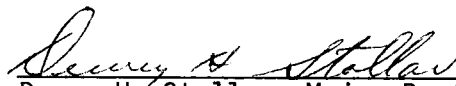
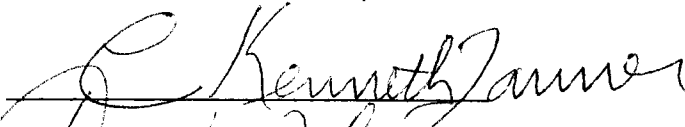
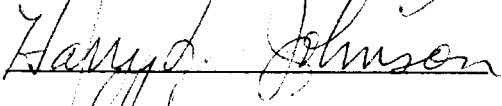
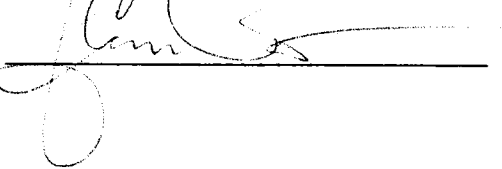


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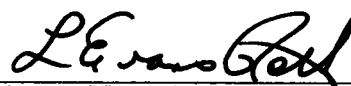
I am submitting herewith a dissertation written by Michael Nivens, entitled "An Analysis of the Investment of Idle-Funds In the Four-Year Universities of the Tennessee State Board of Regents." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Administration and Supervision.


Dewey H. Stollar, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:


Vice-Chancellor for
Graduate Studies and Research

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AN ANALYSIS OF THE INVESTMENT OF IDLE-FUNDS IN THE FOUR-YEAR
UNIVERSITIES OF THE TENNESSEE STATE BOARD OF REGENTS

A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville

Michael Nivens

August 1979

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ABSTRACT

The purpose of the study was to analyze descriptively the current process and accomplishments of idle-fund investment procedures for the four-year higher education institutions under the jurisdiction of the Tennessee State Board of Regents. In addition, it was the purpose of this study to adapt an analytical cash management model for the advancement of idle-fund investment, plus provide assistance for the establishment of cash management programs in other State-supported colleges and universities.

The study presented a cash flow model that increased the projected investment return and provided an insight to everyday transactional procedures which affected the investment process. The investment return was increased through the methodologies of: (1) trend investment procedure, (2) compensating bank balance, (3) accounts payable discounts, and (4) grant allotment procedure.

The major finding of the study dealt with a projected increase in investment return of \$576,276.91 for the four-year universities of the Tennessee State Board of Regents for the projected fiscal year 1978-79. This projection was substantiated through the efforts of Memphis State University in that their actual investment return exceeded the projected investment return.

Based on the results of this study, it was recommended that State-supported institutions familiarize themselves with modernistic investment techniques such as presented in this study and adapt a model

which would provide a maximum investment return. Also, the recommendation was made that the State colleges and universities included in this analysis make a concentrated effort to obtain the projected increase for idle-fund investments as outlined in this study.

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CHAPTER I

INTRODUCTION TO THE STUDY

I. INTRODUCTION

The effective control of cash is one of the most important requirements of successful financial management. Cash is the lifeblood of business and its steady healthy circulation can be felt throughout the entire business operation.¹ Effective cash management being recognized as an essential to strong fiscal management is even more important due to the ever-mounting costs and the increased pressures on generated revenues. The need to improve cash management, including the necessity to invest temporarily idle funds, has been documented in several studies including publications of the Advisory Commission on Intergovernmental Relations.² The main objective of cash management is a supportive one. Collecting receivables and paying bills have always been functions of cash management, but cash utilization has taken on the additional perspective of evaluating the cost of money, or its ability to draw a return, in relation to the availability of required funds. Full utilization of monies, therefore, focuses on their most economical

¹B.B. Howard and M. Upton, Introduction to Business Finance (New York: McGraw-Hill Book Company, Inc., 1953), p. 188.

²John A. Jones and S. Kenneth Howard, Investment of Idle Funds by Local Government: A Primer (Chicago, Illinois: Municipal Finance Officers Association of the United States and Canada, 1973), p. 3.

use, their control and safekeeping, an assurance of adequate supply, and the temporary investment of excess funds.³

During the 1970's inflation had become a fact of life in the United States, running at an annual rate of 5 to 8 percent. Inflation increased at an even higher rate during 1973 and 1974. The government's efforts to control inflation seemed at best to produce a temporary slowdown in the rate of inflation, but never to eliminate it. Many economists believed that it was impossible to prevent inflation without also inhibiting growth in the economy. If this was so, and it was expected that we had to live with inflation, then funds tied up in cash balances should have been put to use to hinder the real cost of holding cash.⁴ This cost push of inflation has resulted in a higher cost of money, thus producing an increasing return through investment rates. Through giving more attention to investing idle cash, badly needed revenues could be produced at the local level, thus lightening the increasing financial burdens of local taxpayers.⁵ In the late Sixties, as the economic boom of the past decade began to lose steam, it became more apparent that proper understanding and implementation concerning the fundamentals of cash management would help soften financial strifes. The thinking of many knowledgeable financial executives was that cash

³Roger W. Hill, Jr., Cash Management Techniques (United States of America: American Management Association, Inc., 1970), p. 10.

⁴Leslie P. Anderson and John Heptonstall, Planning Cash Flow (United States of America: American Management Association's Extension Institute, 1975), p. 15.

⁵Municipal Finance Officers Association of the United States and Canada, Investment of Temporarily Idle Funds: A Survey (Special Bulletin, December 16, 1971), p. 1.

was a working asset and that maximum return from every dollar of cash resources should have been obtained to maximize profits. Far from being a symbol of success, excessive or idle cash balances were often considered symptoms of managerial inefficiency.⁶

Managing cash for the public institutions should never have been thought of as being any less important than that of managing cash for private industry. Private industry held to the concept of maximizing business profits by maximizing cash productivity. Cash is thus seen as the core principle of all business activity. Cash is the central organizing concept from which the fullest understanding of the functioning of a firm is derived, and the most fruitful strategies for maximizing profits are obtained. Firms are in business solely and simply to generate and reinvest cash at the highest attainable rate.⁷ Therefore, with these thoughts directed toward the public-owned establishment, the concept of never allowing idle funds to lie idle is of prime importance. Investment programs of the public sector would undoubtedly have been more effective and efficient if a nineteenth-century practice were still in vogue: treasurers were allowed to keep as personal income any interest that might be earned on invested public dollars. The public as a whole did not realize the benefits of such efficiency, and the practice fell into disrepute with growing

⁶The Conference Board, Cash Management (New York: The Conference Board Inc., 1973), p. IV.

⁷S.D. Slater, The Strategy of Cash (New York: John Wiley and Sons, 1974), p. 1.

awareness that the interest earned on invested public funds was public money just as much as the principal invested.⁸

Corporate treasurers have long recognized the productiveness of short-term investment of otherwise idle cash. The public sector has long since made the transition to this acknowledgement. The time is near that the concept of efficient cash management intervene into the on-going established financial operations of the higher education institutions. The American Management Association, university schools of business, and other organizations have sponsored seminars devoted to training corporate officers in cash management and related investment procedures. Many of the methods used in business also apply to colleges and universities. Especially in cash management, however, institutions of higher education have many cash flow problems that differ from those of business and industry. One might heed the institution given to corporate cash managers in the advertising for national seminars: "Never forget CASH, your other money-making resource."⁹

A study which encompassed two fiscal years, 1973-1974 through 1974-1975, in Michigan, showed the real importance of effective and efficient cash management and investment programs in higher education. This study of 13 major public institutions of higher education found:

⁸Municipal Finance Officers Association of the United States and Canada, Investment of Temporarily Idle Funds: A Survey (Special Bulletin, December 16, 1971), pp. 2-3.

⁹Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), p. 1.

(1) The best percentage return was double the weighted average of the other 12 institutions. (2) The other 12 institutions produced \$23 million operating fund investment income over the two-year period. If they had produced at the level of the highest percentage rate, however, they would have doubled their investment income by producing over \$23 million more investment income for the 12 institutions.¹⁰

Cash management for higher education institutions is not a cost, instead it is a dividend that pays extremely well. Resources might be added to universities that could reach 20, 30, or 40 times the compensation cost of staff members required to administer working capital more efficiently. Higher education should realize that the proper organization for an efficient cash administration will pay two-fold whether a consultant is hired to provide professional assistance in the development of a cash program or whether new personnel are appointed to initiate and maintain an up-to-date investment program. Either way, the costs involved should be only a small percentage of what the proper program will produce in increased resources.

The first step in developing a modern investment program is to have the backing of the first-line administrators in acknowledging that the university must function with an optimal investment system. Secondly, a responsible person should be assigned the task of devising and administering the program. The cash manager must

¹⁰Leonard H. Haag, Cash Management and Short-Term Investment for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), pp. 2-3.

become sufficiently acquainted with the university personnel to enable the efficient implementation of such an investment program. Also, the cash manager should recognize the importance of effective bank relations to a cash management program. This point of view is nearly always stressed by cash management authors. Hill said, "No cash management program can be complete without an effective corporate-bank relationship."¹¹ Lordan stated, "Of the four cash management functions outlined, none is more important than company-bank relations. Every cash management program does require a close working relationship between company and bank."¹²

Thirdly, the investment officer should be sufficiently familiar with the alternative investment instruments that are marketably available. Again, before entering the investment market, the bankers being "dealers" in the commodity of "money" can provide a logical source of information and advice concerning investment opportunities. Local banking officials are the main contact an investment officer has with the investment market. These bankers are always available to act as custodians of securities and to provide current advice on changing markets. As stated in the publication, Treasury Cash Investment Management:

A finance administrator who chooses to avail himself of bank services needs only to make a single telephone call in regard to a desired purchase or sale. The bank will

¹¹Roger W. Hill, Jr., Cash Management Techniques (New York: American Management Association, Inc., 1970), p. 34.

¹²James F. Lordan, The Banking Side of Corporate Cash Management (Boston: Financial Publishing Company, 1973), p. 4.

place the order, negotiate the price subject to the administrator's approval, close the transaction, and arrange for delivery. Where the securities have been held in the bank's vault, an entire purchase and sale cycle may be executed without the administrator having seen the documents.¹³

Investment instruments that are widely used for the short-term investment market are:

1. Certificate of Deposit, Primary and Secondary
2. Savings Account or Savings Deposit Receipt
3. Treasury Bills, Primary and Secondary
4. Treasury Notes and Bonds, Primary and Secondary
5. Government Agencies
6. Bankers' Acceptance
7. Commercial Paper, Dealer--Industrial and Direct Issue
8. Repurchase Agreements

The university's cash manager, while availing himself to the marketable investment instruments, should at all times analyze the market opportunities in relation to risk, liquidity, yield, and legal restrictions.

Risk concerns the safety of the principal and interest during any investment transaction. Liquidity refers to the characteristic of being readily convertible to cash before any stated maturity date. Yield represents the income received from the investment efforts and is the main purpose for the establishment of investments. And, legal

¹³League of California Cities, Treasury Cash Investment Management (California, 1971), p. 11.

restrictions deal with restraints placed on the investment process while dealing with funds in trust. Universities are faced with several different legal requirements. Some of these legal procedures are implemented due to state policies while others are board-imposed or general policy guidelines that the institution requires an investment officer to follow.

II. STATEMENT OF THE PROBLEM

During the past decade, higher educational institutions have faced financial burdens of which were partially caused through the lack of progressive cash management. This problem resulted in a loss of revenues through investments, loss of fiscal control through a poor cash flow system, and a loss of the public sector's respect for justification of new monies. With this problem in mind, this study entailed an analysis of the investment of idle funds in the four-year universities of the Tennessee State Board of Regents.

III. PURPOSE OF THE STUDY

The purpose of this study was to descriptively analyze the current process and accomplishments of the control of cash for the higher educational institutions under the jurisdiction of the Tennessee State Board of Regents. This analyzation included both cash-flow management and the investment process. In addition, it was the purpose of this study to have adapted analytical cash management models for the advancement concerning idle-fund investment which would benefit all

involved institutions and would provide assistance for the establishment of cash management programs in other state-supported colleges and universities.

IV. NEED FOR THE STUDY

Since several state colleges and universities existed throughout the United States, it was of prime importance that this topic be studied in detail to enable the enhancement of the return on idle cash. Such a study would help assist higher educational institutions in attaining a maximum return through the efficient control of money.

Higher education authorities said that they needed more money because of declining enrollments, rising costs of educational services, and a taxpayer revolt against more subsidies.¹⁴ Colleges and universities having to adjust to an unprecedented financial bind were looking closer at ways to make their budgets stretch through a tightening financial crisis. Predictions were that over the next 25 years, higher educational institutions would continue to face financial burdens and that the next decade of substantial growth would be from 2000 to 2010. In addition, all of the university building space which was constructed during the booming 1960's could be extremely difficult to maintain during the slow period.¹⁵ Increased costs from federal intervention

¹⁴"Colleges Go Into Business to Make Ends Meet," U.S. News and World Report, (January 27, 1975), 33.

¹⁵The Carnegie Foundation for the Advancement of Teaching, The States and Higher Education (San Francisco, California: Jossey-Bass, Inc., Publisher, 1976), p. 7.

and regulations have been shown by using the American Council on Education study figures of six representative institutions. Compliance costs were determined to be between 1 and 4 percent of the schools' operating budgets, enough to force cuts in departmental funds. By the best estimates available, the Federal rules cost colleges and universities almost \$2 billion a year, which is roughly equal to the entire sum the institutions raise through voluntary donations.¹⁶ Again, Federal intervention in higher education is only one of many problem areas dealt with by administrators. Other such areas are double-digit inflation, high fuel costs, sagging income from private sources, and a projected decrease in the college-age population starting in 1980 and decreasing by approximately 30 percent by 1990.¹⁷ The ever-increasing movement toward Federal control is one that has developed through society's cries for public servant accountability. With these rules and regulations laid out for all, a more equitable position can be taken by an administrator. The decision-making process becomes one of following and enforcing rules without showing prejudices and exceptions.¹⁸

With the surmounting problem of shortness of funds and being held more accountable, the higher education administrator needs to

¹⁶M.L. Sheils, "Red Tape Blues," Newsweek, LXXXVIII, (August 30, 1976), 77.

¹⁷"Regulatory Powers of Federal Government As Potential Threat to Private Colleges," Intellect, CIV, (September, 1975), 77.

¹⁸W.P. Mollenberg, "The Hazards of Academic Administration," Intellect, CIV, (February, 1976), 374-378.

involve himself into a perpetuating effort of the establishment of an efficient cash management program which will help alleviate the development of both concerns. Studies conducted over the years illustrate that benefits far exceed costs in the sophisticated utilization of idle funds investments.¹⁹ Therefore, this study was directed toward the evaluation of innovative cash control and investment which could help to establish a system designed to provide maximum return on extended efforts.

Several reasons to substantiate this study as investigated were:

1. Loss of revenues that are easily obtained through investments.
2. Development of sounder financial management through the development of a better cash flow system.
3. Increased demand of the public in justifying the need for new monies.

Improper attention directed toward cash management can result in a loss of revenues, because all funds that are available for investment can not be productively utilized to allow for the maximum increase in the pool of idle cash. In addition, improper attention and knowledge directed toward short-term investments and available money-market instruments can result in a loss of revenues. Both of these functions, cash-flow management and investment management, if approached positively, might produce additional income which could alleviate some of the operating budget pinches.

¹⁹Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of Colleges and University Business Officers, 1977), p. 3.

The higher education institute could reap additional rewards through the development of an effective cash management system. A sounder financial management system might be developed through the efforts of an established cash flow system. A more organized accounting system could be established to allow for the immediate investment of pooled idle funds. Accounts receivable would have to establish a timely collection and deposit system. Accounts payable would need to take advantage of all discounts given on payments as well as to postpone payments until absolutely required. Purchasing should maintain proper inventories and make purchases that coincide with university needs. Grants should obtain funding as quickly as possible that provides the maximum idle fund investments.

Not only might this study help the university in obtaining additional revenues and better financial management resulting through an efficiently organized cash flow and investment program, but also could enable the university to extend a positive effort toward obtaining available funding through better fiscal control. The university would be better able to defend a position, if necessary, of asking for additional funding from the public.

V. DELIMITATIONS OF THE STUDY

The following delimitations were imposed on this study:

1. This study dealt only with the four-year universities under the jurisdiction of the Tennessee State Board of Regents during the fiscal year 1978-1979.

2. This study was delimited to analytical fiscal data available from these institutions.

3. The search for related literature was restricted to books, abstracts, and periodicals on file in the University of Tennessee Library System, the University of Tennessee Office of Institutional Research, the Tennessee Technological University Library System, and books personally owned or borrowed by the writer.

4. The analytical data related to this study were obtained from each involved university, and the facts shown were delimited to the information provided by these financial documents.

IV. SOURCE OF DATA AND PROCEDURES

Procedures for gathering data for this study were as follows:

Tennessee Technological University was used as the base institution for the gathering of internal information concerning a higher education investment program for the Tennessee State Board of Regents' four-year institutions. A daily cash flow was devised for a three-year period which included all receipts and disbursements for the development and study of analytical cash management models concerning idle-fund investment. The daily cash flow was taken from University cash receipt journals and check systems as maintained through the monthly accounting records. In addition, accounts receivables were observed in a fashion which allowed for the distinguishment of daily receipt of funds from all areas, including state appropriations, auxiliary services, grants, and regular transacted business.

Disbursements were also compiled for a three-year period to enable the analysis concerning their effect on the cash flow system. The disbursements included payments through grants, auxiliaries--both housing and University Stores--Cafeteria, and the normal disbursements through the normal daily operations of the university. All cash payments were listed in daily detail concerning payment timing and payment size. The investment market was studied in relation to the available investment instruments in use for higher educational institutes. Tennessee Technological University's idle-fund investment records were studied in relation to available investment cash and in relation to the past trends of investment income including yield rates.

Additional data were obtained from the other four-year institutions through the financial statements of each university for the base fiscal year 1976-1977. All financial statements were compared, and an attempt was made to show how all universities could enhance their investment income through an efficient cash management program. The methodology, presentation, and discussion of the data were formulated in Chapter III. Recommendations based on this study and its results were made by the writer and recorded in Chapter IV.

VII. ORGANIZATION OF THE STUDY

This study was reported in four chapters. Chapter I included the introduction, statement of the problem, purpose of the study, need for the study, delimitations of the study, source of data and procedures, and the organization of the study. Chapter II contained a presentation of a review of related literature concerning cash management, investment instruments, and cash flow models.

Chapter III presented a description of the methodology, presentation and discussion of the data. This entailed a description of the population, methods of data collection and analysis, and presentation and discussion of the data. The presentation of the data included observing the cash flow areas of a compensating bank balance, accounts payable, and the grants section. A projected investment return was then developed for all of the universities in this study. Chapter IV summarized the entire study through a discussion of the findings and the recommendations adaptable through these findings.

CHAPTER II

REVIEW OF THE LITERATURE

I. INTRODUCTION

A major purpose of Chapter II was to present a review of the related literature concerning the concept of investment of idle funds in a state-supported four-year university. In addition, the review was directed toward three major areas. First, an analysis of the related literature was made in the area of cash management. This included the pooling of all temporarily idle cash and managerial policies. Secondly, a review was directed toward the important concept of understanding and efficiently manipulating available investment instruments. And, thirdly, a detailed analysis was made of current cash flow models that could be understood and implemented as workable investment tools.

II. CASH MANAGEMENT

The necessity for a devised methodology for the efficient and effective control of surplus cash is at an all-time pinnacle of importance. With the increased demand of the public for more efficient management of public institutions which is shown by the various media coverages seeking accountability from public servants, the need for sound fiscal management is a must. One approach to an improved fiscal management situation is that of creating a futuristic approach based upon an historical trend analysis for the investments of temporarily

idle funds. "Idle funds," for the purpose of this study referred to the cash that was available in terms of not being required for the on-going day-to-day operations of a public entity. These funds were made up of the surplus created through the time-lag between the receipt of revenues and disbursements of cash. With the inflated costs for current institutional operations, surplus funds should be at an all time high.

In addition, with the doubled and tripled investment rate returns coincided with the increased idle fund flow, the possibilities of obtaining a greater dollar return for the amount of effort extended is at an optimal level.

A concerned opinion of this topic was shown through the following assessment made by the Advisory Commission on Intergovernmental Relations:

Cash balances of State and local funds which are in excess of operating needs can either be put to work drawing interest and thereby producing additional revenue for the State or local government, or they may be allowed to lie idle. If the latter course is followed, a waste of public funds occurs, just as real as an unnecessary or over-priced procurement contract or an uncollected tax obligation. Although considerable improvements have been registered in recent years, the investment of otherwise idle balances constitutes a significant potential revenue source which still is sometimes overlooked completely and is frequently under-utilized.²⁰

Fenstermaker, in his book about cash management, stated that over ten years ago,

At a time when the demand for funds is so great, public institutions and governmental bodies are losing millions of dollars in income. This loss is a direct result of the lack of

²⁰Advisory Commission on Intergovernmental Relations, Investment of Idle Cash Balances by State and Local Governments (Washington: U.S. Government Printing Office, January, 1961), p. 1.

understanding of many public administrators of the techniques of getting a maximum return on the cash flow of their organization.²¹

The cash manager or the controlling administrator in charge of securing full return on idle monies was the focus of attention for the taxpayer seeking accountable fiscal practices from the public sector. Excessive idle cash balances were viewed as undersirable and as an indication of inefficient management. As stated by Alexander B. Trowbridge, President of the Conference Board, "The current thinking of many knowledgeable financial executives is that cash is a working asset, and that a firm should get maximum mileage from every dollar of cash resources in order to maximize profits."²² This notion, as related to idle fund investments of the educational public sector, meant fewer tax dollars paid by the average taxpayer and/or reduced tuition rates paid by the attending student.

Cash management is considered a profitable move for all higher education institutions. Realized revenues might be attained at 10, 20 or 50 times the compensation costs of required staff members assigned to administer working capital more effectively.²³ Investing idle funds is

²¹Joseph Van Fenstermaker, Cash Management: Managing the Cash Flows, Bank Balances, and Short-Term Investments of Non-Profit Institutions (Kent, Ohio: Kent State University Press, 1966), p. 1.

²²David I. Fisher, Cash Management, Conference Board Report No. 580 (New York: The Conference Board, Inc., 1973), Foreword by Alexander Trowbridge, p. 4.

²³Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), preface.

recognized as one aspect of sound public financial management, but the practice remains more common among larger units than among smaller ones.²⁴ The assignment of responsible personnel to the development and administering of a well organized cash management program is a priority to the establishment of an efficient and profitable operation. The investment officer for the educational institution is required to be knowledgeable of the various operational procedures of the fiscal administration. In turn, a highly developed coordinated effort should be extended between all fiscal functioning departments, such as receivables and payables. Not only is a coordinated fiscal operation necessary for the enhancement of cash flow, but also the requirement of an acute understanding for investment opportunities is needed to allow for a maximum return of idle funds. The investment administrator with an extended knowledge and understanding of the available alternative investment instruments and the current market conditions assuring optimal yield can further create an atmosphere for a successful investment program. An investment program that would be successful is one that is adaptable to current legal requirements of governing boards and state laws, existing accounting procedures and data-processing capabilities, and available banking and fiscal resources. Because communication among people in many departments is a prime ingredient in an investment system, the responsible officer must have authority to cross organizational lines and to establish proper procedures for channeling

²⁴Municipal Finance Officers Association of the United States and Canada, Investment of Temporarily Idle Funds: A Survey (Special Bulletin, December 16, 1971), pp. 2-3.

information from the many sources working in the system. The designated individual or office must be able to issue directives, establish procedures, and write manuals and instructions setting forth what constitutes proper revenue and expenditure estimation, analysis and reporting.²⁵

The importance of a precisely developed communications system between all individuals or departments involved or related with the fiscal function that might in any way affect successful investments is a matter that has to be delineated. All directives of the system should become written materials that allow for an efficient flow of investments. Deadlines should be developed and instructions dispursed to successfully accomplish the deadline goals, thus enhancing investments. These written procedures or developed manuals will facilitate the cooperation between departments as well as provide an instrument for successful communications. Before any interdepartmental cooperation can be instigated, however, the effective investment system must first have the full belief and support of upper management. This support might be termed as a specific management criteria, that of proper attitude. The attitude of management can distinguish between a highly successful investment program and one of mediocrity. An awareness of the time value of money and the belief that proper investment is a prime asset of management tends to promote an efficient cash investment system. Thus, with a positive attitude by management toward cash investment and a distinguished organizational

²⁵ John Matzer, Jr., "Determining Cash Available for Investment," Speech before Municipal Finance Officers Association, 62nd Annual Conference, New Orleans, Louisiana (June 4, 1968), 2.

cooperation based upon precise written communications, the adoption of an idle fund investment program might be attained.

Higher education in fulfilling its role of efficient management of public funds experienced a set-back concerning investment practices. The University of Houston, through the procedure of "pyramiding" investments lost several millions of dollars of taxpayers money made up of student fees, bookstore revenues, and generated appropriations. This pyramiding process was explained as: an initial investment of perhaps one million dollars, minus a deposit of up to 5 percent was used as collateral for additional loans whose "paper" value could eventually reach many times the original sum.²⁶

Additional management practices were brought to light concerning the University of Houston's situation. The university had shoddy record-keeping practices which had made matters practically impossible to determine the investment portfolio of the institution. A bank account of which the university's investment officer had direct access was overdrawn at one point in time by approximately 17 million dollars. Due to the mismanagement, the university's revenue-bond ratings were suspended by Moody's Investor Service which rendered the institution's bonds unmarketable.²⁷

²⁶Robert L. Jacobson, "Investment Scandal Staggers University of Houston," The Chronicle of Higher Education, (January 9, 1978), 3.

²⁷Ibid., p.3.

Investment policies were being reviewed not only by Texas but also by other states in regard to sound practices and involvement by governing boards. The Texas legislature, which had shown a growing interest in controlling higher education, was expected to seek tighter regulation concerning fiscal practices. In addition, questions being considered were:

(1) What policies should guide colleges and universities in temporary investments and how conservative should these policies be established?

(2) Who should run the investment program, and to whom should that person be responsible?

(3) To what extent should top administrators and members of an institution's governing board get involved in investment decisions?²⁸

This concern can be seen in Tennessee as shown by an adopted investment policy of the State Board of Regents distributed to the participating institutions. This policy reads as follows:

BOARD OF REGENTS
STATE UNIVERSITY AND COMMUNITY COLLEGE SYSTEM OF TENNESSEE

POLICY ON THE DEPOSIT AND INVESTMENT OF FUNDS

A. INVESTMENTS

1. All funds which are received by an institution and which are available for a sufficient period of time for investment in any interest generating medium shall be invested by the institution as soon as possible, but in any event shall be invested within three (3) days after receipt of such funds.

2. Funds of the institution may be invested in a savings account or certificate of deposit of any bank or savings and loan association which meets the investment requirements of

²⁸Ibid., p. 3.

this policy, or in bonds, notes or treasury bills of the United States, bonds or obligations of any agency of the United States which are backed by the full faith and credit of the United States, or bonds or obligations guaranteed as to principal and interest by the United States or any of its agencies.

3. Funds may be invested in savings accounts or certificates of deposit of banks provided the banks meet collateral security requirements. Funds may be invested in savings accounts of savings and loan associations provided the collateral security requirements are met.

4. Each institution shall maintain information on the interest rates payable on all authorized mediums of investment; and funds shall be invested in those mediums paying the highest rate for the period of time for which the funds are available for investment.

5. All investments of funds in any authorized medium of investment where the period of investment will exceed thirty (30) days shall be determined on the basis of telephone bids, with appropriate records maintained for audit purposes, including the person obtaining the bids, the institutions which submitted bids, the amount and rate of return of each bid, and the person who approved the investment. Where more than one bid provides the highest rate of return available, investments should be made in such a manner that no one institution making one of the high bids receives a disproportionate amount of the investments on the basis of two or more equal bids over a reasonable period of time.²⁹

This investment policy was adopted September 29, 1978 and all banking institutions when dealing with the Board of Regents' institutions are governed by the terms of the policy under the requirements of Chapters Four and Five of Title 9 of the Tennessee Code Annotated, as amended. In addition, only the Chancellor of the State Board of Regents or his designee can approve exceptions to the requirements of the outlined investment policy. As related to the questions being considered by the Texas legislature, these banking policies show a great deal of involvement of higher administrators, thus assuring that

²⁹"Policy on the Deposit and Investment of Funds," (Nashville, Tennessee: The Tennessee State Board of Regents; State Board Print Shop, Winter, 1978).

adequate control is established to prevent mishaps such as that felt by the University of Houston.

III. INVESTMENT INSTRUMENTS

The University's investment officer must evaluate each investment opportunity in terms of risk, yield, liquidity, and legal restrictions. Since the investment procedures and requirements are usually established, the investment officer primarily focuses on the liquidity and yield factors of an appropriate investment. Basically, the yield is related to risk, because generally the higher the risk, most likely, the higher the yield. In a restricted atmosphere such as public investment requirements and restrictions for educational investments, the investment officer is limited to the degree of risk obtainable through specific legal requirements of governing boards. A protective device that is useful for lowering involved risk through investments is the procedure of investment diversification. This includes dealing with various banking institutions in an investment portfolio, and it also includes dealing in various types of investment instruments. The degree of risk associated with possible bankruptcy proceedings is held to a minimum through diversification practices. Collateral provisions as outlined in the policy presented by the Tennessee State Board of Regents enhances the safety of proposed investments thus reducing risk. The collateral requirement added to investment procedures is a highly beneficial restriction in terms of risk. This is shown by the fact that analysis and ratings of investment organizations such as Moody's and Standard and Poor's are not always accurate as risk indicators.

An example of a highly rated, commercial paper shortly before that organization filed for bankruptcy is Penn Central.

Yield as stated earlier is in close relationship to risk. Yield is provided by a percentage interest rate added to the cost of the investment instrument, or it is provided by a percentage discount of the face value or cost of the investment instrument. Either way the percentage increase or the yield is determined by supply and demand of funds along with risk, maturity and liquidity. The current economic conditions might alter the investment returns as the rates change along with the portfolio of the institution consisting of shorter or longer periods of maturity. When interest rates are higher for shorter term investments versus longer term investments, a negative yield curve exists, while the opposite is true resulting in a positive or normal yield curve. The watchful investment officer should constantly be aware of economic conditions and forecasts, thus making it possible for the university to obtain a maximum yield return on investments. A close working relationship with the various banks along with sources of information such as the Wall Street Journal and daily and weekly publications of security dealers and the Federal Reserve Banks should help guide the institution's investment officer in current economic trends and maximum investment possibilities. Since yield primarily governs the results of all the investment officer's attempts to adequately improve returns on temporarily idle funds, a close analyzation of all sources depicting economic forecasts and trends should be completed and kept up-to-date by a conscientious investment officer.

Two other factors to be evaluated concerning investment opportunities were those of liquidity and legal restrictions. Liquidity is based upon the marketability of an investment instrument. This allows the investment officer to obtain needed cash for expenditure purposes and allows for an extended ability to cash in investments to obtain higher returns on other investments. The investment officer should not trade a well prepared cash flow for liquid investment practices. A reason not to continuously invest in liquid instrument is, because even though risk is reduced, the yield is usually relatively lowered. The investment officer should make a careful analysis of the past cash flow trends to enable the establishment of a sufficient level of liquid investments to ensure against the development of emergency needs of cash.

Legal restrictions could become more apparent due to recent results of investment investigations such as that of the University of Houston. Governing boards, however, should constantly be made aware of any restrictions impeding efficient investment practices. Legal restrictions are usually administered at a broader level such as those stated earlier by the Tennessee State Board of Regents. Other restrictions, however, become apparent to the investment officer as he becomes more familiar with the local banking institutions. These restrictions are usually felt through the political pressure of in-state and even local banks to prevent the practice of obtaining investments out-of-state.

A study performed by Leonard H. Haag in his book, Cash Management and Short-Term Investments for College and Universities, obtained a response from 206 four-year institutions with an enrollment of at

least 1,000 students. This study noted that 50 percent of the institutions had less than five sources for certificate of deposit investments, which seemed to indicate that pressure to invest locally and legal restrictions against investing out-of-state were probably handicapping the investment programs at many institutions. In addition, the study indicated that over 75 percent of replying institutions did not invest with out-of-state banks. Also, it should be noted that investment decisions were admittedly affected by local politics at over 29 percent of the institutions and that nearly one-third of the institutions did not have a board-approved investment policy.³⁰ Since many investment opportunities are available in the short-term investment market, the following listing and analysis of investment instruments depicts those that are commonly available and used by educational institutions.

Certificate of Deposit, Primary and Secondary

In 1961, commercial banks began issuing interest-bearing time certificates of deposit in negotiable form. These certificates were first developed by the large New York City banks to attract short-term corporate funds that were being invested in various short-term money market instruments. Wide acceptance was gained basically because the yields were competitive and the marketability was good through the secondary markets.³¹

³⁰Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), p. 77.

³¹Roger W. Hill, Jr., Cash Management Techniques (New York: American Management Association, Inc., 1970), p. 46.

Certificates of deposit are recognized as one of the safest places that money can be invested while providing competitive returns. The market is being tapped by the middle-income savers through the use of money-funds, a mutual pooling of savers' funds in small denominations combined to reach the \$100,000 investment point. In mid-summer 1978, this technique was paying around 7 percent.³²

In a recent study by Leonard H. Haag, 96 percent of the 206 replying educational institutions stated that they used bank certificates of deposit for short-term investments. This study showed that this proportion was over 30 percent higher than for treasury bills, in spite of the fact that treasury bills were the short-term investment securities having the largest volume.³³

Certificates of deposit are generally issued for a sum of \$100,000 for a minimum of 30 days. The investor, however, can specify any maturity date beyond the minimum. This allows the university the flexibility of coordinating investments with projected cash needs. The investor should be careful while committing funds because through an emergency liquidation process, a possible three-months interest could be forfeited. This withdrawal condition, along with other governing rules concerning certificates of deposit, is found under the Federal Reserve System's Regulation Q, under the Banking Act of 1933.

³²Barbara Gilder Quint, "Seven Places to Leave Your Money That Pay You More Than Savings Accounts," Family Circle, (October 23, 1978), 114.

³³Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), p. 78.

The investing university should obtain a wide base of banking sources for acquiring competitive pricing on investment rates. This allows the university the privilege of obtaining higher rates where the demand for certificates of deposit is great. The investment officer after stating the principal amount and desired maturity, should obtain the investment rate and then proceed to arrange for a delivery and payment method.

Savings Account or Savings Deposit Receipt

Savings accounts and savings deposit receipts, SDR's, are governed under the same banking regulation, Regulation Q. These instruments are used to keep all additional small amounts of monies in the investment portfolio at a maximum investment point. Withdrawals are made at any time without prior notification, and interest is earned on a daily basis. Savings accounts and SDR's are the least sophisticated forms of short-term investments, and they enable a university to invest small amounts that could not otherwise be used to earn money. A good working relationship should be maintained with the bank by not using these instruments to maintain a perfect investment portfolio through daily withdrawals. An aggressive investment program, however, should make proper use of these instruments to allow for a maximum return on idle funds.

Treasury Bills, Primary and Secondary

Treasury bills provide the highest-quality market instrument for investment because of the Government's ability to repay its obligations through taxation or new money printing. Bills are sold at a discount

from their face value; the stated value is returned at maturity, and the difference represents the return to the investor.³⁴

Bills are being issued with maturity of 91, 182, 270 and 365 days in denominations of \$10,000, \$100,000, \$500,000, and \$1,000,000. They have a maximum liquidity, with a receptive secondary market.³⁵ As of August, 1977, there were 39 maturities outstanding, totalling \$154.2 billion.³⁶ Thus, the secondary market is provided substantial treasury bills that enables the university a possible secure investment opportunity. Proposed bids can be forwarded directly to the nearest Federal Reserve bank or placed through a local banking establishment.

Treasury Notes and Bonds, Primary and Secondary

Treasury notes and bonds, although they do not have the same broad market acceptance as do treasury bills, have the same high credit protection.³⁷ Treasury bonds, having a maturity of more than five years, are used as short-term investment possibilities only in the secondary

³⁴Roger W. Hill, Jr., Cash Management Techniques (New York: American Management Association, Inc., 1970), p. 44.

³⁵John A. Jones and S. Kenneth Howard, Investment of Idle Funds by Local Governments: A Primer (Chicago, Illinois: Municipal Finance Officers Association of the United States and Canada, 1973), p. 18.

³⁶Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), p. 86.

³⁷Roger W. Hill, Jr., Cash Management Techniques (New York: American Management Associates, Inc., 1970), p. 45.

market. Like treasury bills, notes and bonds, when achieving relatively short maturities, notes and bonds, with a broad secondary market available, have near maximum liquidity.³⁸

Government Agencies

Federally-sponsored agencies such as the Federal Land Bank, the Federal Home Loan Bank, the Bank for Cooperatives, the Federal Intermediate Credit Bank, and the Federal National Mortgage Association, are also empowered to issue securities to support their operations. Yield is likely to be fairly good because of lower marketability as compared to treasury securities with similar maturities.³⁹

The United States Government does not guarantee payment of interest and principal on these securities. Since these agencies are created and supervised by the government, however, there is no real risk, and liquidity is excellent. Agency issues have a solid secondary market and are traded in a manner similar to treasury securities. In December, 1976, the U.S. Treasury announced the first sale of treasury bills in book-entry form. As of September, 1977, all treasury bills were being sold in book-entry form. Under this system, securities are no longer issued, but only a receipt indicating ownership on the Treasury's books is distributed. Eventually, all U.S. Treasury

³⁸ John A. Jones and S. Kenneth Howard, Investment of Idle Funds by Local Government: A Primer (Chicago, Illinois: Municipal Finance Officers Association of the United States and Canada, 1973), p. 19.

³⁹ Roger W. Hill, Jr., Cash Management Techniques (New York: American Management Association, Inc., 1970), p. 45.

securities will be sold under this method, which is expected to reduce costs and protect against loss, theft, and counterfeiting.⁴⁰

Banker's Acceptance

A banker's acceptance is a time bill of exchange or time draft drawn to cover the shipment and/or storage of goods. It is a financing document during the shipping or storage period. This document is converted into a negotiable money market instrument in a manner that makes it as one of the more risk-free short-term investments. This method of financing merchandise shipments was used in Europe before modern times and its use in the United States predates the Civil War. In the modern history of banker's acceptance, it is claimed that there has been no known cases of loss of principal to investors in nearly 60 years.⁴¹

Haag's study indicated that banker's acceptance is one of the least-used short-term investments used by universities. In addition, as of June, 1977, the outstanding volume of acceptances was approximately one-third the volume of money market certificates of deposit.⁴² This seems to point out that university investment officers should become aware of these instruments to avoid the possible loss of excellent returns.

⁴⁰Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), p. 91.

⁴¹Ibid., p. 92.

⁴²Ibid., p. 94.

Commercial Paper, Dealer-Industrial and Direct Issue

Commercial Paper, when sold by finance companies or direct by a company should be understood as to the involved risk. The returns related directly to the strength of the issuer. Direct issue is made by holding companies of major banks, automobile manufacturers, and appliance manufacturers. Dealer-industrial is established when promissory notes are resold by dealer organizations to investors.

Ratings by Standard and Poor's and Moody's should guide the investment officer in terms of associated risk involved. Commercial paper could be restricted from use by some public institutions through applicable legal restrictions concerning properly secured principal and interest.

Repurchase Agreements

Repos are basically the selling of a money-market instrument, such as a treasury bill, to a buyer, and at the same instance the seller agrees to buy back the instrument at a specified later date at a specified return rate. Repos provide the investment officer with a method of obtaining excellent yields on excess funds while allowing a maximum tailored time length for an efficient investment portfolio.

Advantages of the repurchase agreement for the institutional investor are summarized as follows:

- (1) This is one of the lowest-risk short-term investments.
- (2) Maturities are short and tailored to the investor's exact need.
- (3) There is absolutely no market risk from rate fluctuation

which could adversely affect other investments sold before maturity in order to realize short-term liquidity.

(4) A repo can be an ideal temporary investment until firm plans for longer-term investments can be made.⁴³

The investment officer, while familiarizing himself with all the available investment instruments should include, as a primary duty, that of developing a variety of investment sources that enable the best returns. In addition, the investment officer should know all other investment officers at other universities to allow for a never-faulting path of advice concerning matters affecting on-going investment portfolios.

IV. CASH FLOW MODELS

In business, two distinct systems are used for preparing cash forecasts; those are (1) the adjusted net income method, and (2) the cash receipts and disbursements method. The former uses budget forecasts for six to twelve months or more. Budgeted sales less expenses produces expected net income. When non-cash costs are added back, a cash forecast results; however, this is a long-range forecast that reveals only a balance or shortage of cash at the end of the period. This might be useful in business for various purposes such as capital financing, inventory control, and accounts receivable financing, but this is not the type of forecast that is helpful to an educational institution in the management of working capital and in short-term

⁴³Ibid., p. 100.

investment planning. Rather, what is needed is a day-by-day, or at least a week-by-week, projection of inflow and outflow of cash with continuous daily or weekly knowledge of cash balances. It is only by knowing, before the fact, how much cash will be on hand each day that a college investment officer can effectively plan short-term investments.⁴⁴

Haag, in his book Cash Management and Short-Term Investments for Colleges and Universities, recommended the method of cash forecasting referred to as the cash receipts and disbursements or the cash flow method. His proposed cash flow model entails the following projection basics:

- (1) Expected cash receipts.
- (2) Planned disbursements.
- (3) Investments to be made, matured, and used.

Lordan stated, "A good receipts and disbursements forecast is the most basic working tool of corporate cash management."⁴⁵ Haag further explained what a good receipt and disbursement forecast is made of:

Although there are certain peculiarities in forecasting cash receipts and cash disbursements at each institution, the main receipt and disbursement categories have common characteristics at all educational institutions. Under receipts should be considered forecasts of tuition and fee income, room and board payments, bookstore sales, gifts, grants and other governmental payments, and miscellaneous receipts. Disbursement projections must cover payrolls, payroll deductions and

⁴⁴Ibid., p. 48.

⁴⁵James F. Lordan, The Banking Side of Corporate Cash Management (Boston: Financial Publishing Company, 1973), p. 3.

payroll taxes, utility payments, book purchases, food or food service contract payments, student refunds, loan disbursements, and payments of miscellaneous supplies.⁴⁶

Hill emphasized the importance of accurate forecasts by stating:

To the corporate financial officer, intent on careful cash management, cash forecasts are a necessity; the effectiveness of his management will be greatly influenced by the accuracy and dependability of the forecasts.⁴⁷

Hill further emphasized that the cash receipt and disbursement method has a distinct advantage over the adjusted net income method in that: "The cash receipts and disbursement method is more helpful in the day-to-day control of cash."⁴⁸

Although this is a strong advantage and tremendously applicable to the educational institutions, Hill pointed out:

A more significant limitation to the forecast is the fact that a receipts and disbursements approach cannot indicate the small, steady changes that may be taking place in the inventory or receivables balance. A subtle increase in inventory or receivables that does not stand out in the forecast may result in a substantial decrease in cash over a longer period of time, say, six months or a year.⁴⁹

Another disadvantage might be seen if cash forecasting procedures did not allocate a true line of responsibilities, rules for revisions,

⁴⁶Leonard H. Haag, Cash Management and Short-Term Investments for Colleges and Universities (Washington, D.C.: National Association of College and University Business Officers, 1977), p. 49.

⁴⁷Roger W. Hill, Jr., Cash Management Techniques (New York: American Management Association, Inc., 1970), p. 11.

⁴⁸Ibid., p. 13.

⁴⁹Ibid., p. 17.

administrative guidelines, and channels of communication for important feedback. This can be seen, for example: a forecast of payments on accounts payable is based on a set of rules for the payment schedule which specifies exactly all discounts, when and how. As a result, the payment schedule is determined automatically and is no longer subject to joint consideration with the investment officer. The same applies to forecasts in procurement and grant operations.

A cash management optimization model that applies to monetary theory was explored by Baumol.⁵⁰ His model explains cash as an inventory item which flows out at a constant rate and is restocked instantaneously by withdrawing an investment. Total cash outflows are known and made at a constant rate over a given time period. This model is based on the assumption that there is no cash receipts during the payment period. In addition, the model is static, i.e., it does not consider the interrelationships between subsequent time periods and is limited to the interval between two successive cash receipts. This limitation is recognized by Baumol when he suggests that it is an oversimplification of reality.⁵¹

Baumol's model does not provide an applicable tool for cash management by business firms. More refined versions, however, have

⁵⁰W.J. Baumol, "The Transaction Demand for Cash: An Inventory Theoretic Approach," Quarterly Journal of Economics, Vol. LXVI, No. IV (November, 1952), 553.

⁵¹Ibid., p. 553.

been developed subject to a similar set of restrictive assumptions such as the Baumol-Tobin model.⁵²

In a report submitted by Dr. Harry L. Johnson, "Impact of Investment of State Funds Upon Money and Capital Markets and Economy Within a State: A Study of Tennessee," the Baumol-Tobin model was considered as follows:

A firm will hold two types of assets:

(1) Earning assets of a short-term nature, hopefully earning interest daily, and

(2) A cash balance which is non-interest bearing.

Transfer between the two assets is a function of the outflow schedule of funds, the transfer cost, and any opportunity costs associated with holding funds in either form. Optimal cash management involves the investment of receipts in earning assets accompanied by a transfer of these funds into the cash accounts as the funds are needed to meet the demands for cash outflow. The objective function of the firm indicates a desire to maximize interest earnings on funds held for transaction purposes subject to the constraint that there be no shortage of cash for current obligations.⁵³

Other extensions of the Baumol model are:

1. Patinkin's model has the objective of determining the optimal cash balance at the beginning of each period so that the probability of a shortage is minimized. But, this model is based upon assumptions that also limit its applicability. For example, it is assumed that net cash flows in each period are equal to zero, that cash flows are uncontrollable

⁵²J. Tobin, "The Interest Elasticity of Transactions Demand for Cash," Review of Economics and Statistics, Vol. XXXVIII, No. III (August, 1956), 241-247.

⁵³Harry L. Johnson, "Impact of Investment of State Funds Upon Money and Capital Markets and Economy Within a State: A Study of Tennessee," A Report for the State of Tennessee (Knoxville, Tennessee: The University of Tennessee, 1971), 3.

by a financial executive, and that all transactions between cash and other assets take place at the beginning of each period.⁵⁴

2. Miller and Orr developed a model that assumes that net cash flows fluctuate in a completely stochastic manner as opposed to the deterministic cash outflows in Baumol's model. The model, however, with the underlying assumption that cash flows are completely stochastic overlooks the financial executive's control of various cash flows and the predictability of short-term cash flows with a high degree of accuracy.⁵⁵

These models are questionable as to their real applicability toward true cash management, and these cash-flow models do not provide an adequate tool for most business firms.⁵⁶ Even so, the basics of these cash management models do provide recognition and reasonable solutions to problems which have to be considered in the development of any interrelated approach to cash flow methodology.

This particular study entailed the cash flow analyzation model as developed by John A. Jones and S. Kenneth Howard in their book, Investment of Idle Funds by Local Governments: A Primer. The cash flow

⁵⁴D. Patinkin, Money, Interest, and Prices, (Evanston, Illinois: Row, Peterson, and Company, 1956), pp. 86-95 and 327-332.

⁵⁵H. Miller and D. Orr, "A Model of the Demand for Money by Firms," Quarterly Journal of Economics, Vol. LXXX, No. III (August, 1966), 413-435.

⁵⁶Y.E. Orgler, "Joint Demand and Time Deposits: An Application of Inventory Control," The National Banking Review, Vol. IV, No. I (September, 1966), 73-80.

analyzation steps developed by their model were derived from the book, Treasury Cash Management and Investment of Idle Funds, by S.M. Roberts and D.G. Gill.⁵⁷ This model included the following basic steps:

1. Determine the pattern of cash flow in and out of the treasury and analyze bank balances for a long enough time period to indicate any normal cyclical patterns and identify the normal peaks and low points in balances.

2. Break down receipts and disbursements into their components. The detail of the breakdown and the time covered (daily, monthly, quarterly) will have to vary with the size of the unit. Receipts probably should be separated by major source groups and disbursements by major object classes such as payroll, fixed expenses, and auxiliaries. Major revenues would include grants, intergovernmental transfers, fines, rentals, and fees. The breakdown probably should be done by individual major funds while smaller funds showing little fluctuation need not be examined closely.

3. Chart the data obtained in steps 1 and 2 to clearly show the cyclical trends in receipts and disbursements. Charting or graphing quickly points out seasonal fluctuations and affords ready comparisons over a three-year period for any given income source or category of expenditures.

⁵⁷S.M. Roberts and D.G. Gill, Treasury Cash Management and Investment of Idle Funds (Berkeley, California: League of California Cities, April, 1956), pp. 4-7.

These procedures should apply mostly to disbursements. Departments making large payments for goods and services should be expected to provide forecasts of cash needs so that the investment officer can predict with accuracy both the timing and magnitude of anticipated disbursements.⁵⁸

With this model, this study developed a highly sophisticated procedure which shows how an investment officer can:

1. Use previous years' cash-flow data in identifying cyclical trends and deviations that might influence future projections of cash flows.
2. Derive a measure of the maximum potential investment.
3. Compare the maximum potential investment with the actual investment to help evaluate the effectiveness of the investment program.
4. Use this analysis and comparison in projecting future cash flows and making investment plans.

This study also entailed:

1. Tabulating and plotting past revenues and disbursements (cash flows) in order to show any seasonal cycles and to point out extraordinary fluctuations.
2. Using the preceding year's actual figures to calculate:
 - a. Maximum potential investment.
 - b. Actual investment.

⁵⁸ John A. Jones and S. Kenneth Howard, Investment of Idle Funds by Local Government: A Primer (Chicago, Illinois: Municipal Finance Officers Association of the United States and Canada, 1973), pp. 9-10.

c. The ratio between actual and maximum potential investment.⁵⁹

⁵⁹Ibid., p. 25.

CHAPTER III

METHODOLOGY, PRESENTATION AND DISCUSSION OF THE DATA

I. INTRODUCTION

The purpose of Chapter III was to explain the methodology used in obtaining the raw data used in formalizing, presenting and discussing the information relative to this study. The analysis was presented in the following organizational framework:

1. The population was reviewed concerning acquired investment income compared to total revenues during the fiscal year 1976-1977.
2. The data were presented through the use of the cash flow analyzation model as developed by John A. Jones and S. Kenneth Howard in their book, Investment of Idle Funds by Local Governments: A Primer.
3. Methodologies for the creation of more available funds to enhance the cash flow possibilities were then reviewed. The investment areas that were analyzed were:
 - (a) compensating bank balance
 - (b) accounts payable
 - (c) grants
4. The increase in cash flow was then compared to the investment return as developed through the cash-flow model of Jones and Howard. This procedure enabled the development of a projected investment return for all of the universities reviewed in this study.

II. THE POPULATION

Included in this study were the four-year universities of the Tennessee State Board of Regents' system. The population consisted of: Austin Peay State University, East Tennessee State University, Memphis State University, Middle Tennessee State University, Tennessee State University, and Tennessee Technological University.

The total investment income earned on the base fiscal year used in this study, 1976-1977, as compared to the total revenues of the population universities, is outlined in Table 1. The investment income for each university was used as the base earnings of which the projected earnings were compared.

III. DATA COLLECTION AND ANALYSIS

Tennessee Technological University was the University used for the gathering of a daily cash flow of revenues and expenditures from cash receipt journals and check registers. The fiscal years 1975-76, 1976-77, and 1977-78 were the periods analyzed in this study. The fiscal year 1976-77 was chosen as the base period for the development of a projected investment plan. This particular fiscal year, a middle-point year, allowed a more accurate trend comparison by leveling any high or low peaks of the other two fiscal years, 1975-1976 and 1977-1978. The total raw data are presented in the appendices. The data were collected for daily three-year period comparing revenues to expenditures.

TABLE 1

A COMPARISON OF INVESTMENT INCOMES AND TOTAL REVENUES OF THE
FOUR-YEAR UNIVERSITIES OF THE TENNESSEE STATE BOARD OF REGENTS

University	Investment Income	Total Revenue
Austin Peay State University	\$ 55,411.60	\$ 9,612,058.87
East Tennessee State University	284,881.06	26,046,432.94
Memphis State University	726,945.28	49,692,529.67
Middle Tennessee State University	233,186.26	24,458,255.47
Tennessee State University	51,315.98	23,412,452.73
Tennessee Technological University	242,440.93	20,655,864.69
Tennessee Technological University (1975-1976)	196,994.48	18,773,205.67
Tennessee Technological University (1977-1978)	311,071.41	22,780,769.84

IV. PRESENTATION AND DISCUSSION OF THE DATA

In the financial data gathered from Tennessee Technological University, as shown in the appendices, daily accumulative revenue amounts and daily accumulative expenditure amounts for each of the three fiscal years were maintained. Accumulative surplus amounts were obtained on a daily basis by adding daily accumulative revenues to daily accumulative expenditures. The accumulative surplus amounts represented the amount of idle funds available for investment. During the three fiscal years, 1975-1976, 1976-1977, and 1977-1978, the accumulative surplus amounts were sub-totaled on a monthly basis and then totaled for each of the three fiscal years. As shown in the appendices, each year-end total accumulative surplus amount was:

1975-1976 = \$1,642,101,688

1976-1977 = \$1,862,014,620

1977-1978 = \$2,334,910,159

The fiscal year 1976-1977 was chosen as the base fiscal year for this study. This particular year allowed for a two-year time lapse for future investment projections. Thus, the 1976-1977 fiscal year was used as the base year for projecting investment for the future investment year of 1978-1979. Through the use of a mid-point year, 1976-1977, the trends of the adjoining two fiscal years allowed for a comparison of the high and low peaks, thus assuring that there was not an over extension of the true possible investment portfolio.

Accumulative revenues for Tennessee Technological University for the fiscal years 1975-1976, 1976-1977, and 1977-1978 were then plotted

on Figure 1 to show the appropriate cycles. As shown in Table 2, the accumulative revenues in Figure 1 for the three fiscal years were plotted on a bi-monthly basis during the first and fifteenth of each month. The accumulative revenues in Figure 1 were plotted per millions of dollars of revenues obtained during each fiscal year. As shown in Figure 1, no extraordinary fluctuation was seen in any of the three fiscal years. Through this graphical procedure, it was found that no fluctuation in the total revenues appeared which would hinder the development of a future cash flow projection.

Accumulative expenditures for the three fiscal years were plotted in the same manner as accumulative revenues and are shown in Figure 2. As shown in Table 3, the accumulative expenditures in Figure 2 for the three fiscal years were plotted on a bi-monthly basis during the first and fifteenth of each month. Again, as shown in Figure 2, no extraordinary fluctuation was observed for any of the three fiscal years. Thus, no hindrance to the development of a future cash flow projection could be acknowledged.

While analyzing the plotted trends in both Figure 1 and Figure 2, it was determined that no fluctuation existed. If the cyclical trends, however, had indicated one-time happenings that would not have been anticipated for future projected years, these particular periods of high revenue and/or expenditure activity would have to be analyzed. If it was determined that a particular level of activity was detrimental to the efficiency of any given department, revenue or expenditure patterns could be arranged to suit the abilities of that department in a positive

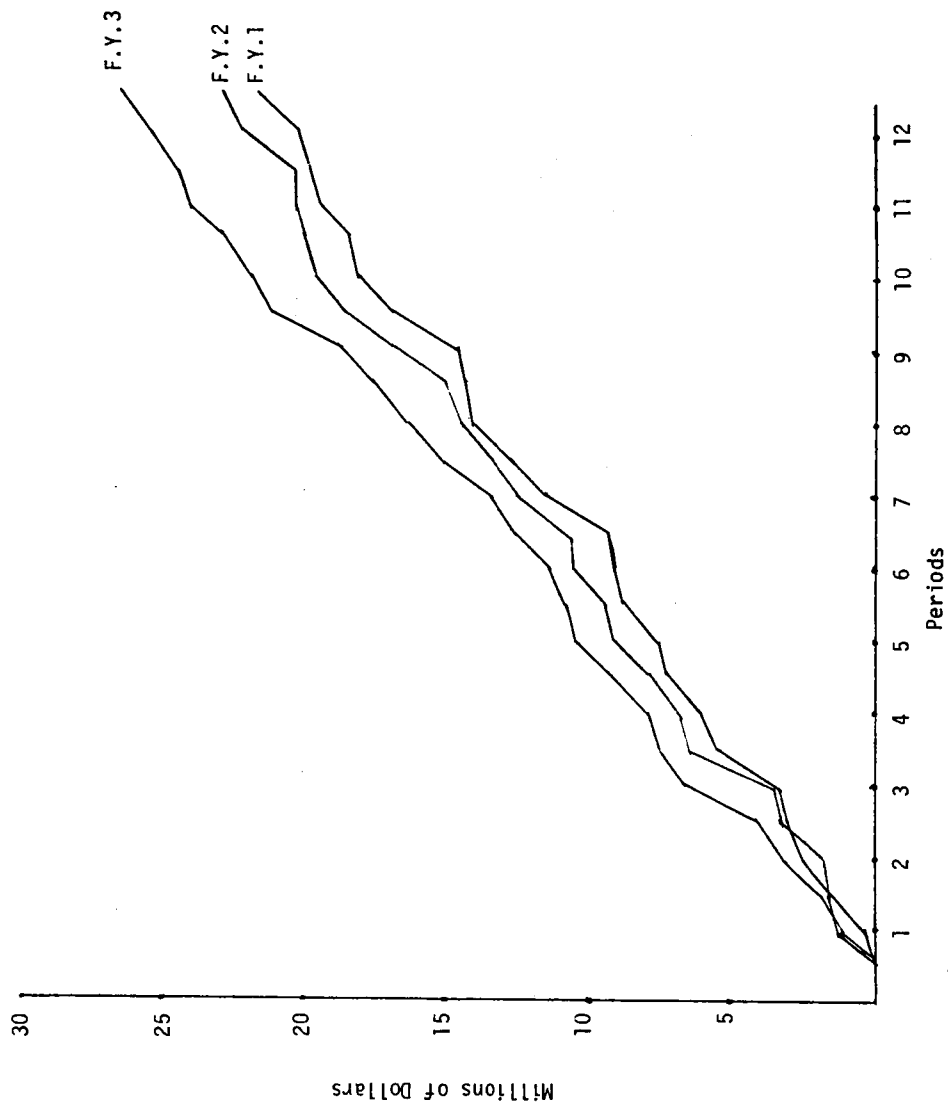


Figure 1. Accumulative Revenues Tennessee Technological University Fiscal Years 1975-1976, 1976-1977, 1977-1978.

TABLE 2

ACCUMULATIVE REVENUES (1st and 15th)
 TENNESSEE TECHNOLOGICAL UNIVERSITY
 FISCAL YEARS 1975-1976, 1976-1977, 1977-1978

	FY1	FY2	FY3
July	28,929 221,752	33,788 1,301,728	10,743 219,211
August	1,552,119 2,471,817	1,577,227 1,755,984	1,715,634 3,115,807
September	3,029,159 3,149,926	3,049,037 3,281,017	4,040,878 6,684,714
October	5,636,413 6,064,645	6,505,177 6,845,251	7,463,541 7,809,929
November	7,144,860 7,458,430	7,994,261 9,121,052	9,143,535 10,420,250
December	8,822,371 9,052,238	9,453,915 10,497,884	10,718,457 11,241,419
January	9,165,304 11,560,396	10,562,639 12,499,619	12,585,387 14,515,459
February	12,794,997 14,012,586	13,317,541 14,418,620	15,010,789 16,279,927
March	14,333,566 14,634,250	15,070,176 16,994,110	17,557,738 18,857,244
April	16,924,324 18,014,104	18,836,832 19,764,019	21,150,952 21,956,140
May	18,369,965 19,469,973	20,017,381 20,331,275	22,934,000 24,008,230
June	19,789,466 20,085,484 21,660,388	21,356,229 22,199,444 23,000,114	24,488,413 25,269,593 26,389,115

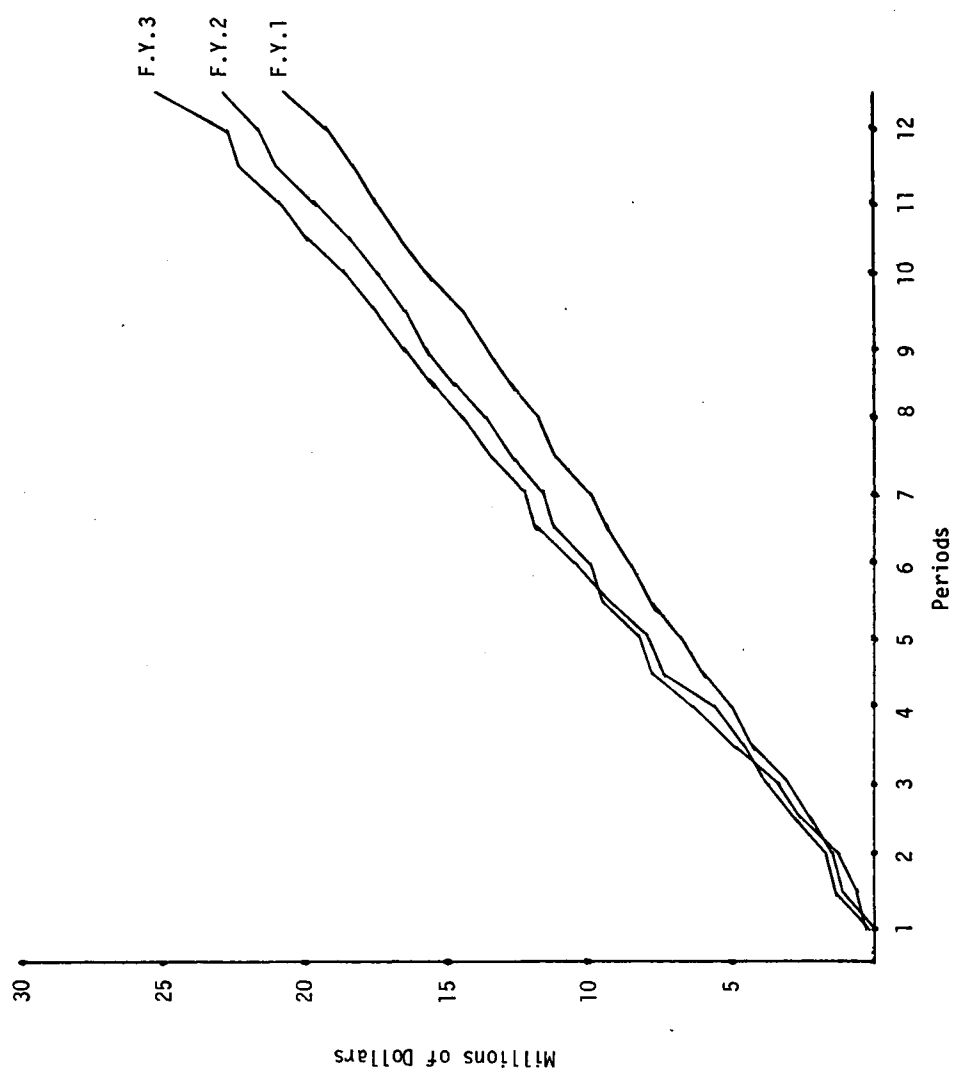


Figure 2. Accumulative Expenditures Tennessee Technological University Fiscal Years 1975-1976, 1976-1977, 1977-1978.

TABLE 3

ACCUMULATIVE EXPENDITURES (1st and 15th)
 TENNESSEE TECHNOLOGICAL UNIVERSITY
 FISCAL YEARS 1975-1976, 1976-1977, 1977-1978

	FY1	FY2	FY3
July	-0- 27,808	-0- 175,048	-0- 132,861
August	1,045,658 1,473,042	652,949 1,350,339	1,332,177 1,721,705
September	2,229,082 3,023,080	2,448,506 3,325,381	2,747,645 3,737,994
October	4,446,596 4,935,831	4,791,773 6,236,579	4,696,730 5,690,471
November	5,987,186 6,710,861	7,709,083 8,154,979	7,367,023 7,934,160
December	7,896,047 8,432,939	9,396,774 9,931,546	9,116,194 10,353,468
January	9,466,953 9,894,552	11,184,301 11,469,812	11,652,243 12,024,437
February	11,185,064 11,727,890	12,528,351 13,536,586	13,230,648 14,263,403
March	12,844,863 13,441,691	14,696,114 15,606,390	15,333,135 16,485,307
April	14,422,957 15,661,414	16,387,077 17,264,186	17,468,671 18,656,326
May	16,572,114 17,448,055	18,397,785 19,646,057	19,886,435 20,763,428
June	18,250,301 19,058,739 20,742,318	20,906,834 21,491,021 22,890,855	22,036,238 22,774,986 25,045,174

manner. If accumulative revenues were exceeded by accumulative expenditures during any period of the fiscal year, patterns could be rearranged to receive revenues earlier, thus avoiding the possibility of having to liquidate investments earlier than expected. Also, it was advantageous, from an investment point-of-view, to have received as large a percentage of revenues as early in the fiscal years as possible and to delay large disbursements until the latter part of the years so that interest income from the investment of surplus funds could be maximized.

Accumulative revenues and expenditures were plotted in Figure 3 for the base fiscal year 1976-1977. The amount of surplus funds available is illustrated by the gap that developed between the plotted data. This data display provides the basis for comparing maximum potential investment with actual investment. The area of space between accumulated revenues and accumulated expenditures as shown in Figure 3, represents the maximum amount that might be invested during the fiscal year 1976-1977. Since the vertical axis of the graph is measured in dollars and the horizontal axis in days, the area is measured in dollar days. A dollar day is one dollar available for one day. The total available dollar days for fiscal year 1976-1977 was 1,862,014,620, as shown on the total column of the daily data for accumulative surplus.

With the data as generated it was then possible to propose a practical method for calculating the dollar days of actual investment and, more important, for planning an investment program. The actual accumulated surplus for fiscal year 1976-1977 is plotted on Figure 4, per the graphical points in Table 4. This particular chart, once

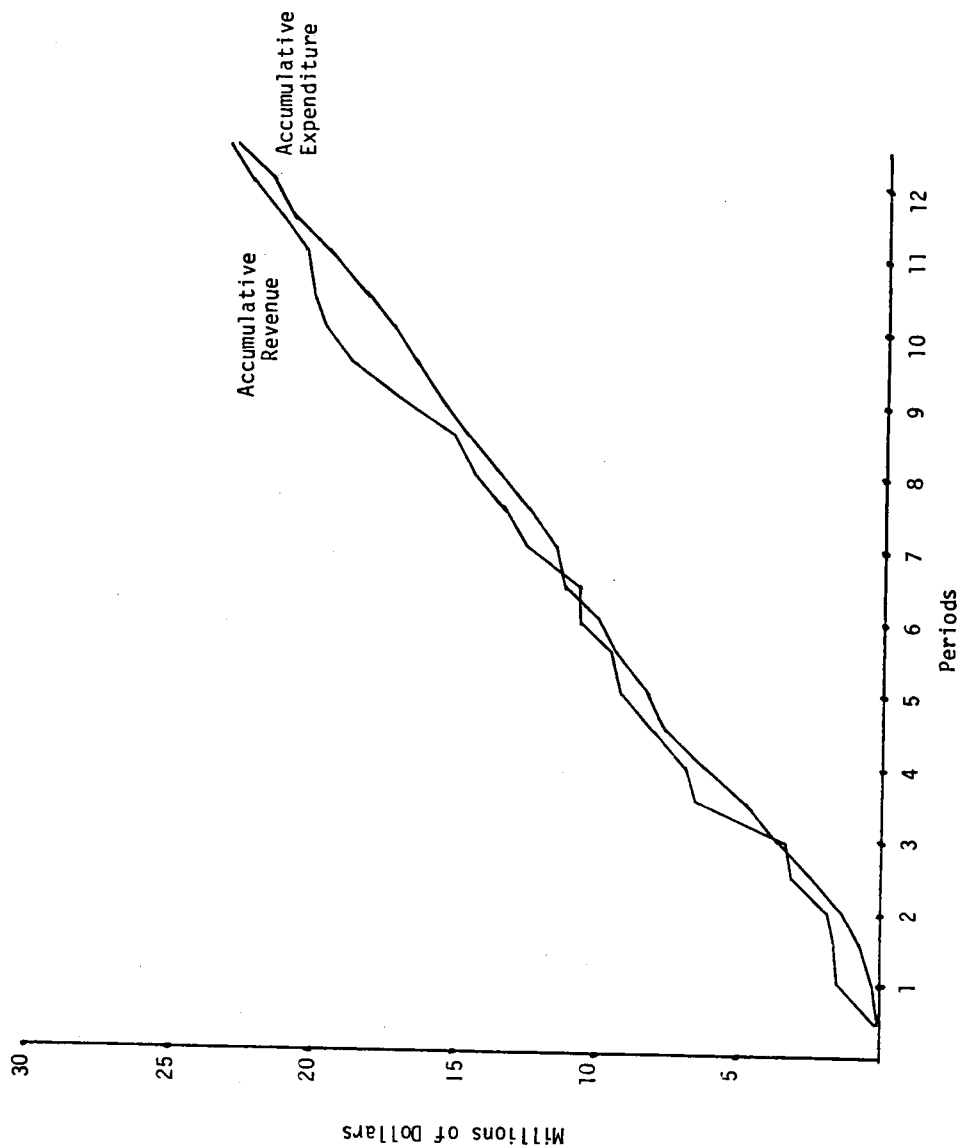


Figure 3. Accumulative Revenues and Expenditures
Tennessee Technological University Fiscal Year 1976-1977.

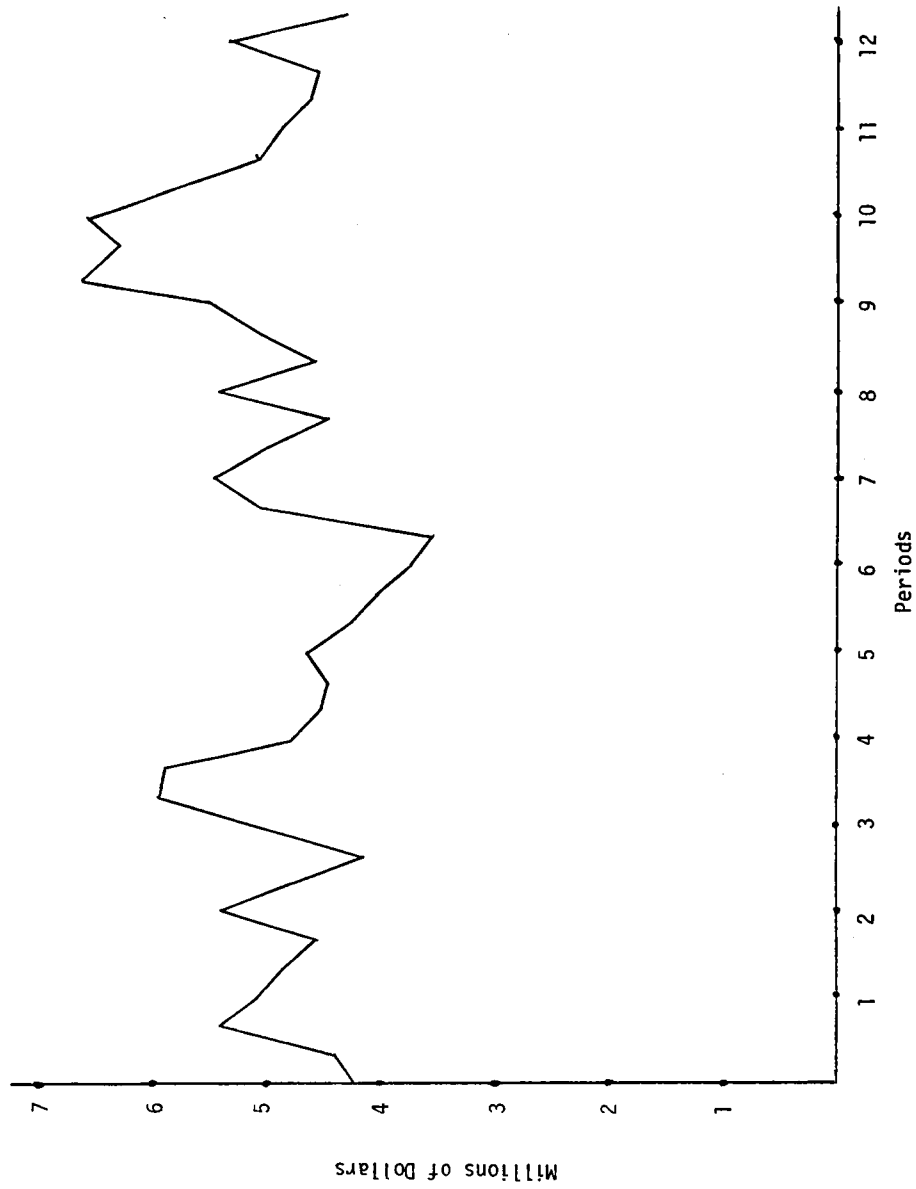


Figure 4. Accumulative Surplus Tennessee Technological University Fiscal Year 1976-1977.

TABLE 4
ACCUMULATIVE SURPLUS
TENNESSEE TECHNOLOGICAL UNIVERSITY
FISCAL YEAR 1976-1977

	Beginning: Period 1	4,257,918 Period 2	Ending: 4,333,389 Period 3
July, 1976	4,387,048	5,441,254	5,148,408
August	4,842,039	4,668,670	5,482,698
September	4,824,661	4,215,819	5,098,894
October	5,937,534	5,870,508	4,803,373
November	4,509,308	4,487,299	5,168,386
December	4,281,271	4,022,999	3,752,681
January	3,602,468	5,091,628	5,487,555
February	5,013,320	4,452,017	5,385,212
March	4,598,192	5,077,560	5,495,393
April	6,673,885	6,300,997	6,628,549
May	5,843,726	5,075,525	4,836,544
June	4,673,525	4,525,633	5,347,197

prepared, allows for the planning of a practical investment program. Again, it should be noted that fiscal year 1976-1977 was chosen to represent the projected investment portfolio to assume the avoidance of over extended investments for the projected 1978-1979 fiscal year. This particular method allows for a two-year inflationary period. Once an established trend is developed over an eight to ten year period, a projected inflationary trend can be determined as a multiplier to allow for even a more accurate investment portfolio. In this study, it was assumed that: (1) the raw data as gathered for fiscal year 1976-1977 represented projected revenues and expenditures for fiscal year 1978-1979; (2) charts based upon these figures were assumed to be projected figures, and the graphs were based upon anticipated revenues and expenditures; and (3) 1,862,014,620 dollar days was the maximum potential investment projected for the fiscal year 1978-1979.

Figure 4 (p. 54) is shown in an expanded manner as depicted by Figure 5. This allows for a more precise graphical representation of the projected data. The importance of this diagram becomes apparent with closer observation. When a horizontal line is drawn from point A to point B, it can be seen that a dollar amount of \$3,500,000 can be invested throughout the entire fiscal year period, 365 days. This particular investment, if yielding the average investment return, $5\frac{1}{2}$ percent during fiscal year 1976-1977, would yield \$192,500 investment income. This can be obtained by multiplying \$3.5 million times 12 months (1.0) times $5\frac{1}{2}$ percent. A second investment projection can be made by drawing a horizontal line from point C to point D. This

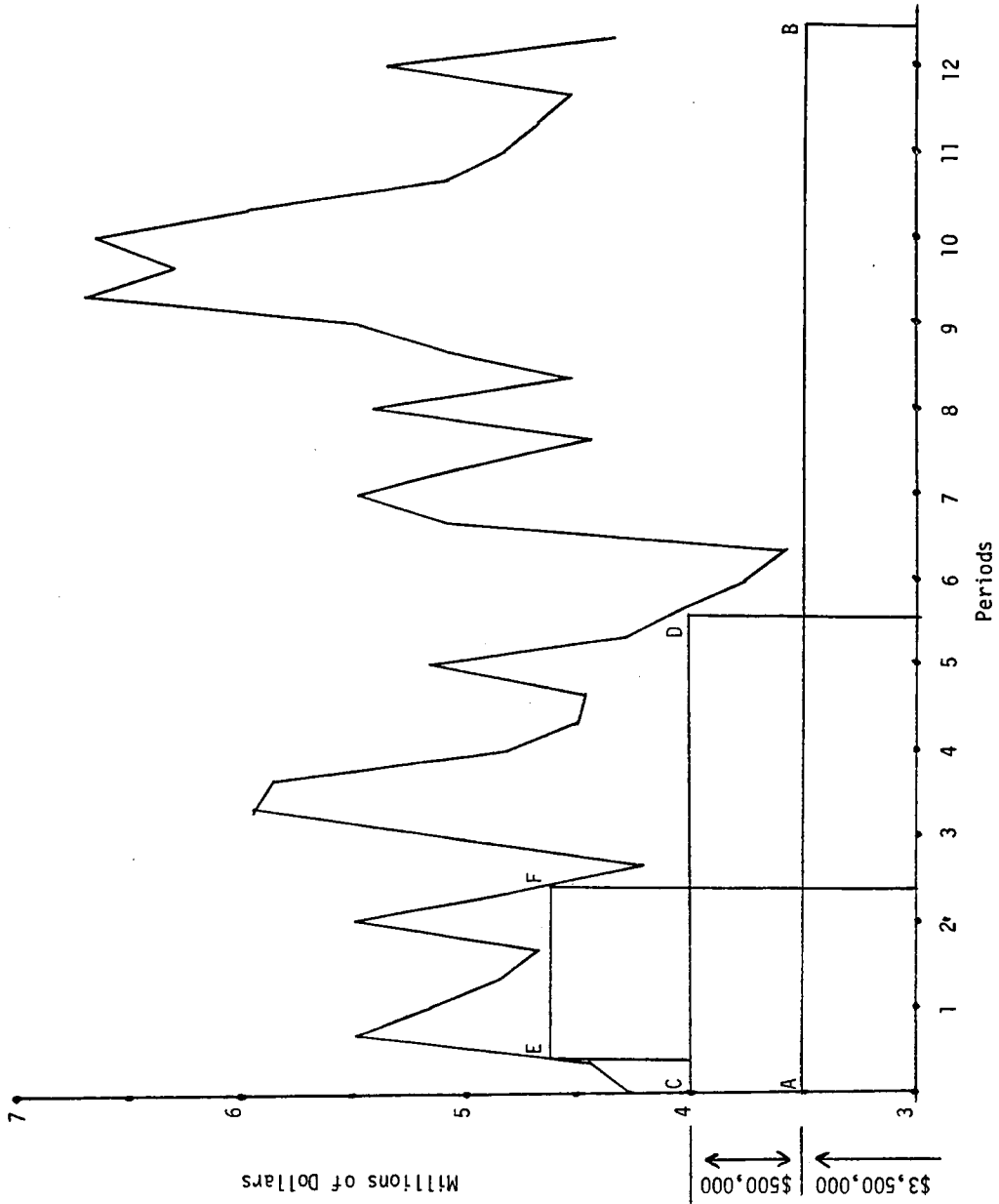


Figure 5. Accumulative Surplus Tennessee Technological University Fiscal Year 1976-1977.

particular investment allows for \$500,000 to be invested for five and one-half months. Thus, \$.5 million times five and one-half months (.458) times 5½ percent yields an investment income of \$12,595. One more illustration is seen in Figure 5 (p. 57) by connecting point E and point F. Thus, \$.625 million times two months (.166) times 5½ percent yields the investment income of \$5,706.

Using these same projection investment procedures, a one-year investment program was devised as illustrated in Figure 6. This graph was analyzed until maximum use was made of the chart and the best actual investment projection that was possible in practical terms had been calculated.

Figure 6 depicts the following 13 investments in Table 5, resulting in an investment income of \$258,969.

V. INVESTMENTS

According to Figure 3 (p. 53) the maximum potential investment for the projected investment plan was 1,862,014,620 dollars. Therefore, during the 1976-1977 year, the maximum investment potential was the total of the fiscal year's accumulative surplus, 1,862,014,620. To convert the 13 proposed investments into comparable data, that of dollar days, the transition was made as shown in Table 6.

Comparing the projected investment plan of 1,696,000,000 dollar days to the maximum potential dollar days of 1,862,014,620, the proposed investment program would have an efficiency rate of:

$$\frac{\text{Proposed investment} = 1,696,000,000}{\text{Maximum potential investment} = 1,862,014,620} \text{ dollar days} = .9108 = 91.08$$

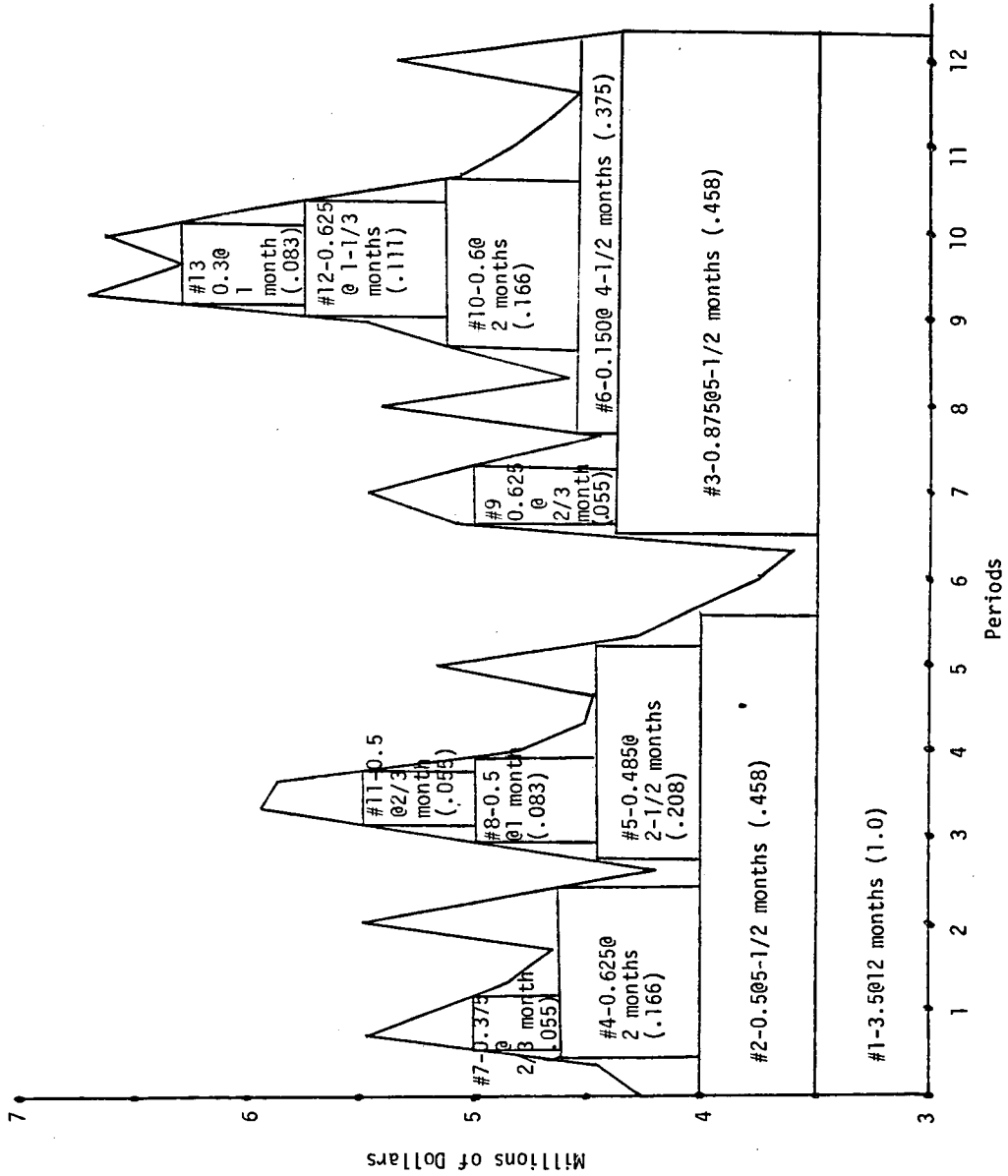


Figure 6. Accumulative Surplus Projection Investment Plan
Tennessee Technological University Fiscal Year 1978-1979.

TABLE 5
PROJECTED INVESTMENT FOR FISCAL YEAR 1978-1979
FOR TENNESSEE TECHNOLOGICAL UNIVERSITY

Millions		Months		Rate		Income
1 - \$3.5	x	12m	(1.0)	x	5-1/2%	= \$192,500
2 - .5	x	5-1/2m	(.458)	x	5-1/2%	= 12,595
3 - .875	x	5-1/2m	(.458)	x	5-1/2%	= 22,041
4 - .625	x	2m	(.166)	x	5-1/2%	= 5,706
5 - .485	x	2-1/2m	(.208)	x	5-1/2%	= 5,548
6 - .150	x	4-1/2m	(.375)	x	5-1/2%	= 3,094
7 - .375	x	2/3m	(.055)	x	5-1/2%	= 1,134
8 - .5	x	1m	(.083)	x	5-1/2%	= 2,283
9 - .625	x	2/3m	(.055)	x	5-1/2%	= 1,891
10 - .6	x	2m	(.166)	x	5-1/2%	= 5,478
11 - .5	x	2/3m	(.055)	x	5-1/2%	= 1,513
12 - .625	x	1-1/3m	(.111)	x	5-1/2%	= 3,816
13 - .3	x	1m	(.083)	x	5-1/2%	= 1,370
Investment Income						\$258,969

TABLE 6
DOLLAR DAYS FOR THE PROJECTED FISCAL YEAR 1978-1979
FOR TENNESSEE TECHNOLOGICAL UNIVERSITY

	\$ Millions		Days		Dollar Days
1 -	\$3.5	x	360	=	1,260,000,000
2 -	.5	x	165	=	82,500,000
3 -	.875	x	165	=	144,375,000
4 -	.625	x	60	=	37,500,000
5 -	.485	x	75	=	36,375,000
6 -	.150	x	135	=	20,250,000
7 -	.375	x	20	=	7,500,000
8 -	.5	x	30	=	15,000,000
9 -	.625	x	20	=	12,500,000
10 -	.6	x	60	=	36,000,000
11 -	.5	x	20	=	10,000,000
12 -	.625	x	40	=	25,000,000
13 -	.3	x	30	=	9,000,000
TOTAL DOLLAR DAYS					1,696,000,000

As discussed later in this study, it was determined that a compensating bank balance of approximately \$75,000 per day should be maintained for proper management practices. Thus, \$75,000 times 360 days equals 27,000,000 dollar days. By adding the compensating bank balance dollar days, 27,000,000, to the projected investment dollar days, 1,696,000,000, and subtracting them from the maximum potential dollar days, 1,862,014,620, the remaining dollar days are those that are available for regular savings account earnings. This is illustrated as follows:

Proposed investment	1,696,000,000
Compensating bank balance	+ 27,000,000
	<u>1,723,000,000</u>
DOLLAR DAYS	1,723,000,000

Therefore, if $\frac{1,696,000,000}{1,862,014,620} = 91.08\% = \$258,969$

and $\frac{1,723,000,000}{1,862,014,620} = 92.53\%$

then the remaining efficiency rate of 7.47 percent obtained by subtracting 92.53 percent from 100 percent is available for savings account investment at the average investment return of $5\frac{1}{2}$ percent.

Thus, $\frac{91.08\%}{\$258,969}$ as $\frac{7.47\%}{\$21,240}$

Therefore, the maximum efficiency rate of 98.55 percent excluding the compensating bank balance provides an interest income return of \$280,209. The procedures as outlined in Figures 1 through 6 (pp. 48-59) give detailed information that can be used to appraise an investing officer's efficiency and professionalism. In addition, this analysis will assure that the greatest advantage possible has been taken of investment opportunities.

The study, thus far, provides an analysis of the available funds as invested and as projected for the future year, two fiscal years in advance. However, it should be noted that there are possible methods of creating more available funds for an increase in cash flow. To implement such an increase in cash flow, an analysis of certain fiscal areas was made. Areas that affect this increase are taking discounts in accounts payable, demanding grant funds in advance, and obtaining a maximum investment return on idle funds.

VI. COMPENSATING BANK BALANCE

The compensating balance as used in this study was \$75,000. Several years of mutual banking and university fiscal operations were pooled to gain an insight to the optimal establishment of a proper account balance. Several authoritative opinions existed concerning a compensating amount. As this analysis showed, however, each account should be maintained as an independent entity with only a given balance meeting the specific needs of the particular account.

As stated in the banking and investment policy, as adopted by the Tennessee State Board of Regents on September 29, 1978, each university was required to solicit proposals from all qualified banking institutions with offices in the county where the campus was located. The regulation as adopted stated that services could not exceed any four consecutive year period at any particular bank. This policy, alone, has far reaching ramifications upon the investment program of an institution. With the allowance of four years, this could mean that a bank, if in a

county with four qualified banks, could possibly not service an institution, except during every sixteenth year interval. This factor, alone, can be harmful to banking relationships during the daily investment process of a university.

The institution used for this study, Tennessee Technological University, chose to deal with this rotation policy as shown through the following summarization of a proposal request for banking services.

Proposal Request for Banking Service

Tennessee Technological University, hereinafter referred to as the University, is requesting proposals as required by the State Board of Regents Policy on the Deposit and Investment of Funds.

It is the intention of the University to rotate its operating and payroll accounts separately among qualified banks on a three year cycle, starting July 1, 1979, with no bank maintaining both accounts at any one time. The effect of this rotation process is shown in the hypothetical example attached (Attachment I).

It is the University's intention to use a random procedure for selecting from qualified banks the banks to which the accounts will be rotated on July 1, 1979 (Attachment II).

To qualify, each interested bank is requested to submit proposals meeting the minimum requirements as stipulated in the Policy plus the additional requirements as outlined herein

ATTACHMENT I

Hypothetical Example Utilizing Qualified Banks A, B, C, D

O = Operating Account P = Payroll Account
Rotation Cycle = 3 consecutive years

Qualified Banks	Years																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	A	0	0	0				P	P	P				0	0	0		
	B	P	P	P				0	0	0				P	P	P		
	C				0	0	0				P	P	P				0	0
D				P	P	P				0	0	0				P	P	P

The rotation cycle allows Bank A to have the Operating Account year 1-3, while Bank B has the Payroll Account years 1-3. At the start of year 4 (July 1, 1982), Bank C has the Operating Account for years 4-6, while Bank D has the Payroll Account year 4-6. At the start of year 7 (July 1, 1985), the accounts would be reversed for Banks A and B. Bank A would have the Payroll Account for years 7-9, while Bank B would have the Operating Account years 7-9. The cycle for Banks C and D would also be reversed at the start of year 10. At the start of year 13, the entire cycle would start over again, with Bank A having the Operating Account, and Bank B the Payroll Account.

ATTACHMENT II

The random selection process for determining which qualified banks will service which accounts July 1, 1979, will be as follows:

Each qualified bank will have its name and bank account on two pieces of paper (one for the Payroll Account and one for the Operating Account). All slips of paper will be put into a container and randomly drawn out. The first selected will be the bank to have the account written on the piece of paper. In the event that the bank's name that was drawn first is also drawn again on the second draw, it will be placed back into the container and another name drawn. This process will continue until two different banks have an account each.

It is requested that each qualified bank have a representative present for the drawing. Additionally, six months prior to the expiration of the initial three year cycle, another random drawing will be held to determine the placement of each account.⁶⁰

This three-year rotation cycle, as adopted, would provide each bank, if obtaining four qualified banks, with an account either operating or payroll, every three years. This will help enhance the banking rotation and will keep all banks involved with the University's banking and investment needs. Also, this rotation approach will be a cyclical process evoked through a random drawing providing all banking institutions a fair and equitable chance to service the University

⁶⁰"Proposal Request for Banking Services," (Cookeville, Tennessee: Tennessee Technological University: University Print Shop, January, 1979).

Consideration was given to both the cycle period and the account split before this proposal solicitation was implemented. The longer cycle period, that of four years, was deemed as a positive approach for the University in that it allowed the University not to change banks as often, thus making for less effort in closing, opening, and balancing banking records. In addition, the longer cycle would not cost as much in terms of providing new checks for each new bank and account.

The feeling was, however, that the shorter cycle, if not less than three years, would allow a full year for the closing of each account and would be sufficient time to allow for the keeping of efficient records. In addition, the shorter period would allow each banking institution a quicker opportunity to service the University thus enhancing banking relationships. When considering the splitting versus the non-splitting of accounts, the following analysis was developed. The split would allow double involvement of each bank, which would provide each bank with the opportunity to service the University twice as often. Also, the splitting of accounts would enhance the investment process not only in banking relationships but also through the use of an approximate three-day float period. The investment officer could double on investment opportunity for approximately three days while shifting funds from one account to the other.

If the accounts were maintained in a combined fashion, both accounts could be included as one balance in terms of overdraft possibilities. This would allow the investment officer more leeway in trimming the compensating bank balance, and would allow for a more relaxed investment portfolio concerning overdrafts. While acknowledging the pros and

cons of this banking policy, it was decided that the best solution was three years and split. This would enhance banking relationships while providing sufficient time to efficiently manage University accounts.

Another concern of quality banking relationships is that of maintaining an optimal cash balance. Of course, the investment officer wants to minimize this balance to allow for a more efficient return on idle funds, while at the same time maintaining enough fund balance to cover overdrafts, thus avoiding cash shortages through holding precautionary balances. On the other hand, the banking institution wants to maintain a balance that would cover all associated account service costs plus provide an adequate profit. With these variables in mind, it is hard to distinguish what the true proper balance should be.

The minimal cash balance can be defined as an average daily minimum or as an absolute minimum maintained at all times. The average daily minimum is basically used for the development of an adequate balance in this example. The average minimum versus the absolute minimum allows for a more flexible investment portfolio. The minimum balance, called a compensating balance, is how the banks are paid for their services. The banks reinvest or loan the excess amounts to create a return for services rendered. Bankers can use the compensating balances in lieu of fees, thus providing a greater flow of money into their banking operation and alleviating the problem of allocating direct and indirect banking costs to specific services.

A question that has really never been adequately answered is: What is the correct compensating balance? Opinions range from 2 percent profit to 20 percent profit, but what is the true profit?

During the fiscal year 1977-1978, an account analysis was developed by a banking institution for the servicing of Tennessee Technological University's banking accounts. The cost summary for each month was made as shown in Table 7 during the month of July, 1977.

As distinguished by the banking institution, it was shown that on an average daily balance for fiscal year 1977-1978 of \$151,130.85, that a yearly service expense loss was obtained for the sum of \$10,928.58. Further analysis of this average daily balance of \$151,130.95 showed that the monthly average ranged from a low of \$56,608.31 to a high of \$240,685.41. This analysis also stated that the bank earned investment income at a rate of 5½ percent beginning July, 1977, through 7 percent ending June, 1978.

Through this analysis, it was distinguished that the banks' records showed that approximately \$200,000 should be maintained as an average daily cash balance. In turn, through discussing this analysis with the University's investment officer, it was learned that an attempt was made during this period to maintain a compensating balance between \$50,000 and \$100,000. Realistic costs for services are most difficult for a cash manager to determine. Banks are usually hesitant to give out such data and, basically when such costs are provided, they are not true costs but rather a fee, which contains a profit factor. This example maintains the thoughts of Fenstermaker in his writings about non-profit institutions in 1966:

Many institutions simply maintain a compensating balance which the financial manager believes will compensate the bank and which experience seems to indicate may be satisfactory.

TABLE 7
ANALYSIS OF BANK ACCOUNT OF
TENNESSEE TECHNOLOGICAL UNIVERSITY
FOR THE MONTH OF JULY, 1977

Cost		Summary	
<u>2</u>	Basic Maintenance @ \$2.00 per account	4.00	Average Daily Balance 113,456.16
<u>3669</u>	Debit Entries @ .10	366.90	Less Avg. Daily Outstanding -----
<u>46</u>	Credit Entries @.15	6.90	Net Average Daily Balance 113,456.16
<u>10995</u>	Transit Items Deposited @ .05	549.75	Less 10% Reserve 11,345.61
<u>1</u>	Incoming Wire Transfers @ .30	.30	Net Loanable Balance Overdraft 102,110.55
<u>0</u>	Outgoing Wire Transfers @ \$2.00	.00	Income-Loss @ 5½% Fed. Reserve Redis- count Rate 446.73
<u>0</u>	Stop Payments @ \$2.50	.00	Total Cost 929.85
<u>2</u>	Daily Print Out & Call for Balance @ \$1.00	2.00	
TOTAL COST		929.85	LOSS 483.12

Also, this method for setting compensating balances usually errs on the side of balances being too high.⁶¹

VII. ACCOUNTS PAYABLE

Accounts payable is a section that has direct ramifications on the investment process. The timing of payments will either accommodate or hinder the cash flow thus allowing or disallowing for the maximum potential of investment return.

An analysis of the accounts payable process at Tennessee Technological University showed that the postponement of payments until absolutely necessary was being accomplished, although somewhat inadvertently. The approval process of invoices indicating when the merchandise had been received was so cumbersome that payments were being delayed beyond the "net 30" terms.

Not only did this process disallow for the taking of discounts, such as "2%-10" but it also promoted "ill-will" in vendor relationships. This invoice approving practice existed during the 1976-1977 fiscal year, and it existed during the period of this study. A time breakdown of this process is illustrated below:

<u>Days</u>	<u>Cumulative</u>	<u>Process</u>
1	1	Invoice received in accounts payable and stamped in.
2	3	Invoice mailed to department for approval.
5	8	Invoice approved and returned through campus mail (including weekend).
2	10	Invoice received and placed in checkrun for computer center processing.

⁶¹Joseph Van Fenstermaker, Cash Management: Managing the Cash Flows, Bank Balances, and Short-Term Investments of Non-profit Institutions (Kent, Ohio: Kent State University Press, 1966), p. 20.

- | | | |
|---|----|---|
| 3 | 13 | Checkrun mailed to computer center. |
| 5 | 18 | Checkrun processed by computer center, check issued and returned to accounts payable (including weekend). |
| 4 | 22 | Check received by accounts payable, mailed out and received by vendor. |

As indicated by this process, the time of 22 days was of such length as to rule out the possibility of taking discounts. It was noted that this 22 days process was accomplished only if no problems developed at any point during the process. Through this cumbersome method, invoices were lost and payments delayed for as long as 60 to 90 days. An answer to a certain portion of this long payment process is one that had been developed by many universities. Instead of having the departments approve invoices, central shipping and receiving has been appointed the responsibility of directly receiving merchandise and invoices. This arrangement will reduce the eight days to approximately three in the payment process. However, it should still be noted that the payment period is too long for discount practices. All invoices over \$1,000 providing discount terms could be given priority because the cost of labor and time required for this process is offset by the \$20 transaction discount if terms are "2%-30."

During the 1976-1977 fiscal year, the total of invoices providing terms from $\frac{1}{2}$ percent to 2 percent for payments over \$1,000 was \$64,940.23. Allowing for a total 2 percent discount as terms, the dollar increase in cash flow for investing purposes would be \$1,298.80. Since this amount was earned over a complete year, the net effect was that of having approximately \$600 to invest at $5\frac{1}{2}$ percent or increasing

investments by \$33. Even though the impact on investments was not substantial, it should be recognized that two major benefits did exist. First, the University did realize a real cash flow increase of \$1,298.80, plus \$33. Second, vendor relations were maximized by immediately obtaining their payment on large amounts.

VIII. GRANTS

Grant contracting has a substantial impact through its sponsored programs in all educational institutions. This impact usually continues to produce useful information far beyond the initial funding period. However, the administrative operations a University follows in implementing grant contracting could have a substantial effect on the investment officer's attempt to improve the return on idle funds. The basic effect is that of inhibiting the maximization of cash flow which decreases the idle fund pool resulting in fewer investable dollars.

Universities usually accept most grants with the understanding that monies will be received upon the issuance of a university invoice for acknowledged work that has been completed and paid for from the university's own financial resources. This particular practice not only disallows the investment of grant funds but also precludes the investment of the university's own idle funds. A doubling effect is felt as long as this method is followed.

To prohibit this detrimental process the university could possibly develop an innovative technique in the grants section by adopting a policy of not using university funds for grant participation. This would mean

that all funds received from outside sources through the grant section would have to be prepaid monies. This policy could have extreme financial effects on the university, in that several grantors would obligate themselves for the funds but would not make advance payments for the project. Thus, this policy could mean that the grant would not be given to the university. Not only would new monies be lost by the university, but also the graduate education of students would be affected in that most student research assistantships are obtained through grant participation. In addition, the university's surge toward mankind's betterment through research advancement would be hindered. Also, an impact of State funding would possibly be felt in that the university might lose students which have been supported by the research grants, thus affecting the enrollment which would decrease State support.

With these thoughts in mind, the university could take the innovative action to obtain portions of the grant monies up front in allotment fashion. This would mean that the university would not spend money until actually received from the grantor, thus prohibiting the doubling effect while not using the grantor's monies for investment purposes. In addition, if not financing the grant with university monies meant losing the contract, the financial impact through the loss of investable funds could be considered as overhead expenses in weighing whether the grant is practicable to accept.

To show the true effect of grant contracting upon investments of idle funds, this study dealt with the grants section's financial involvement toward cash flow during the fiscal year 1976-1977 at

Tennessee Technological University. At the close of the fiscal year 1976-1977, the financial statement showed that Fund 2, total restricted current funds, was in a deficit situation to the amount of \$202,030. At that point, it indicated that the University had spent \$202,030 of its own monies for the support of grant contracting. This particular amount floated during the total fiscal year to both higher amounts and lower amounts. An example of specific grants in deficit situations is depicted through the list in Table 8.

This listing could go on, however, as is shown the loss of investable dollars is obvious. To provide a closer in-depth analysis of this financing process, a grant with the National Park Service, Account 91422 is detailed in its actuality during the 1976-1977 fiscal year.

<u>Dollars Spent</u>	<u>Dollars Received</u>	<u>Date</u>
\$2,247		July-September
2,626		October-December
3,294		January-March
	\$4,873	March, 14
3,624		April-June

This example shows that a total loss of investable funds existed as shown in Table 9 in the amount of \$293.68.

To prohibit this loss of cash flow, the innovative technique of requiring grantors to provide advance allotments for contract implementation would considerably reduce the investment loss. As stated earlier, the deficit amount of \$202,030 is a fluctuating figure. For this study, however, it was proposed that this figure be held at a constant. Also, it was proposed that the allotment approach be developed. With these two facts in mind, it could be determined that the cash flow of

TABLE 8
DEFICIT GRANTS FOR FISCAL YEAR 1976-1977
AT TENNESSEE TECHNOLOGICAL UNIVERSITY

Grant	Account	Deficit
National Park Service	91422	\$16,918
Corps of Engineers	91461	10,674
U.S. Army	91462	9,774
Cities Services	91733	5,826
Alcoa	91737	12,394
UCNC	91738	13,208
UTN-Title I	92548	2,276
CETA	96503	7,993
Dept. Public Health	92574	9,083
TVA	91459	17,381

TABLE 9

LOSS OF INVESTABLE FUNDS FOR THE NATIONAL PARK SERVICE GRANT
AT TENNESSEE TECHNOLOGICAL UNIVERSITY FOR FISCAL YEAR 1976-1977

Dollars Spent		Time Period		Average Return		Investment Loss
\$2,247	x	3m (.25)	x	5½ %	=	\$ 30.89
4,873	x	3m (.25)	x	5½ %	=	67.00
8,167	x	2½m (.208)	x	5½ %	=	93.43
3,294	x	½m (.04)	x	5½ %	=	7.24
6,918	x	3m (.25)	x	5½ %	=	<u>95.12</u>
TOTAL INVESTMENT LOSS						<u>\$293.68</u>

Tennessee Technological University could be maximized to a degree which would allow for an increased investment return of \$11,111.65 for the fiscal year 1976-1977. This is shown as follows:

$$\$202,030 \times 12m (1.0) \times 5\frac{1}{2}\% = \$11,111.65.$$

IX. PROJECTED INVESTMENT RETURN

This study revealed that Tennessee Technological University earned \$242,440.93 during the fiscal year 1976-1977. Through the process of establishing a trend investment method and a proper compensating bank balance, revealing possible discounts in accounts payable, and instigating a positive allotment procedure in grants, this earned figure was shown to increase to:

\$258,969	Trend investment procedure
21,240	Compensating bank balance
33	Accounts payable discounts
<u>11,111</u>	Grant allotment procedure
\$291,353	Possible Investment Figure (1976-1977)

This projected figure of \$291,353 represents a \$48,913 increase over the actual investment return of \$242,440. This resulted in a 20.1753 percent increase over actual investment by using the proposed methodologies.

To show the overall investment effect on the four-year universities in this study, the following analysis was made. Tennessee Technological University showed an actual percentage investment return of .0117371 as compared to total revenue during fiscal year 1976-1977 (\$242,442 ÷ \$20,655,864). This percentage return of .0117371 multiplied against the total revenue figures of all other universities revealed an equalized level of investment return as shown in Table 10.

TABLE 10
AN EQUALIZED INVESTMENT RETURN FOR THE FOUR-YEAR
UNIVERSITIES OF THE TENNESSEE STATE BOARD OF REGENTS

University	Percentage Multiplier	Total Revenue	Investment Return Level
Austin Peay State University	.0117371	x \$ 9,612,058 =	\$112,817.68
East Tennessee State University	.0117371	x 26,046,432 =	305,709.57
Memphis State University	.0117371	x 49,692,529 =	583,246.18
Middle Tennessee State University	.0117371	x 24,458,255 =	287,068.98
Tennessee State University	.0117371	x 23,412,452 =	274,794.29
Tennessee Technological University	.0117371	x 20,655,864 =	242,439.94

After computing a comparative investment return level as shown, the percentage investment increase of 20.1753 percent as derived through the study directives was multiplied against this investment level to show a potential total projected investment increase for the four-year universities as shown in Table 11.

When adding the projected investment increase to the investment return level, the total projected investment return for each university was depicted in Table 12.

X. SUMMARY

Chapter III dealt with the methodology, presentation and discussion of the data. The population of the study was identified, the data collection methods outlined, and a description of the analysis was explained. Furthermore, a detailed investment procedure was shown during the presentation and discussion of the data. In addition, possible methods of creating more available funds for an increase in cash flow were proposed. These particular cash flow areas were the compensating bank balance, the accounts payable section, and the grants section.

Chapter IV includes a discussion concerning the findings of the study and summarizes the recommendations adaptable through these findings.

TABLE 11
A PROJECTED INVESTMENT INCREASE FOR THE FOUR-YEAR
UNIVERSITIES OF THE TENNESSEE STATE BOARD OF REGENTS

University	Investment Return Level	Percentage Increase	Projected Investment Increase
Austin Peay State University	\$112,817.68	x 20.1753%	= \$ 22,761.31
East Tennessee State University	305,709.57	x 20.1753%	= 61,677.82
Memphis State University	583,246.18	x 20.1753%	= 117,671.66
Middle Tennessee State University	287,068.98	x 20.1753%	= 57,917.03
Tennessee State University	274,794.29	x 20.1753%	= 55,440.57
Tennessee Technological University	242,439.94	x 20.1753%	= 48,912.99

TABLE 12
PROJECTED INVESTMENT RETURN FOR THE FOUR-YEAR
UNIVERSITIES OF THE TENNESSEE STATE BOARD OF REGENTS

University	Investment Return Level	Projected Investment Increase	Total Projected Investment Return
Austin Peay State University	\$112,817.68	+ 22,761.31 =	\$135,578.99
East Tennessee State University	305,709.57	+ 61,677.82 =	367,387.39
Memphis State University	583,246.18	+ 117,671.66 =	700,917.84
Middle Tennessee State University	287,068.98	+ 57,917.03 =	344,986.01
Tennessee State University	274,794.29	+ 55,440.57 =	330,234.86
Tennessee Technological University	242,439.94	+ 48,912.99 =	291,352.93

CHAPTER IV

SUMMARY, FINDINGS, AND RECOMMENDATIONS

The purpose of this study was to descriptively analyze the current process and accomplishments of the control of cash for the four-year higher educational institutions under the jurisdiction of the Tennessee State Board of Regents. In addition, it was the purpose of this study to adapt an analytical cash management model for the advancement concerning idle-fund investment which would benefit all involved institutions, plus provide assistance for the establishment of cash management programs in other state-supported colleges and universities.

I. SUMMARY

Due to the financial burdens currently faced by higher educational institutions, it is important that all available sources of income be scrutinized. Therefore, one source of money is through the proper utilization of idle-fund investment procedures. This study analyzed the investment transactions for idle funds in the four-year universities of the Tennessee State Board of Regents. The analyzation included both cash flow management and the investment process.

The study entailed the use of the cash flow analyzation model as developed by John A. Jones and S. Kenneth Howard in their book, Investment of Idle Funds by Local Governments: A Primer. This cash flow model compared daily revenues to daily expenditures, thus creating a surplus pool available for investment. Methodologies for the creation of more

available funds to enhance the cash flow possibilities were also reviewed. The areas reviewed were: (1) compensating bank balance, (2) accounts payable, and (3) grants. After the cash flow effects of these areas were examined, a projected investment return for all universities in this study was developed.

The study produced a cash management model which would enhance idle-fund investments for state-supported colleges and universities. This study came at a crucial time for higher education institutions. The financial strifes are becoming more and more burdensome. The ever-increasing inflation problems, a taxpayer's revolt against more subsidies, a decline in college and university student enrollment, and a taxpayer's demand for efficient governance and accountability are just a few of the reasons why public institution administrators should familiarize themselves with studies such as this, thus providing a means for alleviating future financial problems.

As stated in Chapter I, this study was substantiated due to:

1. Easily obtained revenues through proper investment procedures.
2. Better developed financial management through the utilization of an accommodating cash flow system.
3. Properly justified need for new monies seen through a more efficient idle-fund investment procedure.

II. FINDINGS

The major findings of this study were:

1. The three fiscal years used in the study, 1975-1976, 1976-1977, and 1977-1978, showed no extraordinary fluctuation which would hinder the development of a future cash flow projection.

2. For the projected fiscal year, 1978-1979, the maximum potential investment was found to be 1,862,014,620 dollar days.

3. With only 13 investments, the projected proposed investment was found to be 1,696,000,000 dollar days. As compared to the maximum potential investment, this provided an efficiency rate of 91.08 percent.

4. The discovery was made that by subtracting the required compensating bank balance from the investment portfolio, the efficiency rate could be increased to 98.55 percent. This efficiency rate was determined while using a daily compensating bank balance of \$75,000.

5. This study showed that an accurate compensating bank balance was hard to accomplish, and that the investment officer should rely on experience to indicate a satisfactory consideration.

6. The impact on investments by accounts payable discounts was not substantial; however, a real cash flow increase of \$1,298.80, plus \$33 was realized, and it was projected that vendor relations would be maximized through the immediate payment of larger invoices.

7. The policy of not using university funds for grant participation was determined to be detrimental in that grant funds would not be realized, student research assistantships would be lost, research advancement would be hindered, and a possible loss of state funding might develop through enrollment decline due to lack of student financing supported by research grants.

8. The innovating technique of requiring grantors to provide advance allotments for contract implementation was found to increase the cash flow in a significant proportion, thus allowing for an increased investment return.

9. The proposed methodologies of trend investment procedures, compensating bank balance, accounts payable discounts, and grant allotment procedures resulted in 20.1753 percent increase over actual investment.

10. The actual investment income of the six universities in this study for the base fiscal year, 1976-1977, was \$1,594,181.11. The total projected investment return for the projected fiscal year, 1978-1979, was \$2,170,458.02. Therefore, a net increase of \$576,276.91 was shown in idle-fund investments for the four-year universities of the Tennessee State Board of Regents.

III. RECOMMENDATIONS

The following recommendations were based on the results of this study:

1. Proper cash management and modern investment techniques were methodologies available for increasing the income of higher educational institutions. Therefore, it was recommended that public institution administrators review various alternatives available for a more efficient investment return.

2. Higher education administrators and governing boards should take positive steps in developing effective investment programs, thus assuring that the maximum dollar is being returned for the effort extended.

3. Investment officers should develop a cash flow model similar to the model used in this study, thus creating a maximum pool of idle funds for investment purposes.

4. All cash flow models should encompass at least three fiscal years to allow for the leveling of high and low peaks of cash receipts and cash expenditures, thus assuring that the projected investment portfolio is reliable and will not face emergency investment liquidations.

5. As shown in this study, too much money is usually left in operating bank accounts which do not provide interest return. This compensating bank balance should be adjusted to prevent over-compensation for banking services, thus freeing funds available for investment purposes.

6. Invoices over \$1,000 provide a sufficient return to offset labor costs. The procedure of obtaining accounts payable discounts on large invoices should be implemented, thus maximizing the cash flow and enhancing vendor relations.

7. The advance allotment procedure for grants proved to provide a considerable return on monies available for investments. The advance allotment procedure for newly acquired grants should be adopted. This technique would increase the idle-fund pool and would increase investment returns.

8. A concentrated effort should be made by the four-year universities in this study to obtain the projected increase for idle-fund investments as stated in this study. It should be noted that the \$576,276.91 projected increase was an obtainable goal. This was shown through the efforts of Memphis State University. Before the study was applied, Memphis State University obtained an investment income of

\$726,945.28 and after the study the projected investment return was \$700,917.84. Therefore, it was realized that the other universities in this study could attain their projected investment returns if they adopted models such as the one outlined in this study.

9. This study was based upon an investment return average of 5½ percent. Recent investment returns during the fiscal year 1978-1979 have increased to approximately a 9 percent return. Therefore, this increased return makes the loss of attainable funds even larger. The four-year universities in this study need to closely analyze their investment programs to assure that this loss of revenue is not continued.

10. Professional staff members should be acquired which will assure that investment procedures such as those outlined in this study are implemented. The return on proper investment efforts will more than compensate for any additional staff requirements.

11. This study showed that Tennessee State University earned only \$51,315.98 investment income from a total revenue of \$23,412,452.73. The projected investment return as developed was \$330,234.86. Therefore, this loss of revenue is approximately half of the projected increase of idle-fund investments as developed through this study. Thus, Tennessee State should take immediate action to alleviate the loss of investment revenue.

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APPENDIX

DAILY REVENUE AND EXPENDITURES FOR A THREE
FISCAL YEAR PERIOD

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$7,227,568				
June 1, 1978	44,122	\$24,488,413	\$ 486,126	\$22,036,238	\$ 6,785,564
2	77,377	24,565,790	145,514	22,181,752	6,717,427
3					6,717,427
4					6,717,427
5	36,554	24,602,344	217,348	22,399,100	6,536,633
6	18,817	24,621,161	46,016	22,445,116	6,509,434
7	16,148	24,637,309	48,360	22,493,476	6,477,222
8	10,413	24,647,722	76,802	22,570,278	6,410,833
9	20,466	24,668,188	83,598	22,653,876	6,347,701
10					6,347,701
11					6,347,701
12	12,514	24,680,702	28,643	22,682,519	6,331,572
13	439,164	25,119,866	92,467	22,774,986	6,678,269
14	114,510	25,234,376			6,792,779
15	35,217	25,269,593	59,685	22,834,671	6,768,311
16	717,124	25,986,717	14,538	22,849,209	7,470,897
17					7,470,897
18					7,470,897
19	61,008	26,047,725	15,101	22,864,310	7,516,804
20	35,087	26,082,812	38,365	22,902,675	7,513,526
21	16,965	26,099,777	34,982	22,937,657	7,495,509
22	22,662	26,122,439	32,319	22,969,976	7,485,852
23	78,091	26,200,530	61,815	23,031,791	7,502,128
24					7,502,128
25					7,502,128
26	42,207	26,242,737	124,713	23,156,504	7,419,622
27	48,043	26,290,780	69,074	23,225,578	7,398,591
28	34,690	26,325,470	25,801	23,251,379	7,407,480
29	27,355	26,352,825	9,670	23,261,049	7,425,165
30	36,290	26,389,115	1,784,125	25,045,174	5,677,330

Sub total: \$208,744,955

Year-end total: \$2,334,910,159

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$7,689,848				
May 1, 1978	24,748	\$22,934,000	\$333,642	\$19,886,435	\$ 7,380,954
2	66,858	23,000,858	178,500	20,064,935	7,269,312
3	58,403	23,059,261	172,337	20,237,272	7,155,378
4	28,580	23,087,841	65,617	20,302,889	7,118,341
5	49,619	23,137,460	26,081	20,328,970	7,141,879
6					7,141,879
7					7,141,879
8	25,246	23,162,706	11,798	20,340,768	7,155,327
9	35,703	23,198,409	95,435	20,436,203	7,095,595
10	20,593	23,219,002	31,086	20,467,289	7,085,102
11	46,748	23,265,750	199,412	20,666,701	6,932,438
12	27,127	23,292,877	55,429	20,722,130	6,904,136
13					6,904,136
14					6,904,136
15	715,353	24,008,230	41,298	20,763,428	7,578,191
16	41,333	24,049,563	50,072	20,813,500	7,569,452
17	66,033	24,115,596	9,067	20,822,567	7,626,418
18	35,022	24,150,618	54,316	20,876,883	7,607,124
19	23,718	24,174,336	46,080	20,922,963	7,584,762
20					7,584,762
21					7,584,762
22	24,001	24,198,337	21,875	20,944,838	7,586,888
23	30,080	24,228,417	39,119	20,983,957	7,577,849
24	26,362	24,254,779	10,423	20,994,380	7,593,788
25	23,427	24,278,206	126,329	21,120,709	7,490,886
26	87,002	24,365,208	54,801	21,175,510	7,523,087
27					7,523,087
28					7,523,087
29	20,688	24,385,896	15,972	21,191,482	7,527,803
30	41,843	24,427,739	41,519	21,233,001	7,528,127
31	16,552	24,444,291	317,111	21,550,112	7,227,568
				Sub total:	\$227,568,133

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$8,015,670				
Apr. 1, 1978					\$ 8,015,670
2					8,015,670
3	57,578	\$21,208,530	\$239,346	\$17,708,017	7,833,902
4	402,103	21,610,633	359,732	18,067,749	7,876,273
5	137,104	21,747,737	37,366	18,105,115	7,976,011
6	23,882	21,771,619	6,605	18,111,720	7,993,288
7	16,679	21,788,298	233,673	18,345,393	7,776,294
8					7,776,294
9					7,776,294
10	34,546	21,822,844	109,284	18,454,677	7,701,556
11	42,160	21,865,004	59,632	18,514,309	7,684,084
12	41,344	21,906,348	48,818	18,563,127	7,676,610
13	28,319	21,934,667	27,209	18,590,336	7,677,720
14	21,473	21,956,140	65,990	18,656,326	7,633,203
15					7,633,203
16					7,633,203
17	35,927	21,992,067	33,425	18,689,751	7,635,705
18	712,482	22,704,549	187,462	18,877,213	8,160,725
19	26,279	22,730,828	62,345	18,939,558	8,124,659
20	26,389	22,757,217	66,131	19,005,689	8,084,917
21	35,830	22,793,047	96,770	19,102,459	8,023,977
22					8,023,977
23					8,023,977
24	8,693	22,801,740	10,730	19,113,189	8,021,940
25	43,963	22,845,703	60,922	19,174,111	8,004,981
26	38,856	22,884,559	42,229	19,216,340	8,001,608
27			42,793	19,259,133	7,958,815
28	24,693	22,909,252	293,660	19,552,793	7,689,848
29					7,689,848
30					7,689,848
				Sub total:	\$235,814,100

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$6,817,304				
Mar. 1, 1978	18,896	\$17,557,738	\$278,208	\$15,333,135	\$ 6,557,992
2	98,520	17,656,258	145,617	15,478,752	6,510,895
3	22,775	17,679,033	252,566	15,731,318	6,281,104
4					6,281,104
5					6,281,104
6	31,780	17,710,813	44,214	15,775,532	6,268,670
7	55,318	17,766,131	15,586	15,791,118	6,308,402
8	37,126	17,803,257	23,236	15,814,354	6,322,292
9	12,789	17,816,046	111,024	15,925,378	6,224,057
10	14,834	17,830,880	218,951	16,144,329	6,019,940
11					6,019,940
12					6,019,940
13	62,826	17,893,706	36,466	16,180,795	6,046,300
14	941,834	18,835,540	35,912	16,216,707	6,952,222
15	21,704	18,857,244	268,600	16,485,307	6,705,326
16	25,393	18,882,637	33,059	16,518,366	6,697,660
17	115,822	18,998,459	129,995	16,648,361	6,683,487
18					6,683,487
19					6,683,487
20	324,991	19,323,450	77,261	16,725,622	6,931,217
21	7,455	19,330,905			6,938,672
22	729,554	20,060,459			7,668,226
23	208,493	20,268,952	41,731	16,767,353	7,834,988
24	138,527	20,407,479	76,964	16,844,317	7,896,551
25					7,896,551
26					7,896,551
27	32,527	20,440,006	135,217	16,979,534	7,793,861
28	29,114	20,469,120	95,526	17,075,060	7,727,449
29	109,830	20,578,950	28,072	17,103,132	7,809,207
30	214,477	20,793,427	23,103	17,126,235	8,000,581
31	357,525	21,150,952	342,436	17,468,671	8,015,670
				Sub total:	\$213,956,933

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$6,279,005				
Feb. 1, 1978	22,620	\$15,010,789	\$188,095	\$13,230,648	\$ 6,113,530
2	25,850	15,036,639	325,546	13,556,194	5,813,834
3	16,072	15,052,711	137,576	13,693,770	5,692,330
4					5,692,330
5					5,692,330
6	37,004	15,089,715	67,520	13,761,290	5,661,814
7	70,876	15,160,591	16,121	13,777,411	5,716,569
8	23,777	15,184,368	46,107	13,823,518	5,694,239
9	10,261	15,194,629	155,517	13,979,035	5,548,983
10	84,922	15,279,551	126,473	14,105,508	5,507,432
11					5,507,432
12					5,507,432
13	23,989	15,303,540	37,871	14,143,379	5,493,550
14	49,962	15,353,502	46,548	14,189,927	5,496,964
15	926,425	16,279,927	73,476	14,263,403	6,349,913
16	42,114	16,322,041	13,969	14,277,372	6,378,058
17	46,768	16,368,809	75,803	14,353,175	6,349,023
18					6,349,023
19					6,349,023
20	19,796	16,388,605	26,423	14,379,598	6,342,396
21	20,600	16,409,205	56,655	14,436,253	6,306,341
22	52,869	16,462,074	26,598	14,462,851	6,332,612
23	45,715	16,507,789	34,234	14,497,085	6,344,093
24	27,921	16,535,710	155,764	14,652,849	6,216,250
25					6,216,250
26					6,216,250
27	14,736	16,550,446	120,137	14,772,986	6,110,849
28	988,396	17,538,842	281,941	15,054,927	6,817,304
				Sub total:	\$167,816,154

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$5,266,533				
Jan. 1, 1978					\$ 5,266,533
2					5,266,533
3	6,861	\$12,592,248	\$ 87,298	\$11,739,541	5,186,096
4	377,656	12,969,904			5,563,752
5	27,767	12,997,671			5,591,519
6	66,004	13,063,675	36,096	11,775,637	5,621,427
7					5,621,427
8					5,621,427
9	118,327	13,182,002	50,705	11,826,342	5,689,049
10	1,085,942	14,267,944	35,068	11,861,410	6,739,923
11	41,920	14,309,864	28,468	11,889,878	6,753,375
12	105,753	14,415,617	86,915	11,976,793	6,772,213
13	99,842	14,515,459	47,644	12,024,437	6,824,411
14					6,824,411
15					6,824,411
16	25,292	14,540,751	146,969	12,171,406	6,702,734
17	64,442	14,605,193	40,622	12,212,028	6,726,554
18	81,339	14,686,532	57,412	12,269,440	6,750,481
19	23,080	14,709,612	44,852	12,314,292	6,728,709
20	36,104	14,745,716	34,639	12,398,931	6,730,174
21					6,730,174
22					6,730,174
23	54,362	14,800,078	66,921	12,415,852	6,717,615
24	26,194	14,826,272	39,831	12,455,683	6,703,978
25	27,211	14,853,483	65,648	12,521,331	6,665,541
26	20,511	14,873,994	56,217	12,577,548	6,629,835
27	32,037	14,906,031	68,149	12,645,697	6,593,723
28					6,593,723
29					6,593,723
30	35,354	14,941,385	49,100	12,694,797	6,579,977
31	46,784	14,988,169	347,756	13,042,553	6,279,005
				Sub total:	\$196,622,627

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$5,965,109				
Dec. 1, 1977	21,087	\$10,718,457	\$ 50,544	\$ 9,116,194	\$ 5,935,652
2	68,646	10,787,103			6,004,298
3					6,004,298
4					6,004,298
5	18,611	10,805,714	472,415	9,588,609	5,550,494
6	25,783	10,831,497	8,846	9,597,455	5,567,431
7	13,487	10,844,984	37,675	9,635,130	5,543,243
8	319,355	11,164,339	232,424	9,867,554	5,630,174
9	35,727	11,200,066	38,432	9,905,986	5,627,469
10					5,627,469
11					5,627,469
12	17,080	11,217,146	135,349	10,041,335	5,509,200
13	9,018	11,226,164	8,709	10,050,044	5,509,509
14	5,247	11,231,411	9,908	10,059,952	5,504,848
15	10,008	11,241,419	293,516	10,353,468	5,221,340
16	12,309	11,253,728	26,291	10,379,759	5,207,358
17					5,207,358
18					5,207,358
19	270,378	11,524,106	49,469	10,429,228	5,428,267
20	973,245	12,497,351	146,858	10,576,086	6,254,654
21	7,513	12,504,864	40,384	10,616,470	6,221,783
22	10,798	12,515,662	307,382	10,923,852	5,925,199
23	69,725	12,585,387	728,391	11,652,243	5,266,533
24					5,266,533
25					5,266,533
26					5,266,533
27					5,266,533
28					5,266,533
29					5,266,533
30					5,266,533
31					5,266,533
				Sub total:	\$171,717,966

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance: \$6,705,727					
Nov. 1, 1977	32,075	\$ 9,143,535	\$627,901	\$7,367,023	\$ 6,109,901
2	43,186	9,186,721	31,449	7,398,472	6,121,638
3	32,533	9,219,254	45,612	7,444,084	6,108,559
4	18,733	9,237,987	61,302	7,505,386	6,065,990
5					6,065,990
6					6,065,990
7	33,713	9,271,700	55,969	7,561,355	6,043,734
8	45,557	9,317,257	25,707	7,587,062	6,063,584
9	20,047	9,337,304	34,196	7,621,258	6,049,435
10	27,493	9,364,797	137,895	7,759,153	5,939,033
11	15,614	9,380,411	78,437	7,837,590	5,876,210
12					5,876,210
13					5,876,210
14	983,839	10,364,250	71,828	7,908,418	6,788,221
15	56,000	10,420,250	24,742	7,934,160	6,819,479
16	22,227	10,442,477	60,082	7,994,242	6,781,624
17	17,043	10,459,520	154,486	8,148,728	6,644,181
18	18,683	10,478,203	87,878	8,236,606	6,574,986
19					6,574,986
20					6,574,986
21	15,766	10,493,969	54,008	8,290,614	6,536,744
22	22,257	10,516,226	73,426	8,364,040	6,485,575
23	12,586	10,528,812	83,211	8,447,251	6,414,950
24					6,414,950
25					6,414,950
26					6,414,950
27					6,414,950
28	40,157	10,568,969	156,655	8,603,906	6,298,452
29	79,971	10,648,940	30,381	8,634,287	6,348,042
30	48,430	10,697,370	431,363	9,065,650	5,965,109
				Sub total:	\$188,729,619

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$7,100,200				
Oct. 1, 1977					\$ 7,100,200
2					7,100,200
3	34,620	\$7,498,161	\$425,424	\$5,122,154	6,709,396
4	43,908	7,542,069	106,764	5,228,918	6,646,540
5	11,865	7,553,934	47,980	5,276,898	6,610,425
6	28,352	7,582,286	35,336	5,312,234	6,603,441
7	31,237	7,613,523	42,869	5,355,103	6,591,809
8					6,591,809
9					6,591,809
10	36,933	7,650,456	83,569	5,438,672	6,545,173
11	44,144	7,694,600	37,389	5,476,061	6,551,928
12	66,556	7,761,156	86,133	5,562,194	6,532,351
13	22,359	7,783,515	62,605	5,624,799	6,492,105
14	26,414	7,809,929	32,117	5,656,916	6,486,402
15			33,555	5,690,471	6,452,847
16					6,452,847
17	978,155	8,788,084			7,431,002
18	32,733	8,820,817	102,701	5,793,172	7,361,034
19	18,617	8,839,434	212,739	6,005,911	7,166,912
20	35,177	8,874,611	62,718	6,068,629	7,139,371
21	24,040	8,898,651	33,391	6,102,020	7,130,020
22					7,130,020
23					7,130,020
24	33,453	8,932,104	45,950	6,147,970	7,117,523
25	33,417	8,965,521	74,244	6,222,214	7,076,696
26	56,159	9,021,680	50,265	6,272,479	7,082,590
27	24,514	9,046,194	51,875	6,324,354	7,055,229
28	29,023	9,075,217	38,898	6,363,252	7,045,354
29					7,045,354
30					7,045,354
31	36,243	9,111,460	375,870	6,739,122	6,705,727
				Sub total:	\$212,721,488

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$5,836,089				
Sept. 1, 1977	16,547	\$4,040,878	\$226,014	\$2,747,645	\$ 5,626,622
2	19,245	4,060,123	340,580	3,088,225	5,305,287
3					5,305,287
4					5,305,287
5					5,305,287
6	28,540	4,088,663	32,194	3,120,419	5,301,633
7	31,869	4,120,532	75,344	3,195,763	5,258,158
8	19,008	4,139,540	237,906	3,433,669	5,039,260
9	19,379	4,158,919	122,082	3,555,751	4,936,557
10					4,936,557
11					4,936,557
12	39,471	4,198,390	102,808	3,658,559	4,873,220
13	17,818	4,216,208			4,891,038
14	797,864	5,014,072			5,688,902
15	1,670,642	6,684,714	79,435	3,737,994	7,280,109
16	140,425	6,825,139	239,114	3,977,108	7,181,420
17					7,181,420
18					7,181,420
19	136,161	6,961,300	8,301	3,985,409	7,309,280
20	28,414	6,989,714	8,432	3,993,841	7,329,262
21	64,208	7,053,922	42,459	4,036,300	7,351,011
22	90,975	7,144,897	32,338	4,068,638	7,409,648
23	100,426	7,245,323	79,523	4,148,161	7,430,551
24					7,430,551
25					7,430,551
26	40,316	7,285,639	48,962	4,197,123	7,421,905
27	22,817	7,308,456	50,675	4,247,798	7,394,047
28	26,275	7,334,731	76,089	4,323,887	7,344,233
29	46,595	7,381,326	27,625	4,351,512	7,363,203
30	82,215	7,463,541	345,218	4,696,730	7,100,200
				Sub total:	\$189,848,463

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$5,293,793				
Aug. 1, 1977	52,994	\$1,715,634	\$629,941	\$1,332,177	\$ 4,716,846
2	12,710	1,728,344	12,261	1,344,438	4,717,295
3	14,516	1,742,860			4,731,811
4	25,393	1,768,253	7,751	1,352,189	4,749,453
5	18,488	1,786,741			4,767,941
6					4,767,941
7					4,767,941
8	19,523	1,806,264	40,964	1,393,153	4,746,500
9	18,902	1,825,166			4,765,402
10	23,622	1,848,788	69,108	1,462,261	4,719,916
11	19,650	1,868,438	24,119	1,486,380	4,715,447
12	1,113,602	2,982,040	235,325	1,721,705	5,593,724
13					5,593,724
14					5,593,724
15	133,767	3,115,807			5,727,491
16	64,886	3,180,693	245,765	1,967,470	5,546,612
17	625,261	3,805,954	6,678	1,974,148	6,165,195
18	21,804	3,827,758	40,524	2,014,672	6,146,475
19	16,193	3,843,951	39,114	2,053,786	6,123,554
20					6,123,554
21					6,123,554
22	15,799	3,859,750			6,139,353
23	7,198	3,866,948	15,002	2,068,788	6,131,549
24	17,535	3,884,483	48,943	2,117,731	6,100,141
25	14,589	3,899,072	47,075	2,164,806	6,067,655
26	11,371	3,910,443			6,079,026
27					6,079,026
28					6,079,026
29	49,466	3,959,909	81,909	2,246,715	6,046,583
30	15,997	3,975,906	7,965	2,254,680	6,054,615
31	48,425	4,024,331	266,951	2,521,631	5,836,089
				Sub total:	\$171,517,163

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,333,389				
July 1, 1977	10,743	\$ 10,743			\$ 4,344,132
2					4,344,132
3					4,344,132
4					4,344,132
5	17,689	28,432			4,361,821
6	46,114	74,546			4,407,935
7	13,757	88,303			4,421,692
8	21,028	109,331			4,442,720
9					4,442,720
10					4,442,720
11	17,733	127,064			4,460,453
12	25,922	152,986	\$ 35,092	\$ 35,092	4,451,283
13	15,558	168,544			4,466,841
14	14,215	182,759	97,769	132,861	4,383,287
15	36,452	219,211			4,419,739
16					4,419,739
17					4,419,739
18	1,135,529	1,354,740	211,183	344,044	5,344,085
19	17,515	1,372,255			5,361,600
20	20,308	1,392,563	17,057	361,101	5,364,851
21	10,623	1,403,186	2,175	363,276	5,373,299
22	12,512	1,415,698	70,242	433,518	5,315,569
23					5,315,569
24					5,315,569
25	135,031	1,550,729			5,450,600
26	68,976	1,619,705	62,659	496,177	5,456,917
27	22,668	1,642,373	9,611	505,788	5,469,974
28	12,403	1,654,776	196,448	702,236	5,285,929
29	7,864	1,662,640			5,293,793
30					5,293,793
31					5,293,793
			Sub total:		\$149,852,558

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$5,114,114				
June 1, 1977	64,439	\$21,356,229	\$505,028	\$20,906,834	\$ 4,673,525
2	27,945	21,384,174	14,274	20,921,108	4,687,196
3	26,270	21,410,444	17,308	20,938,416	4,696,158
4					4,696,158
5					4,696,158
6	31,097	21,441,541	49,762	20,988,178	4,677,493
7	29,154	21,470,695	42,754	21,030,932	4,663,893
8	21,932	21,492,627	8,848	21,039,780	4,676,977
9	11,788	21,504,415	81,915	21,121,695	4,606,850
10	12,422	21,516,837	93,639	21,215,334	4,525,633
11					4,525,633
12					4,525,633
13	19,058	21,535,895	68,461	21,283,795	4,476,230
14	663,367	22,199,262	192,801	21,476,596	4,946,796
15	182	22,199,444	14,425	21,491,021	4,932,553
16	382,559	22,582,003			5,315,112
17	55,180	22,637,183	30,002	21,521,023	5,340,290
18					5,340,290
19					5,340,290
20	69,182	22,706,365	62,275	21,583,298	5,347,197
21	28,175	22,734,540	49,605	21,632,903	5,325,767
22	31,537	22,766,077	29,849	21,662,752	5,327,455
23	27,551	22,793,628	39,375	21,702,127	5,315,631
24	49,103	22,842,731	42,331	21,744,458	5,322,403
25					5,322,403
26					5,322,403
27	55,918	22,898,649	18,873	21,763,331	5,359,448
28	40,436	22,939,085	64,533	21,827,864	5,335,351
29	22,764	22,961,849	19,681	21,847,545	5,338,434
30	38,265	23,000,114	1,043,310	22,890,855	4,333,389
				Sub total:	\$148,992,749

Year End Total = \$1,862,014,620

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$5,843,726				
May 1, 1977					\$ 5,843,726
2	33,574	\$20,050,955	\$499,664	\$18,897,449	5,377,636
3	33,539	20,084,494	16,338	18,913,787	5,394,837
4	18,325	20,102,819	25,696	18,939,483	5,387,466
5	16,918	20,119,737	4,470	18,943,953	5,399,914
6	33,513	20,153,250	42,595	18,986,548	5,390,832
7					5,390,832
8					5,390,832
9	32,427	20,185,677	49,104	19,035,652	5,374,155
10	50,325	20,236,002	348,955	19,384,607	5,075,525
11	37,673	20,273,675	212,849	19,597,456	4,900,349
12	21,218	20,294,893	16,075	19,613,531	4,905,492
13	36,382	20,331,275	32,526	19,646,057	4,909,348
14					4,909,348
15					4,909,348
16	27,292	20,358,567	45,255	19,691,312	4,891,385
17	11,831	20,370,398	29,283	19,720,595	4,873,933
18	29,010	20,399,408	67,386	19,787,981	4,835,557
19	22,700	20,422,108	30,154	19,818,135	4,828,103
20	23,353	20,445,461	14,912	19,833,047	4,836,544
21					4,836,544
22					4,836,544
23	28,803	20,474,264	17,050	19,850,097	4,848,297
24	25,552	20,499,816	40,426	19,890,523	4,833,423
25	27,527	20,527,343	45,432	19,935,955	4,815,518
26	39,589	20,566,932	21,839	19,957,794	4,833,268
27	46,839	20,613,771	110,254	20,068,048	4,769,853
28					4,769,853
29					4,769,853
30	668,424	21,282,195	307,824	20,375,872	5,130,453
31	9,595	21,291,790	25,934	20,401,806	5,114,114
				Sub total:	\$156,382,882

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$6,765,402				
Apr. 1, 1977	38,856	\$18,836,832	\$130,373	\$16,387,077	\$ 6,673,885
2					6,673,885
3					6,673,885
4	38,112	18,874,944	385,119	16,772,196	6,326,878
5	29,548	18,904,492	11,162	16,783,358	6,345,264
6	24,512	18,929,004	50,623	16,833,981	6,319,153
7	34,766	18,963,770	15,697	16,849,678	6,338,222
8	36,813	19,000,583	74,038	16,923,716	6,300,997
9					6,300,997
10					6,300,997
11	22,741	19,023,324	101,146	17,024,862	6,222,592
12	29,451	19,052,775	48,082	17,072,944	6,203,961
13	13,591	19,066,366	10,475	17,083,419	6,207,077
14	62,203	19,128,569			6,269,280
15	635,450	19,764,019	180,767	17,264,186	6,723,963
16					6,723,963
17					6,723,963
18	28,465	19,792,484	50,800	17,314,986	6,701,628
19	24,389	19,816,873	69,853	17,384,839	6,656,164
20	10,389	19,827,262	38,004	17,422,843	6,628,549
21	31,707	19,858,969	36,620	17,459,463	6,623,636
22	25,298	19,884,267	437,409	17,896,872	6,211,525
23					6,211,525
24					6,211,525
25	33,904	19,918,171	81,462	17,978,334	6,163,967
26	15,994	19,934,165	6,398	17,984,732	6,173,563
27	13,570	19,947,735	62,307	18,047,039	6,124,826
28	28,900	19,976,635	350,746	18,397,785	5,802,980
29	40,746	20,017,381			5,843,726
30					5,843,726
				Sub total:	\$190,526,302

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$4,619,124				
Mar. 1, 1977	20,992	\$15,070,176	\$ 41,924	\$14,696,114	\$4,598,192
2	42,718	15,112,894	62,554	14,758,668	4,578,356
3	33,607	15,146,501	23,318	14,781,986	4,588,645
4	41,052	15,187,553	26,611	14,808,597	4,603,086
5					4,603,086
6					4,603,086
7	828,149	16,015,702	288,933	15,097,530	5,142,302
8	37,780	16,053,482	54,620	15,152,150	5,125,462
9	15,022	16,068,504	45,020	15,197,170	5,095,464
10	10,598	16,079,102	28,502	15,225,672	5,077,560
11	49,901	16,129,003	38,075	15,263,747	5,089,386
12					5,089,386
13					5,089,386
14	47,616	16,176,619	58,628	15,322,375	5,078,374
15	817,491	16,994,110	284,015	15,606,390	5,611,850
16	14,099	17,008,209	108,154	15,714,544	5,517,795
17	20,782	17,028,991	15,114	15,729,658	5,523,463
18	15,881	17,044,872	43,951	15,773,609	5,495,393
19					5,495,393
20					5,495,393
21	18,278	17,063,150	101,084	15,874,693	5,412,587
22	313,755	17,376,905			5,726,342
23	906,016	18,282,921			6,632,358
24	191,780	18,474,701	76,356	15,951,049	6,747,782
25	79,337	18,554,038	21,914	15,972,963	6,805,205
26					6,805,205
27					6,805,205
28	59,925	18,613,963	116,781	16,089,744	6,748,349
29	43,867	18,657,830	26,696	16,116,440	6,765,520
30	73,183	18,731,013	100,760	16,217,200	6,737,943
31	66,963	18,797,976	39,504	16,256,704	6,765,402
				Sub total:	\$173,452,956

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$5,001,361				
Feb. 1, 1977	42,304	\$13,317,541	\$ 30,345	\$12,528,351	\$ 5,013,320
2	22,327	13,339,868	447,875	12,976,226	4,587,772
3	20,939	13,360,807	60,905	13,037,131	4,547,806
4	23,320	13,384,127	46,882	13,084,013	4,542,244
5					4,542,244
6					4,542,244
7	36,734	13,420,861	21,458	13,105,471	4,539,520
8	24,242	13,445,103	14,852	13,120,323	4,548,910
9	35,568	13,480,671	72,211	13,192,534	4,512,267
10	20,337	13,501,008	80,587	13,273,121	4,452,017
11	33,705	13,534,713			4,485,722
12					4,485,722
13					4,485,722
14	35,949	13,570,662	220,505	13,493,626	4,301,166
15	847,958	14,418,620	42,960	13,536,586	5,106,164
16	18,021	14,436,641	66,040	13,602,626	5,058,145
17	27,485	14,464,126	49,446	13,652,072	5,036,184
18	398,895	14,863,021	49,867	13,701,939	5,385,212
19					5,385,212
20					5,385,212
21	29,282	14,892,303	25,746	13,727,685	5,388,748
22	38,646	14,930,949	27,777	13,755,462	5,399,617
23	16,407	14,947,356	45,514	13,800,976	5,370,510
24	16,239	14,963,595	69,860	13,870,836	5,316,889
25	36,460	15,000,055	33,640	13,904,476	5,319,709
26					5,319,709
27					5,319,709
28	49,129	15,049,184	749,714	14,654,190	4,619,124
				Sub total:	\$136,996,820

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$3,602,468				
Jan. 1, 1977					\$ 3,602,468
2					3,602,468
3	22,239	\$10,584,878	\$ 65,994	\$11,250,295	3,558,713
4					3,558,713
5	1,200,759	11,785,637			4,759,472
6	181,761	11,967,398	58,363	11,308,658	4,882,870
7	148,311	12,115,709	17,059	11,325,717	5,014,122
8					5,014,122
9					5,014,122
10	109,878	12,225,587	32,372	11,358,089	5,091,628
11	123,556	12,349,143			5,215,184
12	64,811	12,413,954	44,942	11,403,031	5,235,053
13	49,636	12,463,590	56,795	11,459,826	5,227,894
14	36,029	12,499,619	9,986	11,469,812	5,253,937
15					5,253,937
16					5,253,937
17	43,674	12,543,293	193,694	11,663,506	5,103,917
18	40,118	12,583,411	56,538	11,720,044	5,087,497
19	20,260	12,603,671	29,562	11,749,606	5,078,195
20	448,047	13,051,718	38,687	11,788,293	5,487,555
21	27,259	13,078,977	11,620	11,799,913	5,503,195
22					5,503,195
23	29,699	13,108,676			5,532,893
24	38,047	13,146,723	71,435	11,871,348	5,499,505
25			73,648	11,944,996	5,425,857
26	22,317	13,169,040	20,564	11,965,560	5,427,610
27	21,763	13,190,803	42,357	12,007,917	5,407,016
28	13,498	13,204,301	120,552	12,128,469	5,299,962
29					5,299,962
30					5,299,962
31	70,936	13,275,237	369,537	12,498,006	5,001,361
				Sub total:	\$155,496,322

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,699,870				
Dec. 1, 1976	38,533	\$ 9,453,915	\$457,132	\$ 9,396,774	\$ 4,281,271
2	34,288	9,488,203	32,283	9,429,057	4,283,276
3	36,169	9,524,372	44,931	9,473,988	4,274,514
4					4,274,514
5			6,074	9,480,062	4,268,440
6	8,291	9,532,662	204,843	9,684,905	4,071,888
7	51,428	9,584,091	10,814	9,695,719	4,112,502
8	8,529	9,592,620			4,121,031
9			45,259	9,740,978	4,075,772
10	12,381	9,605,001	65,154	9,806,132	4,022,999
11					4,022,999
12					4,022,999
13	33,572	9,638,573	49,890	9,856,022	4,006,681
14	10,236	9,648,809	36,606	9,892,628	3,980,311
15	849,075	10,497,884	38,918	9,931,546	4,790,468
16	8,053	10,505,937	307,107	10,238,653	4,491,414
17	7,175	10,513,112	756,649	10,995,302	3,741,940
18					3,741,940
19					3,741,940
20	10,741	10,523,853			3,752,681
21					3,752,681
22					3,752,681
23					3,752,681
24					3,752,681
25					3,752,681
26					3,752,681
27	16,849	10,540,702	26,184	11,021,486	3,743,346
28	7,326	10,548,028	75,499	11,096,985	3,675,173
29	6,934	10,554,962	11,011	11,107,996	3,671,096
30	7,677	10,562,639	76,305	11,184,301	3,602,468
31					3,602,468
				Sub total:	\$122,890,217

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$4,501,912				
Nov. 1, 1976	45,903	\$7,994,261	\$ 38,507	\$7,709,083	\$ 4,509,308
2	55,163	8,049,424	14,584	7,723,667	4,549,887
3	16,017	8,065,441	44,527	7,768,194	4,521,377
4	25,704	8,091,145	16,508	7,784,702	4,530,573
5	30,878	8,122,023	22,301	7,807,003	4,539,150
6					4,539,150
7					4,539,150
8	29,061	8,151,084	41,429	7,848,432	4,526,782
9	28,920	8,180,004	40,247	7,888,679	4,515,455
10	25,277	8,205,281	53,433	7,942,112	4,487,299
11	13,444	8,218,725	138,278	8,080,390	4,362,465
12	875,149	9,093,874	26,844	8,107,234	5,210,770
13					5,210,770
14					5,210,770
15	27,178	9,121,052	47,745	8,154,979	5,190,203
16	22,412	9,143,464	7,530	8,162,509	5,230,085
17	19,431	9,162,895	41,266	8,203,775	5,183,250
18	47,243	9,210,138	42,508	8,246,283	5,187,985
19	28,440	9,238,578	48,039	8,294,322	5,168,386
20					5,168,386
21					5,168,386
22	32,581	9,271,159	58,487	8,352,809	5,142,480
23	51,193	9,322,352	36,734	8,389,543	5,156,939
24	27,625	9,349,977	59,532	8,449,075	5,125,032
25					5,125,032
26					5,125,032
27					5,125,032
28					5,125,032
29	38,620	9,388,597	64,711	8,513,786	5,098,941
30	26,785	9,415,382	425,856	8,939,642	4,699,870
				Sub total:	\$147,272,977

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$5,975,580				
Oct. 1, 1976	21,443	\$6,505,177	\$ 59,489	\$4,791,773	\$ 5,937,534
2					5,937,534
3					5,937,534
4	18,060	6,523,237	28,983	4,820,756	5,926,611
5	26,788	6,550,025	98,355	4,919,111	5,855,044
6	104,626	6,654,651	28,676	4,947,787	5,930,994
7	11,566	6,666,217	10,024	4,957,811	5,932,536
8	21,137	6,687,354	83,165	5,040,976	5,870,508
9					5,870,508
10					5,870,508
11	44,672	6,732,026	30,263	5,071,239	5,884,917
12	22,090	6,754,116	69,076	5,140,315	5,837,931
13	33,608	6,787,724	39,210	5,179,525	5,832,329
14	20,389	6,808,113	867,558	6,047,083	4,985,160
15	37,138	6,845,251	189,496	6,236,579	4,832,802
16					4,832,802
17					4,832,802
18	12,865	6,858,116	33,520	6,270,099	4,812,147
19	45,272	6,903,388	42,104	6,312,203	4,815,315
20	30,415	6,933,803	42,357	6,354,560	4,803,373
21	22,831	6,956,634	77,989	6,432,549	4,748,215
22	871,014	7,827,648	80,096	6,512,645	5,539,133
23			101,342	6,613,987	5,437,791
24					5,437,791
25	19,623	7,847,271			5,457,414
26	28,704	7,875,975	96,011	6,709,998	5,390,107
27	15,381	7,891,356	28,891	6,738,889	5,376,597
28	24,833	7,916,189	60,019	6,798,908	5,341,411
29	32,169	7,948,358	871,668	7,670,576	4,501,912
30					4,501,912
31					4,501,912
				Sub total:	\$166,773,084

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$5,172,927				
Sept. 1, 1976			\$348,266	\$2,448,506	\$ 4,824,661
2			117,256	2,565,762	4,707,405
3			73,923	2,639,685	4,633,482
4					4,633,482
5					4,633,482
6					4,633,482
7	8,912	\$3,057,949	389,912	3,029,597	4,252,482
8	27,037	3,084,986	21,904	3,051,501	4,257,615
9	21,340	3,106,926	27,487	3,078,988	4,252,068
10	22,789	3,129,715	59,038	3,138,026	4,215,819
11					4,215,819
12					4,215,819
13	29,390	3,159,105	85,977	3,224,003	4,159,232
14	22,707	3,181,812	101,378	3,325,381	4,080,561
15	99,205	3,281,017			4,179,766
16	1,025,367	4,306,384	22,815	3,348,196	5,182,318
17	157,384	4,463,768	194,964	3,543,160	5,144,738
18					5,144,738
19					5,144,738
20	24,572	4,488,340	70,416	3,613,576	5,098,894
21	152,358	4,640,698	70,632	3,684,208	5,180,620
22	126,208	4,766,906	28,072	3,712,280	5,278,756
23	82,255	4,849,161	35,837	3,748,117	5,325,174
24	1,023,451	5,872,612	55,942	3,804,059	6,292,683
25					6,292,683
26					6,292,683
27	475,142	6,347,754	71,441	3,875,500	6,696,384
28	54,367	6,402,121	7,618	3,883,118	6,743,133
29	26,956	6,429,077	46,393	3,929,511	6,723,696
30	54,657	6,483,734	802,773	4,732,284	5,975,580
				Sub total:	\$152,411,993

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$5,148,408				
Aug. 1, 1976					\$ 5,148,408
2	46,371	\$1,623,598	\$352,740	\$1,005,689	4,842,039
3	25,565	1,649,163			4,867,604
4	8,306	1,657,469	16,132	1,021,821	4,859,778
5	11,688	1,669,157	5,858	1,027,679	4,865,608
6	11,393	1,680,550	238,041	1,265,720	4,638,960
7					4,638,960
8					4,638,960
9	21,679	1,702,229			4,660,639
10	8,031	1,710,260			4,668,670
11	17,865	1,728,125	25,003	1,290,723	4,661,532
12	14,124	1,742,249	13,744	1,304,467	4,661,912
13	13,735	1,755,984	45,872	1,350,339	4,629,775
14					4,629,775
15					4,629,775
16	132,529	1,888,513			4,762,304
17	975,657	2,864,170	67,275	1,417,614	5,670,686
18	21,513	2,885,683	29,730	1,447,344	5,662,469
19	49,540	2,935,223	26,105	1,473,449	5,685,904
20	10,822	2,946,045	214,028	1,687,477	5,482,698
21					5,482,698
22					5,482,698
23	13,650	2,959,695	9,054	1,696,531	5,487,294
24	18,895	2,978,590	100,657	1,797,188	5,405,532
25	11,498	2,990,088			5,417,030
26	5,214	2,995,302			5,422,244
27	19,167	3,014,469	21,462	1,818,650	5,419,949
28					5,419,949
29					5,419,949
30	8,648	3,023,117	281,590	2,100,240	5,147,007
31	25,920	3,049,037			5,172,927
				Sub total:	\$157,583,733

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$4,224,130				
July 1, 1976	33,788	\$ 33,788			\$ 4,257,918
2	38,625	72,413			4,296,543
3					4,296,543
4					4,296,543
5					4,296,543
6	12,484	84,897			4,309,027
7	44,746	129,643			4,353,773
8	7,490	137,133			4,361,263
9	25,785	162,918			4,387,048
10					4,387,048
11					4,387,048
12	4,859	167,777			4,391,907
13	139,969	307,746			4,531,876
14	12,601	320,347			4,544,477
15	981,381	1,301,728	\$175,048	\$175,048	5,350,810
16	10,890	1,312,618			5,361,700
17					5,361,700
18					5,361,700
19	39,948	1,352,566			5,401,648
20	39,606	1,392,172			5,441,254
21	28,661	1,420,833			5,469,915
22	15,794	1,436,627			5,485,709
23	21,915	1,458,542			5,507,624
24					5,507,624
25					5,507,624
26	36,717	1,495,259			5,544,341
27	21,406	1,516,665	21,360	196,408	5,544,387
28	10,786	1,527,451	57,600	254,008	5,497,573
29	15,121	1,542,572	16,091	270,099	5,496,603
30	34,655	1,577,227	382,850	652,949	5,148,408
31					5,148,408
				Sub total:	\$153,234,585

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$4,842,323				
June 1, 1976	37,444	\$19,789,466	\$ 34,542	\$18,250,301	\$ 4,845,225
2	57,643	19,847,109	320,987	18,571,288	4,581,881
3	33,233	19,880,342	45,098	18,616,386	4,570,016
4	21,875	19,902,217	66,565	18,682,951	4,525,326
5					4,525,326
6					4,525,326
7	27,216	19,929,433	22,766	18,705,717	4,529,776
8	16,839	19,946,272	14,811	18,720,528	4,531,804
9	21,455	19,967,727	49,170	18,769,698	4,504,089
10	65,398	20,033,125	97,628	18,867,326	4,471,859
11	10,094	20,043,219	5,027	18,872,353	4,476,926
12					4,476,926
13					4,476,926
14	3,081	20,046,300	7,377	18,879,730	4,472,630
15	39,184	20,085,484	179,009	19,058,739	4,332,805
16	91,548	20,177,032	11,577	19,070,316	4,412,776
17	345,148	20,522,180	27,656	19,097,972	4,730,268
18	50,350	20,572,530	39,976	19,137,948	4,740,642
19					4,740,642
20					4,740,642
21	39,687	20,612,217	31,339	19,169,287	4,748,990
22	14,665	20,626,882	52,065	19,221,352	4,711,590
23	22,842	20,649,724	39,804	19,261,156	4,694,628
24	9,874	20,659,598	49,555	19,310,711	4,654,947
25	22,033	20,681,631	18,702	19,329,413	4,658,278
26					4,658,278
27					4,658,278
28	139,275	20,820,906	16,591	19,346,004	4,780,962
29	74,746	20,895,652	10,090	19,356,094	4,845,618
30	764,736	21,660,388	1,386,224	20,742,318	4,224,130
				Sub total:	\$137,847,510
				Year-end total	\$1,642,101,688

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$5,013,911				
May 1, 1976					\$ 5,013,911
2					5,013,911
3	40,272	\$18,410,237	\$ 48,532	\$16,620,646	5,095,651
4	27,467	18,437,704	364,364	16,985,010	4,758,754
5	43,210	18,480,914	64,171	17,049,181	4,737,793
6	10,882	18,491,796	13,263	17,062,444	4,735,412
7	24,261	18,516,057	97,008	17,159,452	4,662,665
8					4,662,665
9					4,662,665
10	55,837	18,571,894			4,718,502
11	73,904	18,645,798	32,730	17,192,182	4,759,676
12	19,474	18,665,272	7,385	17,199,567	4,771,765
13	38,939	18,704,211	163,079	17,362,646	4,647,625
14	765,762	19,469,973	85,409	17,448,055	5,327,978
15					5,327,978
16					5,327,978
17	29,034	19,499,007	19,674	17,467,729	5,337,338
18	20,000	19,519,007	58,039	17,525,768	5,299,299
19	20,357	19,539,364	39,186	17,564,954	5,280,470
20	24,179	19,563,543	16,211	17,581,165	5,288,438
21	41,628	19,605,171	28,965	17,610,130	5,301,101
22					5,301,101
23					5,301,101
24	8,413	19,613,584	80,644	17,690,774	5,228,870
25	41,419	19,655,003	45,704	17,736,478	5,224,585
26	33,317	19,688,320			5,257,902
27	10,643	19,698,963	13,743	17,750,221	5,254,802
28	20,686	19,719,649	47,838	17,798,059	5,227,650
29					5,227,650
30					5,227,650
31	32,373	19,752,022	417,700	18,215,759	4,842,323
				Sub total:	\$156,825,209

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$5,800,485				
Apr. 1, 1976	27,243	\$16,924,324	\$ 20,301	\$14,422,957	\$ 5,807,427
2	20,027	16,944,351	473,330	14,896,287	5,354,124
3					5,354,124
4					5,354,124
5	65,154	17,009,505	34,969	14,931,256	5,384,309
6	24,962	17,034,467	17,757	14,949,013	5,391,514
7	31,088	17,065,555	39,351	14,988,364	5,383,251
8	30,446	17,096,001	63,955	15,052,319	5,349,742
9	27,864	17,123,865	58,152	15,110,471	5,319,454
10					5,319,454
11					5,319,454
12	42,639	17,166,504	83,783	15,194,254	5,278,310
13	68,937	17,235,441	52,194	15,246,448	5,295,053
14	753,283	17,988,724	42,416	15,288,864	6,005,920
15	25,380	18,014,104	372,550	15,661,414	5,658,750
16					5,658,750
17					5,658,750
18					5,658,750
19	34,382	18,048,486	38,621	15,700,035	5,654,511
20	82,150	18,130,636	31,633	15,731,668	5,705,028
21	29,268	18,159,904	38,362	15,770,030	5,695,934
22	9,579	18,169,483	31,181	15,801,211	5,674,332
23	27,401	18,196,884	72,057	15,873,268	5,629,676
24					5,629,676
25					5,629,676
26	22,166	18,219,050	70,691	15,943,959	5,581,151
27	75,932	18,294,982	182,419	16,126,378	5,474,664
28	14,302	18,309,284	25,916	16,152,294	5,463,050
29	27,448	18,336,732	24,826	16,177,120	5,465,672
30	33,233	18,369,965	394,994	16,572,114	5,103,911
				Sub total:	\$165,258,541

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,753,051				
Mar. 1, 1976	41,712	\$14,333,566			\$ 4,794,763
2	37,616	14,371,182	\$ 24,116	\$12,868,979	4,808,263
3	22,572	14,393,754	69,624	12,938,603	4,761,211
4	25,055	14,418,809	22,926	12,961,529	4,763,340
5	16,792	14,435,601	19,406	12,980,935	4,760,726
6					4,760,726
7					4,760,726
8	13,256	14,448,857	26,239	13,007,174	4,747,743
9	48,763	14,497,620	64,402	13,071,576	4,732,104
10	46,145	14,543,765	165,575	13,237,151	4,612,674
11	32,641	14,576,406	154,660	13,391,811	4,490,655
12	16,785	14,593,191	43,414	13,435,225	4,464,026
13					4,464,026
14					4,464,026
15	41,059	14,634,250	6,466	13,441,691	4,498,619
16	43,525	14,677,775	198,620	13,640,311	4,343,524
17	8,692	14,686,467	19,148	13,659,459	4,333,068
18	7,114	14,693,581	78,154	13,737,613	4,262,028
19	14,301	14,707,882	39,001	13,776,614	4,237,328
20					4,237,328
21					4,237,328
22	9,142	14,717,024	161,686	13,938,300	4,084,784
23	302,133	15,019,157			4,386,917
24	755,744	15,774,901			5,142,661
25	142,165	15,917,066	32,359	13,970,659	5,252,467
26	83,361	16,000,427	69,914	14,040,573	5,265,914
27					5,265,914
28					5,265,914
29	787,401	16,787,828	20,983	14,061,556	6,032,332
30	69,272	16,857,100	67,260	14,128,816	6,034,344
31	39,981	16,897,081	273,840	14,402,656	5,800,485
				Sub total:	\$148,065,964

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,915,993				
Feb. 1, 1976					\$ 4,915,993
2	51,451	\$12,846,448			4,967,444
3	15,691	12,862,139	\$ 6,977	\$11,192,041	4,976,158
4	28,984	12,891,123	15,884	11,207,925	4,989,258
5	8,864	12,899,987	25,287	11,233,212	4,972,835
6	31,509	12,931,496	32,536	11,265,748	4,971,808
7					4,971,808
8					4,971,808
9	37,227	12,968,723	69,715	11,335,463	4,939,320
10	256,356	13,225,079	39,878	11,375,341	5,155,798
11	21,789	13,246,868	137,073	11,512,414	5,040,514
12	8,191	13,255,059	35,086	11,547,500	5,013,619
13	757,527	14,012,586	180,390	11,727,890	5,590,756
14					5,590,756
15					5,590,756
16	45,076	14,057,662	85,285	11,813,175	5,550,547
17	57,441	14,115,103	56,250	11,869,425	5,551,738
18	18,116	14,133,219	13,248	11,882,673	5,556,606
19	20,986	14,154,205	17,564	11,900,237	5,560,028
20	17,062	14,171,267	21,037	11,921,274	5,556,053
21					5,556,053
22					5,556,053
23	42,924	14,214,191	33,500	11,954,774	5,565,477
24	15,143	14,229,334	59,855	12,014,629	5,520,765
25	13,496	14,242,830	34,839	12,049,468	5,499,422
26	26,832	14,269,662	35,747	12,085,215	5,490,507
27	22,192	14,291,854	759,648	12,844,863	4,753,051
28					4,753,051
				Sub total:	\$147,127,982

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$3,004,411				
Jan. 1, 1976					
2	5,158	\$ 9,170,462	\$144,538	\$ 9,611,491	\$ 2,865,031
3					2,865,031
4					2,865,031
5	20,379	9,190,841			2,885,410
6	340,212	9,531,053			3,225,622
7	702,009	10,233,062			3,927,631
8	37,855	10,270,917	21,836	9,633,327	3,943,650
9	46,081	10,316,998	36,511	9,669,838	3,953,220
10					3,953,220
11					3,953,220
12	234,021	10,551,019	24,201	9,694,039	4,163,040
13	96,345	10,647,364	34,984	9,729,023	4,224,401
14	771,530	11,418,894	40,792	9,769,815	4,955,139
15	141,502	11,560,396	124,737	9,894,552	4,971,904
16	15,958	11,576,354	52,522	9,997,074	4,935,340
17					4,935,340
18					4,935,340
19	43,606	11,619,960	39,113	9,986,187	4,939,833
20	75,917	11,695,877	56,315	10,042,502	4,959,435
21	30,997	11,726,874	35,019	10,077,521	4,955,413
22	50,100	11,776,974	23,918	10,101,439	4,981,595
23	57,180	11,834,154	119,832	10,221,271	4,918,943
24					4,918,943
25					4,918,943
26	39,320	11,873,474	39,723	10,260,994	4,918,540
27	60,971	11,934,445	53,100	10,314,094	4,926,411
28	756,706	12,691,151	13,391	10,327,485	5,669,726
29	28,154	12,719,305	21,820	10,349,305	5,676,060
30	75,692	12,794,997	304,277	10,653,582	5,447,475
31			531,482	11,185,064	4,915,993
				Sub total:	\$133,704,880

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,576,840				
Dec. 1, 1975	43,971	\$8,822,371	\$388,427	\$7,896,047	\$ 4,232,384
2	21,498	8,843,869	13,172	7,909,219	4,240,710
3	41,665	8,885,534	11,109	7,920,328	4,271,266
4	40,905	8,926,439	25,136	7,945,464	4,287,035
5	14,700	8,941,139	69,444	8,014,908	4,232,291
6					4,232,291
7					4,232,291
8	15,846	8,956,985	19,949	8,034,857	4,228,188
9	17,291	8,974,276	59,301	8,094,158	4,186,178
10	6,713	8,980,989	198,603	8,292,761	3,994,288
11	33,806	9,014,795	35,404	8,328,165	3,992,690
12	15,768	9,030,563	93,782	8,421,947	3,914,676
13					3,914,676
14					3,914,676
15	21,675	9,052,238	10,992	8,432,939	3,925,359
16	10,257	9,062,495	20,246	8,453,185	3,915,370
17	1,736	9,064,231	38,969	8,492,154	3,878,137
18	18,069	9,082,300	17,613	8,509,767	3,878,593
19	12,613	9,094,913	835,957	9,345,724	3,055,249
20					3,055,249
21					3,055,249
22	8,176	9,103,089			3,063,425
23					3,063,425
24					3,063,425
25					3,063,425
26					3,063,425
27					3,063,425
28					3,063,425
29	12,709	9,115,798			3,076,134
30	14,932	9,130,730	13,308	9,359,032	3,077,758
31	34,574	9,165,304	107,921	9,466,953	3,004,411
				Sub total:	\$113,239,124

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,463,734				
Nov. 1, 1975					\$ 4,463,734
2					4,463,734
3	65,871	\$7,210,731	\$369,846	\$6,357,032	4,159,759
4	37,049	7,247,780	65,792	6,422,824	4,131,016
5	22,749	7,270,529	32,772	6,455,596	4,120,993
6	27,089	7,297,618	15,940	6,471,536	4,132,142
7	11,681	7,309,299	34,009	6,505,545	4,109,814
8					4,109,814
9					4,109,814
10	66,414	7,375,713	84,939	6,590,484	4,091,289
11	17,181	7,392,894	19,369	6,609,853	4,089,101
12	32,262	7,425,156	45,075	6,654,928	4,076,288
13	14,336	7,439,492	18,655	6,673,583	4,071,969
14	18,938	7,458,430	37,278	6,710,861	4,053,629
15					4,053,629
16					4,053,629
17	21,862	7,480,292	137,484	6,848,345	3,938,007
18	821,837	8,302,129	86,982	6,935,327	4,672,862
19	24,238	8,326,367	51,439	6,986,766	4,645,661
20	30,521	8,356,888	19,929	7,006,695	4,656,253
21	9,831	8,366,719	27,384	7,034,079	4,638,700
22					4,638,700
23					4,638,700
24	348,328	8,715,047	52,299	7,086,378	4,934,729
25	47,888	8,762,935	79,453	7,165,831	4,903,164
26	15,465	8,778,400	341,789	7,507,620	4,576,840
27					4,576,840
28					4,576,840
29					4,576,840
30					4,576,840
				Sub total:	\$130,841,330

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,881,743				
Oct. 1, 1975	27,665	\$5,636,413	\$413,531	\$4,446,596	\$4,495,877
2	40,332	5,676,745	40,223	4,486,819	4,495,986
3	43,336	5,720,081	20,244	4,507,063	4,519,078
4					4,519,078
5					4,519,078
6	51,325	5,771,406	41,433	4,548,496	4,528,970
7	91,595	5,863,001	17,447	4,565,943	4,603,118
8	43,006	5,906,007	14,356	4,580,299	4,631,768
9	15,376	5,921,383	19,723	4,600,022	4,627,421
10	21,581	5,942,964	87,488	4,687,510	4,561,514
11					4,561,514
12					4,561,514
13	56,266	5,999,230	13,734	4,701,244	4,604,046
14	44,250	6,043,480	46,190	4,747,434	4,602,106
15	21,165	6,064,645	188,397	4,935,831	4,434,874
16	33,637	6,098,282	61,822	4,997,653	4,406,689
17	33,156	6,131,438	69,457	5,067,110	4,370,388
18					4,370,388
19					4,370,388
20	11,897	6,143,335	48,224	5,115,334	4,334,061
21	48,194	6,191,529	40,356	5,155,690	4,341,899
22	18,597	6,210,126	256,452	5,412,142	4,104,044
23	767,124	6,977,250	14,275	5,426,417	4,856,893
24	11,022	6,988,272	114,510	5,540,927	4,753,405
25					4,753,405
26					4,753,405
27	49,843	7,038,115	17,821	5,558,748	4,785,427
28	50,989	7,089,104			4,836,416
29	17,326	7,106,430	85,575	5,644,323	4,768,167
30	25,450	7,131,880	62,514	5,706,837	4,731,103
31	12,980	7,144,860	280,349	5,987,186	4,463,734

Sub total: \$141,265,754

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$4,106,137				
Sept. 1, 1975					\$ 4,106,137
2	19,516	\$3,048,675	\$309,244	\$2,538,326	3,816,409
3	28,155	3,076,830	36,651	2,574,977	3,807,913
4	11,464	3,088,294	33,864	2,608,841	3,785,513
5	18,077	3,106,371	22,209	2,631,050	3,781,381
6					3,781,381
7					3,781,381
8	20,610	3,126,981	204,681	2,835,731	3,597,310
9	5,545	3,132,526	12,114	2,847,845	3,590,741
10	18,615	3,151,141	45,359	2,893,204	3,563,997
11	30,030	3,181,171	98,528	2,991,732	3,495,499
12	13,755	3,194,926	31,348	3,023,080	3,477,906
13					3,477,906
14					3,477,906
15			40,280	3,063,360	3,437,626
16	34,548	3,229,474	227,970	3,291,330	3,244,204
17	41,817	3,271,291	109,887	3,401,217	3,176,134
18	36,065	3,307,356			3,212,199
19	921,500	4,228,856			4,133,699
20					4,133,699
21					4,133,699
22	93,497	4,322,353	116,227	3,517,444	4,110,969
23	131,537	4,453,890	66,731	3,584,175	4,175,775
24	864,479	5,318,369	45,492	3,629,667	4,994,762
25	54,303	5,372,672	53,363	3,683,030	4,995,702
26	76,188	5,448,860	30,075	3,713,105	5,041,815
27					5,041,815
28					5,041,815
29	8,247	5,457,107	288,046	4,001,151	4,762,016
30	151,641	5,608,748	31,914	4,033,065	4,881,743
				Sub total:	\$120,059,052

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning					
Balance:	\$3,901,349				
Aug. 1, 1975	27,139	\$1,552,119	\$115,967	\$1,045,658	\$ 3,812,521
2					3,812,521
3					3,812,521
4	16,917	1,569,036	39,121	1,084,779	3,790,317
5	44,167	1,613,203	2,997	1,087,776	3,831,487
6	10,977	1,624,180	12,598	1,100,374	3,829,866
7	16,468	1,640,648	5,779	1,106,153	3,840,555
8	15,550	1,656,198	100,941	1,207,094	3,755,164
9					3,755,164
10					3,755,164
11	766,391	2,422,589			4,521,555
12	17,093	2,439,682	10,272	1,217,366	4,528,376
13	6,562	2,446,244	32,305	1,249,671	4,502,633
14	9,767	2,456,011	190,457	1,440,128	4,321,943
15	15,806	2,471,817	32,914	1,473,042	4,304,835
16					4,304,835
17					4,304,835
18	102,275	2,574,092	25,880	1,498,922	4,381,230
19	62,168	2,636,260			4,443,398
20	7,930	2,644,190	35,310	1,534,232	4,416,018
21	271,495	2,915,685	176,197	1,710,429	4,511,316
22	15,571	2,931,256	19,980	1,730,409	4,506,907
23					4,506,907
24					4,506,907
25	15,429	2,946,685	75,920	1,806,329	4,446,416
26	13,095	2,959,780	45,807	1,852,136	4,413,704
27	9,710	2,969,490	24,470	1,876,606	4,398,944
28	52,193	3,021,683	77,324	1,953,430	4,373,813
29	7,476	3,029,159	275,152	2,229,082	4,106,137
30					4,106,137
31					4,106,137
				Sub total:	\$130,008,263

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beg. Bal:	\$3,306,060				
July 1, 1975	28,929	\$ 28,929			\$ 3,334,989
2	25,953	54,882			3,360,942
3	8,766	63,648			3,369,708
4					3,369,708
5					3,369,708
6					3,369,708
7	31,296	94,944			3,401,004
8	34,304	129,248			3,435,308
9	14,741	143,989			3,450,049
10	13,591	157,580			3,463,640
11	35,170	192,750			3,498,810
12					3,498,810
13					3,498,810
14	19,943	212,693	\$ 27,808	\$ 27,808	3,490,945
15	9,059	221,752			3,500,004
16	16,098	237,850			3,516,102
17	163,510	401,360	7,222	35,030	3,672,390
18	739,881	1,141,241	206,766	241,796	4,205,505
19					4,205,505
20					4,205,505
21	21,606	1,162,847	18,831	260,627	4,208,280
22	44,428	1,207,275			4,252,708
23	36,119	1,243,394	12,247	272,874	4,276,580
24	15,200	1,258,594	18,426	291,300	4,273,354
25	7,801	1,266,395	69,360	360,660	4,211,795
26					4,211,795
27					4,211,795
28	109,638	1,376,033			4,321,433
29	83,072	1,459,105	17,329	377,989	4,387,176
30	12,199	1,471,304	14,711	392,700	4,384,664
31	53,676	1,524,980	536,991	929,691	3,901,349
				Sub total:	\$117,858,079

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beg. Bal:	\$3,306,060				
July 1, 1975	28,929	\$ 28,929			\$ 3,334,989
2	25,953	54,882			3,360,942
3	8,766	63,648			3,369,708
4					3,369,708
5					3,369,708
6					3,369,708
7	31,296	94,944			3,401,004
8	34,304	129,248			3,435,308
9	14,741	143,989			3,450,049
10	13,591	157,580			3,463,640
11	35,170	192,750			3,498,810
12					3,498,810
13					3,498,810
14	19,943	212,693	\$ 27,808	\$ 27,808	3,490,945
15	9,059	221,752			3,500,004
16	16,098	237,850			3,516,102
17	163,510	401,360	7,222	35,030	3,672,390
18	739,881	1,141,241	206,766	241,796	4,205,505
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21	21,606	1,162,847	18,831	260,627	4,208,280
22	44,428	1,207,275			4,252,708
23	36,119	1,243,394	12,247	272,874	4,276,580
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25	7,801	1,266,395	69,360	360,660	4,211,795
26					4,211,795
27					4,211,795
28	109,638	1,376,033			4,321,433
29	83,072	1,459,105	17,329	377,989	4,387,176
30	12,199	1,471,304	14,711	392,700	4,384,664
31	53,676	1,524,980	536,991	929,691	3,901,349
				Sub total:	\$117,858,079

VITA

Michael Nivens was born in Anderson, Indiana on February 28, 1949. He attended elementary schools at Livingston, Tennessee, and graduated from Livingston Academy in June, 1967. The following September he entered Tennessee Technological University, and in June, 1971, he received a Bachelor of Science degree in Business Administration. In the fall of 1971, he accepted an assistantship at Tennessee Technological University in the College of Education and began study toward a Master's degree in Educational Psychology and Guidance-Personnel. This degree was awarded in June of 1972.

After graduation, he accepted employment at Tennessee Technological University as the Director of Purchasing. In the spring of 1975, he entered the Graduate School of The University of Tennessee, Knoxville. He received the Doctor of Education degree with a major in Educational Administration and Supervision directed toward Finance and Planning in Higher Education in 1979.

He is married to the former Diana Robbins of Monroe, Tennessee. They have two children, Tera and Kim.