outstanding.

Types of Credit Institutions.--Consumer finance companies compete with a variety of institutions. Commercial banks operate extensively in the field of consumer instalment financing, as evidenced by their prominent position in the four categories of Table 1. Cooperative organizations, such as credit unions, provide a means for accumulating savings of its members and for loaning such funds to members at low finance rates. Sales finance companies extend credit primarily through the purchase of dealers' instalment paper which arises from the sale of automobiles and other consumer goods. Industrial loan companies, Morris Plan banks, and mutual savings banks provide sources of consumer instalment credit. In addition to the financial institutions, retail outlets are a source of consumer credit.

Most of the credit extended for the purchase of consumer goods originates with these outlets. However, rather than holding the contracts to maturity, many retailers sell them to a financial institution. A growing practice is the sale of merchandise by mail order houses, department stores, and other merchants on a "revolving credit" basis at a finance charge usually of $1\frac{1}{2}$ per cent per month.

Growth

The growth of consumer finance companies and the other sources of consumer instalment credit from 1939 to 1962 is presented in Table 2. As this table indicates, the credit outstanding of each of the institutions declined during World War II. This was due in great part to the reduced production of consumer durable goods. However, since most of the loans obtained at consumer finance companies are not for the purchase of durable goods, their outstandings declined by only 11 per cent during this period (1941-1945) as compared with a decrease of 60 per cent in total outstandings.

The outstandings of each lender has shown a substantial increase since the end of the war. Consumer finance outstandings increased approximately seven and one-half times while the total outstandings increased over eighteen times.

A noteworthy aspect of the growth of these institutions

TABLE 2
CONSUMER INSTALMENT CREDIT OUTSTANDING*
(IN MILLIONS OF DOLLARS)

End of Period	Financial Institutions					
	Commercial Banks	Sales Finance Companies	Credit Unions	Consumer Finance Companies	Other	Retail Outlets
Total						
1939	\$ 1,079	\$ 1,197	\$ 132	\$ 450	\$ 207	\$ 1,438
1941	1,726	1,797	198	530	229	1,605
1945	745	300	102	470	159	686
1946	1,567	677	151	650	190	937
1947	2,625	1,355	235	780	260	1,440
1948	3,529	2,011	334	930	316	1,876
1949	4,439	2,944	438	1,080	356	2,333
1950	5,798	3,711	590	1,286	420	2,898
1951	5,771	3,654	635	1,555	509	3,170
1952	7,524	4,711	837	1,866	643	3,822
1953	8,998	5,927	1,124	2,137	777	4,042
1954	8,796	6,144	1,342	2,257	911	4,118
1955	10,601	8,424	1,678	2,623	1,049	4,508
1956	11,777	9,045	2,014	2,940	1,129	4,743
1957	12,843	9,487	2,429	3,124	1,195	4,668
1958	12,780	8,699	2,668	3,085	1,282	4,983
1959	15,227	10,108	3,280	3,337	1,407	5,676
1960	16,672	11,228	3,923	3,670	1,481	5,615
1961	16,843	11,052	4,352	3,798	1,535	5,583
1962	18,909	12,183	4,973	4,131	1,600	6,436
						\$ 4,503
						6,085
						2,462
						4,172
						6,695
						8,996
						11,590
						14,703
						15,294
						19,403
						23,005
						23,568
						28,883
						31,648
						33,745
						33,497
						39,034
						42,588
						43,163
						48,232

*Sources: Federal Reserve Board, Federal Reserve Bulletin (April, 1953), p. 398; (October, 1956), p. 1108; (February, 1963), p. 224, and Thomas Gies, Cedric Fricke and Martha Seger, Consumer Finance Companies in Michigan, A Study of Operations and Regulations ("Michigan Business Studies," Vol. XV, No. 3; Ann Arbor, Michigan: Bureau of Business Research, The University of Michigan, 1961) p. 19.

is shown in the table. From 1955 through 1962, the outstandings of the consumer finance companies increased by slightly over 57 per cent. Yet the outstandings of credit unions increased by close to 200 per cent. As a result, consumer finance companies were replaced by credit unions as the third largest type of financial institution supplying consumer instalment credit.

Borrower and Loan Characteristics

The existence of many types of lending institutions in the personal loan market suggests that this market may be broken down further. Each source of loans is, to a considerable extent, designed for different groups of people. Commercial banks tend to limit their lending to preferred risks. Credit unions limit their service to members only. Consumer finance companies, as a general rule, specialize in the small personal loan where the risk is greater than some other financial institutions are willing to bear.

Borrower Occupation.--The credit market of consumer finance companies is differentiated to some extent by the occupational groups of its borrowers. Table 3 shows the results of a 1959 survey in Michigan. The first three categories in the tabulation--skilled and semi-skilled workers, laborers, and clerical and sales workers--constitute 84 per cent of the borrowers. Employment statistics for Michigan in 1959 indicate that only 65 per

cent of their labor force falls into the first three classes.⁷ Hence, these three groups appear about one and one-third times more frequently as borrowers at consumer finance companies in Michigan than their numerical importance would suggest.

TABLE 3*

MICHIGAN BORROWER OCCUPATION

Occupation	Per Cent
Skilled and semi-skilled workers	58
Laborers, except farm and mine	15
Clerical and sales workers	11
Professional workers and managers	6
Service workers	6
Others	4
Total	100

*Thomas Gies, Cedric Fricke, and Martha Seger, Consumer Finance Companies in Michigan, A Study of Operations and Regulations ("Michigan Business Studies," Vol. XV, No. 3; Ann Arbor, Michigan: Bureau of Business Research, University of Michigan, 1961), p. 32.

Other Borrower Characteristics.--The Michigan survey provides further data on the characteristics of the consumer finance company borrower. Such a borrower is likely to fall within the lower half of the state's income distribution. This is not unexpected since the largest groups

⁷ Thomas Gies, Cedric Fricke, and Martha Seger, Consumer Finance Companies in Michigan, A Study of Operations and Regulations ("Michigan Business Studies," Vol. XV, No. 3; Ann Arbor, Michigan: Bureau of Business Research, University of Michigan, 1961), p. 31.

of borrowers are in occupations which have relatively unstable incomes. The borrower is also likely to be married and between the ages of twenty-one and forty. These persons are relatively heavy users of credit since they are in the process of establishing homes and raising families. Their demand for goods and services is thus high.⁸

Loan Purpose.--Another way to segment the market is to examine the purpose for which loans are made. As mentioned earlier, loans are not generally obtained at consumer finance companies to purchase durable goods. Table 4 bears this statement out.

TABLE 4*

PURPOSE OF LOAN	
Purpose	Per Cent in 1958
Consolidate overdue bills	39.5
Travel, vacation, education	9.3
Medical, dental, hospital, funeral	7.9
Taxes, insurance, payments of real estate loans.	7.6
Clothing, food, rent, fuel, moving	7.2
Automobile purchase or repair	5.5
Household repairs	5.1
Home furnishings and appliances	4.7
Assist relatives	3.5
Miscellaneous and not reported	9.7
Total	100.0

*Monograph on the Consumer Finance Industry for the Commission on Money and Credit, op. cit., p. 107.
Data are for 2,243 offices operated by three consumer finance companies as of June 30, 1959.

⁸Ibid., pp. 32-36.

By far the most common reason given for borrowing is to consolidate existing debts. It is in this area that consumer finance companies feel they render one of their most valuable services. In addition to a loan, the companies provide the borrower with constructive counseling in his fiscal affairs. This is done so the loan will help solve a financial problem and not become an additional burden.

Loan Size, Maturity, and Security.--The maximum loan that consumer finance companies may make is set by state law. The many drafts of the Uniform Small Loan Law set this maximum at \$300. However, in order to adapt to higher price levels, the legislatures of many states have increased the loan-size ceiling. By the latter part of 1962, twenty-three states had loan limits of \$1,000 or more.⁹ As prices increased and ceiling were raised, the average size of loans made also went up. From 1951 through 1961, the average loan of a representative number of companies increased from \$250 to \$490.¹⁰

The average maturity of loans went up during this

⁹"Higher Loan Ceilings for Consumer Finance Companies," Personal Finance Law Quarterly Report, XVII, No. 1 (Winter, 1962), p. 6.

¹⁰First National Bank of Chicago, "Small Loan Company Ratios" (years ending December 31, 1951-December 31, 1956, six months ending June 30, 1957), and "Consumer Finance (Small Loan) Company Ratios" (years ending December 31, 1955-December 31, 1961), p. 1.

same time period, due in no small part to the increasing size of the loan. This trend may be seen in the experience of one of the largest consumer finance companies. The average maturity of its loans increased from 19.6 months in 1952 to 25.21 months in 1961.¹¹

Loans from consumer finance companies are frequently secured by a chattel mortgage. Data covering the security for loans made in fourteen states during 1954 indicated that about 60 per cent of the loans were so secured. Thirty per cent of the loans were unsecured, with the remaining 10 per cent being endorsed and co-maker notes or secured by wage assignments and other security. The percentage of unsecured loans in this analysis, though, represented a noticeable increase as compared with a similar analysis in 1937.¹²

Precomputation

Definitions

Per Cent Per Month.--The 1916 draft of the Uniform Small Loan Law, in dealing with the statement of charges, settled on a single, all-inclusive monthly rate of declining

¹¹Household Finance Corporation, Prospectus, November 14, 1962, p. 9.

¹²Tynan Smith and Robert Johnson, "Operating Characteristics of Consumer Credit Institutions," Consumer Installment Credit, Part I, Vol. 1: Growth and Import (Washington, D.C.: Federal Reserve System, 1957), pp. 48-49.

balances. The pertinent provisions read as follows:

Section 2. Every person, co-partnership and corporation licensed hereunder may loan any sum of money, goods or things in action not exceeding in amount or value the sum of three hundred dollars (\$300) and may charge, contract for and receive thereon interest at the rate not to exceed three and one-half ($3\frac{1}{2}$) per cent per month.

(2a) Interest shall not be payable in advance or compounded and shall be computed on unpaid balances. In addition to the interest herein provided for, no further or other charge, or amount whatsoever for any examination, service, brokerage, commission or other thing, or otherwise, shall be directly or indirectly charged, contracted for or received. . . .¹³

Given the parameters of this section of the law, all charges for costs such as those incurred in verifying the borrower's credit worthiness as well as the lender's return for the use of his funds were included in the all-inclusive rate and referred to as interest. Later drafts corrected the inappropriateness of this terminology by substituting the word "charges" for "interest,"¹⁴ although the philosophy of the all-inclusive rate was retained.

There were basically two reasons for adopting the all-inclusive monthly rate. In the first place, many of the loan shark's abuses were predicated upon his ability to collect extra fees and charges. The inclusive rate

¹³David J. Gallert, Walter S. Hilborn, and Geoffrey May, Small Loan Legislation (New York: Russell Sage Foundation, 1932), p. 92.

¹⁴Robert W. Johnson, Methods of Stating Consumer Finance Charges, Studies in Consumer Credit No. 2 (Columbia University: Graduate School of Business, 1961), p. 28.

covering all charges was developed to overcome this area of exploitation. Secondly, the overstated rate of charge --three and one-half per cent per month as compared with the standard six per cent per annum--was designed to appear so high as to discourage borrowing by all but those in grave need of small loan services. This stemmed from the feeling in the early days of industrialization and mass production that consumer loans were a necessary evil to be discouraged as much as possible.

A few states, such as Maryland and Rhode Island, have such a flat per cent per month rate applicable to all loans made under their small loan laws. Many other states have what are known as graduated, or split, rate structures. For example, Illinois allows a rate of 3 per cent per month on unpaid balances through \$100, 2 per cent per month on unpaid balances from \$100 through \$300, and 1 per cent per month on unpaid balances from \$300 through \$800. Split rate structures vary from state to state on the basis of the number of gradations, the separation points in the structure, and the rates applicable to various gradations.

Precomputation as an Alternative.--Within the last decade a number of states have changed their small loan laws to embody the concept called "precomputation." Under precomputation, at the time a loan is made the charges are calculated from the schedule of rates per month specified

in the law as if the contract were to be paid exactly according to schedule. The precomputed charges are then added to the principal of the loan and this sum is divided by the number of monthly instalments in the contract to arrive at an equal amount for each instalment. The instalment payments made thereafter by the borrower are credited to his account without separating principal from the finance charges. The relevant portion of the Illinois law is stated in the following manner:

(c) When the loan contract requires repayment in substantially equal and consecutive monthly instalments of principal and interest combined, the interest may be precomputed at the agreed monthly rate, not in excess of that provided for in subsection (a) of this section, on scheduled unpaid principal balances according to the terms of the contract and added to the principal of the loan. Every payment may be applied to the combined total of principal and precomputed interest until the contract is fully paid. . . .¹⁵

For example, a \$300 loan at 3 per cent per month to be repaid in twelve equal monthly instalments of principal and charges combined produces a charge of \$61.68. Under precomputation, the \$61.68 is added to the \$300 and each instalment amounts to \$30.14. The concept of uniform monthly payments of principal and charges combined is not really new to the consumer finance business. Loans with uniform repayment schedules have been in existence within the industry for many years. What is distinctive about precomputation

¹⁵Smith-Hurd Illinois Annotated Statutes, Chapter 74, Section 31.

is its method of applying instalment payments. In fact, this difference is cited as one of the major advantages of precomputation.

Advantages of Precomputation

Operating Efficiency.--Instalment payments received under precompute loans are credited to the borrower's account without separating the finance charge from the principal. The result, its adherent's advance, is greater operating efficiency. In the absence of precomputation, the finance charge component of each payment must be segregated from the principal and the borrower must receive the results of this computation. The procedural problems involved in requirements of this type are nicely illustrated by the following quote:

But this stipulation involves the loan company in a truly frightful amount of fruitless squirming. The borrower must be given a pass book on which the amount he owes is entered together with the date the amount he received in cash . . . was advanced to him. For its own records the loan company sets up a ledger card. And now the squirming becomes painful indeed as the poor loan company teller works her way through monthly payment after monthly payment.

She takes the borrower's pass book and his money. She pulls his ledger card from the files and compares the figures on the card with those in the borrower's pass book. Then she counts the number of days that have elapsed since the borrower's previous payment, turns to her interest calculator, plugs the borrower's last principal balance into her calculating machine, presses her multiplier keys and lets the motor rip out the amount of interest the borrower owes. She posts this amount to her ledger card--and to the borrower's pass book. Then she counts the money the borrower has passed through her window. She writes the amount on a memo pad, subtracts the interest amount--that's three times she's written the interest amount--and arrives at a remainder. She posts

this remainder to the ledger card and to the pass book. Then she subtracts this remainder from the old principal balance and posts the new principal balance to the ledger card and to the pass book. Finally, she enters the date of the payment, returns the pass book to the borrower with thanks, and files the ledger card. And she does that every month for nearly every customer --few payments come in by mail because borrowers don't know how much interest they owe and can't or won't figure it.

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The bank, on the other hand, gives the customer a coupon book on which the precise amount of each payment and due dates are clearly stated, sets-up a prescheduled ledger card and when the coupon comes in --most of the coupons are mailed in with checks accompanying them--they are sorted in the same sequence as the ledger cards, the ledger cards are date stamped with the date of payments--no figures are needed since the balances due are prescheduled--and the job of accounting for the monthly payment is done. . . . No wonder the bank can handle 500 accounts per employee against the loan company's 310 to 333.¹⁶

The fewer computations involved in the handling of a precompute loan payment also lessen the chance of an error occurring. This is important for consumer finance companies since small loan laws generally provide that a willful overcharge voids an entire loan. Thus, the simplified handling of payments under precomputation (whether coupon books are used or not) and the adaptability of such a system to prescheduled and preprinted loan papers and ledger cards can contribute to reducing a company's operating costs.

¹⁶Otto Lorenz, "State Laws Hamper Procedural Economies," Personal Finance Law Quarterly Report, X, No. 1 (Winter, 1957), p. 15, reprinted from American Banker, October 17, 1955.

Prepayment Refunds.--Precomputation of the monthly charge rate benefits the lender in cases where the loan is prepaid in full, either in cash or by refinancing. Refunds in these cases are lower than those which would result if the finance charge for the shortened period was computed by the simple interest per month method. The reason for this is that refunds under precomputation are computed by the "rule of 78ths,"¹⁷ whereby more of the total charge is retained upon prepayment than if simple interest is used. Table 5 presents a comparison of the two methods.

The additional charge retained by the rule of 78ths as successive months pass exceeds those collected by the simple interest method during the early months of a loan contract while the opposite situation exists in the latter months. The last column of Table 5 demonstrates this. In the example, the differential between the two methods increases during the first five months, while the contrary circumstances prevail during the last seven months. As Table 5 also shows, the finance charge under either method is the same if the contract is carried to maturity.

¹⁷The rule of 78ths is a sum-of-the-digits method for computing refunds. It acquires its name from the fact that 78 is the sum of the digits 1 through 12. As an example of its use, if a twelve month contract were paid in full after one month, 66/78 of the finance charge would be refunded to the borrower. On a twenty-four month loan the denominator is 300 (the sum of 1 through 24) and 276/300 of the total finance charge would be refunded if the loan was paid in full after one month.

TABLE 5*

COMPARISON OF FINANCE CHARGES RETAINED UPON
PREPAYMENT UNDER SIMPLE INTEREST
AND THE RULE OF 78THS

Prepaid Month-end	Finance Charge Retained		Difference
	Simple Interest	Rule of 78ths	
1	\$ 18.00	\$ 22.73	\$ 4.73
2	35.22	43.57	8.35
3	51.66	62.51	10.85
4	67.31	79.56	12.25
5	82.16	94.71	12.55
6	96.20	107.97	11.77
7	109.42	119.33	9.91
8	121.22	128.80	7.58
9	131.34	136.38	5.04
10	139.46	142.06	2.60
11	144.95	145.85	.90
12	147.74	147.74	0

*Example: \$1000 loan; rates 3%/2%/1%/\$300/\$500/\$1000; twelve monthly instalments of \$95.645; total finance charge, \$147.74.

The significance of this benefit is, of course, a function of the number and timing of loans that are prepaid. In general, it can be said that a large number of loans are prepaid, although it is usually by refinancing. As an illustration, one of the findings of fact by the Massachusetts Small Loan Regulatory Board in 1957 was that 60 to 66 per cent of all loans made by the consumer finance industry in the state were refinanced and new loan contracts entered into after about 37 per cent of the contract life of the

original loan had elapsed.¹⁸

Since the sample loan used in Table 5 is under a split rate structure, the differences shown between the two methods are greater than if one rate was applicable to the entire loan. The reason for the increased difference is that under a graduated structure the monthly finance rate of charge starts out lowest in the first month and gradually increases each subsequent month until the loan balance is reduced to that amount bearing the highest rate. On the other hand, application of the rule of 78ths produces the same charge rate each month when applied to the scheduled unpaid balances of principal and charges combined.¹⁹ The existence of these differences in the rates of charge leads to another advantage which is cited for precomputation.

Logicalness.--Split rate structures have been in existence since around 1928. Taking legal cognizance of the many costs not related to size of loan, their purpose is to give a lower rate on larger loans. To accomplish the objective, different rates are applied to different portions of the unpaid loan balances. As just noted, though, under simple interest per month, this results in the lowest charge

¹⁸James C. Gahan, Jr., "Massachusetts Board Issues Small Loan Rate Order," Personal Finance Law Quarterly Report, XII, No. 2 (Spring, 1958), p. 36.

¹⁹On the loan used in Table 5, for example, the rule of 78ths produces a monthly rate of 1.98% on the unpaid balances of principal and charges combined.

rate applying during the first month of the loan and gradually increasing thereafter (assuming, of course, the loan is large enough to be affected by the split rate.)

Proponents of precomputation, contrasting the variability of monthly rates derived from simple interest per month with the constant monthly rate produced by precomputation, argue strongly for precomputation:

There are no other lending agencies having a system of charges which produces a progressively higher rate of charge as the instalment payments reduce the unpaid balance. . . . Where is the justification or logic in giving the borrower who pays off his loan ahead of schedule a lower rate than is paid by the borrower who carries his loan to maturity? Logically, the one who pre-pays should pay at least the same rate, if not a higher rate. Most real estate mortgages provide a penalty for prepayment--not a lower rate!

. . . A constant monthly rate or a variable, progressively higher monthly rate--can there be any question as to which is the more logical?²⁰

Competitiveness.--The borrower, under precomputation, knows the dollar cost of the loan at the time the agreement is signed. If he makes his payments regularly, that is, on the due dates or within the allowed grace periods, he will not pay any more or less than this precomputed dollar amount. From a competitive standpoint, consumer finance company personnel consider this an advantage. The practice of most other lending institutions is to combine the interest and expense charges into a dollar amount

²⁰J. Miller Redfield, "Precomputation--Plain and Fancy," Personal Finance Law Quarterly Report, XII, No. 1 (Winter, 1957), p. 6.

which is either added to, or discounted from, the amount of the loan. Personnel of consumer finance companies often feel their borrowers are confused by the per cent per month charge statement, particularly where a split rate structure is in effect. The hope, then, is to improve the "product package" and overcome borrower confusion as to loan costs by precomputing the loan charges.

Objections to Precomputation

Statement of Charges.--A principal objection to precomputation relates not so much to the concept itself, that is, to the predetermining of the dollar cost of a loan, but to the fact that these computations are determined by reference to a per cent per month rate structure. The objections come from those who wish to eliminate the per cent per month rate structures from the statutes entirely and replace them with a form of dollar cost charge statement, whether it be an add-on method, a discount method, or a statement of a certain number of dollars for each \$100 borrowed for a year.²¹ For persons so inclined, precomputation's "only purpose . . . is to gradually educate those lenders who have not had the advantage of experience in the various

²¹A concise discussion of the various proposals for the statement of finance charges is found in Carl A. Dauten, The Consumer Finance Industry in a Dynamic Economy, Consumer Credit Monograph No. 2 (St. Louis: American Investment Company of Illinois, 1959), pp. 60-63.

types of lending operations, to realize and appreciate the advantages of the add-on or dollar-cost system."²²

The disenchantment with the per cent per month statutes stems from their misinterpretation by borrowers and others. Consumer finance employees often find much time and effort is needed to convince a borrower that three per cent per month on a \$100 loan repayable in twelve monthly instalments does not result in a \$36 finance charge. The image of the consumer finance industry suffers from such misinterpretation:

It is so easy, for example, to multiply 3% per month by twelve and contrast this 36% per annum with conventional interest rates of 8% to 12% per annum, that there is a constant stream of abuse against this business and its so-called "outrageous charges." This "percent per month" lends itself as a perfect target for demagogues, politicians and many well-intentioned but uninformed public-spirited citizens--even many experienced loan personnel can't understand it sufficiently well to give a satisfactory explanation.²³

Adjustments.--The fact that the finance charge under precomputation is determined on the basis of a scheduled contract means that provision must be made for cases where deviations from the contract occur. Adjustments for such variances are usually classified as extension charges, where the due date of the first instalment is extended; default

²²L. J. Holroyd, Jr., "Precomputation--Is It Really Progress?" Personal Finance Law Quarterly Report, XII, No. 1 (Winter, 1957), p. 16.

²³L. J. Holroyd, Jr., "A Critical Analysis of Computing and Stating Rates of Charges of Consumer Instalment Loans," Ibid., XI, No. 3 (Summer, 1957), p. 126.

charges, where there is a delay in the payment of the full amount of any scheduled instalment; deferment charges, where all wholly unpaid instalments are deferred one or more full months and the maturity of the contract so extended; and refunds for prepayments. The criticism is sometimes leveled at precomputation that these adjustments are themselves complex, confusing, and time-consuming. And since precomputation is only an alternative to simple interest, employees must be trained to operate under either method. Further, the existence of two methods creates problems in the designing of loan forms, particularly for those cases where a constant delinquency under precompute switches to a simple interest basis.²⁴

It is likely that some of these criticisms of the adjustments result from their newness to the system rather than from any inherent complexity. For example, refunds under the rule of 78ths can be easily taken from tables with few, if any, paper and pencil calculations needed--except if the loan is prepaid very early in a few states whereupon a recalculation of charges is required on a per cent per month basis. Nevertheless, there is little doubt that precomputation provides the maximum benefit when all payments are made on schedule. This has led one authority to estimate that unless 60 per cent of an office's accounts

²⁴Dan J. Griffen, "Precomputational Considerations in Loan Forms," Consumer Finance News, XLV, No. 7 (January, 1961), pp. 3-5.

consistently make full payments according to schedule, pre-computation should not be adopted.²⁵

Borrower Cost.--An increase in the cost to the borrower is an objection frequently mentioned regarding pre-computation. This, of course, is merely the converse of the advantage presented earlier dealing with refunds in pre-payment cases. To illustrate the increased costs, the same sort of comparison is made between charges computed by simple interest and by the rule of 78ths in case of prepayments in full.

One author is quite dogmatic about the criticism. Noting that both methods charge the same amount if the borrower lives up to his contract, his attitude is that "contracts are made to be observed, not breached." When a borrower breaches, through prepayment, delinquency, or otherwise, there is no reason why there should not be differences in the charges.²⁶ A different type of reply is used by another writer--his opinion being that the only sure way to eliminate the criticism is to eliminate the comparisons. To accomplish this, precomputation must be given up as an

²⁵J. Miller Redfield, "Why Precomputation?" Personal Finance Law Quarterly Report, XIV, No. 2 (Spring, 1960), p. 59.

²⁶James B. Harper, "A Draftsman Looks at Precomputation," Personal Finance Law Quarterly Report, XII, No. 1 (Winter, 1957), p. 12.

alternate under a per cent per month law and a dollar-cost method of stating charges must replace it.²⁷

The Personal Holding Company Tax and Precomputation

Present tax laws impose a special tax of from 75 to 85 per cent on undistributed personal holding company income. The purpose of this tax is to prevent an individual, or a group of individuals, from escaping high individual taxes by collecting and retaining income as an "incorporated pocketbook" rather than distributing it to stockholders. In general, a corporation is a personal holding company if less than six individuals own more than 50 per cent of the value of the outstanding stock and if at least 80 per cent of the corporation income is personal holding company income. Personal holding company income essentially consists of "passive" income, which includes such things as interest, dividends, rents, annuities, and gains from the sale of securities.

The law does exclude certain types of companies from the definition of a personal holding company. The exemptions are allowed because the companies are engaged in an active trade or business despite the nature of their income. Banks, life insurance companies, and surety companies are examples. Consumer finance companies are also excepted

²⁷Redfield, loc. cit.

under certain conditions.

The development of precomputation created some problems for the smaller, independent consumer finance companies seeking exemption from the personal holding company tax. Although the problems have since been neutralized, a brief recapitulation of the situation is necessary since it affected the acceptability of precomputation to a segment of the consumer finance industry.

There are two exceptions which can be applied to consumer finance companies. The first exception is a result of the Revenue Act of 1938 and is intended to exempt those companies operating under statutes similar to the Uniform Small Loan Law. The relevant provision reads that the term "personal holding company" does not include:

(6) a licensed personal finance company under State supervision, 80 percent or more of the gross income of which is lawful interest received from loans made to individuals in accordance with the provisions of applicable State law if at least 60 percent of such gross income is lawful interest--

.

(B) not payable in advance and computed only on unpaid balances,²⁸

It has already been demonstrated that under precomputation it is possible, in the case of prepayments, for the lender to receive charges greater than if they were computed by the use of simple interest on unpaid balances.

²⁸I. R. C. 542 (c) (6).

Part (B) of the above tax provision, however, indicates that charges should be computed only on unpaid balances. Would a lender thereby lose his exemption if he used pre-computation and the corresponding adjustments based upon the rule of 78ths? An Illinois licensee applied for an income tax ruling and got the following response:

A small loan company will not lose its exempt status under Section 542 (c) (6) . . . solely by reason of adopting the method of precomputing interest on loans authorized by the Small Loans Act of the State of Illinois, as amended. However, in determining whether such company is excepted from the definition of a personal holding company, that portion of interest charged by the company in excess of interest computed only on unpaid balances, although includable in gross income as interest, may not be taken into account in determining whether such company satisfies the percentage of gross income requirements prescribed. . . .²⁹

Since the taxpayer has the burden of proof in claiming an exemption, the above ruling meant that each affected consumer finance company had to find some means of measuring the difference between the charges received under precomputation and what it might have received under the simple interest method so the excess could be excluded in determining whether the company met the 60 per cent test in the tax law. If the taxpayer recomputed all loans on a simple interest basis to get a figure to compare with the charges received under precomputation, a major reason for using precomputation--efficiency--would be

²⁹Rev. Rul. 60-194, C. B. 1960-1, p. 206.

eliminated. To claim exemption under Section 542 (c) (6), then, an alternative method acceptable to the Internal Revenue Service was needed.³⁰ Recourse to Section (c) (7) was another possibility.

Section 542 (c) (7) was added to the Internal Revenue Code in 1950 to exempt lending companies making small loans in states which allowed interest charges to be determined by the "dollar add-on" method. Ostensibly applicable to precompute loans also, the pertinent part of this exemption did read:

(c) The term "personal holding company" does not include--

.

(7) a lending company, not otherwise excepted by this subsection, authorized to engage in the small loan business under one or more State statutes providing for the direct regulation of such business, 80 percent or more of the gross income of which is lawful interest, discount or other authorized charges--

.

(B) which do not, in the case of any individual loan, exceed in the aggregate an amount equal to simple interest at the rate of 3 percent per month not payable in advance and computed only on unpaid balances,³¹

³⁰Three suggested methods are summarized by L. J. Styskal and J. E. Newton, "Small Loan Companies Ask New Handling of Precomputation and PHC Exemption," The Journal of Taxation, XIV (May, 1961), p. 301.

³¹U. S. Congress, House, Committee on Ways and Means, Exception of Certain Consumer Finance Companies From Personal Holding Company Tax, 87th Cong., 2nd Sess., H. Rept. 1811 to accompany H. Rept. 8824, p. 6.

The problem of claiming exemption under this section was quite similar to that encountered under Section 542 (c) (6), --each affected lender had to measure the difference between the charges received under precomputation and what it would have received under a 3 per cent simple interest method. The burden of recomputing interest on a simple interest basis or drawing up additional refund charts was placed on the small consumer finance company.³² Thus, either exemption open to a firm using precomputation created record-keeping problems.

Congress, recognizing the fact that the personal holding company tax was intended to tax passive investments and not to regulate active lending companies, rectified the situation in 1962. An amendment changing Section 542 (c) (7) was signed into law on October 9, 1962. Among other changes, the amendment removed the 3 per cent per month restriction from the books.³³ The removal of this restriction thus corrected a competitive disequilibrium within the consumer finance industry created by the tax law and eliminated a basis for opposition to the use of precomputation.

³²As an example, one author estimated that a \$260 loan for 20 months (a \$202.67 cash advance) at $2\frac{1}{2}\%/2\%/\$200$ would require recomputation at a 3 per cent rate through all or some part of each instalment period through 5 months and 3 days, William A. Kline, Jr., "Precomputation from Standpoint of a Personal Holding Company, Advertising and Customer Relations," Personal Finance Law Quarterly Report, XIV, No. 2 (Spring, 1960), pp. 66-67.

³³A detailed discussion of all changes is found in House Committee on Ways and Means, op. cit., 9 pp.

Acceptance of Precomputation

California was the first state to enact a precomputation provision as an alternate under a per cent per month law. However, before its final passage in 1949, an amendment was added which effectively killed the use of precomputation. The amendment provided that regardless of the provisions for adjustments under precomputation, total charges collected by a lender could not exceed those which would have resulted from simple interest on unpaid balances.³⁴

Missouri enacted the first effective precomputation statute in 1951. Since then fifteen additional states have revised their statutes to permit precomputation. Table 6 lists the states permitting precomputation and the respective adoption dates.

TABLE 6*

STATES PERMITTING PRECOMPUTATION

State	Adoption Date	State	Adoption Date
Alabama.	1960	Minnesota.	1959
Arizona.	1956	Missouri	1951
California	1959	New Mexico	1959
Colorado	1953	New York	1960
Idaho.	1957	North Dakota	1960
Illinois	1957	South Dakota	1961
Kansas	1955	Vermont	1959
Massachusetts.	1956	Washington	1959
	and		
	1960		

*Source: "Precomputation and Dollar Add-On Laws," Consumer Finance Law Bulletin, XV, No. 3 (September 25, 1961), p. 50, except for North Dakota.

³⁴Redfield, op. cit., p. 59.

Summary

The consumer finance industry developed in response to the need of a wage-earning society for a source of small loans. The industry's subsequent growth to its present position of over \$4,000,000,000 of credit outstanding and a consideration of its borrower and loan characteristics demonstrate the continued existence of such a market. The state regulation of the industry is designed to permit profitable operations by allowing charges in excess of the usury rate. By the same token, it operates to prevent abuses from arising within the small loan field.

The employment of precomputation within the consumer finance industry is supported on the grounds that it enables the industry to be more competitive, provides more logical results, creates a favorable situation in prepayment cases, and promotes operating efficiencies. Opponents maintain the concept does not go far enough towards eliminating per cent per month confusions, increases borrower costs, and creates adjustment complexities. One-third of the states have considered such pros and cons and have adopted precomputation.

CHAPTER III

METHODS OF ALLOCATING UNEARNED FINANCE CHARGES

This chapter examines the various approaches to the allocation of precomputed finance charges over the installment contract periods. The methods covered are as follows:

1. Priority
2. Residuary
3. Effective Rate
4. Sum-of-the-Digits
5. Straight Line
6. Liquidation
7. Fixed Percentage

The use of an acquisition cost factor in connection with these allocations is also discussed.

Priority and Residuary Methods

Priority¹

The entire precomputed finance charge is recognized as revenue at the time a loan is made when the priority method is employed. To illustrate, consider a loan of \$109.08 with a precomputed finance charge of \$10.92, to be repaid in twelve monthly instalments of \$10.00. Table 7 indicates the treatment of this finance charge under the priority approach.

¹Also known as the yield minimum method.

TABLE 7

DISTRIBUTION OF FINANCE CHARGES BY PRIORITY METHOD

End of Month	Note Balance	Monthly Revenue Recognized	Unearned Finance Charges Balance
	\$120.00	\$10.92	\$. .
1	110.00	. .	. .
2	100.00	. .	. .
3	90.00	. .	. .
4	80.00	. .	. .
5	70.00	. .	. .
6	60.00	. .	. .
7	50.00	. .	. .
8	40.00	. .	. .
9	30.00	. .	. .
10	20.00	. .	. .
11	10.00	. .	. .
12	. .	. .	. .
		\$10.92	

The justification offered for the priority method is that it is convenient and eliminates the annoyance of dealing with the unearned finance charges account. Ignoring an apportionment problem, however, is not the most defensible approach. The method is basically unsound since it views the loan transaction as closed and all revenue recognized at a time when the full term of the instalment contract still remains.

Residuary²

The opposite extreme of the priority method is the residuary approach. Using this technique, no part of

²Also known as the yield maximum method.

the finance charge is recognized as revenue until after the entire original principal has been repaid. This technique is ultra-conservative in nature and it, too, ignores the reality of the situation by not recognizing any revenue in the early parts of the transaction. Table 8 illustrates the handling of a precomputed finance charge by the residuary method. The same loan conditions as in the previous example are used.

TABLE 8
DISTRIBUTION OF FINANCE CHARGE BY RESIDUARY METHOD

End of Month	Note Balance	Monthly Revenue Recognized	Unearned Finance Charges Balance
	\$120.00	\$. .	\$10.92
1	110.00	. .	10.92
2	100.00	. .	10.92
3	90.00	. .	10.92
4	80.00	. .	10.92
5	70.00	. .	10.92
6	60.00	. .	10.92
7	50.00	. .	10.92
8	40.00	. .	10.92
9	30.00	. .	10.92
10	20.00	. .	10.92
11	10.00	.92	10.00
12	. .	10.00	. .
		<u>\$10.92</u>	

The priority and residuary techniques are not within the realm of methods considered to be generally accepted by the accounting profession. Consequently, they are not widely used within the consumer finance industry.

Their exposition here serves the purpose, however, of delineating the boundaries between which all generally accepted methods fall.

The fact that the priority and residuary approaches are in use at all, even when not considered generally accepted, is worthy of note. A firm may use one of these methods and still receive an unqualified audit opinion from a public accounting firm. The auditor, in these circumstances, makes a comparison between the results for the period involved derived from the system in use and the results that would have been provided by a generally accepted technique. If the difference is immaterial, no exception is taken in the audit report.

The expediency of the above procedure, given the audit situation, is recognized. Yet this use of the materiality concept means that practices can be perpetuated which are even outside the present broad band of acceptability. The complexity of the task of reducing divergencies in practice is thus increased. Further, a short-run view, such as an accounting period, using the concept of materiality as justification for approval of a technique overlooks the possibility that a series of short-run immaterial dollar variances may produce a material long-run variance. Even more importantly, there are other aspects to materiality than just the quantitative side. Qualitatively, the mere divergence of a practice from what is viewed as "generally accepted" is material.

Effective Rate³

In theory, the effective rate method requires the actuarial computation of the effective interest rate on the instalment contract. The portion of the finance charge recognized as revenue each month is then determined by multiplying the balance of the investment by the effective rate. Since the monthly collections reduce the finance company's investment in the receivable, the revenue recognized decreases each month.

This approach interprets literally those small loan laws which label the finance charges as interest. The section of the Illinois law quoted in the previous chapter, for example, uses the terminology "interest" and "precomputed interest" in its discussion of precomputation. Considering the revenues as pure interest, then, this method distributes the finance charge in accordance with the effective interest rate on the loan transaction.

Reference to a table of present values of annuities indicates that the effective interest rate on the loan used as an example in the previous two tables is $1\frac{1}{2}$ per cent per month. Table 9 shows how the precomputed finance charge would be allocated using the effective rate method.

As previously noted, in theory this method entails the computation of the effective interest rate for the

³Also known as the actuarial method.

TABLE 9

ALLOCATION OF PRECOMPUTED FINANCE CHARGE BY
EFFECTIVE RATE METHOD

End of Month	Note Balance	Principal Balance	Monthly Revenue Recognized	Unearned Finance Charges Balance	Column 5 as % of Note Balance
	\$120.00	\$109.08	\$. .	\$10.92	9.100%
1	110.00	100.72	1.64	9.28	8.436
2	100.00	92.23	1.51	7.77	7.770
3	90.00	83.61	1.38	6.39	7.100
4	80.00	74.86	1.25	5.14	6.425
5	70.00	65.98	1.12	4.02	5.743
6	60.00	56.97	.99	3.03	5.050
7	50.00	47.82	.85	2.18	4.360
8	40.00	38.54	.72	1.46	3.650
9	30.00	29.12	.58	.88	2.933
10	20.00	19.56	.44	.44	2.200
11	10.00	9.85	.29	.15	1.500
12	. .	. .	.15	. .	
			\$10.92		

instalment contract and the application of the effective rate to the declining contract investment to determine the monthly revenue. A similarly exact computation involves the calculation of what the balance in the unearned finance charges account should be at the various stages of the contract. The difference between the balance so determined and the balance actually in the account represents the revenue for the period. The formula to determine this "correct" balance in the unearned finance charges account is $m \times (t - a_{\overline{t}|i})$, where m equals the monthly contractual payment, t equals the number of payments yet due, $a_{\overline{t}|i}$ equals the present value of an annuity of one per period for t periods valued at the effective monthly rate of interest on

the contract.⁴

These two techniques of calculating the monthly revenue under the effective rate philosophy necessitate individual contract valuation in each case. The large number of instalment contracts carried by the typical consumer finance company makes such monthly individual contract calculations extremely burdensome and impractical. Consequently, simplified embodiments of the effective rate approach are found in practice.

The determination of an over-all rate applicable to the investment in all contracts is one such embodiment. When first instigated, the calculation of the over-all rate requires extensive work. It necessitates the finding of the effective interest rate on instalment contracts of various sizes and maturities. These rates are determined for loans that are paid in full according to schedule and loans paid in full at various times prior to maturity. A standard often used for the elapsed time of a loan paid in full before maturity is one-half of the full contract term. In

⁴From a formula in B. J. Hill and M. F. Desmarchelier, "Some Problems for Financiers," The Chartered Accountant in Australia, XXXII (October, 1961), p. 219. To illustrate, consider the determination of the unearned finance charges balance after six payments have been received. At this point, $m=10$, $t=6$, $a_{\overline{t}|i}=5.697$. The account balance equals $\$10 \times (6.000 - 5.697) = \$10 \times .303 = \$3.03$. The revenue for the period of the sixth payment then equals $\$4.02 - 3.03 = \$.99$. This is the same amount as that reached by multiplying investment for the period by the effective rate.

figuring the rate for the loans paid in full at one-half the contract term, effect is given to the fact that refunds are made under the rule of 78ths. Having secured the effective rates for various loan sizes and maturities, these rates are then evaluated into one average rate for the consumer finance firm. Weight is given to the number of its accounts that pay in full at one-half the term, as well as to the frequency of loan sizes. The average rate so determined is the over-all effective rate for the firm on its loans. The firm's monthly revenue is then figured by multiplying the average rate by the net cash invested in loans at the beginning of the month, that is, the gross loans outstanding less the unearned finance charges balance.⁵

Another simplified approach maintains the balance of the unearned finance charges account in a predetermined relationship with total note balances. Any amount in excess of this balance represents the revenue for the period. For example, referring to the last column of Table 9, if it is assumed that all of a firm's loans are similar to the one illustrated and that on the average they are all one-half paid, the balance of the unearned finance charges account is maintained at 5.05 per cent of the gross notes receivable. Again, the difficulty of implementing a percentage approach such as this is the determination of the

⁵John C. Wetzel, "Earned Income Under Precomputation," Personal Finance Law Quarterly Report, XII, No. 1 (Winter, 1957), pp. 8-9.

proper relationship given many loans of various sizes and maturities.⁶

Sum-of-the-Digits⁷

The sum-of-the-digits technique of allocating un-earned charges is commonly used in the consumer finance industry. Its basic justification is the same as that of the effective rate method, namely, that the amount of revenue recognized ought to be related to the amount of the investment in the loans. The popularity of the sum-of-the-digits approach stems from the fact that its results approximate those of the effective rate approach without the necessity of employing any actuarial computations.

If a loan is to be repaid in twelve equal monthly instalments, the consumer finance company's investment during the first month is approximately twelve times as much as its investment during the last month. Use of the sum-of-the-digits approach results in twelve times as much revenue being recognized at the completion of one month's time as is recognized in the final month. On a twelve month loan, the method works in the following manner.

⁶American Institute of Certified Public Accountants, Technical Information Service, "Excerpts From Correspondence Regarding Computations of Unearned Income," (n.d.), p. 2.

⁷Also known as the direct ratio or 78ths method.

The sum of the numbers 1 through 12 is 78.⁸ The portion of the original unearned finance charge recognized as revenue the first month is $12/78$; the second month, $11/78$; the third month, $10/78$; and so on down to the twelfth month when $1/78$ of the original unearned finance charge is recognized. The same procedure is used for loans of other maturities. Thus, on a six month loan, the denominator is 21 (the sum of 1 through 6) and $6/21$ of the unearned finance charge is recognized the first month, $5/21$ the second month, and so on for the duration of the loan. On a twenty-four month loan, the denominator is 300 (the sum of 1 through 24) and $24/300$ of the original charge is recognized the first month. Tables are available which reduce these fractions to percentages for ease of application.⁹

Table 10 demonstrates the allocation of precomputed finance charges by the sum-of-the-digits method, using the same loan example presented in the previous tables.

To indicate the similarity of results, a comparison of the allocations produced by the effective rate method and the sum-of-the-digits method is presented in Table 11. Slightly more revenue is recognized in the early months under the sum-of-the-digits method. This is because the

⁸The formula to determine the denominator is $n(n+1)/2$, where n equals the number of months in the original term of the loan.

⁹See Appendix A.

TABLE 10

ALLOCATION OF PRECOMPUTED FINANCE CHARGES BY
SUM-OF-THE-DIGITS METHOD

End of Month	Note Balance	Monthly Revenue Recognized	Unearned Finance Charges Balance
	\$120.00		\$10.92
1	110.00	\$ 1.68	9.24
2	100.00	1.54	7.70
3	90.00	1.40	6.30
4	80.00	1.26	5.04
5	70.00	1.12	3.92
6	60.00	.98	2.94
7	50.00	.84	2.10
8	40.00	.70	1.40
9	30.00	.56	.84
10	20.00	.42	.42
11	10.00	.28	.14
12	. .	.14	. .
		<u>\$10.92</u>	

TABLE 11

COMPARISON OF EFFECTIVE RATE AND
SUM-OF-THE-DIGITS RESULTS

Month	Monthly Revenue	
	Effective Rate	Sum-of-the-Digits
1	\$ 1.64	\$ 1.68
2	1.51	1.54
3	1.38	1.40
4	1.25	1.26
5	1.12	1.12
6	.99	.98
7	.85	.84
8	.72	.70
9	.58	.56
10	.44	.42
11	.29	.28
12	.15	.14
	<u>\$10.92</u>	<u>\$10.92</u>

1

porportions are calculated on the basis of the face amount of the note rather than the company's investment in the note. Although the total note receivable does diminish in the ratio of 12 to 11 to 10, etc., the company's investment, under the effective rate philosophy, does not since each monthly collection includes a diminishing amount of interest and an increasing amount of principal.

The fact that the small loan laws require the use of the sum-of-the-digits method to determine the amount of refunds in the case of a loan prepayment provides its adherents a source of support for its use as a method of revenue recognition. Persons reasoning in this manner believe it is unnecessary to provide any other balance in the unearned finance charges account than that determined by the sum-of-the-digits approach, since if all borrowers paid off their loans and received their refunds, the firm would be in no worse position than was stated in its balance sheet.¹⁰

This type of reasoning, however, runs counter to one of the most basic assumptions underlying accounting thought. The setting just described envisions a liquidation situation, whereas the accountant normally takes for granted the continuity of the entity for which he is accounting. To assume other than a "going concern" circumstance

¹⁰R. H. Lound, "In Defence of the Rule of 78," The Chartered Accountant in Australia, XXXII (December, 1961), p. 335.

as the general case is an unreasonable and untenable position.¹¹

The American Institute of Certified Public Accountants has not taken a position favoring one or another of the various allocation methods. However, authoritative support for the sum-of-the-digits approach has been issued by the Institute of Chartered Accountants in Australia. In June, 1961, its General Council released a pronouncement which stated, in part, as follows:

The gross income arising from any form of finance contract should be apportioned over the term of the contract in direct relationship to the amount of the funds invested therein during the relevant accounting periods.

.

It is therefore recommended that members direct attention of their clients concerned to the importance of using one of these methods, or any other method by which the "rule of 78" is applied, for the purpose of apportioning the income yet to mature in hire purchases or similar finance contracts.¹²

A number of systems are in existence to make the sum-of-the-digits method workable for a consumer finance firm with a large number of instalment contracts. These are the "methods" referred to by the General Council in

¹¹The "going concern" concept is one basic assumption of accounting upon which there has long been widespread agreement. For instance, refer to Paton, Accounting Theory, pp. 478-480 and Moonitz, op. cit., pp. 38-41.

¹²"Apportionment of Income of Hire Purchase and General Finance Companies," Pronouncement of the General Council of the Institute of Chartered Accountants in Australia, The Chartered Accountant in Australia, XXI (June, 1961), pp. 616-617.

the above quote. Two of the more common systems are the monthly spread system and the maturity control system. Examples of these two systems are presented in Appendix B.

Straight Line¹³

Another common method employed is the straight line approach, whereby an equal part of the precomputed finance charge is recognized each month of the instalment loan. The straight line philosophy pervades many of the transactions requiring allocation in accounting and the apportionment of the precomputed finance charge is no exception. Table 12 illustrates the results of using this method on the sample loan transaction.

TABLE 12
ALLOCATION OF PRECOMPUTED FINANCE CHARGE BY
STRAIGHT LINE METHOD

End of Month	Note Balance	Monthly Revenue Recognized	Unearned Finance Charges Balance
	\$120.00	\$. .	\$10.92
1	110.00	.91	10.01
2	100.00	.91	9.10
3	90.00	.91	8.19
4	80.00	.91	7.28
5	70.00	.91	6.37
6	60.00	.91	5.46
7	50.00	.91	4.55
8	40.00	.91	3.64
9	30.00	.91	2.73
10	20.00	.91	1.82
11	10.00	.91	.91
12	. .	.91	. .
		\$10.92	

¹³Also known as the constant ratio or level accrual method.

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Adherents of the effective rate approach and its approximation, the sum-of-the-digits method, criticize the straight line technique because of the variable monthly "interest" rate it produces. These persons claim the method is inaccurate since, in the above illustration for instance, the monthly "interest" rate varies from .76 per cent the first month to 9.1 per cent the last month. On the other hand, the straight line method is pointed out as being much more conservative in relation to the other two techniques.¹⁴ This point is illustrated by a comparison of the cumulative revenues recognized on a single contract under the respective methods, such as in Table 13 where the straight line and the sum-of-the-digits accumulations are compared. After the contract has run six months, for example, 50 per cent of the finance charge has been recognized as revenue under the straight line method whereas 73.08 per cent has been recognized by the sum-of-the-digits procedure.

Strong pressure for a conservative treatment of the finance charge allocation comes from a not unusual source of conservatism--creditors. Consider the following quote from a banker's remarks:

I am concerned that some companies take in too much income as acquisition cost and, in addition, use too liberal an accounting method in taking in the

¹⁴American Institute of Certified Public Accountants, op. cit., p. 2.

remaining finance charges. . . . Management should defer as much as possible.¹⁵ (Emphasis my own.)

Management itself, at times, champions the conservative cause:

Many years ago Dial adopted conservative accounting practices. These practices remain inviolate. Dial's financial statements are among the most conservative in its industry. . . .¹⁶

TABLE 13

CUMULATIVE REVENUE RECOGNIZED BY STRAIGHT LINE AND
SUM-OF-THE-DIGITS METHODS

Month	Sum-of-the-Digits		Straight Line	
	Amount	Per Cent of Total	Amount	Per Cent of Total
1	\$ 1.68	15.37%	\$.91	8.33%
2	3.22	29.49	1.82	16.67
3	4.62	42.31	2.73	25.00
4	5.88	53.85	3.64	33.33
5	7.00	64.10	4.55	41.67
6	7.98	73.08	5.46	50.00
7	8.82	80.77	6.37	58.33
8	9.52	87.18	7.28	66.67
9	10.08	92.31	8.19	75.00
10	10.50	96.15	9.10	83.33
11	10.78	98.72	10.01	91.67
12	10.92	100.00	10.92	100.00

The maturity control system for implementing the straight line approach into a firm with numerous instalment

¹⁵Howard Poduska, "Bankers . . . As Creditors . . . As Competitors," The Industrial Banker, XXVIII, No. 12 (December, 1962), p. 16.

¹⁶Dial Finance Company, Annual Report 1962, p. 7..

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contracts is described in Appendix C.

Liquidation Method

Under the liquidation method, the portion of unearned finance charges recognized as revenue each month is proportionate to the collections on the related receivables. The ratio of collections to the beginning of the month notes receivable balance is computed each month. This ratio is then applied to the beginning of the month unearned finance charges balance to determine the revenue for the month. Table 14 presents a simplified worksheet for the liquidation approach.

The distinctiveness claimed for the liquidation method is that it accounts for revenue on the basis of the action of the receivables rather than on a prescheduled basis.¹⁶ The commonly used straight line and sum-of-the-digits methods recognize revenue based upon the prescheduled payment schedules whereas the philosophy of the liquidation technique is to wait until the payment is actually received before recognizing a portion of it as revenue. If the instalment obligations are repaid in an erratic manner, adherents of the liquidation method believe it undesirable to account for the revenue on a prescheduled basis. (In Chapter II, note was taken of one authority's belief that

¹⁶Ralph A. Milliman, "A New Look at an Old Subject," Time Sales Financing, XXVI (March-April, 1962), p. 7.

precomputation should not be adopted unless payments quite consistently followed their scheduling.)

TABLE 14

DETERMINATION OF MONTHLY REVENUE BY THE LIQUIDATION METHOD*

Bases		Month			
		First	Second	Third	Fourth
Receivables at beginning of month	(A)	\$500,000	\$600,000	\$700,000	\$760,000
Loans during the month		200,000	200,000	200,000	240,000
Total		700,000	800,000	900,000	1,000,000
Deduct receivables at month-end	(B)	600,000	700,000	760,000	924,000
Liquidation during month	(C)	100,000	100,000	140,000	76,000
Per cent of liquidation (C):(A)	(D)	20%	16.6%	20%	10%
Unearned charges at start of month	(E)	50,000	60,000	60,000	63,000
Add charges on month's loans	(F)	20,000	10,000	15,000	12,000
Total		70,000	70,000	75,000	75,000
Deduct revenue recognized (D×E)	(G)	10,000	10,000	12,000	6,300
Unearned charges at month-end		\$60,000	\$60,000	\$63,000	\$68,700

*The pro-rata method expounded by Wetzels, *op. cit.*, p. 9, is merely a variation in the implementation of this technique. He takes the ratio of unearned charges to receivables times the monthly collections, or in terms of this table, $(E)/(A) \times (C) = (G)$.

The point is not infrequently made that if all the instalments are collected when due the results of the liquidation method are the same as those of the straight line

method. This conclusion is not valid in all cases. It results from isolating a single contract and comparing the two methods. In such a situation, the results would be identical. However, when numerous contracts of varying sizes, maturities, and ratios of charges to outstanding balances are involved, the use of the system illustrated in Table 14 produces differences between the two approaches. Table 15 demonstrates the influence of such complexities on the results produced by the liquidation and straight line methods.

TABLE 15
COMPARISON OF LIQUIDATION AND STRAIGHT LINE METHODS*

Payment	Liquidation		Straight Line	
	Monthly Revenue	Cumulative Revenue	Monthly Revenue	Cumulative Revenue
1	\$ 3.25	\$ 3.25	\$ 3.60	\$ 3.60
2	3.25	6.50	3.60	7.20
3	3.25	9.75	3.60	10.80
4	3.25	13.00	3.60	14.40
5	3.25	16.25	3.60	18.00
6	1.95	18.20	1.60	19.60
7	1.95	20.15	1.60	21.20
8	1.95	22.10	1.60	22.80
9	1.95	24.05	1.60	24.40
10	1.95	26.00	1.60	26.00
	<u>\$26.00</u>		<u>\$26.00</u>	

*Two loan contracts made on the same day: One--five months, \$100 total note, \$10 precompute finance charge; One --ten months, \$300 total note, \$16 precompute finance charge.

Fixed Percentage Method

The fixed percentage approach cannot be precisely classified as a method in and of itself since its basis may be found in one of the other methods. This technique employs a fixed percentage relationship to determine the monthly revenues. The revenues may be established by taking a fixed percentage of the net outstanding receivables. More commonly, the revenue is a forced figure resulting from the maintenance of the unearned finance charges account balance at a predetermined percentage of the outstanding receivables.

As was pointed out earlier in the chapter the use of fixed percentages, such as those just mentioned, may be a simplified embodiment of the effective rate concept based upon previous company experience. On the other hand, they may not be based upon a firm's experience at all.

It seems that as in most industries, finance companies are prone to copy methods and ideas of other finance companies. This is particularly true in the use of fixed percentages for unearned charges, yet these fixed percentages may not apply to the company seeking to use them. They may for instance have been established by larger companies with greater ability and facilities to determine the correctness of the fixed percentage they use.¹⁷

The auditing profession has been guilty, on occasion, of employing verification procedures which allow this practice to exist unchecked. One finance firm, as a case

¹⁷Ibid., p. 10.

in point, maintained its unearned charges account balance at a fixed percentage of its outstanding receivables. To justify the reasonableness of the selected percentage, the auditors resorted not to the company's experience, but instead compared the firm's percentage with the composite percentage in the First National Bank of Chicago's list of consumer finance company ratios for the year in question. To the auditors, the closeness of the two percentages demonstrated the reasonableness of the firm's selection of a fixed percentage.

Acquisition Cost Factor

As was alluded to in the previously quoted banker's remarks, some firms take an amount into the revenue in the month the loan contract is made. This "acquisition cost factor" may be employed in conjunction with any of the generally accepted methods. The following financial statement footnote indicates its use with the liquidation technique:

Net finance charges on discounted receivables are credited to deferred income accounts. A portion of the net finance charges is transferred to income in the month of acquisition as an offset to acquisition costs and loss provisions; the remainder is transferred to income monthly in proportion to receivable liquidation in the case of discounted loans. . . .¹⁸

The basic reasoning behind this acquisition cost factor usage is that the revenue so recognized acts as an

¹⁸General Acceptance Corporation, Prospectus, November 5, 1959, p. 26.

offset to the costs of acquiring the loans that are charged against revenues as they are incurred. At times, however, other considerations may influence the decision to use an acquisition cost factor. Employing it with the straight line method produces results which more nearly approximate the sum-of-the-digits approach.²⁰ The same reasoning may lie behind its use in conjunction with the liquidation technique.²¹ Motivations of this sort are evidences of the popularity of the sum-of-the-digits philosophy.

Summary

A variety of techniques to apportion precomputed finance charges are available for use by consumer finance firms. Two approaches, the priority and residuary, are not considered to be acceptable by the accounting profession. The priority method recognizes the entire revenue from the instalment loan at the time the loan is made. Under the residuary procedure, no revenue from the transaction is recognized until the entire principal has first been recovered.

Of the generally accepted methods, the effective rate technique attempts to spread the finance charges on the basis of the actuarially computed interest rates on the contracts. All revenue is thus viewed as interest under

²⁰Milliman, op. cit., p. 6. ²¹Ibid., p. 7.

this procedure. The same reasoning substantiates the sum-of-the-digits method. Its popularity is due to the fact that its results approximate those of the effective rate technique without the need for actuarial computations. The finance charge is spread equally to each month by the straight line procedure. It advocates point out that it is more conservative than the sum-of-the-digits or effective rate approaches. The liquidation procedure recognizes as revenue each month a percentage of the unearned finance charges balance. The percentage varies from month to month and is determined by the per cent of the outstanding receivables liquidated each month. Some firms recognize a fixed percentage of their outstanding receivables as revenue each month or, approaching it in a slightly different manner, maintain their unearned finance charges account balance in a fixed relationship to the outstanding receivables. These fixed percentages may or may not be based upon the company's own experience.

An acquisition cost factor is used by some firms. This means a percentage of the precomputed charge is recognized as revenue when the loan contract is signed. Employment of the factor is supported on the grounds that it is necessary to offset the cost of acquiring the contract.

CHAPTER IV

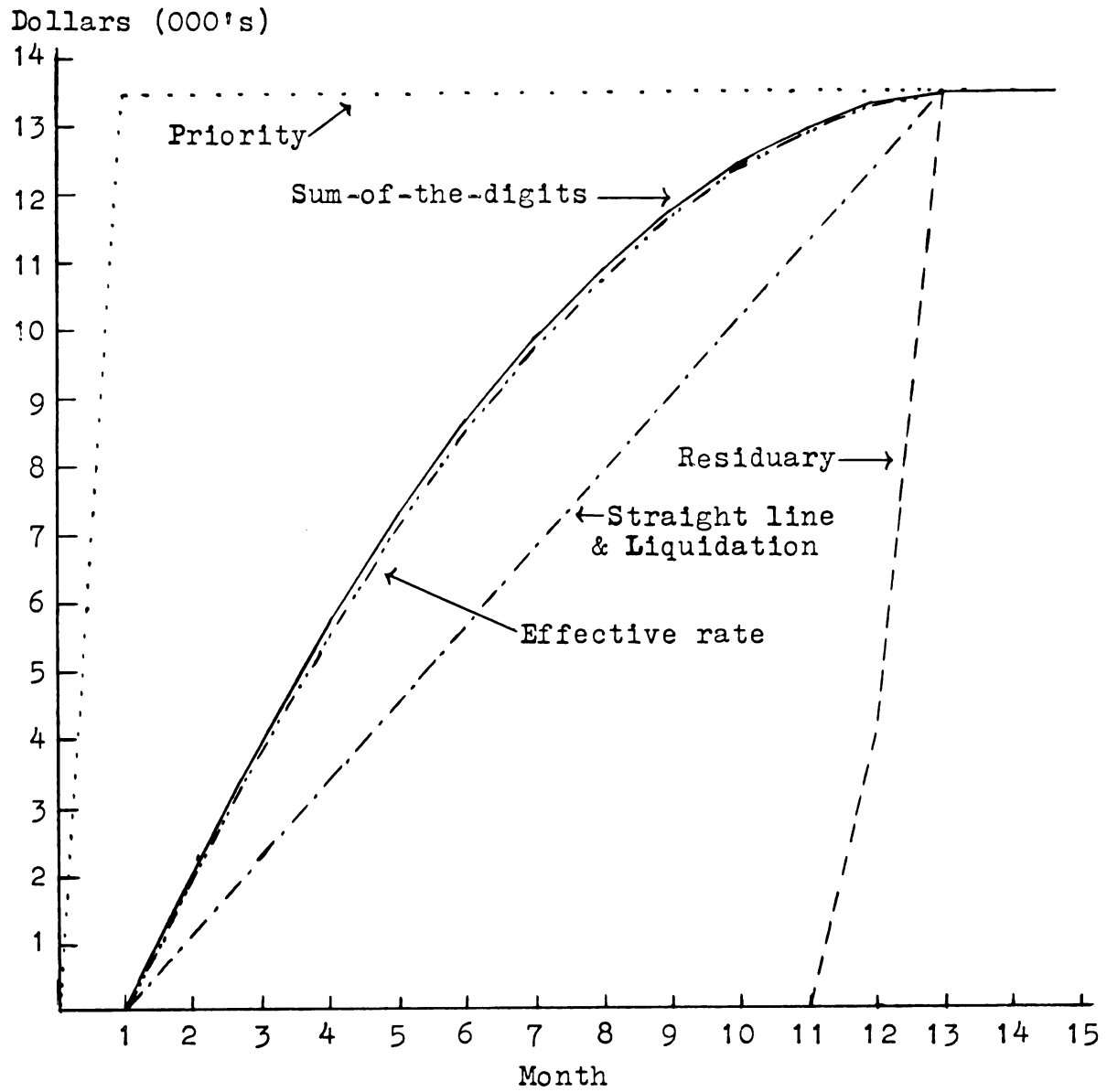
COMPARATIVE IMPACT ON FINANCIAL RESULTS

The previous chapter discussed the principal methods used to allocate precomputed finance charges. This chapter is devoted to a consideration of the impact these methods may produce on the financial results of a consumer finance company. A number of examples designed to portray the tendencies resulting from the use of the respective methods will be presented. The examples are simplified, but they fulfill their purpose of isolating the influences exerted by the allocation techniques. The priority and residuary methods are included in the examples as indicators of the extremes by which the results may vary.

The Steady State

The existence of the diversity in allocation methods is at times justified on the grounds that once a firm reaches a stable level with respect to its loans, that is, as old loans mature they are replaced by similar new loans, all of the techniques will produce the same amount of monthly revenue. Chart 1 portrays the pattern of monthly revenues determined by the different methods in the achievement of such a "steady state." The assumptions underlying the chart

CHART 1
MONTHLY REVENUE--REACHING STEADY STATE



are that a company begins operations and makes 200 loans of twelve months maturity each month. The principal of each loan is \$500.00 and the finance rate is 2 per cent per month. The principal plus the precomputed finance charge thus totals \$567.36 on each loan.

By the thirteenth month, the six techniques are recognizing equal amounts of revenue--\$13,472. However, as Chart 1 also illustrates, the monthly revenues determined by the various procedures follow decidedly different patterns in reaching the steady state level. The effect of these incongruous patterns on cumulative revenues is shown in Chart 2.

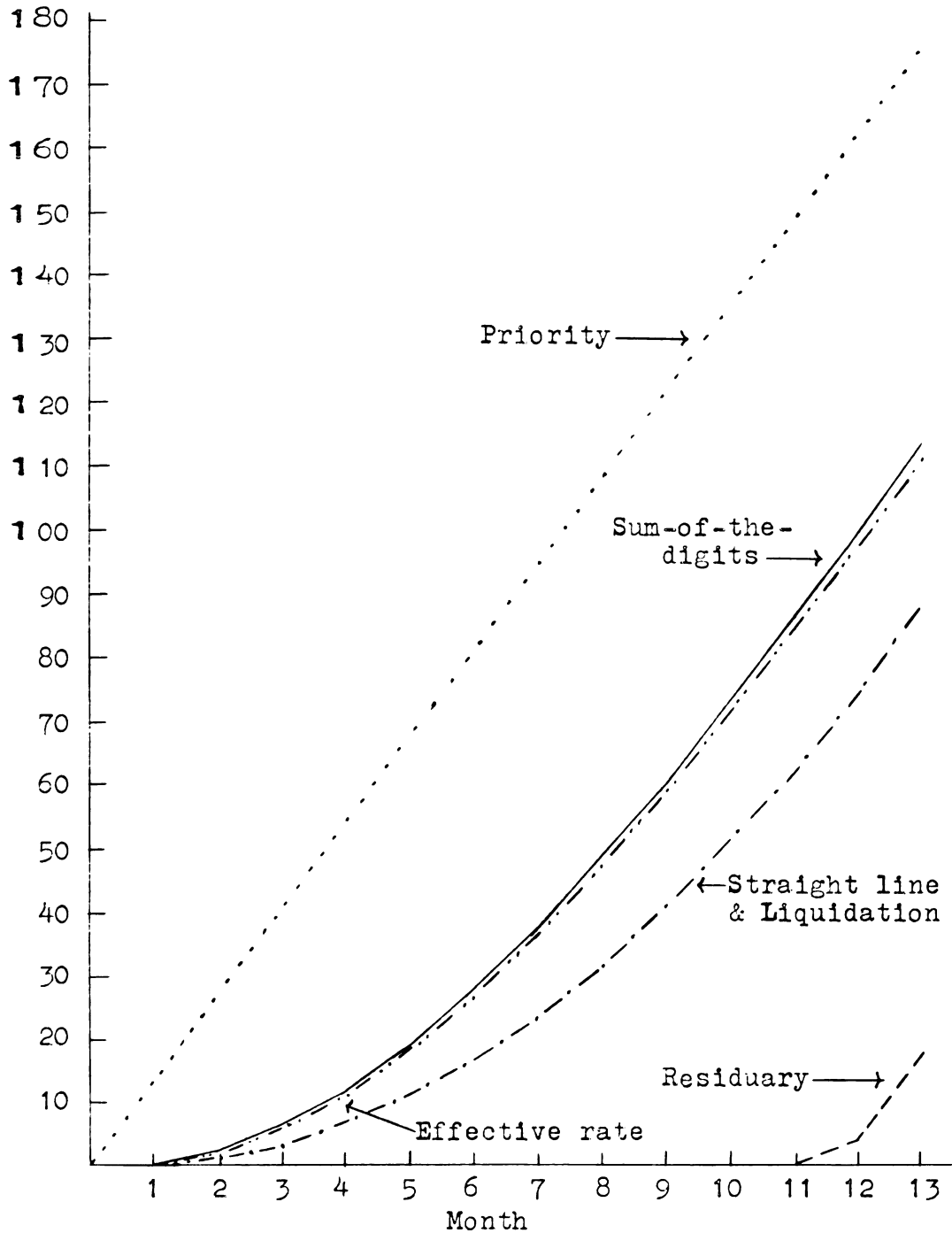
By the time the monthly revenues become equal, substantial differences exist among the total revenues calculated by the various approaches. Revenue recognized under the priority approach exceeds that determined by the residuary technique by \$157,648 at the end of twelve months. Even ignoring the extreme cases, the differences are large. After one year the cumulative revenue under the sum-of-the-digits approach is 33 per cent greater than the straight line and liquidation gross revenue. The absolute differences among the approaches continue so long as the steady state conditions prevail. In times of high tax rates, the relative deferral of revenue recognition achieved by some methods is thus not an insignificant effect.

The total revenues calculated by all approaches

CHART 2

CUMULATIVE REVENUE--REACHING STEADY STATE

Dollars (000's)



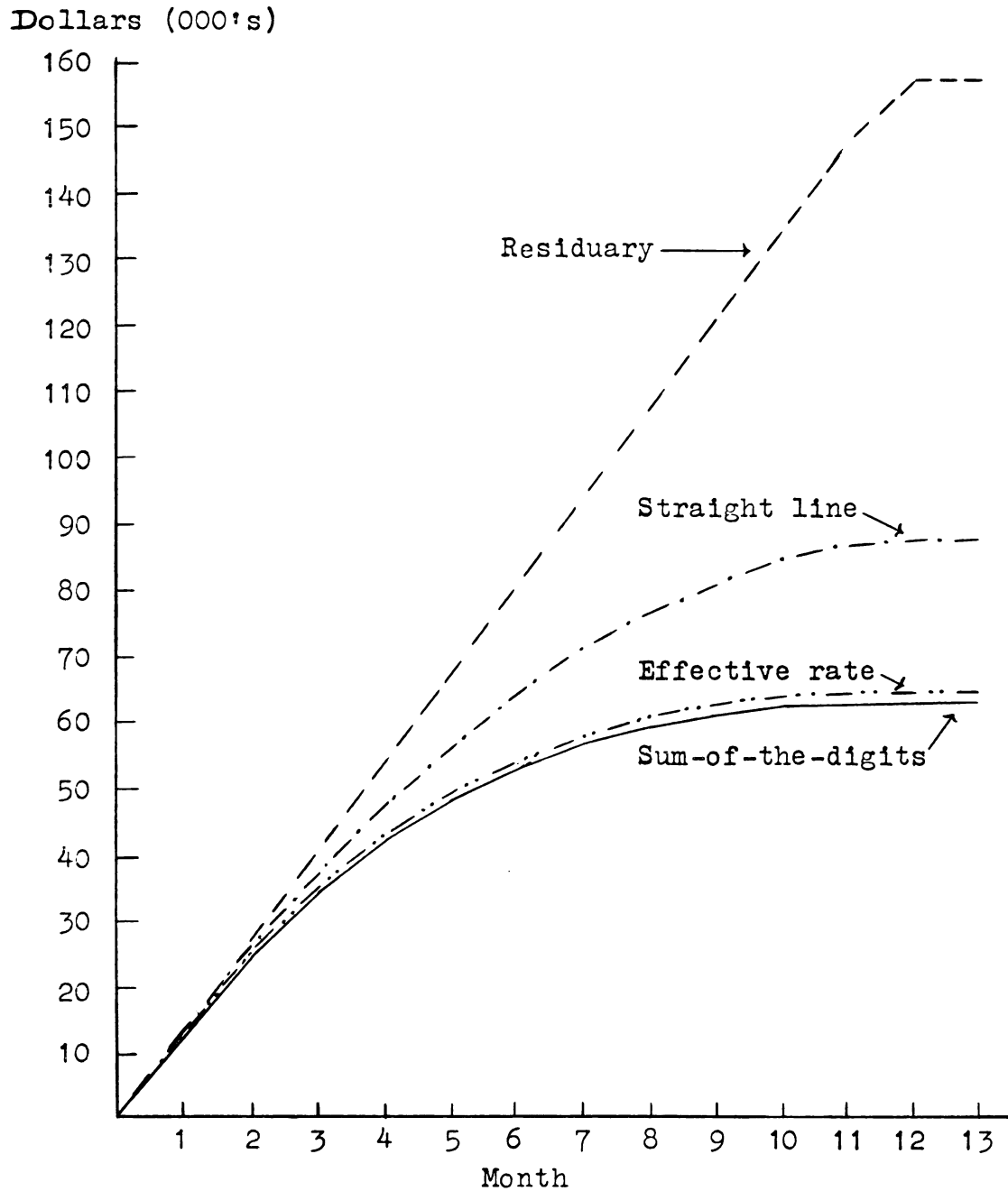
for any time period following the first year would be equal. The differences in cumulative revenues just mentioned would not be apparent in subsequent income statements. The influence of the six methods on the unearned finance charges account, however, would continue to appear in financial statements issued after the first twelve months. Chart 3 illustrates the evolution of the unearned finance charges account as the steady state is reached.

The balance in the unearned finance charges account represents revenue to be recognized in future periods from loan contracts already on the books. As such, it is a significant figure used in the financial analysis of a consumer finance company. The percentage relationship of the unearned finance charges balance to total instalment receivables is one of the consumer finance company ratios calculated by the First National Bank of Chicago.

The gaps which develop between the balances in Chart 3 reflect, of course, the cumulative effects of the differences between the monthly revenues recognized in Chart 1. Unlike those differences, however, which eventually disappeared, the gaps between the unearned finance charges accounts continue to widen until they finally stabilize at a maximum. The maximum balances are reached in the twelfth month, the same month in which the balance of total instalments receivable also stabilizes. The number of months required to achieve the stabilization point increases as the contract

CHART 3

UNEARNED FINANCE CHARGES--REACHING STEADY STATE



maturities lengthen. As long as the steady state continues, the relationships which exist at this point carry forward into future balance sheets. The balance in the unearned finance charges account resulting from the sum-of-the-digits approach stands at 8.5 per cent of the total instalments receivable; under the straight line and liquidation approaches the relationship is 11.9 per cent--a 40 per cent increase over the sum-of-the-digits relationship. At the extremes, the percentages vary from 21.4 per cent under the residuary method to 0 per cent under the priority method. No balance appears in the unearned finance charges account under the priority method since it immediately recognizes all the precomputed finance charges as revenue.

The preceding examples indicate that the several allocation methods do lead to differing financial results under steady state conditions. Yet the validity of the steady state assumption is questionable. The discussion in Chapter II concerning the growth and loan characteristics of the consumer finance industry suggests the steady state is not a typical situation. For this reason, the remainder of the chapter will consider the influences of the allocation methods on the financial results given selected changes from the steady state equilibrium. The variables to be changed are those that affect the total monthly precomputed finance charges. These are the size of the loan principal, the finance rate, the number of loans, and the maturity of

the loans. Variations of the monthly revenue from the steady state level will be examined, as well as the differences in total revenue, net income, and unearned finance charges.¹ To make the remaining charts easier to examine, the effective rate determinations will be omitted. As is evident from the charts presented to date, its results follow closely those of the sum-of-the-digits method.

Monthly Revenue

Increased Loan Principal

Chart 4 presents the variations in monthly revenue given an increase in the principal of each loan. An increase to \$700 from the previous \$500 is assumed. The number of loans made remains at 200 each month, the loan maturities remain at twelve months and the finance rate stays at 2 per cent per month.

The priority method is the quickest to reflect the change from the steady state equilibrium as it immediately recognizes the entire increase in the total precomputed finance charges. On the other hand, the residuary approach is slowest to vary from the former level of monthly revenue. The sum-of-the-digits monthly increments are greater than the increases displayed by the straight line and

¹The succeeding examples hypothesize changes after the steady state level just discussed has been reached. References to time periods in these examples have as their base the month in which the first change occurs.

liquidation approaches. The rate of increased revenue recognition of the sum-of-the-digits method exceeds that of the straight line and liquidation techniques during the first few months. In the later months it is lower. As a result, the excess differential determined by the sum-of-the-digits method grows to a maximum in the seventh month and diminishes thereafter. Since the entire assumed change in the principal size occurred in the first month, all approaches achieve a new equilibrium level by the thirteenth month and the variations from the previous level are the same under any method.

Increased Finance Rate

An increase in the finance rate to 3 per cent per month is the change underlying the variations shown in Chart 5. The loan principal is held constant at \$500, the maturity of each loan is twelve months, and the number of loans is once again 200 each month.

The relationships among the revenue changes produced by the priority, residuary, straight line, and sum-of-the-digits methods are similar to those of Chart 4. In this example, however, the results of the liquidation approach differ from the straight line variations. Due to the growth of the unearned finance charges balance, the liquidation method initially produces greater increases in recognized revenue than does the straight line technique. The difference reaches a maximum in the fifth month and then

CHART 4

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
INCREASED LOAN PRINCIPAL

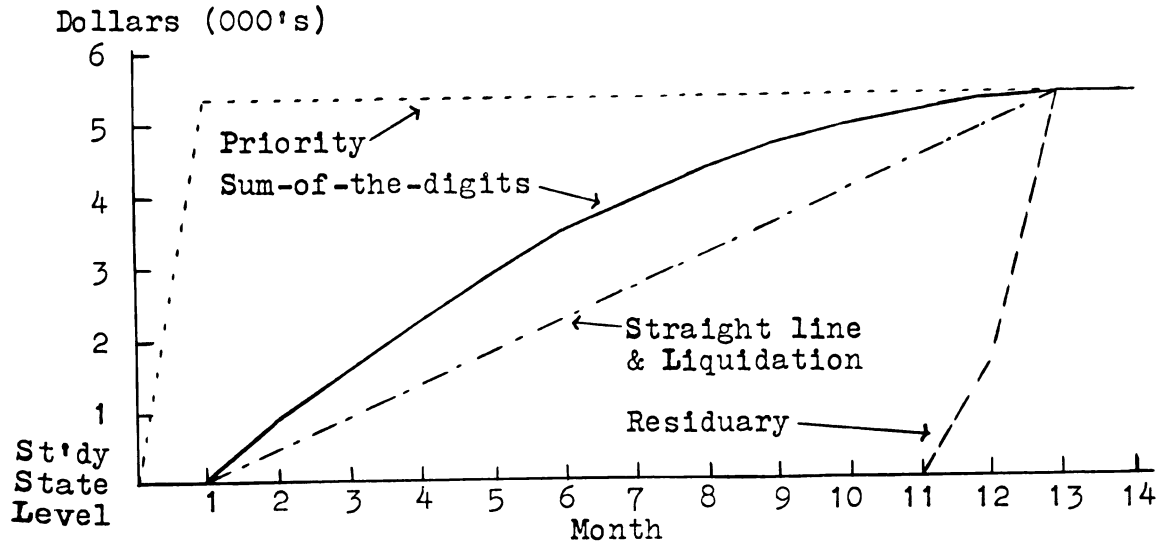
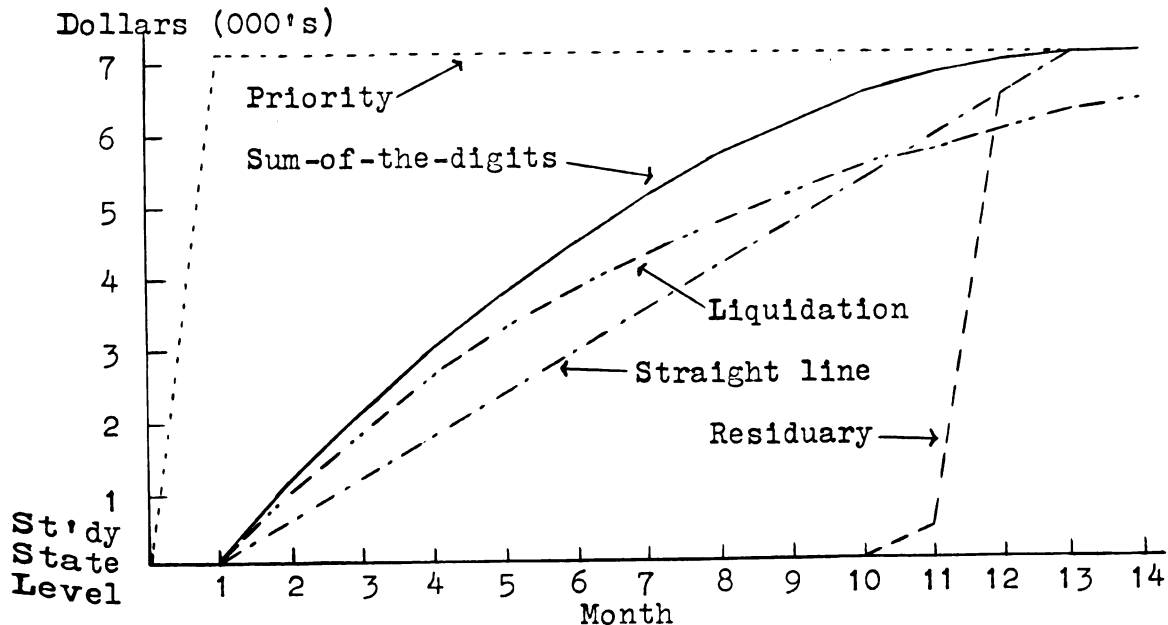


CHART 5

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
INCREASED FINANCE RATE

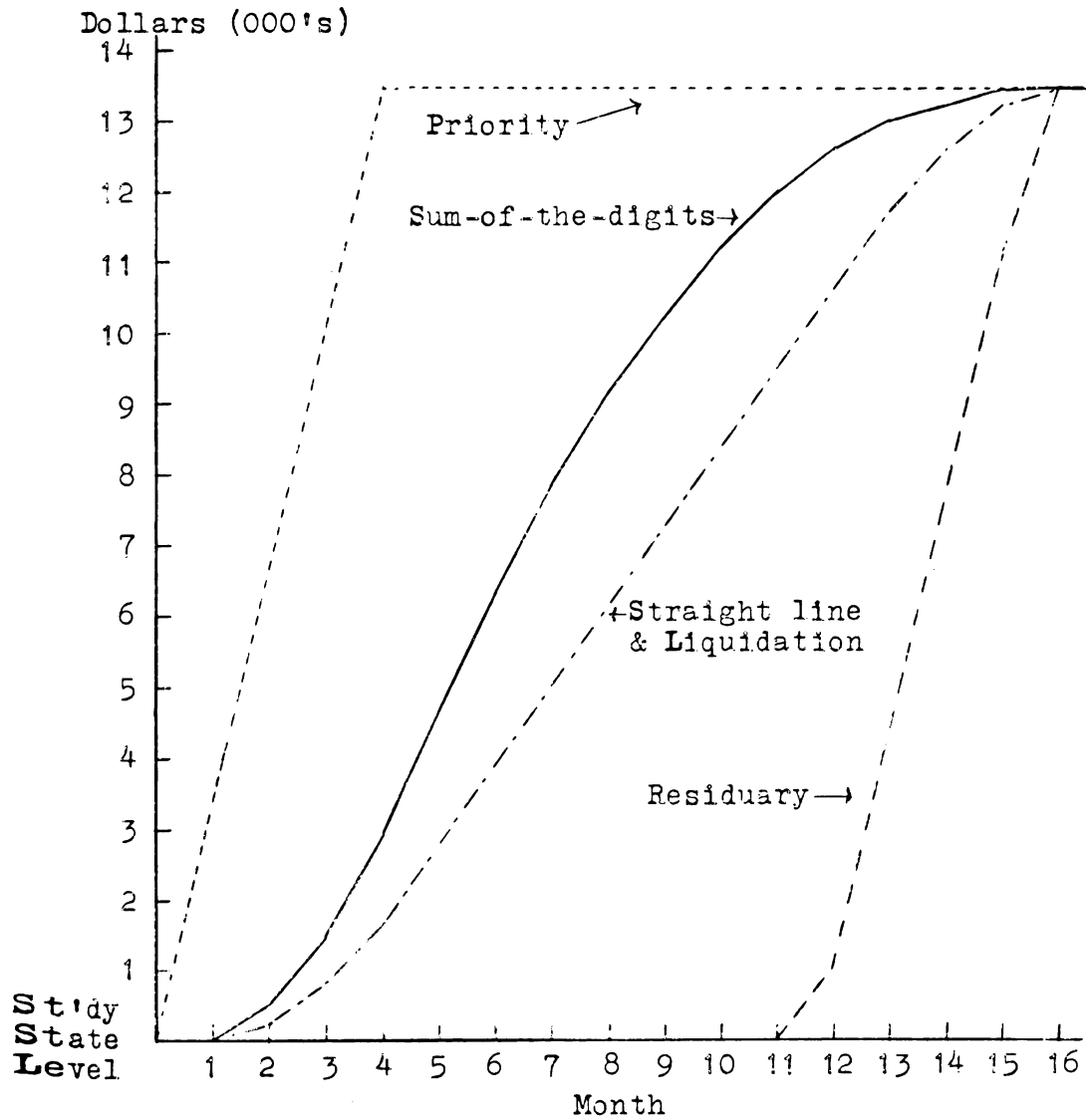


diminishes. The monthly change generated by the liquidation procedure becomes quite small as the level of monthly collections and gross receivables outstanding near their new equilibriums. Consequently, in the eleventh month the increased revenue calculated by the straight line method exceeds that determined by the liquidation approach. Worthy of note is the fact that by the thirteenth month all methods, except liquidation, are at a new equilibrium and are recognizing the same monthly increase in revenue. The ratio of monthly collections to gross receivables outstanding is constant by this time. The only variable then left to produce a change in the revenue calculated by the liquidation procedure is the change in the unearned finance charges account. However, the nearer the monthly revenue variations come to the new equilibrium, the smaller is the change in the unearned finance charges. Thus, given the assumed change in the finance rate, the attainment of the new equilibrium level is a slow process under the liquidation method.

Increased Loan Volume

Chart 6 illustrates the reactions created when an increase in the number of loans made each month occurs. It is assumed that the loan volume increases by fifty in each of the first four months; that is, 250 loans are made in the first month under the changed conditions, 300 the second month, 350 the third month, and 400 the fourth and

CHART 6

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
INCREASED LOAN VOLUME

subsequent months. Held constant are the loan maturities at twelve months, the loan principal at \$500, and the finance rate at 2 per cent per month.

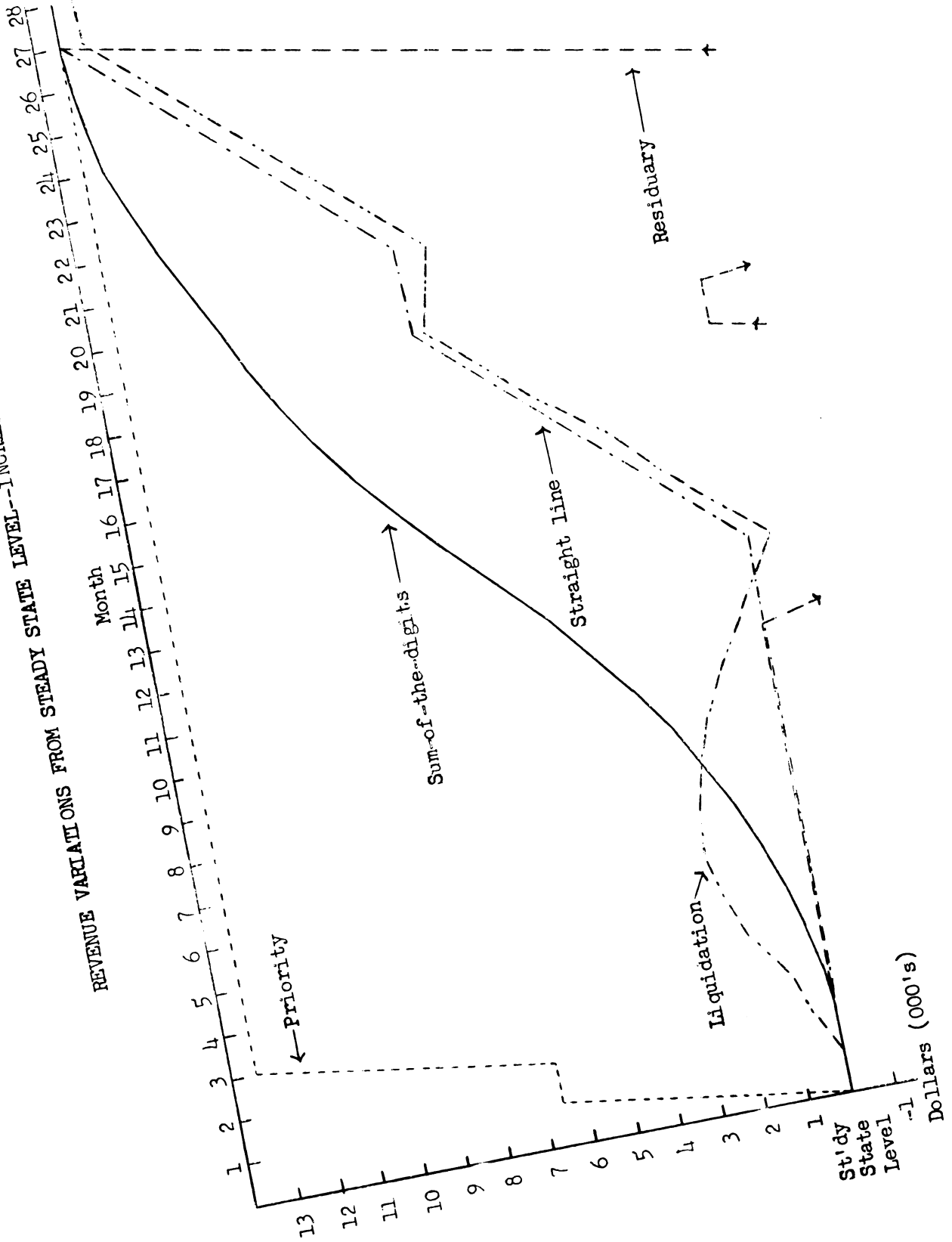
As in the previous two examples the increased revenue calculated by the sum-of-the-digits approach exceeds that of the straight line and liquidation methods for all months until a new equilibrium is reached. Also, the variations from the former steady state recognized under the priority procedure are much greater than those of all the other approaches, while the opposite is once again true of the residuary technique. Note that in this situation a new stable level is not achieved until the sixteenth month since the assumed changes are spread over a four month period.

Increased Loan Maturity

Chart 7 shows the variations from the steady state base when an increase in the loan maturities is postulated. All loans made in the first two months of change are assumed to have eighteen month maturities and all loans in succeeding months are assumed to have twenty-four month maturities. The finance rate remains constant at 2 per cent per month. The principal of each loan stays at \$500 and the monthly volume of loans is 200.

The revenue changes determined by the sum-of-the-digits approach are all positive and grow successively larger each month. The straight line calculations, though,

CHART 7
REVENUE VARIATIONS FROM STEADY STATE LEVEL--INCREASED LOAN MATURITY



drop slightly below the steady state level for the first thirteen months as the revenue that results from an equal spreading of the finance charges on the eighteen and twenty-four month loans is not enough to offset the revenue diminution as the twelve month loans liquidate. Thereafter the monthly revenue rises above its former level and increases steadily to a new equilibrium, pausing in its growth only as the eighteen month loans mature. The liquidation method shows a more variable pattern, indicating the extent to which collection trends influence its revenue calculations. Initially, the liquidation method produces a monthly revenue increase larger than either the sum-of-the-digits or the straight line determinations. This is a reflection of the growth in the unearned finance charges account. Eventually the continued downward trend in monthly collections offsets the growth in the unearned finance charges balance and the monthly revenue variations begin to decline. When collections reach their minimum level in the thirteenth month, the liquidation technique's monthly revenue falls below both its former equilibrium level and the straight line monthly calculation. From this point, the revenue recognized continues to increase monthly until collections drop off after the eighteen month loans mature. As the collections move upward once again, so does the revenue determined by the liquidation approach. The monthly variations calculated by the residuary method follow an extremely erratic

pattern. Not until the twenty-fifth month does its recognized revenue rise above the former steady state level. The priority method produces revenues in accord with its actions in previous examples, recognizing large increases well before the other techniques. By the twenty-seventh month, the liquidation approach is the only one not at a new equilibrium. The reasons for this are the same as those mentioned in the discussion of Chart 5.

Decreased Loan Principal

A decrease in the loan principal to \$300 is the change underlying the revenue variations from the steady state level shown in Chart 8. The other variables remain constant--the finance rate at 2 per cent per month, the loan maturities at twelve months, and the loan volume at 200 per month.

In the month the change occurs, the revenue recognized under the priority method drops below the steady state level by the full amount of the decrease in the monthly precomputed finance charges. The residuary technique produces no change from the steady state determinations until the twelfth month. The variations of the sum-of-the-digits method from the previous level are greater each month than those of the straight line and liquidation approaches. The maximum differential between these two latter approaches and the sum-of-the-digits method occurs

in the seventh month. The differential decreases thereafter. All approaches reach a new stable level by the thirteenth month and at this point all produce the same variation from the former equilibrium amount.

Decreased Finance Rate

Chart 9 presents the monthly revenue variations given a decrease in the assumed finance rate to 1 per cent per month. The principal of each loan stays at \$500 and the other two variables, volume and maturity, also remain constant at 200 per month and twelve months respectively.

The deviations produced by the priority, residuary, sum-of-the-digits, and straight line techniques are similar to those of Chart 8. A different pattern is followed by the liquidation revenue calculations. For ten months, it generates greater decreases in recognized revenue than the straight line approach, with the greatest difference occurring in the fifth month. The relative positions of the two approaches reverse in the eleventh month. The liquidation approach is also the only technique not achieving a new condition of stability by the thirteenth month.

Decreased Loan Volume

Underlying Chart 10 is an assumption that the loan volume decreases by twenty-five contracts in each of the first four months. In the fourth and succeeding months the volume levels off at 100 per month. The finance rate continues

CHART 8

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
DECREASED LOAN PRINCIPAL

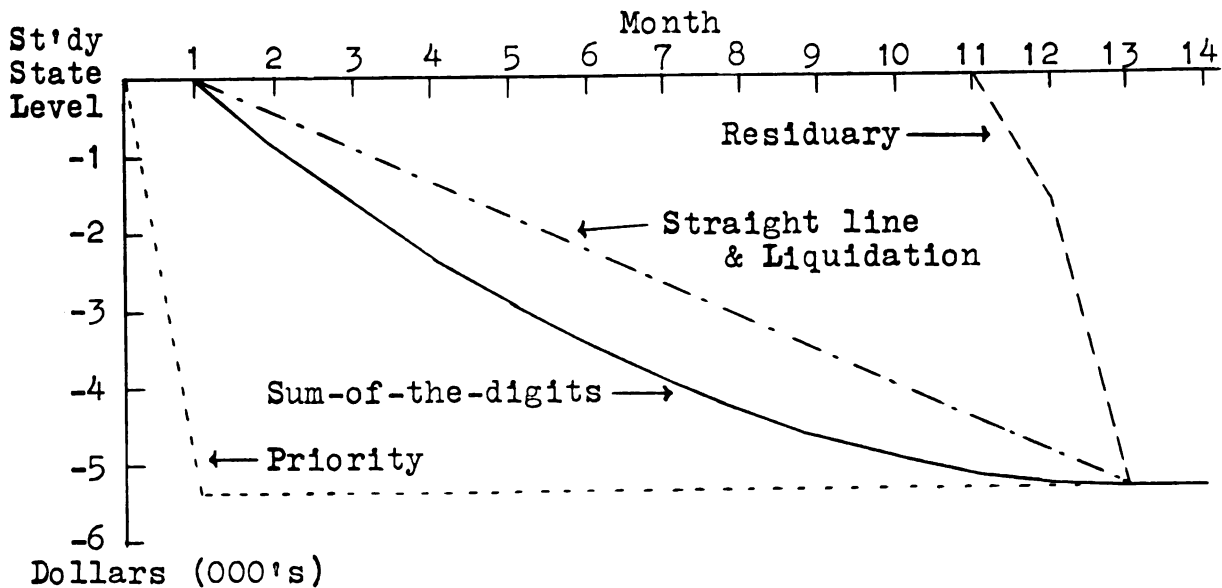
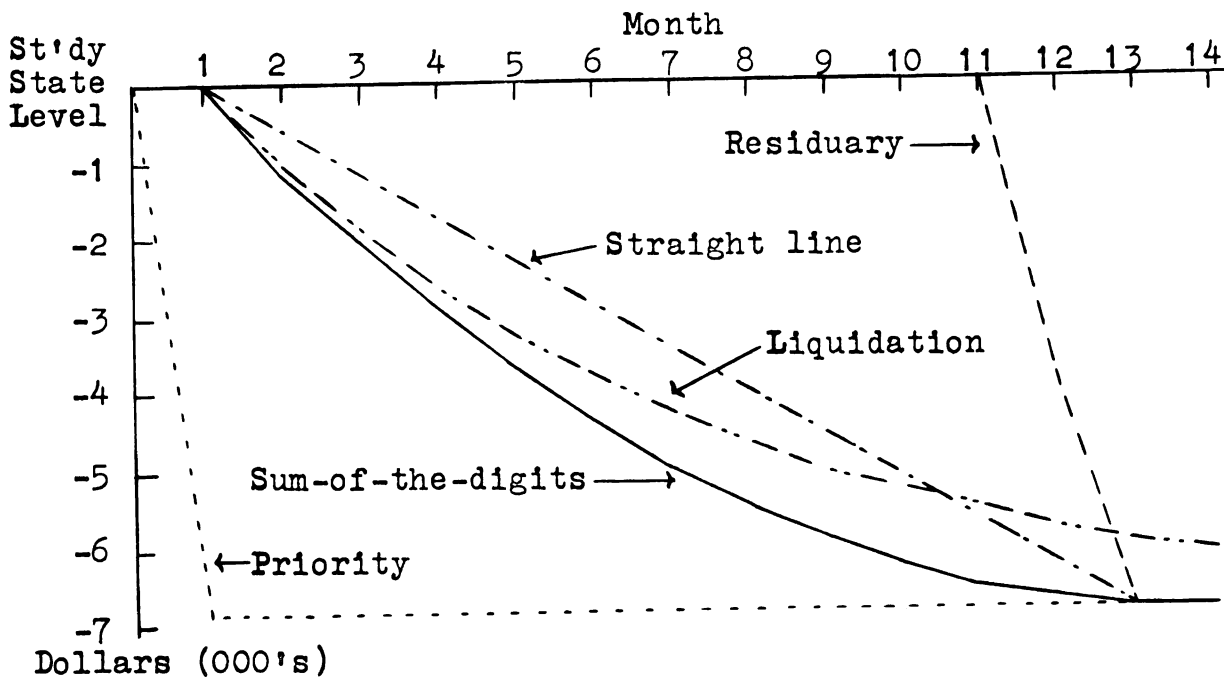


CHART 9

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
DECREASED FINANCE RATE



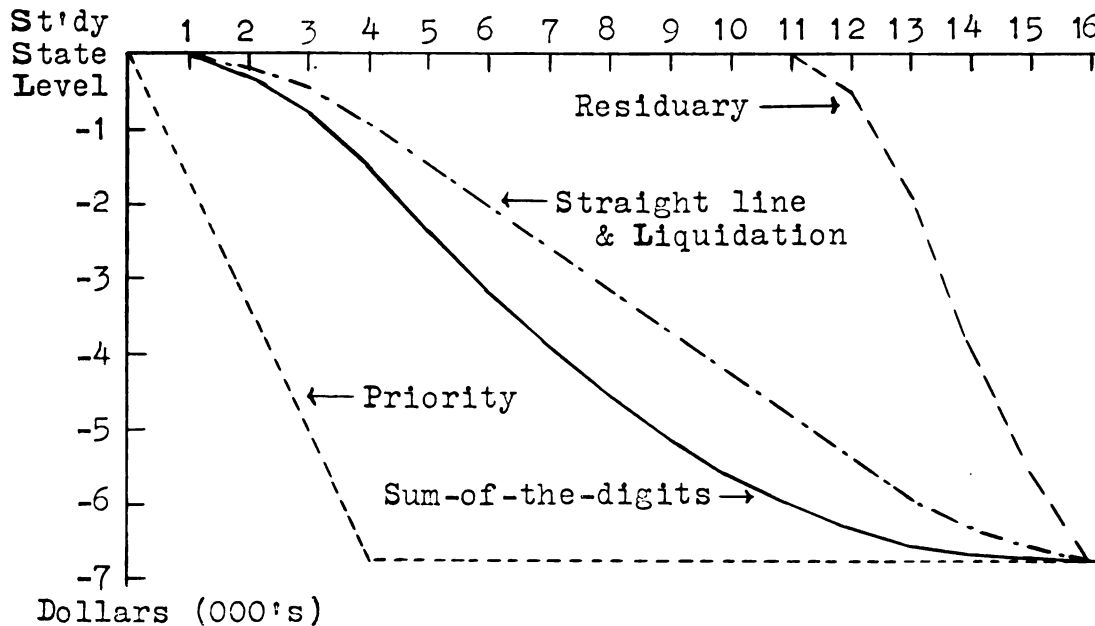
to be 2 per cent per month. Each loan is for \$500 and matures in twelve months.

The residuary method is the slowest to deviate from the steady state level. At the opposite extreme, the earliest decreases occur through the application of the priority technique to the assumed situation. Also, the revenue declines determined by the sum-of-the-digits approach continue to exceed those of the straight line and liquidation methods. Since the assumed changes in the loan volume occur over a four month span, a new stable level is not reached by all techniques until the sixteenth month.

It is significant that in the last three examples the monthly revenue variations calculated by the sum-of-the-digits method exceed those determined by the straight line approach. The larger the downward deviation is from the steady state level, the smaller is the total revenue recognized for the month. Thus, the monthly revenues recognized under the straight line method in these three situations are greater than the sum-of-the-digits monthly revenues. For the periods covered by the charts, then, the straight line philosophy can hardly be advanced as the more conservative of the two approaches. The straight line method did produce the more conservative results in the four cases where the total precomputed finance charges increased. It is now seen that the opposite circumstances occur in those cases where the variables causing a decline in the total precomputed finance charges are introduced.

CHART 10

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
DECREASED LOAN VOLUME

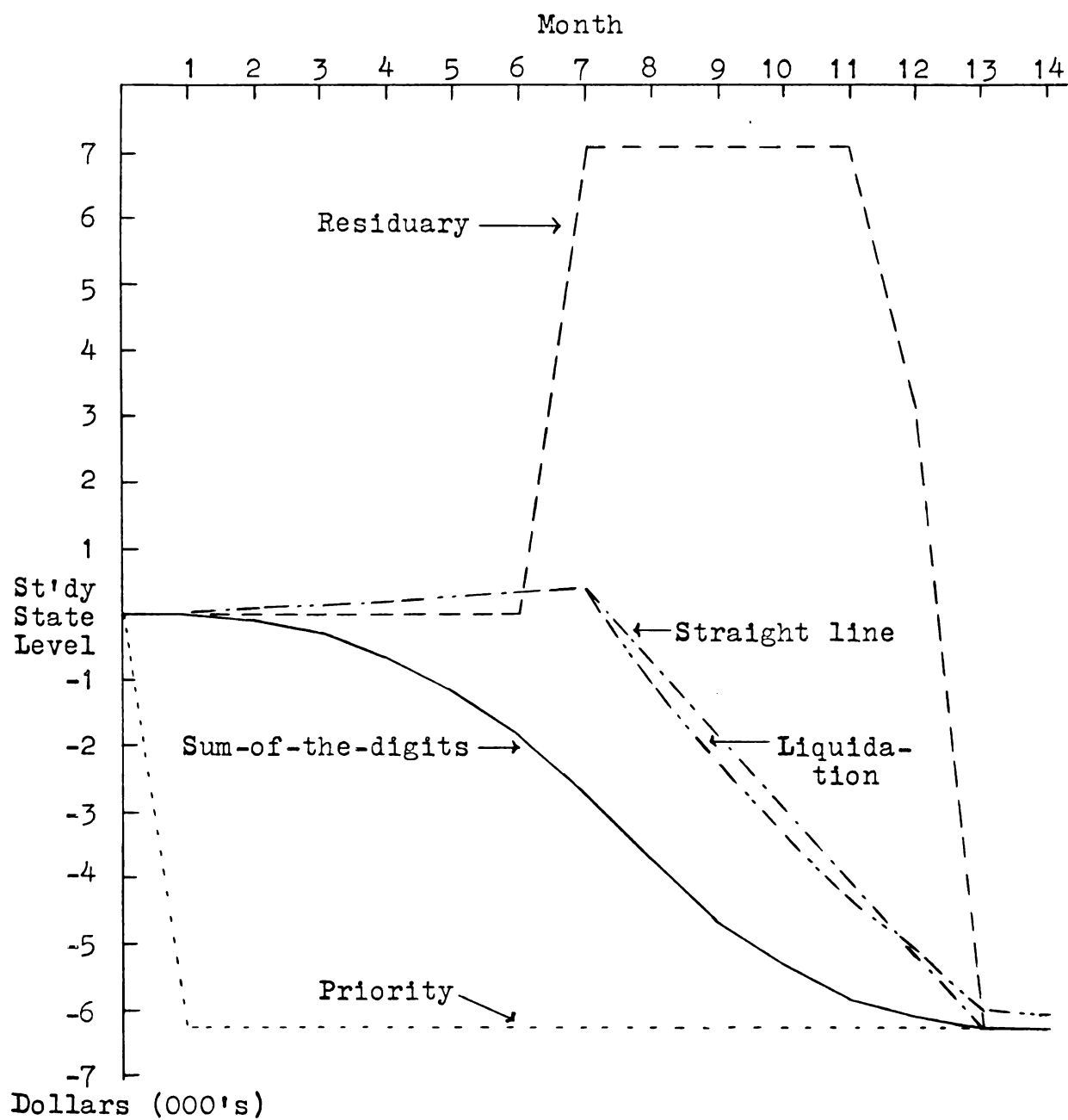


Decreased Loan Maturity

The deviations from the steady state base when a decrease in loan maturities is assumed are presented in Chart 11. All loans made beginning with the first month of the changed conditions are assumed to be of six months duration. A finance rate is still 2 per cent per month, the principal of each loan is constant at \$500, and the monthly volume of loans remains at 200.

As the chart illustrates, the sum-of-the-digits approach produces a revenue pattern which each successive month falls further below the beginning equilibrium amount. On the other hand, the revenue pattern of the straight line

CHART 11

REVENUE VARIATIONS FROM STEADY STATE LEVEL--
DECREASED LOAN MATURITY

and liquidation methods rises above the steady state level for the first seven months. Beginning in the eighth month, the revenues determined by these two approaches fall below the previous stable level. The liquidation method produces greater declines than the straight line technique until the twelfth month. In this month their relative positions change. The deviations created by the residuary approach fluctuate widely. The revenue it recognizes rises well above the steady state level in the seventh month as the entire charges on one month's shorter-term loans are recognized as well as the finance charges on the maturing twelve month loans. As the last of the longer-term loans mature, the recognized revenue drops sharply to a position well below the former stable amount. In its usual fashion, the priority method brings about the quickest change from one equilibrium level to another. All approaches, except liquidation, are producing equal variations from the former level by the thirteenth month.

Cumulative Revenue and Net Income

The preceding section examined the variations in monthly revenue produced by the different allocation techniques in eight selected situations. For the same examples Table 16 shows the effect on the cumulative revenue. The figures in the table represent the total revenue recognized over a twelve month period beginning with the month of the

hypothesized changes. Examination of the table discloses an interesting aspect. If the methods are ranked by the size of total revenue recognized, it is found that the order in the second half of the table, where declines in certain variables are assumed, is exactly the opposite of the order in the first part of the table, where increases in certain variables are assumed. For instance, the sum-of-the-digits method shows the second highest total revenue when the loan volume is assumed to increase and the second lowest total revenue when the number of loans are assumed to decrease. A reversed order of this sort, of course, demonstrates again that an allocation approach deemed to be the more conservative in one situation need not be the more conservative in different circumstances.

TABLE 16
TWELVE - MONTH CUMULATIVE REVENUE

	Priority	Sum-of-the-Digits	Effective Rate	Liquidation	Straight Line	Residuary
Increased:						
Loan Principal	\$226,272	\$201,159	\$200,752	\$191,276	\$191,276	\$163,266
Finance Rate	246,624	213,584	212,176	205,859	200,604	168,614
Loan Volume	303,120	240,901	239,813	218,402	218,402	162,668
Loan Maturity	309,240	181,609	178,108	176,910	160,430	157,648
Decreased:						
Loan Principal	\$97,056	\$122,175	\$122,670	\$132,042	\$132,042	\$160,062
Finance Rate	79,296	111,326	112,150	118,389	123,912	157,648
Loan Volume	90,936	122,044	122,591	133,317	133,317	161,162
Loan Maturity	85,344	129,247	130,218	146,836	148,020	200,320

In Part A of Table 17 appear percentage differences among the total revenues determined by the allocation techniques. (The selection of the effective rate results as a base is not intended to imply any judgment as to the appropriateness of this method for revenue allocation.) The total revenues calculated under the straight line and liquidation methods when the loan volume is assumed to increase are about 9 per cent less than the revenue determined under the effective rate approach. The sum-of-the-digits determination exceeds the effective rate amount by one-half per cent. At the extremes, the residuary revenue is over 32 per cent below the effective rate total while the priority method's calculated revenue exceeds the base amount by over 26 per cent. Similar differences exist in the other seven situations.

Part B of Table 17 presents percentage differences among the reported net income figures. Since the allocation methods are concerned with the treatment of revenues, the costs charged against the revenues determined by the six methods in any one of the eight situations are the same.¹ Consequently, the percentage differences fluctuate much more

¹The constant total cost figure for each situation is assumed to be 85 per cent of the effective rate total revenue figure. This relationship is in accord with the results of a 1960 survey of 226 consumer finance companies, where net income averaged 14.7 per cent of total revenue. National Consumer Finance Association, NCFA Research Report on Finance Companies in 1960 (Washington, D.C.: National Consumer Finance Association, September 15, 1961), p. 9.

TABLE 17

CUMULATIVE REVENUE AND NET INCOME
PERCENTAGE VARIATIONS
(USING EFFECTIVE RATE
RESULTS AS A BASE)

	Priority	Sum-of- the- Digits	Effec- tive Rate	Liqui- dation	Straight Line	Residuary
A. Cumulative Revenue						
Increased:						
Loan Principal	12.7%	.2%	. .	-4.7%	-4.7%	-18.9%
Finance Rate	16.2	.7	. .	-3.0	-5.5	-20.5
Loan Volume	26.4	.5	. .	-8.9	-8.9	-32.2
Loan Maturity	73.6	2.0	. .	- .7	-9.9	-11.5
Decreased:						
Loan Principal	-20.9%	-.4%	. .	7.6%	7.6%	30.5
Finance Rate	-29.3	-.7	. .	5.6	10.5	40.6
Loan Volume	-25.8	-.4	. .	8.7	8.7	31.5
Loan Maturity	-34.5	-.7	. .	12.8	13.7	53.8
B. Net Income						
Increased:						
Loan Principal	84.7%	1.4%	. .	-31.5%	-31.5%	-125.7%
Finance Rate	108.2	4.4	. .	-19.8	-36.4	-136.9
Loan Volume	176.0	3.0	. .	-59.5	-59.5	-214.5
Loan Maturity	490.8	13.1	. .	- 4.5	-66.2	- 76.6
Decreased:						
Loan Principal	-139.2%	-2.7%	. .	50.9%	50.9%	203.2%
Finance Rate	-195.3	-4.9	. .	37.1	69.9	270.5
Loan Volume	-175.1	-3.0	. .	59.3	59.3	213.3
Loan Maturity	-229.7	-5.0	. .	85.1	91.1	358.9

widely at the net income level. And net income is one of the most emphasized figures in today's financial reports. To illustrate, in the case where an increased number of loans are assumed, the net income figures range from 176 per cent above the effective rate amount to over 214 per cent below it. The straight line and liquidation net incomes fall about 60 per cent below the effective rate figure while the sum-of-the-digits net income exceeds the base by 3 per cent. Similar increases in the percentage differences over those in Part A occur in the rest of the hypothetical situations.

Unearned Finance Charges

The percentage relationship of the unearned finance charges balance to the gross receivables outstanding at the end of the twelve month period is shown in Table 18. The priority and residuary approaches again represent the extremes, the former having no unearned finance charges balance and the latter showing the highest percentage relationship in all cases. Even ignoring these extremes, there are still significant differences. In all cases, for instance, the relationship derived under the straight line approach lies at least 20 per cent above that derived from the

TABLE 18

UNEARNED FINANCE CHARGES AS PER CENT OF GROSS
INSTALMENT RECEIVABLES OUTSTANDING

	Priority	Sum-of-the-Digits	Effective Rate	Liquidation	Straight Line	Residuary
Increased:						
Loan Principal	. .	8.5%	8.7%	11.9%	11.9%	21.8%
Finance Rate	. .	12.2	12.6	16.4	17.1	30.6
Loan Volume	. .	8.6	8.8	11.9	11.9	20.8
Loan Maturity	. .	16.8	17.2	19.4	20.8	27.7
Decreased:						
Loan Principal	. .	8.5%	8.7%	11.9%	11.9%	22.3%
Finance Rate	. .	4.5	4.5	7.0	6.2	12.0
Loan Volume	. .	8.3	8.5	11.9	11.9	24.0
Loan Maturity	. .	5.1	5.1	6.9	6.6	12.5

sum-of-the-digits method.² As has been true of all the divergencies discussed in this chapter, these differences are due solely to the varying accounting treatment applied to the allocation of revenue.

Summary

This chapter has examined the influences which may be exerted on a firm's financial results through its selection of an allocation approach. An inquiry into the "steady

²Due to the revenue behavior of the two approaches in the situations of decreased precomputed finance charges, the dollar differences between the unearned finance charges balances at the culmination of these examples is considerably less than the steady state absolute differences.

state rationalization" indicated that even if such conditions did prevail the resultant financial data varied considerably under the different allocation methods. In reaching the steady state, substantial differences in monthly revenues were created which in turn influenced the cumulative revenue figures. Similarly, lasting variations in the relationship between the unearned finance charges and gross instalment receivables outstanding were shown.

Consideration was given to other than steady state conditions. Increases and decreases in such variables as the finance rate, loan maturities, loan volume, and loan size demonstrated the occurrence of diverse results in monthly revenues, total revenues, net income, and unearned finance charges. The comparability of consumer finance companies' financial data is thus severely hindered by the existence of a wide range of accepted revenue allocation procedures.

CHAPTER V

ACCOUNTING FOR THE RECOGNITION OF REVENUE

The increased prominence attributed to the income statement in the last few decades has resulted in a considerable volume of literature devoted to the nature of income. Since revenue is an integral part of the process of income determination, much of the emphasis has focused on it. A large share of such attention has concerned the area of revenue accounting within which this thesis problem falls--the timing of revenue recognition. Given the imposition of accounting periods upon the continuous stream of business activity, the issue from the broad point of view has evolved into one of allocating to these artificial time segments the total revenues for the life of the enterprise.

This chapter will examine the accounting thought underlying the recognition of revenue. Consideration will be given to the bases used to recognize revenue. Following this will be an investigation of the concept of matching revenues and costs and its ramifications. Although much of the literature in these areas deals with entities engaged in the manufacture and sale of a product, the underlying concepts are applicable to any type of enterprise. From this chapter, then, a framework for the determination of a

proper approach to the allocation of precomputed finance charges will be established.

Earning of Revenue

Recognition of revenue refers to the actual recording of revenue in an entity's accounts. Earning, on the other hand, relates to the manner in which revenue is generated by an entity. A brief look at the concept of the earning of revenue, as opposed to its recognition, provides a helpful background for the succeeding discussion. The idea is put forth best by William Paton:

Business operation is a continuous process. . . . Why, then, should not the acquisition of income be viewed as an orderly, gradual accrual arising throughout the entire period of production? . . .

From a broad economic standpoint this idea has much to commend it; and it would seem to be consistent, in a sense, with one of the fundamental assumptions of accounting. . . . the accountant always takes it for granted that the costs of all commodities and services expended toward a certain end in some way come to pass over into and inhere in the object for which they were expended. Cost accounting is based on this assumption throughout. If, then, the values of the purchased commodities and services flow into work in process and, finally, into finished goods, why can we not assume that the values of the peculiar services and conditions furnished by the business itself also gradually accumulate in these goods? From the standpoint of economic theory one idea is quite as sound as the other.¹

A view of revenue as earned by the entire process of enterprise activity is not restricted to just a few accountants. Over twenty years ago, an executive committee

¹Paton, Accounting Theory, pp. 458-459.

of the American Accounting Association granted that "revenue may be said to accrue, in a broad sense, as the process of production advances. . . ." ² More recently, Robert Sprouse and Maurice Moonitz, in an American Institute of Certified Public Accountants' research study, pointed out as noteworthy "that profit is attributable to the whole process of business activity" and, moreover, this is "an attribute of business activity which is universally true." ³ Although many accountants agree with this concept of earned revenue, its importance to them so far as influencing the timing of revenue recognition varies considerably.

Bases of Revenue Recognition

Sales Basis

For most lines of businesses revenue is recognized at the time of sale. Legally, a sale is not completed until title has passed. Since there are many legal technicalities involved in deciding the precise point of title transfer, the use of this test is somewhat impractical as a criterion for revenue determination. To the accountant, the signal for recognizing revenue under the sales basis is

²American Accounting Association, "Accounting Principles Underlying Corporate Financial Statements," The Accounting Review, XVI (June, 1941), p. 136.

³Robert T. Sprouse and Maurice Moonitz, A Tentative Set of Broad Accounting Principles for Business Enterprises, Accounting Research Study No. 3 (New York: American Institute of Certified Public Accountants, 1962), p. 14.

the shipment of the goods to the customer. This basis of revenue timing is solidly established within the accounting profession.

The sales basis of recognition is closely interwoven with the so-called "realization postulate." Basically, realization is concerned with the nature and definiteness of an asset change necessary before revenue may be recognized. Much confusion surrounds the use of the term since many tests have been suggested to determine whether an item is realized or not.⁴ The most common use of the realization concept appears to be one which equates it with the sales basis; that is, revenue is assumed to be realized (and thus recognizable) at the point of sale.⁵ This is the meaning given to the concept in this study.

⁴One study found one or more of the following seven tests have been used in connection with the concept of realization. To be considered realized, an item (1) had to be earned, (2) had to be the result of a conversion brought about in a transaction between the enterprise and someone external to it, (3) had to be the result of a sale or similar process, (4) had to be severed from capital, (5) had to be evidenced by liquid assets, (6) had to be in distributable form, and (7) had to be subject to accurate measurement or to estimates with a high degree of reliability. Ibid., pp. 14-15.

⁵The realization concept is used in this manner in the significant report by the Study Group on Business Income, Changing Concepts of Business Income (New York: The Macmillan Company, 1952), p. 20. For a much broader interpretation of realization, wherein it is applied to many areas other than revenue determination, refer to Floyd W. Windal, The Accounting Concept of Realization, Occasional Paper No. 5 (East Lansing: Bureau of Business and Economic Research, Michigan State University, 1961), 90pp.

An unfortunate result of the overwhelming acceptance of the sales basis is the tendency for it to be identified as synonymous with the accrual system of accounting. An instance of this is apparent in Carmen Blough's remark that ". . . a proper use of the accrual method of accounting requires recognition of the entire profit at the time of each sale. . . ." ⁶ Similarly, the Committee on Accounting Procedure of the American Institute of Certified Public Accountants asserts "it is generally recognized that income accrues only at the time of sale, . . ." ⁷ The equating of the sales basis of revenue timing and the accrual system of accounting is an error. Strict application of the accrual assumption would recognize revenue as the productive steps are taken.

Although it is at variance with a strict accrual approach, the sales basis is not lacking in substantiation for its use. George O. May discusses one justification:

It is instructive to consider how it happens that a rule which is violative of fact produces results that are practically useful and reliable. The explanation is that in the normal business there are at any one moment transactions at every stage of the production of profit, from beginning to end. If the distribution were exactly uniform, an allocation of income according to the proportion of completion of each unit

⁶Carmen G. Blough, "Accounting for 'Unrealized Profit' on Instalment Sale of Real Estate," The Journal of Accountancy, LXXXIV (September, 1952), p. 338.

⁷American Institute of Certified Public Accountants, Accounting Research and Terminology Bulletins, Accounting Research Bulletin No. 43 (final ed.; New York: American Institute of Certified Public Accountants, 1961), p. 34.

would produce the same result as the attribution of the entire profit to a single stage.

A number of conclusions immediately suggest themselves: first, that the convention is valid for the greatest variety of purposes where the flow of product is most uniform; second, that it is likely to be more generally valid for a longer than for a shorter period; and third, that its applicability is seriously open to question for some purposes where the final consummation is irregular in time and in amount.⁸

The passage brings to light an important assumption underlying the selection of a single event--the sale--to recognize revenue which is earned throughout a series of events. The use of the sales basis provides satisfactory results only when the flow of product through an enterprise is reasonably uniform. For this reason, Professors Sprouse and Moonitz attach much less significance to the sale (and the realization postulate) as a criterion for revenue timing than do many others. They regard it as merely a "statistical generalization" which may or may not produce satisfactory results in any given situation.⁹

Agreement with such a position is found in the following statement:

From the standpoint of business management, a disclosure of the income earned during a fiscal period, whether such income has been realized or not, is probably of more importance than a calculation of the amount realized. It is, it would seem, more indicative of the efficacy of the business unit during that period. Therefore, if a recognition of income realized is widely

⁸George O. May, Financial Accounting (New York: The Macmillan Company, 1943), pp. 30-31.

⁹Sprouse and Moonitz, op. cit., p. 14.

divergent from the amount which may be reasonably allocable to that period as having been earned, it may even be advisable to use an estimated-earnings figure rather than delay recognition until realization is attained.¹⁰

Earlier in this chapter, it was observed that the importance attached to the concept of the earning of revenue varied among accountants. The preceding quote portrays one side of the picture. Professors Paton and Littleton indicate the other side:

As a basis for revenue recognition in the accounts, realization is in general more important than the process of earning. It is one thing to say that revenue is earned as a result of the entire process of production; it is quite another to hold that revenue can be measured and recognized prior to completion and disposition of the product.¹¹

Further support for the sales basis, then, stems from the accountant's tendency to require definite verification as to the existence of revenue. In this regard the sale possesses many favorable attributes. It is characterized by the physical transfer of goods and the receipt of cash or the creation of a valid claim to cash. It provides

¹⁰Reuel I. Lund, "Realizable Value as a Measurement of Gross Income," The Accounting Review, XVI (December, 1941), p. 375.

¹¹W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, Monograph No. 3 (Madison: American Accounting Association, 1940), p. 49. The issue is further clouded by the failure of some to distinguish between earning and realization. A notable example of this is Eric L. Kohler, A Dictionary for Accountants (2nd. ed.; Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1957), p. 251.

an independent basis of measurement since the transaction presumably was negotiated at arm's length. Not until the sale is made, therefore, is the test of the utility added by the entity's operating activity considered conclusive enough to warrant recognition in the accounts.

Before moving on to consider other bases of revenue recognition, it is interesting to note the close similarity between the assumption underlying the use of the sales basis and the "steady state rationalization" discussed in Chapter IV. The steady state assumption held that if a consumer finance company's loan mix remained constant, any one method of allocating the unearned finance charges would produce the same results as any other method. This was shown to be true eventually so far as monthly revenues were concerned. When certain loan variables were changed--that is, when the loan mix was no longer constant--the allocation methods produced diverse results. Thus, the steady state rationalization was also a "statistical generalization" which, given the varying nature of loan characteristics, was rejected as a resolution of the finance charge apportionment problem.

Completed Production Basis

The sale is the common point of revenue recognition, but there are accepted departures from such a basis. One such departure is the completed production basis. Under this criterion, revenue is recognized at the completion of

the productive process rather than at the point of sale.

The applicability of this timing approach is limited to only a few industries. To qualify, a ready market for the commodities produced by the industry must be available. The mining of precious metals, such as gold and silver, provides a good illustration of the type of industry where it is acceptable to use a completed production basis. The recognition of the revenue is effected by stating the inventories on hand at their net realizable values. A similar treatment is not uncommon for inventories of agricultural, mineral, and other fungible products which have an immediate marketability at quoted prices.¹²

The rationale substantiating the completed production basis is that, in the circumstances where it is applicable, the selling function represents an insignificant part of the firm's operations. The "critical event" is the completion of the productive process. Therefore, the argument goes, the revenue should be recognized at the time of the performance of the critical event.

Use of the completed production basis, limited as it is, is significant since it does represent an explicit awareness of the existence of revenue at a point in an enterprise's economic activity other than the time of the

¹²American Institute of Certified Public Accountants, Accounting Research and Terminology Bulletins, Accounting Research Bulletin No. 43, p. 34.

sale. In such situations, the basis does move the recognition nearer to the major operating activities responsible for the revenue generation than does the sales basis. Yet the completed production basis suffers the same shortcomings as the sales basis. This is due to the fact that it, too, conditions the revenue timing to the occurrence of a single event--in this case, the completion of production rather than the sale. Again, unless the product flow is reasonably uniform, the completed production basis may not present results any more reflective of economic fact than does the sales basis. Any recognition basis which conditions its timing upon the occurrence of one event--the critical event as it has been called--is prone to the same fallacy of being a "statistical generalization."

One writer ended up in support of the priority method for handling precomputed finance charges when he applied a critical event criterion to the small loan situation.¹³ He believed the revenue should be recognized at the time the loan was made. To him the one thing responsible for the profitability or unprofitability of loans was a satisfactory or unsatisfactory lending policy. The decision to make the loan was thus the critical event. However, Professor Myer was operating under the restricting premise that revenue

¹³John H. Myers, "The Critical Event and Recognition of Net Profit," The Accounting Review, XXXIV (October, 1959), p. 531.

must be recognized at a single moment of time.¹⁴ The weakness of such an assumption has already been discussed in this chapter.

Collection Basis

Another timing device occasionally employed is the collection basis. Here the receipt of cash signals the recognition of revenue. Principal users of the basis are firms which sell goods on an instalment plan. The accountant's desire for certainty is advanced as a primary reason for employing the collection basis in this area. The extended period of collection increases the possibility of the failure of the customer to pay. By withholding the recognition of revenue until the collection period, a note of finality is added to its determination. No subsequent event can render the revenue more definite.

Lyle Jacobsen portrays the collection basis as a prime example of the accountant's "optimeasurement" of income.¹⁵ Optimeasurement refers to the attempts to defer income recognition through the minimeasurement of revenue and/or the maximeasurement of expense. The minimeasurement of revenue refers to the selection of an incident late in

¹⁴Ibid., p. 529.

¹⁵Lyle E. Jacobsen, "The Rise of the Profit Deferral Notion--The Concept and Practice of Optimeasurement," The Accounting Review, XXXVIII (April, 1963), p. 287.

the operating cycle to use as the recognition base and the measurement of expense relates to the selection of an early point for the booking of expense. Delaying the revenue recognition until the collection of cash represents one way of measuring revenue. Classifying it as such, however, really provides a definite acknowledgment of the presence of revenue at earlier stages.

The collection basis may be partially justified on grounds other than certainty or conservatism. The existence of an extended collection period means that a greater portion of an entity's efforts are directed toward the collection of accounts than is true of an entity not selling on an instalment basis. Therefore, some portion of the revenue should be allocated to this activity. However, a substantial portion of the revenue is earned prior to the collection period and the collection basis does not take cognizance of this.¹⁶

Production Basis

Two bases of recognition are examined under the heading of production basis--accretion and percentage of completion. They are classified together since both produce a gradual recognition of revenue over time as contrasted

¹⁶In terms of the proportionate magnitude of economic activity undertaken prior to and during the collection period, it is important to maintain a distinction between the instalment sale of a good and an instalment loan. Chapter VI examines the instalment loan situation.

with the single event bases of sale and completed production.

Accretion refers to an increment in value resulting from physical growth or other natural processes, such as aging. Products subject to accretion include timber, nursery stock, animal stock, liquor, and tobacco. Revenue recognition on an accretion basis would entail the periodic revaluation of the products so as to give recognition to the increased value resulting from the natural processes. However, generally accepted accounting practice does not approve of the accretion basis. Here the requirement of certainty enters the picture again. The accounting profession requires the additional step of sale before it considers the revenue as really definite enough to be recognized. A few accountants do give some ground on the matter when they advocate giving recognition to the increased asset value, but the offsetting credit entry is to an "unrealized" equity account and not a revenue account.¹⁷

Accounting practitioners do accept the percentage of completion basis of recognition, although it is applicable only to situations involving long-term construction contracts.¹⁸

¹⁷See, for example, Morton Backer, "Determination and Measurement of Business Income by Accountants," Handbook of Modern Accounting Theory, ed. Morton Backer (New York: Prentice-Hall, Inc., 1955), p. 243.

¹⁸American Institute of Certified Public Accountants, Accounting Research and Terminology Bulletins, Accounting Research Bulletin No. 45, p. 4.

This type of contract is prevalent in the fabrication of ships and heavy equipment and in the construction of buildings, roads, dams, and bridges. In these areas, the particular job is in process for a long period of time, often extending over more than one accounting period. Recognizing revenue only at the time the contract is completed and approved may produce results showing a complete lack of harmony between the volume of revenue and the extent of operating activity for any period. Statements on a completed contract basis may show no revenue for one period and a considerable volume of revenue the next period. In other words, long-term construction contracts constitute one area where the distortions inherent in a completed production basis are so obvious the accountant must take cognizance of it.

In order to overcome the apparent distortions and obtain a better periodic matching of costs and revenues, a percentage of completion basis is used. Revenue is recognized as the construction work progresses. The percentage of the revenue (i.e., contract price) recognized each period is determined by the relation between the costs incurred to the date of computation and the total estimated cost of the job. An increased element of subjectivity is present in this basis since it is necessarily dependent upon estimates of ultimate costs. Acceptance of the approach, however, indicates the accountant is willing to forego some degree of objectivity in order to obtain a more accurate matching

of costs and revenues.¹⁹

Summary

Given the preceding consideration of the bases of revenue recognition, certain observations are in order at this point. First, the earning of revenue is seen to be something quite different than the recognition of revenue. Revenue is earned through the entire process of economic activity of the business entity. When the recognition of revenue is at stake, the accountant relies more on such concepts as certainty, objectivity, measurability, and conservatism than he does on the concept of earning. Consequently, in the preponderance of recognition cases, a single event late in the activity process is selected as the signal for revenue determination.

Second, the recognition of revenue as it is earned is the ideal basis of timing. Emphasis would then be on the genesis of revenue rather than its realization. Many accountants grant this, but believe it is not generally capable of implementation due to the lack of objectivity and

¹⁹It is interesting to note that bankers generally seem to prefer the completed-contract method in the construction industry on the grounds that it is more conservative and objective. Edward B. Wilcox, "Conflicting Methods of Accounting for Construction Contracts." Report to the 1954 meeting of the American Institute of Certified Public Accountants, reproduced in William E. Coombs, Construction Accounting and Financial Management (New York: F. W. Dodge Corporation, 1958), p. 467.

similar practical considerations. To justify the variance of the single event criterion from the ideal basis of recognition, accountants assume a uniform product flow. Yet such an assumption is a statistical generality only. It may or may not fit a particular set of circumstances.

An excellent example of the conflict between the earning of revenue and its recognition centers on the recent proposals advanced by Professors Moonitz and Sprouse. Their set of tentative principles is aimed at achieving a greater degree of congruency between the earning and recognition of business profit. To accomplish this, they suggest the accounting profession adopt as general principles such ideas as the monthly or quarterly valuation of inventories at net realizable value or replacement costs.²⁰ These principles have not been received with widespread enthusiasm. The principal objections to them include (1) they tend to substitute judgment for objectivity, (2) they tend to ignore or downgrade the realization convention, and (3) they ignore conservatism.²¹ As the preceding discussion of recognition bases suggests, these arguments are not unfamiliar ones.

²⁰Sprouse and Moonitz, op. cit., pp. 27-30, 55-59.

²¹"Comments on 'A Tentative Set of Broad Accounting Principles for Business Enterprises,' " The Journal of Accountancy, CXV (April, 1963), p. 44.

1

Matching of Costs and Revenues

The percentage of completion basis, noted as acceptable because it achieves a better matching of costs and revenues, serves to focus attention on the concept of matching. The view of income as a residuary figure, derived periodically as the difference between revenues and costs, was mentioned in Chapter I. Yet more is involved than the mere assignment of costs to a period and revenues to the same period. The matching concept implies that there is a causal relationship between the two. As A. C. Littleton states:

The word "matching" . . . means more than setting two elements side by side and more than comparison of size or calculation of difference. It means the mating of related data; it carries the implication that bases have been found to indicate the data belong together. In connection with income determination, matching means associating revenue credits and their proper charges; it means associating revenue charges and their proper credits.²²

It is reasonable to assert that the matching concept is one of the most basic conventions underlying present accounting thought. The determination of income through the process of matching costs and revenues indicates this. It assumes that revenue is the object of the process of incurring cost. Costs are used as a measure of the effort of an entity. Revenues are presumed to measure the firm's

²²A. C. Littleton, Structure of Accounting Theory, Monograph No. 5 (Urbana, Illinois: American Accounting Association, 1953), p. 23.

accomplishments. Therefore, a meaningful income figure is produced only when efforts (costs) and accomplishments (revenues) are matched.

The prominence of the matching concept is demonstrated by reference to the adjustments which are made when a single-event recognition base--the sale--is used. To obtain a more accurate matching, some costs not yet actually incurred are anticipated and treated as revenue deductions in the period in which the sale occurs. This is known as "after-costs" accounting. It adjusts for collection expenses and charges resulting from guaranties and other special conditions of sale which are incurred after the sale is made. On the other hand, some costs matched against revenue are expirations of prior periods which have been inventoried and carried forward to the period of the sale. These costs are included in a category usually known as "product costs." Finally, some costs are matched in the same period in which they are incurred. When the sales basis of revenue timing is employed, therefore, the matching concept results in a mixture of past, present, and future costs being associated with the revenues in the income statement. In light of these handlings of the cost elements, the significance attached to the matching concept is undeniable.

Cost Homogeneity

The percentage of completion basis of revenue recognition clearly illustrates an earlier assertion, namely,

costs measure a firm's efforts. Under this basis, the percentage of completion is not gauged in terms of time or physical quantities. The test employed is the relation of costs incurred to total estimated costs. Economic activity, then, is measured in terms of cost activity.

The use of cost proportions to recognize revenue leads into another assumption which is germane to the current discussion--cost homogeneity.

Stated in general terms, the proposition is that where two or more factors are necessary to a given result it is unreasonable to impute the effect to the essential ingredients or causes *seriatim*. Or, turned about, the proposition is that where two or more results flow from a single agent it is unreasonable to impute the significance of the agent to the several effects *seriatim*. Applying this thesis to the problem in hand, we have the statement that all costs legitimately incurred are homogeneous in their relation to revenue or that all revenues should be proportionately attributed to each of the necessary costs.²³

The amount of a particular cost factor may be more or less than that of another factor, but, given the cost homogeneity premise, the proportionate contribution of each factor to the economic results cannot be denied.

Acceptance of the cost homogeneity assumption precludes acceptance of any idea of ranking costs. Ranking assumes certain costs are recoverable before others; that is, they are viewed as having a prior claim upon revenues.

²³William A. Paton, Recent and Prospective Developments in Accounting Theory (Dickinson Lectures in Accounting; Cambridge: Harvard University Press, 1943), p. 106.

Does the accounting profession accept the cost homogeneity premise? The question is not irrelevant since one form for reporting costs and revenues--the multi-step income statement--implies that there is a scheme of cost priorities. The multi-step income statement includes a series of subtractions and additions, with several intervening balances derived between the total revenues at the beginning and net income at the end of the statement. A typical title for one of the intermediate balances is gross profit on sales. The separate deduction of cost of goods sold from total revenues, necessary in order to strike the gross profit on sales figure, is one instance of the implication of a cost precedence.

The single step income statement is designed to avoid the impression that some types of costs take precedence over others. In this form, all costs are shown together. These costs are totaled and then deducted from total revenues. Since only the one subtraction is involved, the form is called a single step statement.

Evidence as to the popularity of the two income statement forms suggests that accountants are increasing their explicit acknowledgment of the cost homogeneity assumption every year. Table 19 shows there has been a definite trend toward a greater use of the single step statement. In fact, in the fifteen year period from 1946 to 1960, the percentage of the 600 companies surveyed which

TABLE 19*
INCOME STATEMENT FORM

Form of Statement	1960	1959	1958	1955	1950	1946
Multiple-step form	208	215	211	258	302	263
Multiple-step form with a separate last section presenting:						
Nonrecurring tax items	8	11	16	24	41	63
Nonrecurring tax and nontax items	21	21	24	23	11	57
Nonrecurring nontax items	27	30	35	25	31	85
Total	<u>264</u>	<u>277</u>	<u>286</u>	<u>330</u>	<u>385</u>	<u>468</u>
Single-step form	279	267	256	218	177	76
Single-step form with a separate last section presenting:						
Nonrecurring tax items	13	8	12	22	13	13
Nonrecurring tax and nontax items	24	23	24	9	7	20
Nonrecurring nontax items	18	23	19	19	15	16
Total	<u>334</u>	<u>321</u>	<u>311</u>	<u>268</u>	<u>212</u>	<u>125</u>
No income statement presented	2	2	3	2	3	7
Total	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>

*American Institute of Certified Public Accountants, Accounting Trends and Techniques-1961 (15th ed.; New York: American Institute of Certified Public Accountants, 1961), p. 7.

use the single step statement increased from 21 to 56 per cent.

Further evidence of the accountants' acceptance of the cost homogeneity premise stems from their views on certain

aspects of the current emphasis on cash-flow analysis. The treatment accorded depreciation charges is the focal point of their concern. Much literature on cash-flow analysis conveys the idea that depreciation is a source of funds. Accountants are quick to rebut this notion, and, in doing so, rely upon the cost homogeneity premise.²⁴ Similarly distracting is the impression that "net profits before depreciation" (i.e., "cash earnings") is a better indicator of a firm's earning power than is net income. Again, in response, emphasis is placed upon establishing the homogeneity of all costs, including depreciation charges. All the costs must be considered before a meaningful earnings figure is reached.²⁵

Cost Classification

The acceptance of the cost homogeneity assumption precludes the ranking of costs, but it does not prevent the classifying of costs. In fact, one of the main tasks of accounting is to assemble and classify costs in order that financial data may be useful to interested parties. Different uses of data may necessitate different classifications.

²⁴As does Charles J. Gaa, "Depreciation--The Good Provider?" Business Topics, X (Winter, 1962), p. 9.

²⁵Perry Mason, "Cash-Flow" Analysis and the Funds Statement, Accounting Research Study No. 2 (New York: American Institute of Certified Public Accountants, 1961), pp. 38-39.

Accordingly, there are a number of categories into which costs may be classified.²⁶ With respect to categorization in the income statement two classifications--object and functional--are in use.²⁷

The object, or natural, classification gathers costs together into groupings according to the original object of expenditure. Salaries, rent, and depreciation are examples of the "natural" categories.

The functional classification is a more common form of income statement cost categorization. Costs are classified according to the functions or activities of a business. The costs are categorized into such major functions as production, distribution, and finance. It is not unusual to combine the two classification approaches by segmenting the costs by object of expenditure within each functional category.

The use of a functional classification in the income statement is quite consistent in light of the preceding discussion. Revenue is earned by a firm's economic activity. Costs measure the economic activity. Therefore, a cost

²⁶Robert I. Dickey (ed.), Accountants' Cost Handbook (2nd ed.; New York: The Ronald Press Company, 1960), Pt. 2, p. 13, lists eight: (1) Nature of expense, (2) Time period, (3) Function, (4) Area of responsibility, (5) Costing unit, (6) Relationship of object costed, direct or indirect, (7) Behavior, fixed or variable, and (8) Time when computed.

²⁷Ronald James Thacker, "A Study of Income Statement Concepts" (unpublished Ph.D. dissertation, Dept. of Accounting, Louisiana State University, 1961), p. 68.

classification in terms of an entity's major activities is a logical approach to employ.

Matching Paradox

The propriety of the matching of costs and revenues is well established. An item not yet fully covered concerns the controlling factor in the matching process; that is, whether costs should be matched with revenues or whether revenues should be matched with costs. A preponderance of accounting writers agree that revenue should be, and is, the controlling element.²⁸ Revenue is assigned to an accounting period first and then costs are matched with it. Such thinking probably is conditioned in no small part by the widespread acceptance of the sales basis of revenue recognition. It is somewhat illogical, though, to select the more passive of the two elements as the dominant factor.

The following analogy portrays the passive nature of revenue:

Imagine a pair of shears in the hands of a tailor. The lower blade moves only forward on the table top but the upper blade also moves up and down in the cutting stroke. Net income, like the cloth under the tailor's hand, is shaped as by the interaction of the blades of a pair of shears--revenue as one, cost as the other. It is obvious that both blades are necessary to produce the result. But their action is not necessarily equal. One blade may rest passively on the table while the other blade moves actively up and down under pressure from the operator's fingers. The passive blade

²⁸Three sources making explicit note of it are Reed K. Storey, "Cash Movements and Periodic Income Determination," The Accounting Review, XXXV (July, 1960), p. 453; Paton, Accounting Theory, p. 445; and Littleton, op. cit., p. 69.

represents revenue--the element under little direct managerial control in the activity of producing net income.²⁹

An incongruity results from the selection of revenue as the controlling factor. A prime use of the income statement is as an indicator of a firm's earning capacity for the accounting period. A firm's efforts are measured by its cost activity. However, with revenue the dominant element in the matching process, the costs which appear in the income statement are a conglomeration of past, present, and future costs. (This was expanded upon earlier.) The performance thus indicated in the statement is not a result of the cost activity undertaken during the period.

This paradox further clarifies the point made earlier in the chapter concerning the fallacy inherent in the sales, or other single-event, basis of revenue recognition. Here the fallacy is placed within the context of the matching concept. Only if the productive, or cost, activity is reasonably uniform from period to period will the proper matching of costs with incorrectly timed revenues produce results appropriately reflective of economic performance for the period.

It appears more consistent and logical to reverse the matching process, to determine costs for a period and

²⁹A. C. Littleton, Essays on Accountancy (Urbana, Illinois: University of Illinois Press, 1961), p. 213.

then match revenues with the costs, as is done under the percentage of completion recognition basis. Of course, the accountant's requirements for measurability and objectivity necessitate that in most cases much work must be done in establishing an acceptable system of estimating the productivity of cost-efforts when they are exerted. However, this does not destroy the logicality of the approach.

Summary

The purpose of this chapter was to examine the overall problem of revenue recognition in order to obtain guidelines to use in the allocation of precomputed finance charges. The following considerations derived from the chapter provide such a framework:

1. Revenue is earned by the entire process of economic activity.
2. Economic activity is measured in terms of cost activity.
3. All costs are homogeneous in their contribution to revenue.
4. The matching of costs and revenues is a basic accounting concept.
5. Ideally, costs are the controlling elements in the matching process.

In a majority of situations, certain constraints on the above considerations appear in the form of demands for objectivity, measurability, and conservatism. Consequently, revenue is rarely recognized as it is earned. Instead, a point late in the process of economic activity is used.

The concern for the definiteness of revenue causes revenue to be the controlling factor in the matching process. The cost elements so matched are reflections of past, present, and future activity. The resultant net income thus may or may not portray the income-generating power of the firm for the period covered by the statement.

CHAPTER VI

AN APPROACH TO THE ALLOCATION OF PRECOMPUTED FINANCE CHARGES

The guidelines established in the preceding chapter indicate that consideration of the cost structure of consumer finance companies is a condition precedent to the determination of a proper allocation approach. Such an examination will be undertaken in the first part of this chapter. Emphasis will be placed upon analyzing the costs on a functional basis. With this as a foundation, a sound approach to the allocation of precomputed finance charges will be presented. The remainder of the chapter will be devoted to illustrating the implementation of the approach on the basis of representative data presented.

Consumer Finance Company Costs

Object Classification

Table 20 presents a sample income statement containing an extensive categorization of consumer finance company costs. The table is based upon the combined reports of 603 small loan licensees in Michigan for the year 1962. As such, the classification and relative magnitude of the costs are taken as representative of a typical

TABLE 20

COMPOSITE INCOME STATEMENT OF SMALL LOAN LICENSEES
IN MICHIGAN FOR YEAR ENDING DECEMBER 31, 1962
(AMOUNTS IN THOUSANDS OF DOLLARS)

Total revenue.		\$44,632
Less expenses:		
Advertising	\$ 1,572	
Auditing.	164	
Bad debts		
Charged off.	2,098	
Additions to reserve	2,301	
Credit reports.	345	
Depreciation on furniture, fixtures, equipment, and auto	426	
Insurance and fidelity bonds.	185	
Legal fees and disbursements.	310	
Postage and express	452	
Printing, stationery, and supplies.	433	
Recording and acknowledging fees.	10	
Rent, heat, light, and janitor service	2,095	
Salaries.	10,827	
Supervision and administration.	4,212	
Licenses and license taxes.	111	
State and local taxes	950	
Telephone and telegraph	1,124	
Travel, automobile expenses and allowances	668	
Interest paid on borrowed funds*.	6,692	
Other expenses.	1,444	36,419
Earnings before income taxes		\$ 8,213
Federal taxes on income.		4,170
Net income		\$ 4,043

*Adjusted to 88% of total interest paid (\$7,604,365) to reflect the fact that only 88% of the assets were invested in small loan business.

Source: State Banking Department, Abstract of Reports of Small Loan Licensees as at December 31, 1962 (Lansing, Michigan: State Banking Department, 1963), p. 2.

consumer finance company.

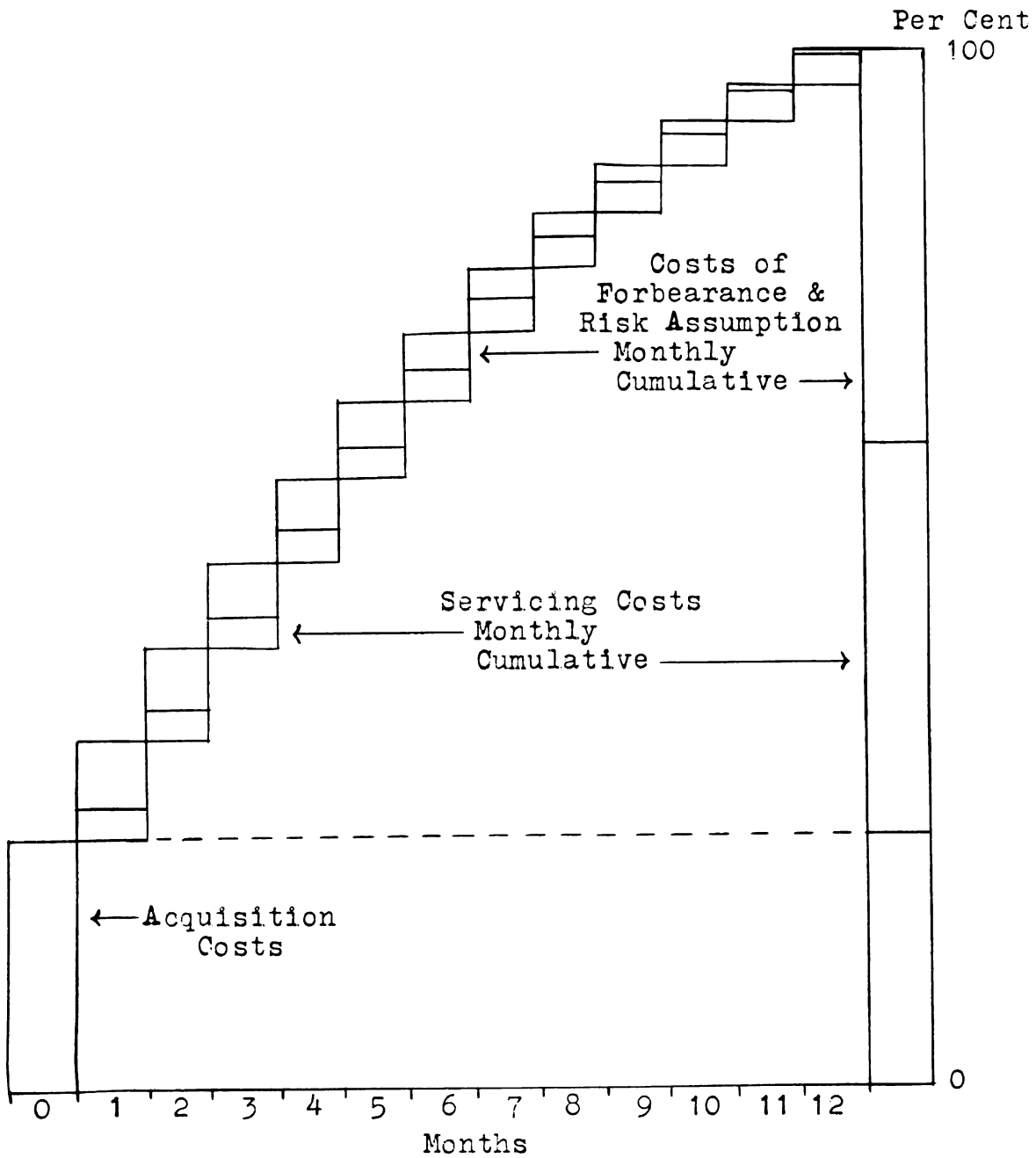
The costs in the table are categorized according to a natural, or object of expenditure, classification. Certain interesting features are highlighted by such a presentation. For example, salaries clearly constitute the major item of expenditure. Yet the previous chapter established that a functional cost classification provides a better reflection of the nature of the economic activity undertaken by a firm. Accordingly, attention will now be given to this aspect of consumer finance company costs.

Functional Classification¹

The composition of a consumer finance entity's functional cost activity is portrayed in Chart 12. The portrayal is placed within the context of the cost behavior associated with a twelve-month loan. The primary purpose of the chart is to delineate the major cost functions, although at the same time it provides an illustration of the manner in which the costs are incurred through time. The relative proportions of the costs shown are not a matter

¹Robinson M. Upton, "The Importance of Direct Costs in the Granting of Consumer Installment Credit," (Unpublished Ph.D. dissertation, Dept. of Finance, Northwestern University, 1948), pp. 41-57 provides data helpful to the succeeding discussion of functional costs. American Bankers Association, Analyzing the Cost Factors of Instalment Lending (New York: American Bankers Association, 1946), 23pp. is also worth noting for its procedural thoroughness although its setting (i.e., bank) and classifications differ slightly from those of this study.

CHART 12
CONSUMER FINANCE COMPANY FUNCTIONAL
COST COMPONENTS



of concern at this time since the chart is not intended to be used as a guide in this area. Further, as will be apparent, the proportions will vary as the size and maturity of a given loan varies.

Three cost activities are pictured in the chart --costs of acquisition, costs of servicing, and costs of forbearance and risk assumption. Acquisition costs are composed of those expenditures involved in acquiring a loan. These costs at times are also labeled "start-up" costs. This functional grouping encompasses such operations as advertising and the interviewing of applicants. It includes credit investigations and other efforts associated with the reaching of final judgments on loan applications. Making out the note and setting up the account in the records are also included. Rent on the loan office is another item within this classification since a convenient location is a vital factor contributing to the acquisition of loans. In short, all the individual operations necessary to put a loan on the books, beginning with the initial promotional efforts, are contained within this functional activity.

The servicing of the loan is another functional classification shown. Once an account is on the books certain efforts are involved in obtaining and handling the collections of the instalment payments. These costs include the expenses of receiving and processing the monthly loan remittances. Delinquency work is also encompassed by

the servicing activity. The preparation and distribution of past due notices, the making of telephone or personal calls upon old or repeat delinquents, and the determination and execution of other action, including legal action, to effectuate the collection of overdue accounts are all aspects of delinquency work. Another operation contained within the functional classification of servicing is the closing of the loan. This is sometimes classified as a separate function but it is not so classified here because of its close association with the servicing of the final instalment payment. In addition to the handling of the last payment, terminating the loan entails such expenses as those of closing out the account in the books and canceling the documents drawn in connection with the loan.

The costs of forbearance and risk assumption compose the third functional classification. In order to obtain funds to use in their lending operations, consumer finance companies incur costs which take the form of payments to various lenders for the use of their funds.² The term "forbearance" is used to label these costs of the detention or use of money. Another cost component within this third category exists because the loans made by a consumer finance

²As an indication of the extent to which funds are borrowed, the results of a 1961 survey showed debt to compose 75.9% of the capital structure of 253 consumer finance companies surveyed. S. Lees Booth, 1963 Finance Facts Yearbook (Washington, D.C.: National Consumer Finance Association, 1963), p. 47.

company are not riskless. This cost represents the risk of loss on the small loans made. The cost of this item, the assumption of risk, and the forbearance costs are classified together since they are both presumed to be related to the size of loans outstanding.

Functional Classification of Natural Expense Items

The emphasis upon a functional cost classification requires that expenses categorized by object of expenditure be re-classified functionally. The purpose of this section is to indicate in general terms the manner in which such items may be re-classified, thus bridging the gap between Table 20 and Chart 12.³

The cost accounting, or allocation, problems are apparent. Many of the expense items in Table 20 are not applicable in their entirety to just one functional category. Salaries, for example, must be divided between the employee's efforts associated with acquiring loans and those of servicing loans. And the allocation becomes more difficult to the extent that separate functional activities

³The cost accounting problems involved have been confronted in a number of studies, although as yet there appears to be a lack of unanimity over the allocation procedures to follow. Loring C. Farwell, "Cost and Output Relationships of Consumer Instalment Credit Agencies: Based on Reports of Indiana Licensees," (Unpublished Ph.D. dissertation, Dept. of Finance, Northwestern University, 1955) enumerates the previous work done in the area and presents the results of his own study.

are concentrated in one individual, as may be particularly true in a small consumer finance unit. The existence of items of overhead, those expenses of too general a nature to be directly assignable to the major functions, creates additional allocation problems since reasonable bases for the apportionment of these costs to the functions must be determined. Auditing, depreciation, insurance and fidelity bonds, heat and light, supervision and administration, and taxes ⁴ are examples of the overhead costs present.

In addition to its share of overhead, expenses chargeable to the costs of acquisition include the salaries of loan officers and credit investigators attributable to their efforts spent in the initial handling and investigating of applications and a portion of the clerical salaries for the time devoted to setting up the account in the records. The cost of credit reports and the parts of the telephone, telegraph, travel, and postage expenses relating to credit investigation also belong to this function. For the forms which are used, a portion of the printing and stationery expense is includable. The loan office rent is

⁴Except for income taxes which, for purposes of this study, are treated as a separate deduction necessary to reach a net income after taxes figure and not as a cost homogeneous with others in the generation of revenue. It is so treated due to (1) its lack of relation to the amount of service received from the governmental body exacting payment; for example, no other cost is partially refundable if a company suffers losses, and (2) the lack of managerial control over the item.

allocable to this functional cost activity. The entire advertising expenditure is chargeable to the acquisition activity as are the recording and acknowledging fees paid in connection with lien instruments used.

A substantial portion of the salaries figure is assignable to the servicing function as a reflection of the costs of the cashiers and bookkeepers concerned with receiving and recording the instalment payments and the costs of officers and other employees involved in reviewing the accounts, and determining and executing collection procedures. The expenses of printing, stationery, postage, and express are includable to the extent of the costs of sending out delinquent notices, letters of appreciation after the final payment, and other correspondence with the borrower. Payments of legal fees and disbursements arising out of collection difficulties are chargeable to the servicing function, as are the portions of telephone, telegraph, and travel expenditures connected with collections and delinquency work.

Interest paid on borrowed funds and the bad debt provisions are assigned to the functional category of forbearance and risk assumption. The interest paid measures the cost of forbearance and the bad debt provision measures

the cost of risk assumption.⁵ From the viewpoint of economic theory the forbearance measure should also include an imputed "opportunity cost" attributable to the owners' investment in the entity. The use of this imputed interest amount is supported in economic theory on the grounds that its recognition is essential to the making of reliable comparisons of the operating results of different entities. In these circumstances, the resultant income amount is in the nature of an "excess profits" figure. The inclusion of an imputed interest figure is rejected in this study. Accounting determinations of net income are most reliable and useful if they are based upon actual, verifiable events. Contractual interest expense is such a verifiable cost while an imputed interest amount is not. Of course, subsequent analysis of the accountant's objectively determined income figure may include its division into "normal" and "excess" components.

A Sound Approach to the Allocation of Precomputed Finance Charges

The preceding discussion of functional cost activities provides the groundwork for a most essential point.

⁵A distinction exists between the costs of risk assumption and the costs of maintaining this risk within certain parameters. Observe that a portion of the costs included in the acquisition and service functions, namely, the costs associated with investigative and delinquency work, are devoted to maintaining the risk within certain limits.

The timing of the consumer finance firm's economic activities, measured by its cost efforts, closely coincides with the time periods over which the revenues generated by such activities are to be apportioned. The problem confronted in this study concerns the manner in which precomputed finance charges are to be allocated over the life of an instalment contract. Given the above consideration of the cost activities involved in the lending operation, namely, the costs of acquisition, servicing, and forbearance and risk assumption, it is noted that these efforts are also spread out over the period of the loan.

The significance of this point is undeniable. In terms of the discussion in Chapter V, it means the periods over which the revenue is to be recognized coincides with the earning of such revenue. Revenue is earned, it will be recalled, through the entire process of economic activity of an enterprise. Given these circumstances, then, the proper approach to the allocation of precomputed finance charges logically should be one which attempts to equate the recognition of the revenue to its earning. The congruency of the timing of cost activity and revenue apportionment presents an ideal situation for an approach of this type. The circumstances contrast sharply with the preponderance of revenue-timing situations. In most cases, the generally accepted basis of revenue recognition is a point late in a firm's operating cycle, such as the time

of sale or the completion of production. The cost activity generating the revenue in these cases precedes the timing of the revenue recognition and thus little opportunity is afforded for equating the earning and recognition of revenue. However, the opportunity is present so far as the revenue timing for a consumer finance company is concerned.

The underlying importance of the matching of costs and revenues was one of the guidelines established in the last chapter. At the same time, it was observed that costs are the logical elements to dominate in the matching process. Given these two items as a foundation, the basis for the recognition of revenue over an instalment loan contract is provided by the behavior pattern of the functional cost activities. The cost homogeneity assumption is also an important contributor here. Since all costs are homogeneous in their contribution to revenue, the relationship of each functional cost activity to the total cost effort indicates the proportionate amount of revenue earned by each of the cost activities. These revenue portions should be allocated in accordance with the pattern of cost incurrence of the respective functions. This, therefore, outlines a sound approach to the allocation problem confronted in this study. It relies on the basic accounting assumptions of matching and cost homogeneity. At the same time, it approximates an ideal rarely attainable in other circumstances--the recognition of revenue in accordance

with its earning.

Implementation of the Approach

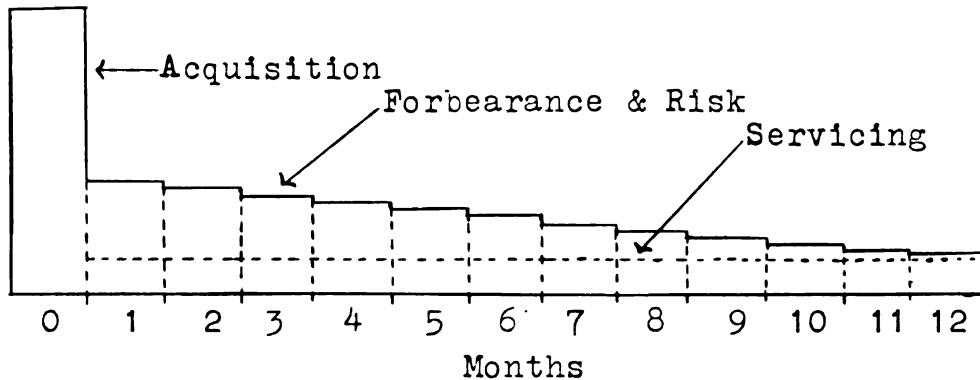
In order to implement the allocation approach just outlined, knowledge as to the behavior of the functional costs and their proportionate contribution to an entity's efforts is required. To demonstrate the approach's application, cost functions assumed to be representative will be presented. Empirical studies on the cost functions of consumer finance companies are needed in order to determine reliably these data. The similarity of operations among firms in the industry suggests the cost functions of the various firms should be similar. Along these lines, note should be taken that there are limits to the precision with which any accounting approach can be practically implemented. In applying the approach, an approximation of reality is better than no attempt to reflect reality at all.

Cost Behavior

To aid in the discussion of the cost behavior of the functional activities, the cumulative portrayal of Chart 12 is shown as a monthly pattern in Chart 13.

The acquisition costs as shown are concentrated in the period preceding the start of the loan. Since these costs do represent the costs of acquiring a loan, this is a reasonable portrayal. The costs of forbearance and risk assumption decrease in amount from month to month. This

CHART 13
FUNCTIONAL COSTS--MONTHLY PATTERN



treatment is in accord with the presumption that these costs are related to the size of the outstanding loan. The costs of servicing are represented as occurring at a constant rate each month. The constancy of these costs is not an infrequent assumption in small loan cost studies, although it is subject to some qualification. On a per-loan basis, the delinquency work associated with a particular loan may result in its servicing costs showing variable rates of incurrence, while on an aggregate basis (i.e., total loans) the monthly costs of delinquency work may show less variation, particularly given the tendency of cost allocations to produce an averaging effect. Another source of variance is the additional effort of closing the loan which is connected with the final payment. This writer believes, however, the portrayal of the final month's service costs as equivalent to those of the preceding months is not a gross misrepresentation.

The presentation in Chart 13 is therefore assumed to be a general approximation of the pattern of incurrence of the functional costs.

Cost Proportions

As mentioned earlier, on a per-loan basis the proportions of the functional costs would vary with the size and maturity of loan selected. For example, acquisition costs would constitute a much larger proportion of the total unit cost of a small loan of short duration than of a large loan of lengthy duration. Whether a loan was a renewal loan or a new loan would also cause the per-loan cost proportions to vary. Acquisition costs on a renewal loan would constitute a considerably smaller proportion of the total unit cost than would be true if the loan was a brand new loan. To approach the ascertainment of representative cost proportions for an entire firm from a per-loan (or unit cost) basis would entail a substantial amount of work. It would involve not only determining the cost proportions for contracts of differing characteristics, but also giving consideration to the relative weight of each contract type in the firm's portfolio so that over-all cost proportions could be established. Further, since most of the operating costs represent fixed commitments in the short-run, unit costs over a short period will vary inversely with the number of loans handled. Rapid changes in loan volume may

inhibit the reliability of prior unit cost analyses.⁶

Dealing with aggregate costs is a simpler approach and one that is in accord with small loan philosophy. Per-loan cost analysis reveals many loans, the very small ones, which are unprofitable. This is due to the fact that the costs of acquisition and servicing vary little with the size of the loan. And the rate structures of the small loan laws have the effect of preventing the establishment of minimum charges on these very small loans. Consumer finance companies generally offer a "full loan" service, making available loans of every size permitted by law, and the rate structures are designed to allow a reasonable return on this full loan activity. Therefore, the emphasis is on over-all costs and revenues. As Morris Neifeld puts it:

The very concept of the law is to look at a group result rather than at an individual transaction. It is the profitability of the group result that is important.⁷

Reference to the proportionate composition of the total cost structure is thus seen to be a reasonable procedure. Available evidence suggests that acquisition costs

⁶The fixity of many costs in the short-run does have important implications so far as lending policy is concerned since it suggests the incremental costs of granting an additional loan are small. As an aid to revenue allocation, however, incremental costs are inappropriate since they are in conflict with the cost homogeneity assumption.

⁷M. R. Neifeld, Neifeld's Manual on Consumer Credit (Easton, Pennsylvania: Mack Publishing Company, 1961), p. 554.

represent 15 to 20 per cent of the total cost effort.⁸ The succeeding illustration will take 20 per cent as typical. A representative measure of the proportionate contribution of the costs of forbearance and risk assumption is 30 per cent.⁹ The costs of servicing loans is therefore assumed to constitute approximately 50 per cent of the cost effort.

An Illustration of the Application of the Approach

Using the representative cost patterns and proportions, it is now possible to illustrate an application of the approach developed in this chapter. The sample loan used for illustrative purposes in Chapter III--a \$109.08 loan with a precomputed finance charge of \$10.92, to be repaid in twelve monthly instalments of \$10.00 each--will again be used. Table 21 shows the allocation of the pre-computed charge on this loan.

Twenty per cent of the revenue is recognized at the start of the contract period. This represents the revenue

⁸Five finance companies whose audit reports or annual reports revealed the use and size of an acquisition cost factor used the following percents: 20%, 20%, 15%, 15%, and 10%.

⁹The ratio of interest paid and bad debt provisions to total expenses in Table 20 is 30.5%. Computed from the 1962 annual reports of five large consumer finance companies, the same ratio ran as follows: Beneficial Finance Co., 34.6%; Household Finance Corp., 33.7%; American Investment Co. of Illinois, 32.7%; Family Finance Corp., 32.3%; and Dial Finance Co., 29.3%.

TABLE 21

ALLOCATION OF PRECOMPUTED FINANCE
CHARGES IN ACCORDANCE WITH
PROPOSED APPROACH

Revenue Earned By:					
End of Month	Note Balance	Acquisition 20% ^a	Servicing 50% ^b	Forbearance and Risk 30% ^c	Monthly Revenue Recognized
0	\$120.00	\$2.18	\$. .	\$. .	\$ 2.180
1	110.00	. .	.455	.50	.955
2	100.00	. .	.455	.46	.915
3	90.00	. .	.455	.42	.875
4	80.00	. .	.455	.38	.835
5	70.00	. .	.455	.34	.795
6	60.00	. .	.455	.30	.755
7	50.00	. .	.455	.25	.705
8	40.00	. .	.455	.21	.665
9	30.00	. .	.455	.17	.625
10	20.00	. .	.455	.13	.585
11	10.00	. .	.455	.08	.535
12	. .	. .	.455	.04	.495
		\$2.18	\$5.460	\$3.28	\$10.920

^aThe revenue earned by the acquisition activity is recognized at the beginning of the contract period.

^bRevenue earned by the servicing activity is allocated on a straight line basis.

^cRevenue earned through forbearance and risk assumption is allocated on a sum-of-the-digits basis.

earned through the consumer finance company's acquisition activity. Fifty per cent of the precomputed finance charge is allocated on a straight line basis over the life of the contract. This revenue is attributable to the servicing activity of the entity. Since the costs of this operation

are assumed to occur at a constant rate each month, the use of a straight line technique to spread the revenue earned by the activity is reasonable. Thirty per cent of the revenue is recognized over the instalment periods on a sum-of-the-digits basis. The costs of forbearance and risk assumption are assumed to be related to the size of loans outstanding. The revenue assignable to these costs is therefore recognized on a basis which takes cognizance of the amounts outstanding--the-sum-of-the-digits.

The implementation of an allocation procedure based upon the cost activities of a firm is somewhat more involved than the methods enumerated in Chapter III. Its underlying reliance upon basic accounting assumptions, however, makes it a much sounder and more meaningful system. Further, the application of the approach to a firm handling numerous instalment contracts of different maturities does not create procedural difficulties of a different sort from any of the other methods.¹⁰ No changes are necessary in the handling of adjustments, either. Additional charges, such as default charges, may still be recognized as they are collected. Rebates may continue to be gathered in a separate account and then be closed against the unearned

¹⁰Appendix D presents an example of one means of implementing the approach of Table 21 to many contracts of different maturities.

finance charges amount, with the integration of the rebates into the revenue spread sheets preferably being in a manner consistent with the unearned finance charge credits.

Earlier, it was observed that the cost structures of firms in the consumer finance industry would be expected to be similar due to the similarity of operations. If significant differences should exist, the implementation of the allocation approach, based as it is upon an entity's cost efforts, would take cognizance of the differences. In these cases, differences in the spreading of revenues among firms would have meaning--they would reflect differences in the composition of the economic efforts of the entities. This is a far cry from differences in revenue allocations due to the employment of different techniques without regard to underlying economic efforts.

Since a consumer finance company's business centers upon the small loans it makes, it is not unlikely that changes in the characteristics of its loans may be reflected in its economic activities. If, for example, all other things being equal, the size of its loans increased from year to year, it is reasonable to assume that a greater proportion of its total efforts would come to be attributable to the costs of forbearance and risk assumption. Similarly, if only maturities increased, the costs of servicing and the costs of forbearance and risk assumption may be likely to consume a larger share of the total cost activity

than before the change. In a like manner, if the proportion of renewal loans were to increase, the proportion of total costs allocated to the costs of acquisition might decline. If the only change in an entity's business was in the number of loans made, and the firm had time to adjust to the change, it is possible that the proportionate contribution of each cost activity would not vary much. This last conclusion is based upon one author's contention that, in other than the very short term, the consumer finance industry is one of relatively constant unit costs.¹¹ In any event, changes in the functional cost proportions of an individual firm may occur through time which will necessitate adjustments in the application of the proposed allocation approach. These adjustments do not invalidate the underlying approach or its implementation, but instead provide the process with a dynamic quality not inherent in the methods delineated in Chapter III. Changes in the operational activities can be reflected in the accounting for revenues. Of course, the existence of limits to the precision with which an accounting approach can be applied have already been noted. Accordingly, adjustments should not be made for minor variations, but only for those which are determined to be significant and lasting.

¹¹Upton, op. cit., p. 218.

Limitation

Cost analysis plays a large role in implementing the proposed allocation approach. The sound analysis of functional costs, in terms of behavior, composition, and relative magnitude, is essential if the approach is to be properly applied. In this respect, additional effort is needed within the industry to attain greater unanimity in cost analysis procedures. Only then will the full benefit in terms of meaningful and comparable financial data result from the implementation of the revenue allocation approach of this study.

Integrative Aspects of the Proposed Approach

The proposed approach to the allocation of pre-computed finance charges ties in nicely with various aspects of accounting and consumer finance thought. Since the approach relies upon the framework established in Chapter V, its amenability to basic accounting thought is unquestionable. The recognition of a portion of the revenue at the time a loan is acquired puts the approach within the parameters outlined in some of the most recent and significant literature on accounting thought.¹² The three-part functional cost analysis is in agreement with the cost

¹² Moonitz and Sprouse, op. cit., p. 48.

breakdown advanced by many as essential to the concept of the construction of an ideal rate structure.¹³ The determination of cost proportions by reference to the composition of aggregate costs is in accordance with the small loan philosophy of concern for group results rather than individual loan results.

Summary

The guidelines for the recognition of revenue set up in Chapter V and an examination of the cost activities undertaken by a consumer finance company composed the groundwork for the development of an allocation approach in this chapter. The timing of the cost efforts of acquisition, servicing, and forbearance and risk assumption was shown to closely parallel the periods over which the finance charges were to be allocated. The consumer finance company's cost functions therefore became the logical foundation upon which to base a sound apportionment approach. The assumptions of the matching of costs and revenue and cost homogeneity

¹³Milan V. Ayres, Instalment Mathematics Handbook (New York: The Ronald Press Company, 1946), pp. 198-200. Jackson R. Collins, "Costs and Other Factors in the Correct Determination of Small Loan Rates. Services, Expenses, Losses as Distinguished from 'Interest' or Profit: The Problem Presented by Constitutional Limitations on Interest Rates," Conference on Personal Finance Law: Program and Papers (Kansas City: American Bar Association, 11th Annual Session, September 18, 1937), pp. 7-69.

substantiated the reliance upon cost behavior patterns and their relative magnitudes to incorporate an approach achieving a congruity between the earning and recognition of revenue. The implementation of the proposed approach was demonstrated using data assumed to be typical.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The basic purpose of accounting is to provide useful information to many interested parties. The financial statements prepared by the accountant provide the primary means for the communication of this information. Of these statements, the income statement is currently viewed as being the most significant.

Income must typically be determined for periods shorter than the life span of an entity. The continuity of economic events thus has to be broken up into arbitrary time periods. This creates complex accounting problems. Means must be established for the assignment of expired costs and revenues to the accounting periods so that the residual figure--income--may be obtained. As a result, a wide diversity of accounting practices applicable to similar situations often arises in the areas of cost and revenue determination.

The existence of broad ranges of acceptable accounting practices, many of which are unsupported by sound reasoning, impairs the informational value of accounting reports, particularly for comparative purposes. Differences in reported results may only reflect the employment of

diverse accounting methods, which are many times unbeknown to the statement users. Accountants are aware of the desirability of greater uniformity and their continuing efforts are devoted to the determination of appropriate practices and to narrowing differences and inconsistencies in practice.

The incorporation of the concept of precomputation into the small loan laws of a number of states in recent years has given rise to a revenue apportionment problem in the consumer finance industry. When a loan is made under precomputation the finance charges are calculated from the schedule of rates per month specified in the law as if the contract were to be paid exactly according to schedule. The precomputed charges are then added to the face of the note. This amount is divided by the number of monthly instalments in the contract to arrive at an equal amount for each payment. The instalment payments made thereafter by the borrower are credited to his account without separating principal from the finance charges.

Advantages cited on behalf of precomputation are that it promotes operating efficiencies, creates a more favorable situation for the lender when loans are prepaid, enables the industry to be more competitive, and provides more logical results. On the other hand, shortcomings attributed to precomputation are that it creates adjustment complexities, increases borrower costs, and does not

go far enough toward entirely eliminating the per cent per month rate structures from the statutes.

The revenue apportionment problem concerns the manner in which the precomputed finance charge is to be allocated over the life of the contract. It involves differentiating between the amount to be recognized as current revenue of a specific month and the amount to be carried forward in the "unearned finance charges" account as being applicable to future periods.

This study divided the consideration of the above revenue recognition problem into two parts. The first part dealt with current practice. It contained a description of the methods which are used to allocate the precomputed charges as well as an analysis of the possible impact of these methods on financial data. The second part dealt with accounting concepts and their application to the problem. Reference to accounting thought on the over-all aspects of revenue recognition established guidelines which were used to develop an allocation approach rooted in basic accounting assumptions.

Current Practice and Its Impact

The basic procedures employed to allocate the pre-determined finance charges are the effective rate, sum-of-the-digits, straight line, liquidation, and fixed percentage methods.

The effective rate method entails the actuarial computation of the effective interest rate applicable to the instalment loan and the application of this rate to the net investment in the contract to determine the monthly revenue. Revenue is recognized by the sum-of-the-digits approach on the basis of the face amounts of the contract outstanding each month. The revenue so determined therefore diminishes each month. This technique obtains results similar to the effective rate method without having to use any actuarial computations.

The straight line method recognizes an equal portion of the precomputed finance charge as revenue each month. Under the liquidation procedure, a proportion of the unearned finance charges balance determined by the ratio of collections to outstanding receivables is transferred into revenue monthly. Fixed percentages are sometimes used to allocate the revenues. A fixed percentage of outstanding receivables may be recognized as revenue each month or the amount in the unearned finance charges account in excess of a fixed percentage of outstanding receivables may be transferred into revenue monthly.

Two other methods, rarely used since they are not within the realm of generally accepted practice, are the priority and residuary techniques. The priority approach books the entire precomputed finance charge as revenue at the time the loan is made. At the other extreme, the

residuary method does not recognize any revenue until the entire principal has first been recovered.

The availability of a number of accepted allocation practices has important ramifications so far as financial reporting is concerned. The selection of an allocation method may exert much influence on the reported financial data of a consumer finance company. Numerous examples designed to portray the effects of the different methods were presented in Chapter IV. Considerable variation in the reporting of monthly revenues, total revenues, net income, and unearned finance charges resulted from the use of one method as opposed to another. Variations in these items then cause divergencies in important ratios incorporating the items.

Accounting Concepts and Their Application

An examination of the accounting thought dealing with the problem of revenue timing in many areas reveals concepts useful to this study. Revenue is generated by the entire process of business activity undertaken by a firm. The business activity is measured in terms of the cost efforts put forth by the entity. Since this is the manner in which revenue is earned, it appears logical to recognize it on the same basis. Generally, revenue is not so recognized. The accountant's concern for such things as

objectivity and conservatism usually leads to the selection of a point in time to recognize revenue subsequent to the major activities generating such revenue. The matching of costs and revenues is a basic accounting assumption. Adherence to it, given the accountant's concern for the definiteness of revenue, leads to a mixture of past, present, and future costs being shown in the income statement. This is because revenue dominates the matching process. An incongruity follows from this since the income statement, used as an indicator of a firm's earning capacity, does not then measure the results of the cost (earning) activity for the period. This serves to emphasize the desirability and logicity of having costs dominate the matching process. Another assumption basic to the accounting for revenue and the determination of income is that all costs are homogeneous in their contribution to revenue. No dollar of cost contributes more to revenue than any other dollar of cost.

There are three major functional cost activities undertaken by a consumer finance company. These cost activities are the costs of acquisition, the costs of servicing, and the costs of forbearance and risk assumption. In terms of timing, the incurrence of these costs closely coincides with the time periods to which the accountant is already predisposed to apportion the revenue. A unique opportunity is thus available to recognize revenue in accordance with its earning. The revenue allocation approach proposed in

this study therefore uses as its basis the functional cost activities of the consumer finance company. The cost homogeneity assumption guides the determination of the revenue contributed by each function. The pattern of cost incurrence for each function determines how its proportionate revenue is to be spread.

Conclusions and Recommendations

The following conclusions and recommendations are drawn from this study.

1. There are currently a number of "generally accepted" methods by which precomputed finance charges may be allocated over the life of an instalment contract.

2. These methods do not take full cognizance of the major underlying cost factors which generate the revenue. The effective rate and sum-of-the-digits methods view the entire revenue as interest earned when in fact only a portion of the revenue is attributable to this factor. In such cases, the accountant appears to look no further than to the letter of many small loan laws which inaccurately label the finance charges as interest. Similarly, the liquidation approach places too much emphasis on the servicing costs, to the exclusion of the costs of acquisition and the costs of forbearance and risk assumption.

3. The different allocation methods can cause considerable variation in reported financial data. Since the

methods are not based upon underlying economic fact, the variations in reported data are not reflective of differences in economic effort, but are instead distortions in the informational process.

4. Accounting thought does provide an appropriate framework for the recognition of revenue. The framework is constructed upon such concepts as the active nature of costs and the earning of revenue, the matching of costs and revenue, and cost homogeneity. Frequently, however, some of these concepts are compromised into the background by practical considerations.

5. A revenue allocation approach is recommended which is based upon the functional cost activities of consumer finance firms. These functional cost activities are composed of the costs of acquisition, the costs of servicing, and the costs of forbearance and risk assumption. The recommended approach is significant since it places the primary emphasis for the recognition of revenue on the earning of the revenue. It represents an application to a specific industry of a current focus in accounting thought which stresses the desirability of recognizing revenue as it is earned rather than recognizing it at the time of the occurrence of a restricted set of events.

APPENDIX B

SUM-OF-THE-DIGITS METHOD MONTHLY SPREAD SYSTEM

Month	Unearned Finance Charges	Divisor (Sum-of-Digits)	Final Month's Portion	Constant In-creases	Amount to be put into the Spread	Cumulative Amounts (Previous Months)	Total (EOM)
1	\$ 7.50	1	7.500	116.760	\$1,090.38	\$1,100.00	\$ 2,190.38
2	5.50	3	1.833	109.260	973.59	1,000.00	1,973.59
3	27.38	6	4.563	107.427	864.33	900.00	1,764.33
4	16.13	10	1.613	102.864	756.90	800.00	1,556.90
5	82.71	15	5.514	101.251	654.03	700.00	1,354.03
6	557.23	21	26.535	95.737	552.78	600.00	1,152.78
7	38.32	28	1.369	69.202	457.05	500.00	957.05
8	140.87	36	3.913	67.833	387.84	400.00	787.84
9	110.19	45	2.449	63.920	320.01	400.00	720.01
10	139.49	55	2.536	61.471	256.09	300.00	556.09
11	27.00	66	.409	58.935	194.62	200.00	394.62
12	3,222.05	78	41.308	58.526	135.69	200.00	335.69
13	98.46	91	1.082	17.218	77.16	100.00	177.16
14	91.10	105	.868	16.136	59.94	100.00	159.94
15	288.95	120	2.408	15.268	43.81	100.00	143.81
16	708.69	136	5.210	12.860	28.54	100.00	128.54
17	. .	153	. .	7.650	15.68	100.00	115.68
18	1,243.61	171	7.273	7.650	8.03	50.00	58.03
19	71.67	190	.377	.377	.38	50.00	50.38
	<u>\$6,876.85</u>				<u>\$6,876.85</u>	<u>\$7,700.00</u>	<u>\$14,576.85</u>
	(A)	(B)	(C)	(D)	(E)	(F)	(G)

The foregoing is a spread of the unearned finance charges for one month. The unearned finance charges on all loans made during the month are grouped according to the number of months the various loans are to run, and these amounts are entered in Column A. The amounts in Column C represent the items in Column A divided by the related sum-of-the-digits

in Column B. The amounts in Column D are determined by accumulating the items in Column C from the bottom up, being sure to repeat in Column D the accumulated amount on any line where there is no figure in Column C (see line 17). The amounts in Column E are determined by accumulating the figures in Column D from the bottom up; and this is the spread of unearned finance charges on loans made during the month. Column F represents the cumulative spread of unearned finance charges for previous months. Column G is the sum of Columns E and F, and represents the spread of charges on all loans held at the end of the month.

APPENDIX B
(cont.)

SUM-OF-THE-DIGITS METHOD MATURITY CONTROL SYSTEM

Month	Unearned Finance Charges Brt. Fwd.	Unearned Finance Charges (Current Month)	Total	Earnings Factor	Revenue	Unearned Finance Charges (EOM)
1	\$ 12.00	\$ 8.00	\$ 20.00	1.0000	\$ 20.00	. . .
2	18.50	5.50	24.00	.6667	16.00	8.00
3	316.50	33.50	350.00	.5000	175.00	175.00
4	131.00	69.00	200.00	.4000	80.00	120.00
5	288.00	112.00	400.00	.3333	133.33	266.67
6	362.00	638.00	1,000.00	.2857	285.70	714.30
7	36.00	54.00	90.00	.2500	22.50	67.50
8	121.00	79.00	200.00	.2222	44.44	155.56
9	215.00	85.00	300.00	.2000	60.00	240.00
10	814.00	176.00	990.00	.1818	179.98	810.02
11	82.00	18.00	100.00	.1667	16.67	83.33
12	437.00	2,300.00	2,737.00	.1539	421.22	2,315.78
13	114.00	86.00	200.00	.1429	28.58	171.42
14	85.00	95.00	180.00	.1333	23.99	156.01
15	68.00	432.00	500.00	.1250	62.50	437.50
16	204.00	706.00	910.00	.1177	107.11	802.89
17	79.00	511.00	590.00	.1111	65.55	524.45
18	84.00	1,246.00	1,330.00	.1053	140.05	1,189.95
19	53.00	147.00	200.00	.1000	20.00	180.00
20	12.00	88.00	100.00	.0952	9.52	90.48
	<u>\$3,532.00</u>	<u>\$6,889.00</u>	<u>\$10,421.00</u>		<u>\$1,912.14</u>	<u>\$8,508.86</u>
	(A)	(B)	(C)	(D)	(E)	(F)

The foregoing is an example of the determination of one month's revenue under the sum-of-the-digits method using a maturity control system. The unearned finance charges on all loans made during the month are grouped according to the number of months the various loans are to run. These amounts are entered in Column B. Column A represents the unearned

finance charges maturity control balances from the prior month-end. Column C is the sum of Columns A and B. Each amount in Column C is multiplied by the respective earnings factor in Column D. These factors are the decimal equivalents of the fraction $2/(n+1)$, where n equals the number of months to maturity.* The sum of Column E represents the monthly revenue recognized. The amounts in Column F are determined by subtracting Column E from Column C. The amounts in Column F, moved up one month, will become Column A in the next month.

*These are the decimal equivalents of the first month's fraction resulting from the sum-of-the-digits technique discussed in Chapter III; i.e., $12/78 = .1539$, $11/66 = .1667$, $10/55 = .1818$, etc. Applying these fractions to the declining balance of a precomputed finance charge produces the same monthly results as applying the successively declining sum-of-the-digits fractions to the original precomputed finance charge.

APPENDIX C

STRAIGHT LINE METHOD MATURITY CONTROL SYSTEM

Month	Unearned Finance Charges Brt. Fwd.	Unearned Finance Charges Cur. Mo.	Total	Earnings Factor	Revenue	Unearned Finance Charges (ECM)
1	\$ 18.00	\$ 8.00	\$ 26.00	1.0000	\$ 26.00	\$. . .
2	24.50	5.50	30.00	.5000	15.00	15.00
3	336.50	33.50	370.00	.3333	123.32	246.68
4	171.00	69.00	240.00	.2500	60.00	180.00
5	300.00	112.00	412.00	.2000	82.40	329.60
6	412.00	638.00	1,050.00	.1667	175.04	874.96
7	46.00	54.00	100.00	.1429	14.29	85.71
8	141.00	79.00	220.00	.1250	27.50	192.50
9	235.00	85.00	320.00	.1111	35.55	284.45
10	824.00	176.00	1,000.00	.1000	100.00	900.00
11	92.00	18.00	110.00	.0909	10.00	100.00
12	450.00	2,300.00	2,750.00	.0833	229.08	2,520.92
13	129.00	86.00	215.00	.0769	16.53	198.47
14	105.00	95.00	200.00	.0714	14.28	185.72
15	78.00	432.00	510.00	.0667	34.02	475.98
16	209.00	706.00	915.00	.0625	57.19	857.81
17	89.00	511.00	600.00	.0588	35.28	564.72
18	104.00	1,246.00	1,350.00	.0556	75.06	1,274.94
19	83.00	147.00	230.00	.0526	12.10	217.90
20	22.00	88.00	110.00	.0500	5.50	104.50
	<u>\$3,869.00</u>	<u>\$6,889.00</u>	<u>\$10,758.00</u>		<u>\$1,148.14</u>	<u>\$9,609.86</u>
	(A)	(B)	(C)	(D)	(E)	(F)

The foregoing is an example of the determination of one month's revenue under the straight line method using a maturity control system. The system is the same as the maturity control system for the sum-of-the-digits method except that the earnings factors are different. The unearned finance charges on all loans made during the month are grouped

according to the number of months the various loans are to run. These amounts are entered in Column B. Column A represents the maturity control balances from the prior month-end. Column C is the sum of Columns A and B. Each amount in Column C is multiplied by the respective earnings factor in Column D. These factors are the decimal equivalents of the fraction $1/n$, where n equals the number of months to maturity. The sum of Column E is the revenue recognized for the month. Column F is the result of subtracting Column E from Column C. The amounts in Column F, moved up one month, become the amounts in Column A the succeeding month.

1

APPENDIX D
REVENUE APPORTIONMENT PROCEDURE UNDER PROPOSED APPROACH

Month	Unearned Finance Charges (62.5%)	Unearned Finance Charges (37.5%)	Divi- sor	Each Month's Portion	Revenue Amount	Divi- sor	Final Month's Portion	Constant Increases	Revenue Amount	Month's Revenue Spread
1	\$ 16.00	\$ 10.00	1	\$ 10.000	\$ 321.23	1	\$ 6.000	\$44.670	\$ 340.00	\$ 662.05
2	8.32	5.20	2	2.600	311.23	3	1.040	38.670	296.15	607.38
3	48.00	30.00	3	10.000	308.63	6	3.000	37.630	257.48	566.11
4	24.00	15.00	4	3.750	298.63	10	.900	34.630	219.85	518.48
5	80.80	50.50	5	10.100	294.88	15	2.020	33.730	185.22	480.10
6	560.00	350.00	6	58.333	284.79	21	10.000	31.710	151.49	436.28
7	64.00	40.00	7	5.714	226.45	28	.857	21.710	119.78	346.23
8	128.00	80.00	8	10.000	220.74	36	1.333	20.853	98.07	318.81
9	120.00	75.00	9	8.333	210.74	45	1.000	19.520	77.21	287.95
10	144.00	90.00	10	9.000	202.41	55	.982	18.520	57.70	260.11
11	56.24	35.15	11	3.195	193.41	66	.320	17.538	39.18	232.59
12	3,200.00	2,000.00	12	166.667	190.21	78	15.385	17.218	21.64	211.85
13	88.00	55.00	13	4.231	23.54	91	.363	1.833	4.42	27.96
14	96.56	60.35	14	4.311	19.31	105	.345	1.470	2.59	21.90
15	360.00	225.00	15	15.000	15.00	120	1.125	1.125	1.12	16.12
	<u>\$4,993.92</u>	<u>\$3,121.20</u>			<u>\$3,121.20</u>				<u>\$1,872.72</u>	<u>\$4,993.92</u>
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)

Explanation of Appendix D

The illustration on the preceding page is a spread of the unearned finance charges for one month, based on the assumptions of Table 21 in Chapter VI. These assumptions are that 20 per cent of the precomputed charge is recognized at the time the loan is made, 50 per cent is allocated on a straight line basis, and 30 per cent is spread by a sum-of-the-digits method. The unearned finance charges on all loans made during the month are grouped according to the number of months the various loans are to run, and these amounts are entered in Column A. Since 20 per cent of the charge is recognized at acquisition, the amounts in Column A represent 80 per cent of the total precomputed charges. The amounts in Column A are apportioned in the ratio of 5:3 to Columns (B) and (F) respectively. Equal monthly portions of Column B are shown in Column D, the result of dividing Column B by Column C. The amounts in Column E are determined by accumulating the items in Column D from the bottom up and represent the revenue allocated on a straight line basis. The amounts in Column H represent the amounts in Column F divided by the related sum-of-the-digits in Column G. The amounts in Column I are determined by accumulating the items in Column H from the bottom up. The amounts in Column J are determined by accumulating the items in Column I from the bottom up, and represent the allocation of the

portion of the charges on a sum-of-the-digits basis. The spread of the unearned charges for the month is then shown in Column K. This column represents the cross-addition of Column E (the straight line spread) and Column J (the sum-of-the-digits spread).

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