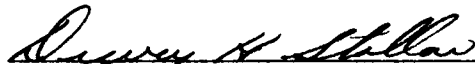
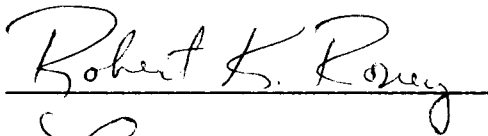


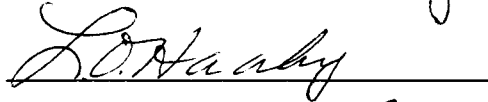
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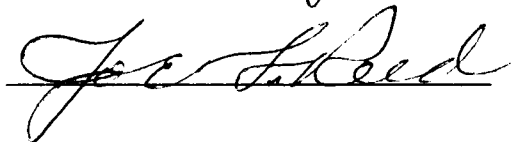
I am submitting herewith a dissertation written by Daniel Lee McIntyre entitled "Cash Management in Florida's Public Schools." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Administration and Supervision.


Dewey H. Stollar, Major Professor

We have read this dissertation
and recommend acceptance:







Accepted for the Council:


The Graduate School

CASH MANAGEMENT IN FLORIDA'S PUBLIC SCHOOLS

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Daniel Lee McIntyre

March 1985

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March 1985

DEDICATION

This study is dedicated to my family. Specifically, it is dedicated to my father, my mother, my wife and my children. Without the help of my parents, Elizabeth V. and D. E. McIntyre, I would not have an education at all. Without the loving support of my wife, Phyllis, I certainly could never have completed the Doctor of Education degree. Without my children, Katie and Danny, I am not sure that I would have wanted to make the effort.

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ABSTRACT

The purpose of this study was to analyze descriptively cash management practices in Florida's public school systems and to adapt analytical cash management procedures to develop a model which would benefit all public school systems. Data were collected through a questionnaire which was returned by all systems in the state. In addition, the Hernando County School System was used as the base system from which internal financial data were gathered.

A review of literature revealed that cash management was a process consisting of four elements--cash forecasting, cash flow management, bank relations, and investment of idle funds. In addition, while it was found that larger, wealthier districts are more likely to have better developed programs, there is no reason why any school district should not effectively manage its cash assets. Other primary factors contributing to the success of cash management programs included the supportiveness of school boards and the level of training of investment officers.

Major findings from the questionnaire were:

1. Only 58 percent of all systems had adopted a cash management policy, and only five used outside consultants.
2. Sixty four of 67 systems reported that one person was responsible for the cash management program. All but three of those responsible were lower level district administrators.
3. Sixty one systems reported using some method of cash forecasting, while 13 of those 61 systems used a combination of methods.

4. More systems (46 percent) reported approving claims for payment once each month, while more systems (39 percent) reported actually paying claims twice each month.

5. Only four systems reported that their boards had adopted policies defining bank relationships.

6. Five banks reported paying fees to compensate banks.

7. Generally, most Florida school systems used an excessive number of banks and kept too many demand accounts.

8. Most systems (72 percent) reported that an appointed officer made investments within prescribed guidelines.

When information from the Hernando County School System was manipulated using procedures from the Jones and Howard (1973) model, it was found that idle funds could be increased. Also, periods of deficit were avoided.

Finally, one recommendation was made. That recommendation consisted of a cash management model based on the data that were presented.

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CHAPTER I

INTRODUCTION

The ability to maximize the use of available financial resources is an attribute that will become increasingly important to public school officials in the years ahead. Published in 1980, one report by the American Association of School Administrators had the following to say:

The problem confronting schools today is stark--expenses are going up at a rapid rate and income is not going up fast enough to meet the added cost. The result is obvious. Balancing the school district budget in the 1980s is going to be one of the toughest jobs confronting school administrators and school boards (Gonder, 1980:5).

They saw the decline in student population, the competition with other social services for funds, and a declining political base for public education as primary factors contributing to the shrinkage of available funds for public schools. "Projections for education expenditures for 1980 to 1990 look fairly dismal," they said, "especially relative to the recent past" (Kirst and Garms, 1980:5).

All one had to do to find support for the notion that adequate funding for public education would be increasingly difficult to obtain was to be aware of the public's mood as it was reflected daily in the media. For instance, the electorate in some states had already voted into law a "cap" on new taxes. In Florida, there was real fear among public officials that the same thing might happen there in the not so distant future. And related to the very real aversion to new taxes was

the ever increasing demand for accountability. Taxpayers continued to insist that their tax dollars be used efficiently as well as effectively.

Also compounding the problem for public school administrators and boards was the recent publication at the state and federal levels of reports that were highly critical of the public school system in this country. In Florida, the so-called Brown Report had very little to say that was good about the state's school system. Coincidentally, the Brown Report was made public at about the same time that the National Commission on Excellence in Education published its findings--findings that were also heavily critical of America's public schools (Tampa Tribune, 1983).

There was no doubt that public school officials are being faced with ever more complex problems. On the one hand, they are being criticized for not properly educating the country's children. New programs and improvements at all levels are being demanded--from teacher salaries to improvements in the curriculum. On the other hand, the public is balking at new taxes that will be necessary if desired changes are to be implemented. In addition, there has never been a time when the taxpayer is as militant in his insistence for fiscal accountability.

How, then, are the schools to meet the new challenges? First, educators have to explain the current status of academic performance in the nation's schools. Second, what has to be done both monetarily and structurally to achieve desired objectives has to be presented in a rational manner that could be easily understood. Third, school

officials have to show the public that they are using available resources to the maximum extent possible.

It was with the third area that this paper was concerned. Specifically, this paper examined cash management practices in Florida's public schools and attempted to provide a model that would assist in the efficient use of cash resources.

Perspective

Fisher (1973) said that cash, or simply money, was an asset that should be worked. Grieves (1982:1) went on to say that, "The objective of cash management is the maximization of returns on short-term funds consistent with the need to maintain liquidity for business operations or individual requirements." Put simply, cash management attempts to track and control the flow of funds through the institution. The primary objective is to influence the availability of receipts while delaying the outflow of funds (Beehler, 1978).

The cash management process by which this objective (influencing the availability of receipts and delaying the outflow of funds) can be attained was made up of four basic elements: cash forecasting, managing cash flows, banking relations and investing surplus cash (Fisher, 1973). To understand cash management, an overview of these elements was essential.

Cash forecasting, for instance, could refer to any one of a number of techniques that could be used to determine the availability of cash at any given future date. Because of the particular characteristics of school district revenues and expenditures, a form of the receipts and disbursements method was used in this study to examine

cash forecasting practices. Specifically, the model developed by Jones and Howard (1973) in their book, Investment of Idle Funds By Local Governments: A Primer, was utilized. This model allowed the comparison of daily revenues to daily expenditures. Consequently, an accurate forecast of cash available for investment at any time during a given period could be made.

Managing cash flows was a concept whose application would have substantial impact on the cash management program of any institution. Briefly stated, managing cash flow was a measure of the ability to affect the timing of the receipt and disbursement of money. Obviously, if one were able to receive all revenues at the beginning of the fiscal year in a lump sum and made disbursements at the end of the fiscal year in a lump sum, the income from interest earnings would be totally maximized for that year.

Public schools, unfortunately, had little control over when revenues would be received. In Florida, for instance, state revenues were electronically wired to the school systems' credit twice each month on specific days. Control over disbursements, however, could be significant. Through the informed timing of purchases and disbursements for all expenses except wages and salaries, substantial funds would be released for short-term investment.

Banking relations was an area of the cash management process that required special attention. More than one superintendent had gained the enmity of local banks because of his efforts to aggressively manage the school district's cash assets. The reason for this stemmed

from the way that banks had historically been compensated for their services.

Traditionally, banks have preferred that "compensating balances" be kept on deposit for payment of financial services (Beehler, 1978:25). In other words, banks have asked that certain of their large business and institutional customers keep specific amounts of cash in demand deposit accounts. Usually, no interest was actually paid on these deposits. Rather, an "interest credit" was offset against the bank's expense for handling the particular account, and any credit in excess of the bank's expense was kept by the bank.

While any business, including banks, must be reasonably paid for services rendered, it was most important for cash managers to guarantee that the banks were not over compensated. To this end, any compensating balance had to be continuously and closely scrutinized. In addition, other methods of payment could have been explored, especially for services that fell outside those expenses typically associated with demand deposit account maintenance (i.e., wire transfers and account reconciliation services). In the final analysis, cash managers have to realize that their primary goal is to make funds available for investment. Of necessity, this goal has to be their guide when developing business relationships with banks.

The investment of idle funds is the last element of the cash management process. Logically, no investment can be made intelligently until the other three elements (cash forecasting, cash flow management and bank relations) have been considered. Once it become known what funds were available and the structure for the management of those

funds had been established, then investments could have been made that would have enhanced both the business operations and the interest income of the school district.

When the cash manager chooses investments, there are at least four factors that have to be considered. They are as follows: (1) risk, (2) yield, (3) maturity, and (4) liquidity (Patitucci and Lichtenstein, 1977). With respect to public school systems, however, risk can not be considered a significant factor. Risk is usually so limited by state legal restrictions that its potential effect is actually eliminated. Even so, the degree to which the cash manager correctly assesses and accounts for the other three factors in choosing investments has a direct and important impact on the results of the cash management program.

Summary

In the attempt to help reduce the disparity between the demands being made of public school systems and the ability of those systems to meet the costs of those demands, this paper attempted to do two things. First, the effort was made accurately to describe current practice with respect to cash management in Florida's public schools. Second, the attempt was made to show how investment income could be enhanced through the implementation of an appropriate cash management model.

I. STATEMENT OF THE PROBLEM

In the future, public school systems will continue to be hard pressed to provide funding for the broad range of educational programs demanded by their constituents. In fact, adequate revenue may be even

more difficult to obtain than in the past. Recent cutbacks and impoundments at both the state and federal levels were but two examples that supported this point of view.

At least part of future funding requirements can be met through the adoption and implementation of efficient, even aggressive, cash management policies. Because public school systems have been less than diligent in the past in managing their cash assets, they have lost revenue that they might have earned through investments.

II. PURPOSE OF THE STUDY

The purpose of this study was to analyze descriptively the current practices and outcomes of the management of cash in the 67 public school systems in the State of Florida. This analysis included cash forecasting, managing cash flows, banking relations, and investing surplus cash. In addition, it was the purpose of this study to adapt analytical cash management procedures to develop a model which would benefit all public school systems.

III. NEED FOR THE STUDY

There were several reasons that substantiated the proposed study. They included:

1. The need for public school systems to increase their income and thereby gain revenues that would enable them to meet the process and benefits of aggressive cash management.
2. The need for public school systems to develop a model which would benefit all public school systems.

3. The need to meet the increasing public demand for efficiency and accountability in all areas of school management.

4. The need to develop better financial management practices through the use of improved cash management techniques.

All of the above reasons illustrated the importance of managing and investing idle funds in the most profitable ways possible. Public school systems that do not invest properly and actively monitor those investments lose income of thousands and even hundreds of thousands of dollars annually (Igneri, 1979). And not only is income lost; also lost is the respect and confidence of the taxpaying public in the ability of school managers to efficiently utilize available resources.

IV. LIMITATION AND DELIMITATIONS

The following limitation and delimitations were imposed on this study:

1. This study was limited by the accuracy and completeness of the fiscal and financial data gathered and reported from the 67 public school systems surveyed.

2. This study was delimited to only the 67 public school systems under the jurisdiction of the Department of Education of the State of Florida.

3. This study was delimited to fiscal and financial data available from these 67 public school systems.

V. SOURCE OF DATA AND PROCEDURES

Procedures for gathering data for this study were as follows:

The Hernando County School System, whose central office is located in Brooksville, Florida, was used as the base system for the gathering of internal financial information from which a cash management model for public schools was developed. Daily cash flow charts were prepared for a three-year period which included fiscal years ending in 1980, 1981, and 1982. The cash flow charts were complete and included receipts and disbursements from only the general fund in the system's budget.

Additional data were obtained from the other 66 public school systems in Florida through the financial statements and audit documents of each system for the base year 1980-81. All financial information was compared, and the attempt was made to show how all systems could enhance their investment income.

A questionnaire was mailed to the remaining 66 public school systems in the State of Florida. The questionnaire were designed to accomplish the following purposes. First, data were sought that would enhance the validity of the information collected in more detail from the base system. Second, the status of cash management practices throughout the state were compared, and the attempt was made to show how all school systems could enhance their investment income. Third, information was gained that contributed to the development of the cash management model.

The cash management model was built around four elements: cash forecasting, managing cash flows, banking relations, and investing surplus cash. The collection of data in the base system was conducted with these four elements in mind. In addition, the questionnaire was

constructed so that current practice in these areas throughout the state could be analyzed.

VI. ORGANIZATION OF THE STUDY

This study was reported in four chapters. Chapter I includes the Introduction, Statement of the Problem, Purpose of the Study, Need for the Study, Limitation and Delimitations, Source of Data and Procedures, and the Organization of the Study. Chapter II contains the presentation of a review of related literature concerning cash management. Current information concerning cash flow models and investment instruments is also included in the review of related literature.

Chapter III contains a description of the methodology and a presentation and discussion of the data. This includes a description of the population, methods of data collection and analysis, and presentation and discussion of the data. The presentation of the data includes both financial information and observations gained from the questionnaire. Chapter IV summarizes the entire study and is comprised of a discussion of the findings, conclusions based on the findings, and a presentation of the proposed cash management model.

CHAPTER II

REVIEW OF THE LITERATURE

I. INTRODUCTION

Chapter II was written with two broad purposes in mind. First, a review of the related research in education was undertaken. While not much has been done in the education community with respect to cash management as a process, more material was found that at least describes recent efforts to utilize idle cash balances.

Second, the attempt was made to relate current work from the business and finance field to the four elements of the cash management process as defined in Chapter IV. As has been stated, the model developed in this paper views cash management as a process consisting of interrelated elements and not as a single activity.

II. OVERVIEW

Since 1952, when Meulder did the pioneer study on the subject, several other researchers have examined cash management practices in the nations public schools. According to Dembowski (1980), studies done through 1978 were similar in methodology and drew many of the same conclusions and recommendations.

These studies have examined factors which affect the earnings of cash management programs in school districts, and there does seem to be a consensus that certain factors consistently affect the rate of return to investments. These factors include current interest rates, school district size and wealth, the types of investment instruments used, the cash management techniques used, and the training of the business staff (Dembowski, 1980:54).

While Dembowski's generalizations were certainly useful, closer scrutiny of many of the studies was called for if this paper's purpose (development of a cash management model) was to be served. For example, two of the factors mentioned above--current interest rates and school district size and wealth--are external (exogenous) factors affecting the operation of cash management programs. They are considered external in that school boards and administrators can exercise no control over them. Obviously, interest rates are completely independent of anything that school officials might do. The same is generally true for school district size and wealth. The inability to affect the size of any district by its governing board is severely, and in all but a few cases, totally controlled by forces outside the district. In addition, the wealth, or the potential revenue pool available, is beyond the direct manipulation of any individual school district board.

Since interest rates at any given time are the same for all investors, they should not help or hinder one investment program any more than they would help or hinder any other. School district size and wealth, however, are never the same. The question, then, is why does size and wealth affect cash management? Or, more importantly, are some school systems prohibited from implementing an effective cash management program because of their size?

James Overin (1967), in his study of California school districts found that there was practically no correlation between a school district's size and its ability to invest. In fact, Overin

(1967) concluded that many more districts in his sample could have invested if they had only understood the simplicity of the investment process and had been aware of the assistance available to them.

At New York University, Grevis (1969) hypothesized that as districts in New York state increased in size and wealth, they would be more likely to have an investment program. He found that 96.6 percent of his sample did report having an investment program regardless of size or wealth. Size and wealth, therefore, were not significant with respect to the mere existence of investment or cash management programs. Interestingly, it was found that the number and diversity of investments increased as district size and wealth increased (Grevis, 1969).

Martin (1971) compared Kentucky school districts by reference to total budget size and could find no consistent patterns of efficiency with respect to investment of idle funds. This finding, at least by implication, supported the idea that observed differences in investment programs were caused by factors other than size and wealth.

In support of Grevis' 1969 study in New York, Wynn (1973) found that the size and wealth of Georgia's school districts did influence the frequency and intensity of investment activity. Summer (1974) also found that small, poor districts in New York state failed to take full advantage of investment opportunities.

Supportive of the work of Grevis, Wynn and Summer was the study done by Welliver (1974) in Pennsylvania. While he found that size and wealth were positively related to the existence of investment programs,

it was also noted that those factors did not preclude the conduct of an effective cash management program (Welliver, 1974).

At this point, the available research helped answer one of the two questions that were asked earlier--are some school systems prohibited from implementing an effective cash management program because of their size? Clearly, the answer is no. Briefly stated, it was found that larger, wealthier districts do tend to have better developed, more efficient investment programs. However, the research also showed that no school district, regardless of its size or wealth, was prohibited from effectively managing its cash assets.

If it were possible then for any school district to have an effective investment program, why do some--especially larger, wealthier ones--have more effective programs than others? The simplest explanation was put forward by A. E. Young in his 1978 study of school districts in Colorado. He concluded that an awareness of the need and an interest in conducting the investment program seemed to be the most important factors in determining the effectiveness of cash management efforts (Young, 1978). Certainly, these two factors would have to be present if any investment or cash management program was to have any chance for success.

Several studies pointed to the role of the local school district governing board in maximizing the efficiency of investment programs. Provost (1981) found that the absence of written guidelines adversely affected interest income, and he recommended that all local school boards should provide written policies concerning the investment

of idle funds. In his study of 88 districts in Iowa, Den Hartog (1963) recommended that boards of education develop an investment program and adopt written policies and procedures to expedite that program.

Welliver (1974) attributed the disparity in the efficiency of investment programs to factors such as the philosophy of the board of education; the quantitative and qualitative aspects of planning; and the knowledge, ability, initiative, and diligence of the person directly responsible for implementing the program. In addition, Young (1978) found that the professional qualifications of those persons administering the cash management programs are positively related to the rate of return. Sumner (1974) also found that formal training of investment officers was important in his study of New York districts.

Thus far in the search for reasons why some districts, especially larger, wealthier ones, had more efficient cash management programs, the research has suggested that:

1. The school board must first see the need and then be willing to support a cash management program by adopting appropriate policies and providing written guidelines.

2. The level of training of the district's investment officers and those administering the cash management program is important.

These two factors, then, formed the basis for an explanation of why some districts have better investment programs than others. Types of investment instruments purchased and cash management techniques used--the other most often cited reasons for differences in

efficiency--certainly seemed secondary. They were secondary in that one would expect that the quality of techniques used and investment instruments purchased would have improved in direct proportion with the commitment of the governing board and the level of training and expertise of those administering the program.

There was, however, some evidence in the research which pointed to other, less obvious factors which may have been at work in districts with less efficient cash management programs. There were, for example, scale effects that varied with district size. The work of Welliver (1974), Young (1978), Grevis (1969), Wynn (1973), Sumner (1974), and Pruitt (1975) supported this point of view.

One of the most obvious scale effects is that larger districts have larger revenues and expenditures and, consequently, have larger surpluses when they have surpluses at all. This is important because of the way that investment instruments are structured. Short term investment instruments such as repurchase agreements and U. S. Treasury Bills, for example, usually require an original outlay of principle by the investor of tens of thousands of dollars. For many small districts, these types of investments will never be within reach.

Another possible explanation for the difference in cash management programs was brought out by Stenfors (1971) in his study of investment programs in Kansas school districts. In that study, he reported that 8 of 25 investing districts had trouble with local bankers. The problems occurred when school officials were pressured to maintain excessively high balances in demand accounts and/or to invest

available cash balances at much lower interest rates than were generally available in the money market (Stenfors, 1971).

While Stenfors' study was the only one found in which problems with local banks were mentioned, this writer's personal experience as a district school superintendent certainly supported that finding. This writer, for instance, was once pressured by local banks to put almost four million dollars of bond proceeds in passbook savings accounts. At the time, interest paid on savings accounts was about half of the rate being paid on certificates of deposit available at each of the local banks.

Dembowski (1978), while not finding problems with local banks in his case study of one selected district, did recognize the importance of banking relationships. He recommended that school districts negotiate service requirements and prices with their depository banks. Also, he recommended that school district-banking relationships be given emphasis in future research (Dembowski, 1978).

III. CASH FORECASTING

Cash forecasting is the bedrock of any cash management program. In fact, there would be no cash management program if the ability did not exist to predict accurately the periodic availability of cash for investment.

Hill reported two methods of forecasting that are commonly used: (1) the cash receipts and disbursements method, and (2) the adjusted net income method. He went on to say that the cash receipts

and disbursement method is better used for the day-to-day control of cash, while the adjusted net income method produces a more accurate long-term forecast (Hill, 1970). Nivens, in his study of college cash management programs, agreed. In comparing the two methods, he stated the following:

. . . The former (adjusted net income method) 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 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 . . . (Nivens, 1979:34, 35).

While the adjusted net income method, as Nivens pointed out, was not particularly helpful in the daily management of cash, there was a need for its application in the overall cash management program. Hill (1970), for instance, believed that the strongest cash forecasting system combined the two methods.

Fisher (1973) in his book on cash management for the Conference Board, compared the receipts and disbursements and the adjusted net income methods. He agreed that receipts and disbursements forecasting is widely favored because it is the best available means for controlling day-to-day money transactions. However, Fisher (1973) went on to say that long range, adjusted net income methods are also necessary to keep a tight rein on working capital accounts and to help anticipate financing requirements.

Every school district has a built-in procedure that meets the requirements of the adjusted net income method of cash forecasting--its annual budget. Support for that point could be found in the adjusted net income format described by Edwin N. Wilkins (1974). It can be summarized by the following expression:

$$\text{Beginning Cash} + \text{Cash In} - \text{Cash Out} = \text{Ending Cash}$$

In the simplest possible terms, Wilkins' format is an exact description of the annual school district budget.

Knowing what the funds flows will be for the year is important, but it is not enough. While the annual adjusted net income statement (i.e., budget) of the school district will show the funds flows in each area of operation, it will not yield the detailed information necessary to implement an effective cash management program. It is absolutely necessary, however, to accomplish the tasks of (1) keeping a rein on working capital accounts, and (2) helping to anticipate any needed financing requirements.

The receipts and disbursement method is not unlike the adjusted net income method. The major difference is that "cash in" (i.e., receipts) and "cash out" (i.e., disbursements) are examined for a much shorter period of time. The similarities in the two approaches could be seen in the following summarization of Wilkins' (1974:32) receipts/disbursement format:

$$\begin{aligned} \text{Beginning Cash Balances} + \text{Receipts} - \text{Disbursements} = \\ \text{Ending Cash Balance} \end{aligned}$$

In order to have an effective and efficient cash management program, then, a combination of methods is required. To properly manage the funds flow within the various areas of the budget and to anticipate any financing requirements that might arise over the course of a year, the adjusted net income approach is indicated. To provide the detailed and up-to-the-minute information needed to operate a daily investment program, the receipts and disbursements method is necessary.

IV. MANAGING CASH FLOW

Managing cash flow is a concept that is most often incorporated in the overall discussion when cash management procedures are examined. For purposes of this study, however, managing cash flow was treated as a separate component of the cash management process. It can be defined, therefore, as an accumulation of strategies designed to maximize both the amount of money available for investment and the length of time for which available money can be invested.

Cash forecasting models, used little over the last 30 years, have become recently more popular as tools to help manage cash flows. They consist of three major types; (1) the inventory model, (2) the linear programming model, and (3) other nonstatistical modeling methods (Beehler, 1983).

The first modeling efforts were dominated by traditional inventory control techniques (Orgler, 1978). In other words, cash accounts were seen as inventory items and the emphasis of the early models was on the attempt to arrive at an optimal cash balance.

The first person to apply inventory theory to the management of cash balances was W. J. Baumol (1952). The inventory item in Baumol's model is cash which flows out at a constant rate and is replenished immediately by borrowing or converting a cash asset (i.e., marketable security). The question that the Baumol model attempted to answer was what the optimal order size of cash would be assuming that payments were made at a constant rate and that there were no cash receipts during the payment period (Orgler, 1970).

One of several inventory models that are extensions of Baumol's pioneer effort was developed by Patinkin (1956). The object of this model was to determine the optimal cash balance at the beginning of each period so that the probability of a shortage is minimized (Orgler, 1970).

A third, and equally well known, inventory model was formulated by Miller and Orr (1966). The purpose of the Miller-Orr model is to forecast the optimum cash level assuming that net cash flows fluctuate in a random rather than a deterministic manner (Beehler, 1983). The primary difference between the Miller-Orr approach and those of Baumol and Patinkin is that the object is to predict the optimum cash level throughout a given period not just at the beginning or end.

According to Beehler (1983), inventory models similar to those just discussed were limited because:

1. The payment schedule and receipts were both assumed to be uncontrollable by the cash managers.

2. The only decision covered by the inventory models was the size and timing of transfers between cash accounts and a securities portfolio.

Orgler (1978) agreed with Beehler and also pointed to assumptions about the nature of cash flows that made inventory models not applicable for most business firms.

Linear programming, the second type of cash forecasting model mentioned earlier in this section, is a mathematical technique used primarily to solve constrained optimization problems. Constrained optimization problems are concerned with the attainment of specified objectives given limiting constraints (Dembowski, 1979:6). The following steps in formulating a linear programming model were outlined by Dembowski (1979:6):

- A. Recognition of the problem.
- B. Formulation of the mathematical model;
 - 1 - identification of the decision variables,
 - 2 - choice of a measurement of effectiveness,
 - 3 - symbolic representation of the objective function,
 - 4 - identification of constraints,
 - 5 - algebraic representation of constraints.
- C. Estimation of the parameters of the model.

Dembowski followed these steps in developing his linear programming model for use by public school systems. As shown by the hypothetical results, the model produced several types of information:

- 1. the number of investments that could be made,
- 2. the timing and amounts of possible investments,
- 3. the resultant interest earnings of possible investments, and
- 4. the anticipated cash balances at the end of each period.

While Dembowski's linear programming model was the only one found in the literature which applied directly to public school systems, several

other financial experts have applied linear programming methods to business situations. The first use of linear programming to short-term financial decision making was by Robicek, Teichroew and Jones (1965). The most comprehensive linear programming model was developed by Orgler (1970).

Linear programming models have some obvious advantages. First, the number of constraints that they can take into consideration is, theoretically, unlimited. In addition, linear programming allows forecasting using uneven periods. Unlike earlier models that applied inventory control techniques, linear programming can include any number of variables and constraints and manipulate them using existing computer programs. Also, inventory models assumed a lack of control over payments and receipts, but linear models do apply that level of control (Beehler, 1983).

There are, however, significant disadvantages to using the linear programming approach. Beehler (1983:219) pointed to the following as being serious drawbacks;

The amount of time required to establish the model - The development of the constraints can involve a significant investment of a cash manager's time in order to initially define the values and relationships.

The level of user sophistication - The corporation would require data processing specialists who can operate the model and possess a thorough knowledge of the meaning of the output so that meaningful conclusions can be drawn by the cash manager.

Frequent updates with the consequent increase in operational costs.

Linear programming models, then, were found to be simply too complicated and cumbersome to be effectively used by most school systems.

The third category mentioned earlier, "other nonstatistical modeling methods," consists of approaches that are less structured. The techniques chosen, commonly form of cash receipts and disbursements tracking methods, are usually simple but effective (Beehler, 1983). Models similar to this that fit a particular set of circumstances have been developed by many large retailers and governmental agencies.

V. BANK RELATIONS

Bank relations is an area of the cash management process that is often overlooked. It should not be. The services that a bank provides and the cost of those services have a direct and important bearing on the efficiency and profitability of any cash management program.

Patitucci and Lichtenstein recognized several conditions that they believed must exist if the school district-bank relationship was to contribute to the achievement of cash management goals. They included the following:

- The local government must know the services which are available to it from a bank.
- The local government must know its costs and the bank's cost of providing each individual service.
- There should be periodic competition among banks for the depository accounts of the local government.
- Ongoing banking relationships must be continuously evaluated.
- There should be open competition among financial institutions on a day-to-day basis in order to get the best values when making investment decisions (Patitucci and Lichtenstein, 1977:32).

The first condition--that local government must know the services available from a bank--seemed simplistic at first glance.

The lack of research and/or other writings in the educational literature, however, suggested that this was not true. Unless school managers have knowledge gained independently, then some discussion in this area was justified.

Bankers, for example, recognize certain obligations that they have to the public which they serve. In one of the basic texts used in the American Bankers Association's training program, the following statement was made:

At the local level, the banker is expected to make technical know-how in financial matters available to the community. This obligation involves leadership, counsel, and an active participation in matters relating to public financing. An interested, but qualified and objective banker is of great value in aiding the community to choose the best means of meeting its financial requirements (1970:11).

This statement and the spirit that it encourages forms the basis and is the beginning point in building relationships between school districts and local banks. The first service that school managers should expect from banks is "leadership, counsel, and active participation" in helping to establish and operate an effective cash management program.

Other, more specific services that should be available from any local bank included full account reconciliation and the ability to act as agent in the purchase and safekeeping of various investment instruments. Under a full account reconciliation service, the school district would supply the bank with a full listing of checks issued and their dates. The banks would then, usually by computer, check the list of checks issued against those actually cleared (Beehler, 1980). This

procedure would provide interim account balances between regular statement periods and would thereby allow the use of those balances for very short term investments.

Any local bank, even if the service is not generally available to its customers, can act as agent for the purchase and safekeeping of investment instruments. Every local bank, no matter how small, has correspondent relationships with large "city banks" so that their own investment portfolios can be efficiently managed. Small, local banks can use their correspondents to help school districts in small towns and rural areas.

Perhaps the most sensitive issue in bank relations arises with the question of how banks are to become compensated for their services. Traditionally, banks have been paid for their services by the interest bearing cash balances kept in their accounts by large corporate and institutional depositors (Hill, 1970). Recently, however, the trend has been growing to compensate banks for services rendered through the payment of fees (The Conference Board, 1973).

While paying fees to compensate banks is a growing practice, it has not been welcomed by many bankers. In fact, some bankers consider the use of compensating balances as not being open to question; that is, compensating balances are absolutely necessary in their opinion (Bierman and McAdams, 1962). But the question for school managers is how best to serve the interests of their respective districts.

Dembowski (1979), in the Journal of Education Finance, compared the use of compensating balances with the payment of fees.

The following is his excellent description of how banks determine the profitability of large institutional and corporate accounts:

In determining checking account costs to a bank, a number of steps are used. For example, for a selected school district, assume that the expenses for a five-month period to the bank in servicing the checking account are determined as follows:

Number of checks 17,646 @ \$.10 each	\$1,764.60
Number of deposits 6,094 @ \$.05 each	304.70
Fixed monthly charge:	
(1 account x 5 months x \$2.00 per account/months)	10.00
Stop payment requests 11 @ \$4.00 each	44.00
Master Charge Sales 208 @ \$.95 each	197.00
Check reconciliation fees:	
\$.01 for first 1000 per month (3 months only)	30.00
\$.015 per check pr month	219.69
Total Expenses	<u>\$2,569.99</u>

Once a bank estimates these charges or expenses of servicing the school district accounts, it then determines whether there is a net profitability for the bank by calculating the earnings allowance of the account. Again, assume that bank records show that for the five-month period in question, the gross average daily balance for the checking account is \$359,200. In order to meet liquidity requirements in determining the earnings allowance, the bank states that only 75 percent of this cash balance is available for investment at 2.4 percent annual interest. Thus, the bank could invest \$269,400 of the \$359,200. For the five-month period, the bank determines that it could earn $\$269,400 \times 5/12 \times 0.024$ percent, or \$2,694 in interest on the school district account. The net profitability of the checking account is equal to the earnings allowance credit minus the account expenses, or $\$2,694 - \$2,570 = \$124.00$. The bank would then be making a profit of \$124.00 for the five month period, or \$297.60 annually. In addition, the bank is charging the school district \$870 annually as a fee for banking service, a profit of \$1,168 annually after expenses (Dembowski, 1979:370).

At this point, it should be pointed out that Dembowski's example not only showed profitability for the bank, but it also only began to show the expense of compensating balances to customers, i.e., school districts. By itself, the common account analysis technique just reviewed does not show what the school district might have earned had it done its own investing of available cash balances. In Florida

in recent years, school districts could have earned significantly more than any "credit allowance" offered by banks on balances in demand accounts. This has been possible because of higher interest rates available to districts through the State investment pool rather than those that were available at banks. Even discounting the pooling effect in Florida, Dembowski (1979) found that school managers should keep \$0 minimum compensating balances in their checking accounts and negotiate an annual fee as compensation to the bank for its services.

Periodic competition among banks for depository accounts is another area of school district-bank relations that is often a problem. Especially in medium and smaller sized districts, asking banks to compete often generates ill will. Indeed, it can become a political problem in districts with elected boards and elected superintendents.

VI. INVESTING IDLE FUNDS

The last step in the cash management process is the investment of idle funds. Once it is known what funds are available and for how long, then decisions can be made as to where those funds will be placed in the money market.

As was mentioned earlier in Chapter I, there are four factors that must be considered when the cash manager chooses investments. They are (1) risk, (2) yield, (3) maturity, and (4) liquidity (Patitucci and Lichtenstein, 1977).

Risk is a measure of the potential for loss of interest and/or principle after an investment has been made. And because there is at

least some risk associated with most investments, enabling legislation normally delimits the securities or other financial papers in which public funds may be invested (Jones and Howard, 1973). In Florida, public school districts are allowed to invest only in bank and savings and loan deposits, United States Government securities, federal agency obligations, State and local school bonds, and in the Local Government Surplus Funds Trust Fund which is operated by the State Board of Administration. In addition, and to further control risk, state law in Florida requires that public deposits in financial institutions be insured by the federal government or be fully collateralized by United States Government securities (Haggestad and Lanzillotti, 1982). Assuming, then, that Florida school districts remain within the law, their investment programs will incur little, if any, risk. Any deposit/investment that could legally be made would be either insured, fully collateralized, or have the backing of the State or United States Government.

The yield or rate of return of a security is the annual rate earned on an investment based on the actual earnings over the period that it is held. Patitucci and Lichtenstein (1977:37) offered the following simple formula for calculating the yield of any security:

$$\text{Yield} = \frac{\text{Adjustment for Discount or Premium} + \text{Interest Earned}}{\text{Initial Investment}} \times \frac{365}{\text{Number of Days During Investment Period}}$$

Where: Adjustment for discount or premium = sales price - initial investment.

Yield is an important concept for the cash manager to understand because of its impact on the earning potential of the

investment portfolio. Consider, for example, the following chart developed by Patitucci and Lichtenstein (1977:38) which shows the earnings and annualized yields of three 6-month (182 day) investments which all have the same maturity value:

	A Par	B Premium	C Discount
Sale (maturity) Value	\$1000	\$1000	\$1000
Interest Rate on Par	5%	5%	5%
Initial Investment	1000	1010	990
Interest Earnings	25	25	25
Adjustments for Discount or Premium	0	(10)	10
Net Dollars Earned	25	15	35
Annualized Yield	5%	3%	7%

To the cash manager who did not understand the concept of yield, the above investments would probably seem equally as attractive. However, whether a security is bought at par, at premium, or at discount will have a substantial effect on actual earnings.

Maturity, when referring to investments, is the amount of time from the date of purchase or deposit until that date when the security can be redeemed or the deposit can be withdrawn without penalty. It is important for the cash manager to know the maturities of the investments available to him because all of the funds that will be invested will be obligated at some future date. To maximize earnings, it is necessary to match maturities with dates when obligations must be met. By doing this where possible, penalties can be avoided.

According to Whittlesey, Freedman, and Herman (1968), the extent to which an asset approaches money in ease of convertibility and freedom from risk of capital loss may be referred to as its degree of "liquidity." In other words, the liquidity of any investment

instrument is a measure of the speed with which it can be converted back into money without loss of principal or interest.

It is extremely important for most, if not all, investments in any school district's portfolio to be highly liquid. It is the rare case when school districts can afford to tie up its funds in long-term securities for which there is not a strong secondary market. Also, the cash manager must remember that the reason the money is there in the first place is that there is an expenditure coming up that will have to be met.

Earlier in this section the investments that Florida school districts could legally make were listed. Now that the factors to be considered when choosing investments have been considered, it is appropriate to examine more closely those investments that are available.

First, school district funds can be placed in any deposit account offered by a bank or a savings and loan institution. These would include everything from interest bearing checking accounts and regular savings accounts to certificates of deposit and repurchase agreements.

Interest bearing checking accounts and regular savings accounts are, of course, completely liquid. Funds held in these types of deposits can nearly always be had on demand with no loss of accrued interest. In addition, they are virtually risk free since the law requires that they be fully collateralized and/or insured. It should also be pointed out here that with the advent in recent years of the

interest bearing checking account, there is nothing to prevent school districts from earning at least some interest on all of their funds. Only if districts chose to use compensating balances to pay for bank services would this not be true.

Time certificates of deposit (CDs) are considered high-grade short-term investments (Jones and Howard, 1973). Jones and Howard (1973) pointed out several advantages. First, the school district and the issuing bank can negotiate the interest and time period of the certificate. Second, the school district could choose to solicit bids from several local banks. Third, the school district can obtain varying maturity dates in order to coordinate investments with projected cash needs. Fourth, the liquidity of CDs is generally very high and the risk is almost nil. Fifth, and finally, CDs offer an excellent opportunity for local banks and school districts to cooperate for their mutual benefit.

A repurchase agreement (or repo) is an agreement between two parties where one sells an instrument (say, a Treasury bill) to the other and contracts to buy it back at a later date at a specified higher price (Grieves, 1982). There are three types. First, the fixed-term repo binds the lender and borrower for a specified period of time. Second, the demand repo stays in effect until either the lender or borrower elects to call for its termination. And third, there is the day-to-day repo which requires only a 24-hour notice to adjust or terminate the agreement (Jones and Howard, 1973). Repurchase agreements, while not very popular with school districts, are worth

consideration for two reasons. Number one, they are completely flexible and are liquid and safe. Number two, they offer the opportunity to invest "overnight" with local banking institutions. While interest rates on repos are lower than other alternatives in the money market, it may be mandatory in some situations to invest locally.

While every possible investment that can be made with local banks and savings and loan institutions has not been discussed, those which are or should be most prominent in the school district portfolios have been covered. Other bank investments such as time deposits, savings certificates and bankers acceptances are either too cumbersome to administer or too inflexible to be considered seriously.

A second area where Florida school districts are allowed to invest is in United States Government securities. These include United States Treasury Notes, United States Treasury Bonds, Certificates of Indebtedness, and United States Treasury Bills. Treasury Notes, Certificates of Indebtedness, and Bonds will not be considered here in detail because their maturities are long, from 1 to 30 years, and because they offer no particular advantage in yield. Only Treasury Bills will be discussed.

The Treasury bill, according to Grieves (1982), is the most important instrument of the money market. Bills are issued at a discount in denominations of \$10,000, \$100,000., \$500,000 and \$1,000,000 with maturities of 91, 182, 270 and 365 days (Jones and Howard, 1973). They are so liquid and safe that some authors call Treasury Bills "near Money" (Grieves, 1982). It is hard to imagine a

school district investment portfolio that did not include at least some Treasury Bills.

Federal Agency obligations and state and local school bonds are two other areas where Florida school district might invest their excess funds. State and local school bonds are municipal bonds which are backed by the full taxing authority of the issuing agency. Because their maturities are so long (as much as 30 years), and because the secondary market is not as strong as that for other securities, school bonds are usually not a good investment for most school districts (Jones and Howard, 1973). While they are relatively safe, their liquidity characteristics make them unattractive.

Federal Agency obligations are the result of Congress' efforts to direct the flow of investment funds into specific areas of the economy (Grieves, 1982). Five agencies have been established to issue such obligations:

1. Federal Intermediate Credit Banks,
2. Banks for Cooperatives,
3. Federal Land Banks,
4. Federal Home Loan Banks,
5. Federal National Mortgage Associations.

Of these five agencies, the first three make agricultural loans while the last two are involved in real estate financing (Jones and Howard, 1973). Patitucci and Lichtenstein (1977) pointed out that Federal Agency securities vary widely depending on the issuing agency. While liquidity is excellent because of small but active secondary markets,

maturities range from several months to several years. One key advantage for smaller school districts, however, is the low minimum denomination requirements.

The final place where Florida school districts can invest is the Local Government Surplus Funds Trust Fund. It was established by act of the Legislature in 1977 and is operated by the State Board of Administration (Heggestad and Lanzillotti, 1982). A study done by Heggestad and Lanzillotti (1982) showed that the Florida Local Government Surplus Funds Trust Fund offered school districts higher yields and greater liquidity than they were able to obtain elsewhere in the money market. The benefits were most significant to smaller districts who did not have sufficiently large investments to obtain liquidity and higher yields through investments in a diversified government security portfolio or through repurchase agreements.

CHAPTER III

INTRODUCTION

The purpose of this study was descriptively to analyze cash management practices in Florida's public school systems and to develop a cash management model. Methodology used and data gathered to accomplish these purposes are discussed and analyzed in this chapter. Information is presented in two broad categories. First, data from the questionnaire are presented in tabular and/or narrative form for all 67 districts. Second, data from the base system (Hernando County) are used to produce a cash flow analyzation model and to explore methodologies for the creation of more available funds.

I. THE QUESTIONNAIRE

Responses to the questionnaire were received from all 67 (100 {percent}) public school systems in the State of Florida. Since all questionnaires were substantially complete, all 67 districts were included in the population for the study.

The questionnaire was structured to produce data relative to the four basic elements of the cash management process as previously outlined in Chapter I--cash forecasting, managing cash flows, banking relations and investing surplus cash. In addition, several questions were asked to gain insight into factors that, according to the literature, can have impact on the success of cash management programs. These questions included: Has your Board of Education adopted a cash

management policy? Does one employee have responsibility for the cash management process, and what is that employee's relationship to the Board? Are outside consultants (including local bankers) employed to assist in the cash management process?

So that all questions could be scrutinized completely, a copy of the questionnaire was included in the appendices. In addition, all related documents--cover letters, letters of introduction, and follow-up letters--were included.

II. MEASURE OF EFFICIENCY

Before data from the questionnaire were analyzed, it was decided that some measure of efficiency should be identified. This was thought to be necessary for two reasons. First, a method was needed to provide a framework for reporting the data. Second, it was believed that a measure of efficiency would give the data, when categorized, more perspective. In other words, it would provide a basis for comparison that would make the data more understandable and meaningful.

The measure of efficiency that was chosen was one which expressed the interest earned during the base fiscal year, 1980-81, as a percentage of the total general fund revenue for that year. The following is a more graphic representation:

$$\frac{\text{Total Interest Earned From Revenue in General Fund Revenue}}{\text{Total Revenue in General Fund}} = \text{MEASURE OF EFFICIENCY or Percentage of General Fund}$$

After percentages had been computed for all 67 school districts, the districts were ranked according to their respective measures of efficiency earned in the general fund during the base

fiscal year. As shown in Table I, one system earned nothing while the most productive system earned over 4 percent of its general fund revenues in interest. However, the mean, 1.284, and the median, 1.301, were found to be more accurate descriptors of the efficiency of cash management programs in Florida's public school systems. This observation was supported by the fact that 35 systems earned an efficiency rating of between 1 and 2 percent, while 11 systems earned over 2 percent and 21 systems earned less than 1 percent.

To help establish the validity of using interest as a percentage of revenue as the measure of efficiency to be used in the study, several steps were taken. First, revenues were limited to only those earned in the general fund of each school district. This was done to make the relative wealth of the districts more comparable. Since Florida's funding formula equalizes state disbursements on a weighted per-pupil basis, the amount of money available to each district for investment should have been more nearly equal in the general fund than in all funds combined. For instance, the size of local bond issues for construction and debt service varied widely from one district to another. The inclusion, therefore, of revenues from debt service and capital projects funds would have so skewed the results as to make the use of interest as a percentage of revenue useless as a measure of efficiency.

The second step in validating the chosen measure of efficiency was to rank order all systems according to total revenue in the general fund. Table II shows all systems ranked, from that system receiving

TABLE I
RANK ORDER OF MEASURES OF EFFICIENCY FOR FLORIDA
PUBLIC SCHOOL DISTRICTS, 1980-81*

System Number	Measure of Efficiency (Percentage of General Fund Revenue Earned)
1.	.000
2.	.159
3.	.170
4.	.190
5.	.228
6.	.309
7.	.471
8.	.481
9.	.495
10.	.576
11.	.611
12.	.626
13.	.644
14.	.706
15.	.708
16.	.713
17.	.787
18.	.805
19.	.815
20.	.832
21.	.952
22.	1.029
23.	1.066
24.	1.079
25.	1.086
26.	1.089
27.	1.112
28.	1.127
29.	1.141
30.	1.165
31.	1.219
32.	1.233
33.	1.282
34.	1.301
35.	1.328
36.	1.347
37.	1.360
38.	1.371
39.	1.421

TABLE I (Continued)

System Number	Measure of Efficiency (Percentage of General Fund Revenue Earned)
40.	1.426
41.	1.438
42.	1.451
43.	1.466
44.	1.500
45.	1.523
46.	1.541
47.	1.547
48.	1.557
49.	1.566
50.	1.573
51.	1.588
52.	1.649
53.	1.667
54.	1.837
55.	1.868
56.	1.982
57.	2.001
58.	2.063
59.	2.091
60.	2.124
61.	2.153
62.	2.194
63.	2.239
64.	2.336
65.	2.363
66.	2.466
67.	4.117

Median = 1.301	
Mean = 1.284	

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 Fiscal year that was earned in interest.

TABLE II

RANK ORDER BY GENERAL FUND REVENUE WITH CORRESPONDING
MEASURES OF EFFICIENCY FOR FLORIDA PUBLIC
SCHOOL DISTRICTS, 1980-81

System Number	General Fund Revenue in Dollars	Measures of Efficiency (Percentage of General Fund Revenue Earned)
1.	\$ 1,743,877	1.089
2.	2,046,768	.713
3.	2,563,969	.832
4.	2,669,729	.309
5.	2,909,388	.576
6.	2,961,500	.000
7.	3,242,131	.228
8.	4,131,648	2.239
9.	4,330,115	.159
10.	4,686,841	.495
11.	4,907,640	1.547
12.	5,084,525	2.363
13.	5,327,187	4.117
14.	5,628,104	.708
15.	5,729,918	.805
16.	6,441,394	1.079
17.	6,530,271	1.588
18.	6,763,958	.611
19.	7,242,320	.706
20.	7,856,789	2.091
21.	7,872,327	.815
22.	7,889,674	1.557
23.	7,973,116	1.438
24.	8,110,285	1.165
25.	8,492,770	.644
26.	8,982,174	1.233
27.	9,547,862	.481
28.	12,835,011	.787
29.	13,348,219	1.066
30.	13,466,972	1.573
31.	14,049,793	1.328
32.	14,113,122	1.347
33.	15,299,766	.626
34.	16,517,977	.952
35.	16,615,154	2.194
36.	17,512,099	1.566
37.	17,553,906	1.426
38.	17,973,949	1.451

TABLE II (Continued)

System Number	General Fund Revenue in Dollars	Measures of Efficiency (Percentage of General Fund Revenue Earned)
39.	\$ 18,755,737	.190
40.	20,150,874	1.282
41.	20,328,083	1.523
42.	25,255,981	1.466
43.	29,471,453	1.360
44.	30,663,439	1.837
45.	33,192,954	1.649
46.	34,506,972	1.301
47.	35,732,099	.471
48.	38,402,077	.170
49.	41,133,836	1.086
50.	42,762,050	1.112
51.	44,659,321	1.667
52.	48,044,764	1.868
53.	48,727,055	1.500
54.	54,182,966	2.336
55.	63,021,695	1.219
56.	66,317,286	1.371
57.	68,576,297	2.153
58.	78,381,447	1.541
59.	89,872,191	2.124
60.	116,173,938	2.466
61.	157,860,459	1.421
62.	157,869,956	1.982
63.	173,410,751	1.141
64.	197,458,627	2.063
65.	204,080,027	1.029
66.	293,881,033	2.001
67.	507,667,419	1.127

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 Fiscal year that was earned in interest.

the least revenue to that system receiving the most revenue, with their corresponding measure of efficiency.

Observation of Table II revealed several interesting facts. For example, it was noted that the smallest system, with less than two million in revenue and a measure of efficiency of 1.089, did substantially as well as the largest system, with more than five hundred million in revenue and a measure of efficiency of 1.127. In addition, the most productive system, with a measure of efficiency of 4.117, was one of the smaller systems. Revenues in this most productive system were less than five and a half million. Another interesting observation showed that one of the ten smallest systems, with just over four million in revenue, had a measure of efficiency that was higher than the five wealthiest systems when wealth is measured in terms of total general fund revenue.

Finally, one last step was taken to validate the use of interest as a percentage of revenue as the measure of efficiency to be used in the study. In Table III, all systems were ranked according to general fund revenue per pupil. This was done to make the absolute wealth of districts more comparable. Since districts have some discretion in the levying of local property taxes for operating purposes, and since the unencumbered fund balances carried over from year to year may vary, it was felt that comparisons based on the revenue per pupil were required.

As Table III was examined, it was found that there was a difference in the measure of efficiency as the revenue per pupil increased. Specifically, as revenue per pupil rose, so did the average

TABLE III

RANK ORDER BY GENERAL FUND REVENUE PER PUPIL WITH
CORRESPONDING MEASURES OF EFFICIENCY FOR
FLORIDA PUBLIC SCHOOL DISTRICTS
1980-81

System Number	General Fund Revenue Per Pupil in Dollars	Measures of Efficiency (Percentage of General Fund Revenue Earned)
1.	1,662	.708
2.	1,667	.170
3.	1,684	1.438
4.	1,697	.159
5.	1,697	.706
6.	1,720	.471
7.	1,725	1.328
8.	1,729	.000
9.	1,729	1.029
10.	1,731	.644
11.	1,732	.805
12.	1,738	1.426
13.	1,750	.787
14.	1,752	.228
15.	1,775	1.165
16.	1,775	1.360
17.	1,782	1.066
18.	1,783	1.500
19.	1,787	1.079
20.	1,797	1.541
21.	1,798	.309
22.	1,798	1.421
23.	1,802	1.141
24.	1,804	1.649
25.	1,811	.611
26.	1,812	1.667
27.	1,825	.495
28.	1,826	2.124
29.	1,830	1.233
30.	1,836	1.371
31.	1,840	1.089
32.	1,843	1.573
33.	1,849	1.086
34.	1,853	2.466
35.	1,864	.576
36.	1,870	.481

TABLE III (Continued)

System Number	General Fund Revenue Per Pupil in Dollars	Measures of Efficiency (Percentage of General Fund Revenue Earned)
37.	1,874	1.347
38.	1,877	2.153
39.	1,878	1.588
40.	1,882	1.566
41.	1,891	2.194
42.	1,894	1.112
43.	1,905	1.127
44.	1,923	2.063
45.	1,924	.952
46.	1,933	2.091
47.	1,939	1.451
48.	1,958	1.868
49.	1,961	.815
50.	1,963	.190
51.	1,966	.626
52.	1,981	1.219
53.	2,006	1.557
54.	2,029	2.336
55.	2,034	1.466
56.	2,050	2.001
57.	2,054	1.982
58.	2,055	1.523
59.	2,055	2.239
60.	2,097	.713
61.	2,108	1.547
62.	2,116	1.837
63.	2,193	2.363
64.	2,305	1.301
65.	2,382	1.282
66.	2,512	4.117
67.	2,582	.832

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 Fiscal year that was earned in interest.

percentage of interest or measure of efficiency. Table IV graphically illustrated that point:

III. DATA FROM THE QUESTIONNAIRE

As has been stated, the questionnaire was structured to gain information about current practice with respect to the four basic elements of an effective cash management program--cash forecasting, managing cash flow, bank relations, and investing idle funds. In addition, four questions were asked that were miscellaneous in nature. Each one was designed to give insight into factors that were considered in the literature to be important in maximizing the effectiveness of any cash management program.

First, systems were asked if their respective governing boards had adopted a cash management policy. As shown in Table V, 66 systems responded to that question. Of those responding, 38 (58 percent) indicated that their board had not adopted a policy to govern the cash management process. In further examining Table V, it was interesting to note that the only category in which more than half of the systems had adopted a cash management policy was the category earning a high measure of efficiency. In the categories earned middle and low measures of efficiency, over 60 percent of the systems responding reported that their boards had not adopted a cash management policy.

Two other questions in the miscellaneous category asked if one person was responsible for the cash management program, if so, what was that person's relationship to their board. All systems responded to

TABLE IV
INCREASE IN MEASURE OF EFFICIENCY AS GENERAL FUND
REVENUE PER PUPIL INCREASED IN FLORIDA
PUBLIC SCHOOL SYSTEMS
FISCAL YEAR 1980-81

Number of Systems	General Fund Revenue Per Pupil in Dollars	Mean Measure of Efficiency
13	1,650 - 1,750	.744
20	1,751 - 1,850	1.185
14	1,851 - 1,950	1.511
9	1,951 - 2,050	1.342
11	over 2,050	1.794

TABLE V
NUMBER OF FLORIDA PUBLIC SCHOOL SYSTEMS WITH
EXTANT CASH MANAGEMENT POLICIES ADOPTED
BY THE LOCAL BOARD OF EDUCATION
FISCAL YEAR 1983-84

Measure of Efficiency*	Response	
	Yes	No
High (over 2.000)	6	5
Middle (1.000 - 2.000)	14	20
Low (below 1.000)	8	23

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

those questions, and only three reported that no single person was responsible. As might have been expected, those three systems were in the low measure of efficiency category. Except for three systems in which the superintendent was directly responsible, the person handling the cash management program was a lower echelon district level administrator.

The last of the miscellaneous questions asked if outside consultants, including local bankers, were employed. The intent of this question was to determine if Florida's school systems were seeking professional assistance from the financial community to help build more effective cash management programs. The response was overwhelmingly negative. Only five systems, four in the middle and one in the low measure of efficiency category, reported using outside consultants. Of the five systems responding positively, only one specified the use of local bankers.

To determine what cash forecasting techniques were being used by Florida's public school systems, the questionnaire asked how the amount of idle cash available for investment was determined in any fiscal year. Sixty-six of the 67 districts responded to this question, and their responses are presented in Table VI.

Examination of the data used in Table VI showed that 13 systems used more than one method to forecast idle cash balances. Just five systems reported investing only the unencumbered surplus from the previous fiscal year. The most commonly used methods of cash forecasting were developing cash budgets and those marked under the

TABLE VI
METHODS USED BY FLORIDA PUBLIC SCHOOL SYSTEMS TO DETERMINE
THE AMOUNT OF IDLE CASH AVAILABLE FOR INVESTMENT
FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Investing Only Surplus From Prior Year	Developing Cash Forecasting/Cash Flow Charts	Developing Cash Budgets	Other
High (over 2.000)	0	5	4	4
Middle (1.000 - 2.000)	2	14	13	16
Low (below 1.000)	3	4	9	6

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

heading of "other." Those who marked "other," without exception, were using some form of interim reconciliation of revenues and expenditures, or they were simply depositing all revenues to an interest bearing account. Only 23 systems (34 percent) said that they were systematically developing cash forecasting/cash flow charts.

Since managing available cash (manipulating receipts and expenditures to insure that the maximum amount of cash is available for the longest period of time) was found to be extremely important in maximizing the efficiency of cash management programs, school systems in the population were asked two questions. First, they were asked how often claims against the system were approved for payment by their boards; and, second, they were asked how often claims and obligations were actually paid.

As is shown in Table VII, the largest number of boards (46 percent) approved claims for payment on a monthly basis. Except for systems earning a high measure of efficiency, the largest percentage of systems in the other two categories approved claims on a monthly basis. Only six systems approved claims for payment every week, while 23 systems approved claims bi-monthly or twice each month. Of those systems who marked "other," all but one indicated that claims were approved "as received" or "continuously by the superintendent." The one exception explained that the board approved claims on set days of the month for each category of payment.

Table VIII shows when claims and obligations of the school systems in the population were actually paid. By far, the largest

TABLE VII

FREQUENCY OF APPROVAL FOR PAYMENT OF CLAIMS AND OBLIGATIONS
BY FLORIDA PUBLIC SCHOOL SYSTEMS
FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Weekly	Bi-Monthly	Monthly	Other
High (over 2.000)	1	6	2	2
Middle (1.000 - 2.000)	4	12	16	3
Low (below 1.000)	1	5	13	1

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

TABLE VIII
FREQUENCY OF ACTUAL PAYMENT OF CLAIMS AND OBLIGATIONS
BY FLORIDA PUBLIC SCHOOL SYSTEMS
FISCAL YEAR 1983-84

Measure of Efficiency by Category*	As Received	Weekly	Bi-Monthly	Monthly	Other
High (over 2.000)	2	3	4	1	1
Middle (1.000 - 2.000)	2	15	16	2	0
Low (below 1.000)	1	3	6	9	2

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

number of systems (70 percent) paid claims either weekly or bi-monthly. Only five systems paid claims as they were received; and, amazingly, two of these systems were in the high measure of efficiency category. Finally, while 12 systems indicated that they paid claims monthly, there were three who marked "other." Those who marked "other" reported that they either paid three times each month or on specified days for different categories of payments.

The first question regarding bank relations asked if the governing board had adopted a policy defining the school system's relationship with local banks. Only four systems responded positively. Of those four, two were in the high measure of efficiency category, and one was in the middle. The fourth system which reported having a policy governing relationships with local banks was in the low measure of efficiency category. From the personal knowledge of the writer, however, that low efficiency system's policy was a decidedly negative one. Specifically, it stated that all idle balances must be kept on deposit at local banks. No investment vehicle, no matter how lucrative, could be used if it was not offered by a local bank.

To further understand the population systems' relations with local banks, they were asked how many banks were used to deposit school system funds. Also, they were asked how their depository banks were compensated. Table IX shows how many banks each system used by measure of efficiency category. By far, the most interesting observation gained from Table IX was the fact that 22 systems (approximately one-third of the total population) used five or more

TABLE IX
 NUMBER OF DEPOSITORY BANKS USED BY
 FLORIDA PUBLIC SCHOOL SYSTEMS
 FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Response				
	1	2	3	4	5 or More
High (over 2.000)	0	5	1	0	5
Middle (1.000 - 2.000)	6	8	5	3	13
Low (below 1.000)	2	8	5	2	4

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

banks while only eight systems used just one bank to deposit their funds.

Table X shows how systems in the population compensated their depository banks for services rendered. The largest number of systems, regardless of measure of efficiency category, reported maintaining minimum or compensating balances. Only seven systems said that they compensated their depository banks by paying fees. Of those 24 systems who marked "other," responses fell into two categories. The first group all made comments which indicated that they understood that their banks were earning interest off their deposits, whether those deposits were time or demand accounts. The second group all responded that their banks were not compensated.

Two questions were included in the questionnaire that had implications both for bank relations and for managing cash flow. One question asked how many interest bearing checking accounts each system maintained, and the other asked how many non-interest bearing checking accounts each system maintained.

Table XI shows that 27 systems had between one and five non-interest bearing checking accounts. The most interesting point with respect to Table XI, however, had to do with the two systems that reported having more than 15 non-interest bearing checking accounts. One of those systems reported having 27 non-interest bearing accounts, while the other reported having 45 such accounts.

Table XII shows that 21 systems kept between one and five interest bearing accounts, while 22 systems kept between six and ten

TABLE X
METHODS USED BY FLORIDA PUBLIC SCHOOL SYSTEMS
TO COMPENSATE DEPOSITORY BANKS
FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Minimum/ Compensating Balance	Payment of Fees	Other
High (over 2.000)	4	0	6
Middle (1.000 - 2.000)	20	2	13
Low (below 1.000)	13	5	5

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

NOTE: Four systems reported more than one method of compensating banks for services, while three systems did not respond to this question.

TABLE XI
 NUMBER OF NON-INTEREST BEARING CHECKING ACCOUNTS
 MAINTAINED BY FLORIDA PUBLIC SCHOOL SYSTEMS
 FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Response			
	1-5	6-10	11-15	15 or More
High (over 2.000)	2	3	1	0
Middle (1.000 - 2.000)	15	4	4	2
Low (below 1.000)	10	2	0	0

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

TABLE XII
 NUMBER OF INTEREST BEARING CHECKING ACCOUNTS MAINTAINED
 BY FLORIDA PUBLIC SCHOOL SYSTEMS
 FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Response			
	1-5	6-10	11-15	15 or More
High (over 2.000)	2	6	1	0
Middle (1.000 - 2.000)	12	8	5	2
Low (below 1.000)	7	8	1	2

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

interest bearing accounts. Only four systems maintained more than 15 interest bearing accounts. However, one of these four systems kept 32 such accounts. When interest bearing and non-interest bearing accounts were combined, the system referred to had a total of 59 checking accounts.

With respect to Tables XI and XII, it was noticed that the number of responses on each table did not approximate the number of systems in the population. In addition, when the responses on both tables were combined, the total far exceeded the number of systems in the population. These apparent discrepancies were easily explained. First, 24 systems reported no non-interest bearing accounts, and 11 reported no interest bearing accounts. In addition, many systems reported maintaining both types of checking accounts.

The final section of the questionnaire dealt with the investment of idle funds. Table XIII shows what procedures were used to carry out the investment of idle funds. While 48 systems reported that an appointed officer had authority to make investments within prescribed guidelines, it was interesting to note that not a single board of education took a direct hand in the investment of idle funds. Of those systems who marked "other," most indicated that an officer (e.g., administrator) made investments but with no guidelines. Three systems indicated that the superintendent made investments at his discretion.

Table XIV shows where Florida's public school systems invested their idle funds in recent years. The most popular investment was in

TABLE XIII
PROCEDURES USED BY FLORIDA PUBLIC SCHOOL SYSTEMS TO EXPEDITE
THEIR RESPECTIVE INVESTMENT PROGRAMS
FISCAL YEAR 1983-84

Measure of Efficiency by Category*	Officer Makes Recommendation, Board Completes Transaction	Officer Invests Within Guidelines	Other
High (over 2.000)	0	10	1
Middle (1.000 - 2.000)	0	22	13
Low (below 1.000)	0	16	4

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

TABLE XIV
TYPES OF INVESTMENTS MADE BY FLORIDA PUBLIC SCHOOL SYSTEMS
FISCAL YEARS 1979-80 THROUGH 1983-84

Measure of Efficiency by Category*	Passbook Savings	State Investment Pool	U. S. Treasury Notes	U. S. Treasury Bills	Bank Certificates of Deposit	Repurchase Agreements (Local Banks)	Other
High (over 2.000)	1	10	2	2	9	7	2
Middle (1.000 - 2.000)	16	30	4	9	32	18	3
Low (below 1.000)	11	18	3	6	20	5	0

*The measure of efficiency is an expression of the percentage of general fund revenue for the 1980-81 fiscal year that was earned in interest.

certificates of deposit offered by local banks. The second most popular investment was the state investment pool. While the total were lower, a significant number of systems did invest in passbook savings accounts and in repurchase agreements with local banks. In passing, it was interesting to note that three of the top four preferred investment vehicles was local banks. Very few systems invested in U. S. Treasury securities--among the most lucrative investments in the money market. Of those systems marking "other," all either invested in federal agency securities or in repurchase agreements with brokers.

IV. DATA FROM THE ADAPTED CASH MANAGEMENT MODEL

As stated in Chapter I, one purpose of this study was to adapt analytical cash management procedures to help develop a model which would benefit all public school systems. Using data collected in the base system, Hernando County, methodologies were adapted from the cash flow analyzation model presented by John A. Jones and S. Kenneth Howard (1973) in their book Investment of Idle Funds by Local Government: A Primer. The information was presented in the following organizational format:

1. Revenues and expenditures were examined to determine the presence, if any, of unusual annual occurrences that might affect a proposed investment program.
2. The accumulative surplus was calculated for the base fiscal year, 1980-81, and strategies were examined which would enhance investment planning.

3. Procedures were then explored to determine if more available funds could be generated for investments. Those procedures included:

- a. consolidating monthly payrolls
- b. spreading all payrolls over the summer months
- c. using tax anticipation notes to increase cash flow.

Analysis of Receipts and Expenditures

According to Jones and Howard (1973), the first step in developing an investment plan is the analysis of daily receipts and expenditures. In this study, data were gathered from the general fund cash receipts journals and check registers of the Hernando County School System, referred to hereafter as the "base" system.

While receipts and expenditures were analyzed for three year period (1979-80, 1980-81, 1981-82), the fiscal year 1980-81 was chosen as the base year for the development of a model cash management plan. The selection of the 1980-81 fiscal year, a middle-point year, allowed for a more accurate comparison of trends and made possible the leveling of any high or low peaks. This was necessary to insure the realistic development of any projected investment portfolio.

In the financial data gathered from the Hernando County School System, daily accumulative revenue amounts and daily accumulative expenditure amounts for each of the three fiscal years were maintained. Tabulation sheets for the base fiscal year are shown in the appendices.

Accumulative revenues for the Hernando County School System for all three fiscal years were first recorded in Table XV on a bi-monthly

TABLE XV

ACCUMULATIVE GENERAL FUND REVENUES (1ST AND 15TH OF MONTH)
 HERNANDO COUNTY SCHOOL SYSTEM FISCAL YEARS
 1979-1980, 1980-1981, 1981-1982

Month	1979-1980	1980-1981	1981-1982
July	0 2,618	0 281,563	0 464,975
August	681,641 918,462	805,563 1,145,503	1,128,902 1,490,041
September	1,269,988 1,508,957	1,605,272 1,634,965	1,953,112 2,355,749
October	1,820,379 2,204,160	2,374,802 2,672,412	2,812,576 3,395,663
November	2,936,974 3,467,545	3,251,170 3,564,040	4,255,534 4,622,404
December	4,307,803 5,494,635	5,016,839 5,310,833	5,069,842 5,676,465
January	5,967,011 6,196,476	5,869,074 6,518,156	6,911,037 7,224,410
February	6,835,391 7,128,229	8,529,816 9,053,089	10,311,135 11,374,883
March	7,824,493 8,046,970	9,866,074 10,854,992	13,078,836 13,848,766
April	8,716,270 8,974,895	11,693,686 13,203,413	15,616,346 16,739,077
May	10,289,925 10,711,719	13,859,517 14,243,280	17,366,318 18,659,183
June	11,124,079 11,835,511	14,824,077 15,461,879	19,413,514 20,209,999
(Ending)	12,026,386	15,617,101	20,901,247

basis during the first and fifteenth of each month. The data were then plotted on Figure 1 to show the appropriate cycles and to allow for an easier analysis of possible variances.

While the trend was consistent, and while there was no significant fluctuation in the annual accumulation of revenues, one significant occurrence was noted. Specifically, there was a significant increase in the total revenue received from one year to the next. Between fiscal years 1979-80 and 1980-81, there was an increase of 27 percent in total revenue received. A similar increase of 25 percent was noted between fiscal years 1980-81 and 1981-82. While these increases did not represent fluctuations that would alter the revenue cycle in a way that would hinder a projected investment program, they would have to be taken into account when developing any future cash flow projections.

Accumulative expenditures for the three fiscal years were recorded in the same manner as accumulative revenues and are shown in Table XVI. Again, just as with accumulative revenues, accumulative expenditures were plotted on a bi-monthly basis and are shown for all three fiscal years in Figure 2. As shown in Figure 2, no extraordinary fluctuation was observed in the annual cycle of expenditures that would hinder the development of a projected investment program. As with accumulative revenues, however, significant increases in the level of expenditures made from one year to the next year were observed. Between fiscal years 1979-80 and 1980-81, there was an increase of 37 percent in total expenditures made. Between fiscal years 1980-81 and

TABLE XVI

ACCUMULATIVE GENERAL FUND EXPENDITURES (1ST AND 15TH OF MONTH)
 HERNANDO COUNTY SCHOOL SYSTEM FISCAL YEARS
 1979-1980, 1980-1981, 1981-1982

Month	1979-1980	1980-1981	1981-1982
July	0 0	0 17,920	0 1,349
August	515,536 515,638	351,323 515,154	741,695 887,404
September	893,036 1,144,424	1,136,854 1,216,965	1,397,573 1,397,598
October	1,999,617 2,115,138	2,263,007 2,263,007	2,359,014 2,359,274
November	3,213,671 3,214,155	4,010,044 4,412,785	3,614,951 3,795,883
December	4,336,724 4,385,637	5,684,484 5,777,774	5,402,746 5,558,533
January	5,247,042 5,277,634	6,879,346 6,899,735	6,672,273 7,016,891
February	6,164,719 6,201,763	8,449,940 8,580,469	8,802,897 9,010,378
March	7,229,125 7,414,807	9,858,131 9,859,229	10,918,128 11,053,242
April	8,169,117 8,169,117	11,041,864 11,613,711	12,209,811 12,209,811
May	8,765,544 8,765,603	12,244,066 12,304,946	13,487,784 13,487,784
June	9,883,912 11,269,933	13,758,580 15,130,427	15,340,241 17,215,859
(Ending)	12,288,610	16,920,638	18,406,888

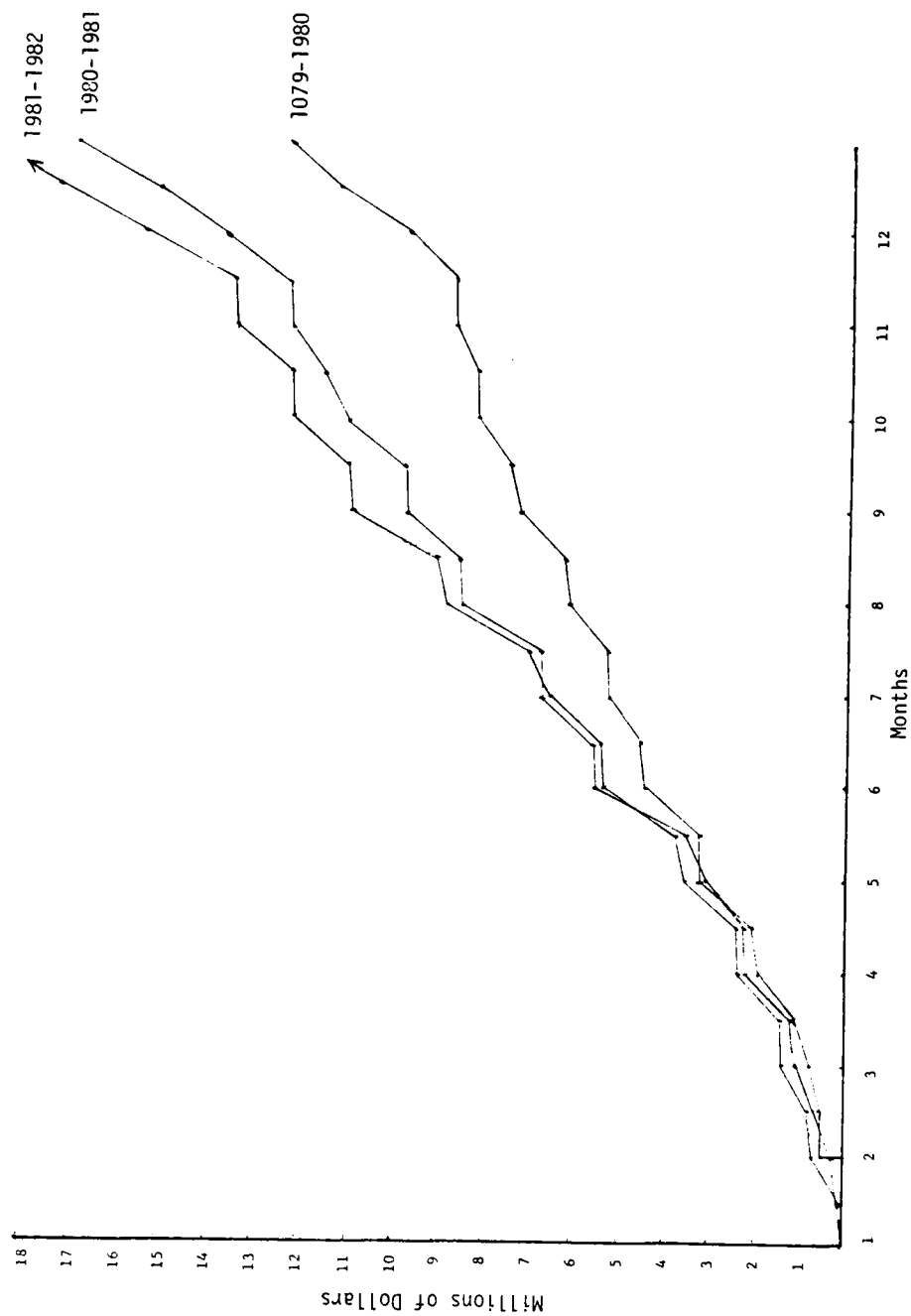


Figure 1. Accumulative General Fund Revenues for Hernando County School System during Fiscal Years 1979-1980, 1980-1981, 1981-1982.

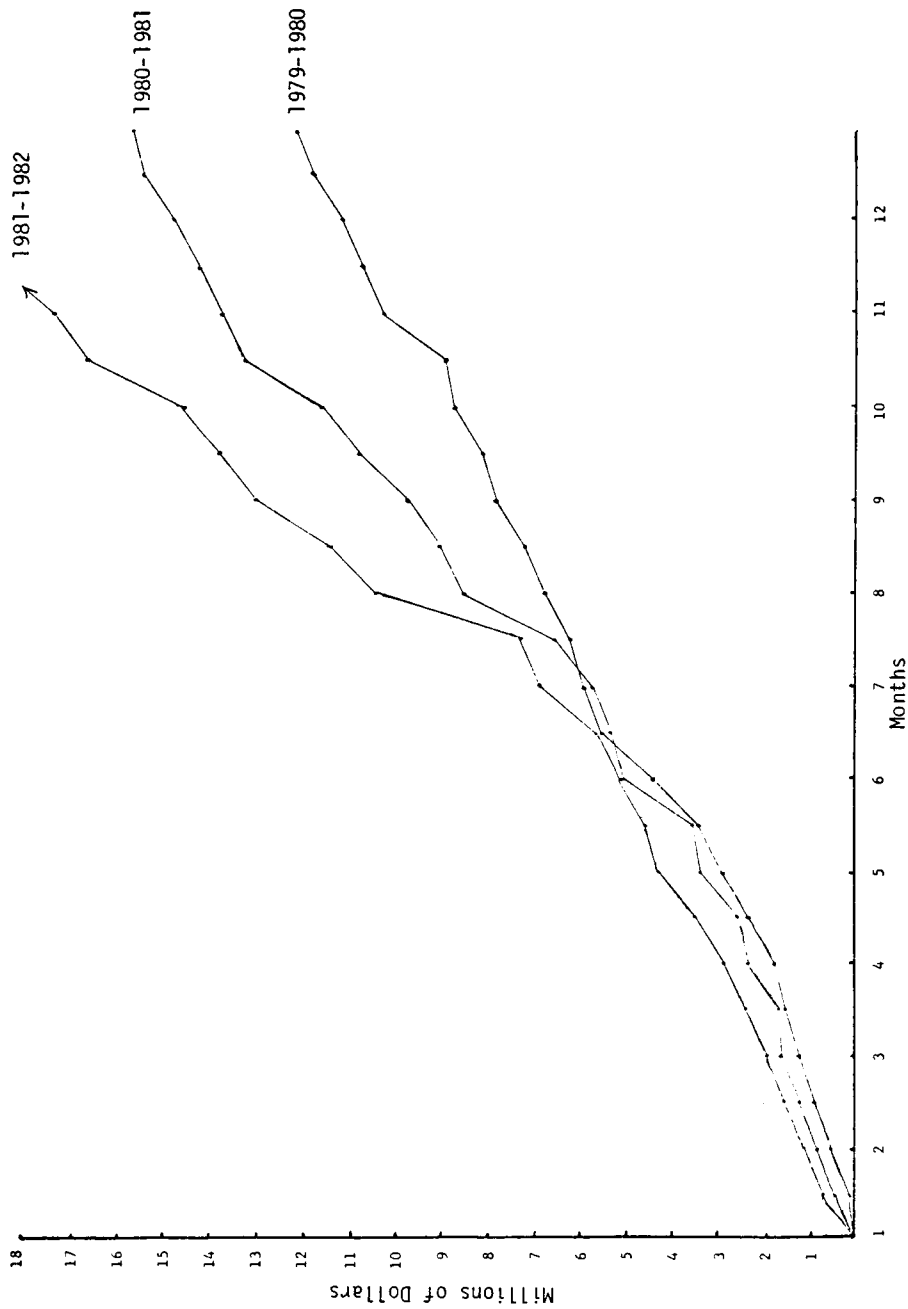


Figure 2. Accumulative General Fund Expenditures for Hernando County School System during Fiscal Years 1979-1980, 1980-1981, 1981-1982.

1981-82, there was a somewhat smaller increase of 8 percent in total expenditures.

At this point, two observations were made in the analysis of the data. First, the substantial increases in total general fund revenues could only have been caused by growth. This observation was confirmed by the fact that state department statistical reports show that Hernando County has one of the fastest growing school systems in the state of Florida (1981, 1982). The second observation grew out of the obvious discrepancies between the rates of growth of revenues and expenditures during the same fiscal years. For instance, total general fund revenues between the 1979-80 and the 1980-81 fiscal years grew by 27 percent while expenditures during the same period grew by 37 percent. Conversely, the growth of total general fund revenues far outstripped the growth of expenditures during the next period. Between the 1980-81 and the 1981-82 fiscal years, total general fund revenues grew by 25 percent while expenditures grew by only 8 percent. The effects of the uneven growth of revenues and expenditures were evident when Table XV (page 64) and Table XVI (page 66) were compared. Specifically, the base system ended the 1980-81 fiscal year in deficit while a large surplus was available in the general fund at the end of the 1981-82 fiscal year.

Obviously, cash flow projections and overall planning for the 1980-81 fiscal year were inadequate. The resulting deficit caused a period of "belt tightening" and retrenchment during the next fiscal year that might have been avoided had cash flow analyzation procedures such as those being considered been in place.

Analysis of Accumulative Surplus

With the data shown in the tabulation sheets included in the appendices, it was possible to calculate the actual potential cash available for investment by the base system during the 1980-81 fiscal year. First, data from the tabulation sheets were recorded in Table XVI (page 66). For each month during the 1980-81 fiscal year, the accumulative surplus was listed for the first, tenth and twentieth days of the month. This was done to give a more accurate picture of the fluctuations in the accumulative surplus during the entire course of the years.

The data from Table XVII were then plotted as points on the graph in Figure 3. When the points on the graph were connected, the total accumulative surplus for the year was revealed. That total accumulative surplus was represented by the space between the line formed by the interconnected points and the horizontal axis of the graph.

In Figure 3, the horizontal axis is measured in days while the vertical axis is measured in dollars. The area representing the accumulative surplus, therefore, is measured in dollar days. A dollar day is one dollar available for one day.

With the data as generated in the tabulation sheets and on the graph, the net total dollar days available for fiscal year 1980-81 were calculated to be 290,201,823. The term "net total" was used because of the detrimental effect of the periods of deficit on the overall accumulative surplus. Examination of Figure 3, for instance, showed

TABLE XVII
 ACCUMULATIVE GENERAL FUND SURPLUS
 HERNANDO COUNTY SCHOOL SYSTEM
 FISCAL YEAR 1980-1981

Month	Beginning: 483,045 - Ending: (820,492)		
	1st Day of Month	10th Day of Month	20th Day of Month
July, 1980	483,045	761,144	725,338
August	937,285	774,942	1,063,595
September	951,463	900,568	757,550
October	594,840	882,512	892,550
November	(275,829)	(207,778)	(485,760)
December	(184,600)	14,252	(304,663)
January	(527,227)	93,163	614,032
February	562,921	933,717	473,844
March	490,988	1,445,096	706,010
April	1,134,867	2,612,124	1,944,612
May	2,098,496	2,065,091	2,404,137
June	1,548,542	2,181,442	344,762

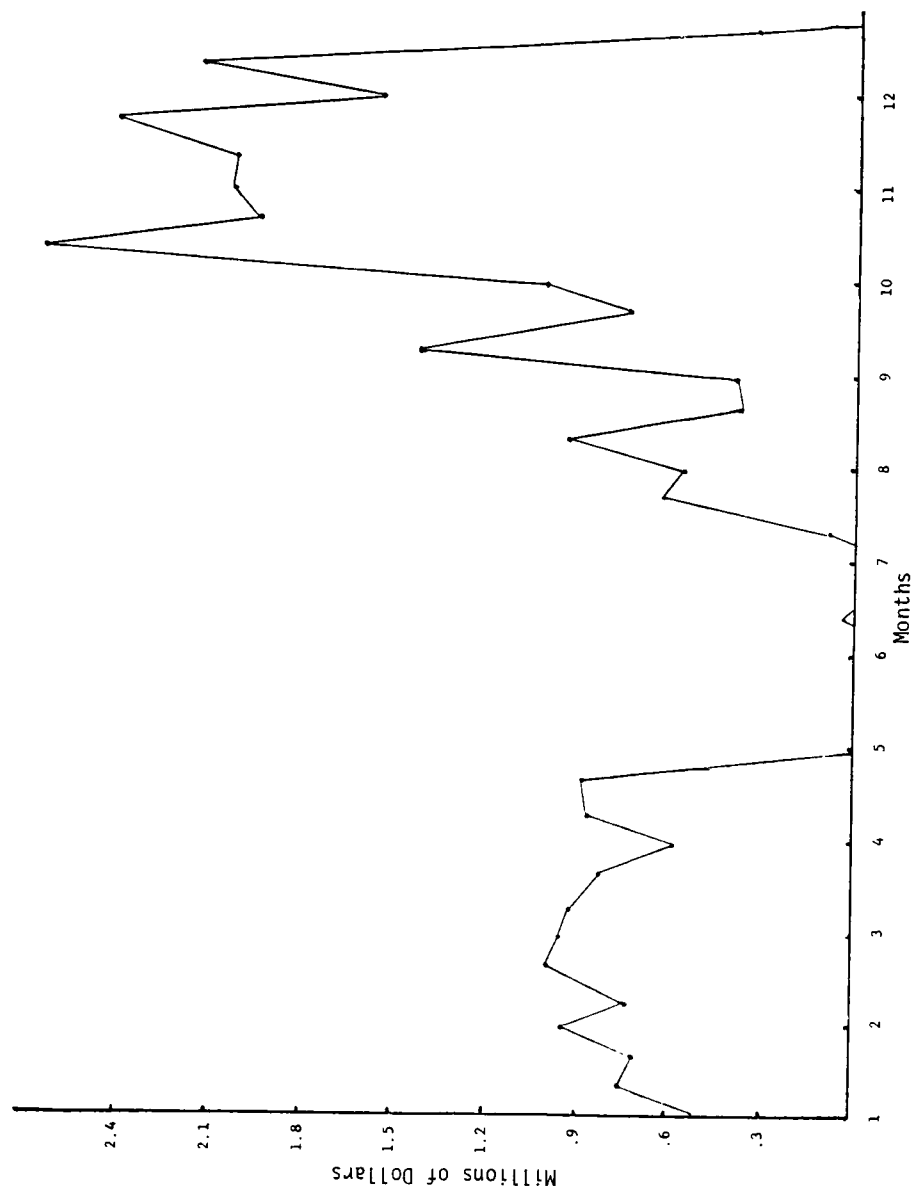


Figure 3. Accumulative General Fund Surplus for Hernando County School System during Fiscal Year 1980-1981.

that the base system was operating at a deficit for part or all of four months during the middle of the year. In addition, Figure 3 (page 72) showed that the base system ended the 1980-81 fiscal year in a deficit situation. When the total dollar days that the system was in deficit were added to the total surplus days, then the net total of 290,201,823 remained.

Finally, it must be said that the development of Table XVII (page 71) and Figure 3 (page 72) were not essential to the calculation of an accumulative surplus. Their development was important, however, because of their role in the development of proposed annual investment programs. For instance, if the assumption was made that no steps would have been taken to adjust cash flows, an investment program could have been projected using the graph in Figure 3 (page 72).

As shown in Figure 4, when a horizontal line was drawn from point A to point B and, similarly, from point C to point D, specific sections of the accumulative surplus shown by the graph were set apart. These sections, crosshatched in Figure 4 for clarity, represented particular investments--a certain number of dollars available for a certain number of days. When this procedure is extended to cover all of the available area of accumulative surplus on the graph, then the major investments needed for an annual investment program have been projected.

Analysis of Procedures to Increase Accumulative Surplus

Examination of data gathered in the base system revealed that all employees were not paid at the same time. Generally, all teachers and noninstructional personnel were paid during the middle of the

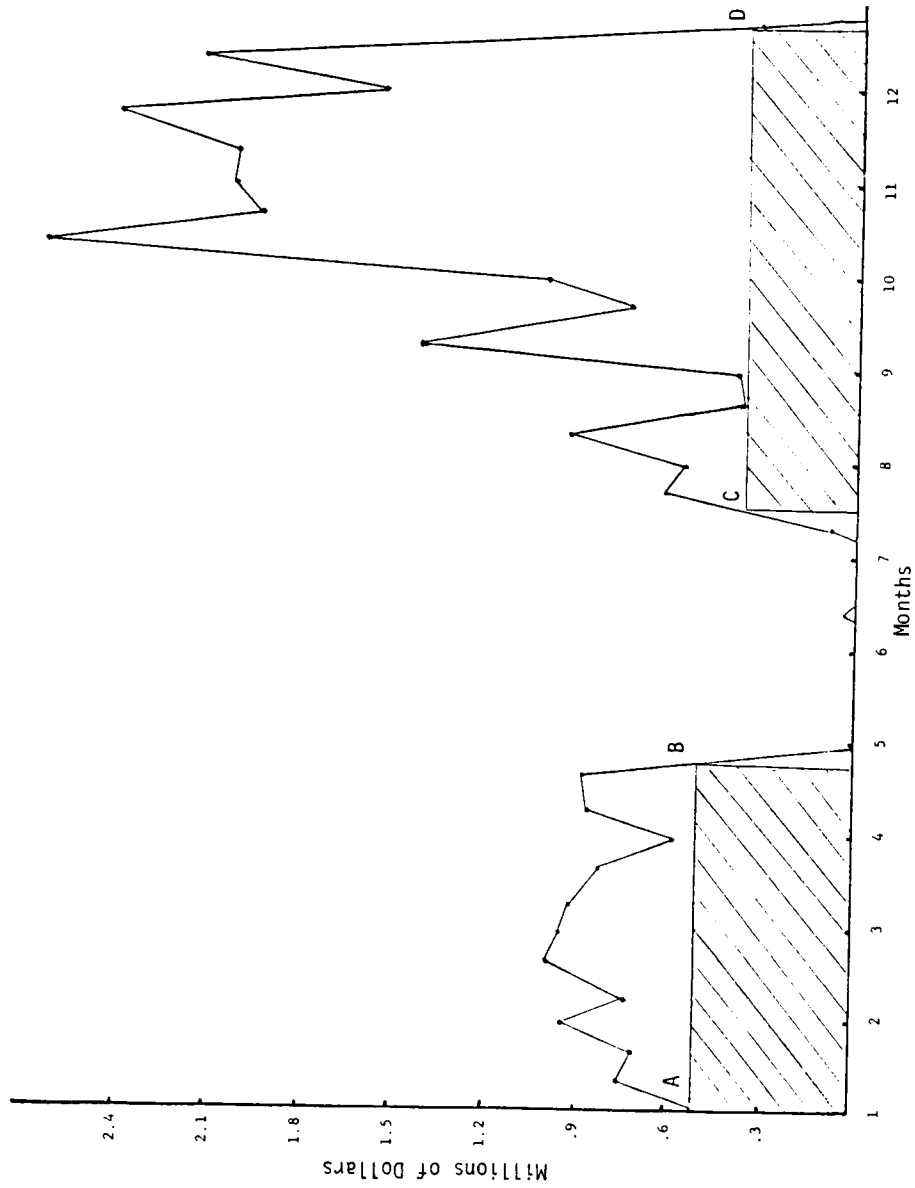


Figure 4. Accumulative General Fund Surplus for Hernando County School System during Fiscal Year 1980-1981.

month, while administrative staff were paid at the first of each month. In addition, teachers received both of their summer checks for July and August in June.

The first procedure chosen to enhance cash flow and to thereby increase funds available for investment was to consolidate the two monthly payrolls into one. Also, calculations were done to determine the effect of spreading payments to teachers over the entire summer.

Table XVIII shows the result when middle of the month payrolls for the 1980-81 fiscal year were made at the first of each month. The first column in Table XVIII includes mid-month payroll amounts, while figures in the second column represent the number of days gained each month by holding payment until the last day of the month. The last column, calculated by multiplying mid-month payroll amounts by the number of days gained when those amounts were held until the last day of each month, shows the additional dollar days gained for investment.

When the additional dollar days gained each month were totaled, it was revealed that a total of 102,918,782 additional dollar days were generated during the 1980-81 fiscal year. When an interest rate for investment of 10 percent was assumed, it was shown that the additional dollar days would have increased investment income by \$28,189.

$$\begin{array}{rcl} \text{Additional} & & \text{Interest earned by} & & \text{Increased} \\ \text{dollar} & \times & \text{one dollar invested} & = & \text{investment} \\ \text{days} & & \text{for one day at 10\%} & & \text{income} \end{array}$$

OR

$$102,918,782 \times \$0.0002739 = \$28,189$$

To calculate the effect of spreading all payrolls, including teachers, over the summer months, the following steps were taken.

TABLE XVIII
 INCREASE IN ACCUMULATIVE GENERAL FUND SURPLUS
 WHEN MID-MONTH PAYROLLS ARE HELD UNTIL
 THE END OF THE MONTH HERNANDO
 COUNTY SCHOOL SYSTEM FISCAL
 YEAR 1980-1981

Month	Payroll Amount		Additional Days		Additional Dollar Days
September, 1980	300,225	x	10	=	3,002,250
October	775,363	x	10	=	7,753,630
November	119,900	x	12	=	1,438,800
	468,000	x	10	=	4,680,000
December	738,999	x	14	=	10,345,986
January	122,990	x	11	=	1,352,890
	519,714	x	10	=	5,197,140
February	830,980	x	9	=	7,478,820
March	553,146	x	12	=	6,637,752
April	570,018	x	16	=	9,120,288
	128,157	x	15	=	1,922,355
May	863,275	x	11	=	9,496,025
June, 1981	884,591	x	20	=	17,691,820
	486,635	x	16	=	7,786,160
	491,828	x	15	=	7,377,420
	94,911	x	3	=	284,730
	676,358	x	2	=	1,352,716
TOTAL					= 102,918,782

NOTE: There were no mid-month payrolls for July and August, 1980.

first, all of the payroll payments made in June of the 1980-81 fiscal year were totaled. That total, \$2,634,322, was then divided by three. One-third of the total was assumed to have been paid in June, 1981. The remaining two-thirds were assumed to have been paid in July and August of 1981, the first two months of the 1981-82 fiscal year.

The effects of spreading all payrolls over the summer months of July and August were dramatic. Most important, had the base system only paid one-third of the actual payroll amount in June, it would not have ended the 1980-81 fiscal year in deficit. In fact, it would have carried over a surplus of \$935,723. This was calculated by adding back the actual total of payroll payments made in June to the ending accumulative surplus and then deducting the amount that was assumed to have been paid.

The next most important result of spreading all payrolls over the summer months was the increase in idle funds available for investment. While no additional investment income could have been earned in the 1980-81 fiscal year, all of the \$935,723 surplus would have been available for at least the first month of the 1981-82 fiscal year.

The final strategy considered to increase cash flow and funds available for investment was the use of tax anticipation loans or notes. Sections 151 and 162 of Chapter 237 of the Florida Statutes (1983) allows school districts in the state to raise money for operating purposes by making loans or through the issuance of interest bearing tax anticipation notes. Since the base system operated its

general fund at a deficit during part or all of four months during the 1980-81 fiscal year, it would have been possible to raise funds in advance under provisions extant in the law. The preferred vehicle would have been the issuance of tax anticipation notes.

Tax anticipation notes would have been preferred because interest earned by the purchaser would have been tax free and thus would have represented a lower cost to the seller, i.e., the school district. The school district could have then reinvested the proceeds from the notes at favorable rates and earned a substantial profit. The profit would have been generated by the difference in the interest paid on the notes by the district and the interest earned by the district when the proceeds from the issuance of the notes were invested.

To show the attractiveness of using tax anticipation notes, the following assumptions about the base system and its actions were made for the 1980-81 fiscal year:

1. It was assumed that the base system, through the use of some form of ongoing cash flow analysis, would have predicted the shortfalls that actually occurred in the general fund during the fiscal year.

2. It was assumed that the base system would have qualified, under the law, to issue tax anticipation notes.

3. It was assumed that the base system would issue tax anticipation notes for at least \$825,000 since the actual amount needed to guarantee that the general fund was never in deficit was \$825,761. This figure of \$825,761 was arrived at by summing the actual revenues

and expenditures during the entire deficit period, from October 22 through January 8 of the 1980-81 fiscal year.

4. It was assumed that the difference between the interest paid and interest earned would be 4 percent.

5. It was assumed that nothing could have been done to reduce expenditures and thereby reduce the deficit.

If all of the foregoing assumptions had been true, the following would have occurred. First, on realizing that there would be substantial periods during the year when expenditures were significantly higher than revenues, the base system would have arranged to issue \$825,000 of tax anticipation notes on July 1, the first day of the fiscal year. This would have made an additional \$825,000 available each day for investment until the day that the system went into deficit. In the base system, this would have been 114 days, since the first day of deficit was October 22.

When 114 days was multiplied by \$825,000, the amount of the proceeds from the tax anticipation notes, it was found that an additional 94,050,000 dollar days were available for investment. Based on the assumption that a net of 4 percent could have been earned, these additional dollar days yielded additional investment income of \$10,308. Additional investment income was calculated as follows:

Additional dollar days	X	Interest earned by one dollar invested for one day at 4%	=	Additional investment income
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OR

$$94,050,000 \times \$0.0001096 = \$10,308$$

At this point, it should be pointed out that the accumulative surplus, during the period of deficit, was affected in a positive way. However, the additional dollar days that were generated during this period were so significant that they were not calculated.

The final procedure is the hypothetical issuance of tax anticipation notes was to hold them for redemption until the last day of the fiscal year. Had this been done, the notes (\$825,000) could have been paid out of the surplus (\$935,723) that was generated by spreading all payrolls over the summer months.

V. SUMMARY

A review of the data generated in this section of the study led to several interesting observations. For instance, had the cash management procedures that were analyzed actually been in place, the base system could have accomplished the following:

1. foreseen the upcoming deficits,
2. arranged to issue tax anticipation notes and thereby earned an additional \$10,308 in investment income,
3. ended the year "in the black" by redeeming the tax anticipation notes from the increased surplus generated when payrolls were consolidated and spread over the summer months, and
4. earned an additional \$28,189 when additional surplus was generated from the consolidation of payrolls.

CHAPTER IV

INTRODUCTION

The purpose of this chapter was to summarize the study. Findings generated by the data were stated, and major conclusions were drawn. One recommendation, a proposed cash management model, was made and included as the final section of this chapter.

I. SUMMARY

The purpose of this study was to descriptively analyze current cash management practices of the 67 public school systems in the state of Florida. In addition, it was the purpose of this study to adapt analytical cash management procedures to develop a model which would benefit all public school systems.

The review of related literature revealed a comparative lack of research directly related to the cash management process in public school systems. Except for the work of Dembowski and a few other educational researchers, much of the cash management information found in the course of this study was developed in the areas of business and finance.

Data for this study were gathered in two ways. First, a questionnaire was mailed, and subsequently returned by all 67 public school systems in the state, which provided information on the current status of cash management practices. Second, certain procedures were imposed on financial data gathered in the Hernando County School System

from the 1980-81 fiscal year. The purpose of this process was to see if investment revenues could be enhanced.

Finally, in the attempt to make the study more relevant and of some practical value to public school systems, a proposed cash management model is presented at the conclusion of this chapter. Information to develop this model was taken from all areas of the study.

II. FINDINGS

Findings from this study were gathered from three separate sources--the review of literature, the questionnaire, and from information generated from data collected in the Hernando County School System. For the sake of clarity, findings from the three sources will be presented categorically. Where appropriate, findings will also be listed numerically.

Findings from the Review of Literature

Major findings from the review of literature are listed below. While each finding is numbered, the numbers are not meant to imply any ranking or prioritization.

1. The research showed that size and wealth were not significant with respect to the mere existence of cash management programs. In other words, no school district, regardless of its size or wealth, is prohibited from effectively managing its cash assets.

2. Larger, wealthier school districts were found to be more likely to have better developed, more efficient cash management programs.

3. It was found that boards of education must be supportive if cash management programs are to be effective. This support should include the adoption of cash management policies and the provision of written guidelines for the implementation of those policies.

4. Scale effects were found to have a direct impact on the efficiency of cash management programs. Larger districts, for instance, have larger surpluses. Consequently, they are able to take advantage of a wider variety of, and often more lucrative, investments.

5. The level of training of investment officers and those administering the cash management program was shown to be important if cash management programs are to be efficient.

6. Examination of the literature showed that both long and short term methods of cash forecasting are needed to maximize the efficiency of cash management programs.

7. When compensating depository banks, it was shown that school districts benefited by the paying of fees for services rendered rather than by maintaining compensating balances.

8. The research showed that there are significant differences in yield when securities are bought at par, premium or discount.

Findings from the Questionnaire

Findings from the questionnaire are listed numerically. They appear below in the same order in which questions were asked.

Question 1. Has your Board of Education adopted a cash management policy?

A. Of the 66 systems which responded, 38 (58 percent) indicated that their board had not adopted a cash management policy.

B. When systems were grouped according to the efficiency of their cash management programs, only in the highest category did over half the systems report having an adopted cash management policy.

Question 2. Does one employee in your system have responsibility for the cash management process?

A. Three of 67 systems reported that no one employee was responsible for the cash management process.

B. All three of the systems reporting that no one was responsible were in the lowest category when all systems were grouped according to the efficiency of their cash management programs.

Question 3. If the answer to Question 2 is "yes," what is the relationship of the employee to the Board?

A. In three systems, the superintendent was directly responsible for the cash management program.

B. Of the 61 other systems responding positively to Question 2, all of those responsible for the cash management program were lower echelon district level administrators.

Question 4. Does your system employ outside consultants (including local bankers) to assist in the cash management process?

A. Five systems reported using outside consultants.

B. Of the five systems using outside consultants, only one specified the use of local bankers.

Question 5. How does your school system determine the amount of idle cash that it will have available for investment during any given fiscal year?

A. Of the 66 systems responding to this question, just five reported investing only the unencumbered surplus from the previous fiscal year.

B. Twenty-three systems (34 percent) reported that they were systematically developing cash forecasting/cash flow charts.

C. Twenty-six systems (39 percent) reported that they developed cash budgets each year.

D. Twenty-six systems (39 percent) reported using "other" methods to determine the amount of idle cash available for investment. Without exception, these 26 systems were using some form of interim reconciliation of revenues and expenditures, or they were simply depositing all revenues to an interest bearing account.

E. In the total population, only 13 systems (19 percent) reported using more than one method to forecast idle cash balances.

Question 6. How often does the Board of Education approve for payment claims and obligations to the school district?

A. Six systems reported approving claims for payment once each week.

B. Twenty-three systems reported approving claims for payment bi-monthly or twice each month.

C. The largest number of systems, 31 (46 percent), reported approving claims for payment once each month.

D. Six systems marked "other" when responding to Question 6. All but one indicated that claims were approved "as received" or "continuously by the superintendent." The one exception explained that the board approved claims on set days of the month for each category of payment.

Question 7. How often are claims and obligations of the school district actually paid?

- A. Five systems reported paying claims as they were received.
- B. Twenty-one systems reported paying claims weekly.
- C. The largest number, 26 (39 percent), reported paying claims bi-monthly or twice each month.
- D. Twelve systems reported paying claims monthly.
- E. Three systems marked "other" on Question 7. Two of the three paid claims three times each month. The third system paid on specified days for different categories of payments.

Question 8. Has your Board of Education adopted policy defining the school system's relationship with local banks?

- A. Just four systems reported that their boards had adopted a policy defining their system's relationship with local banks.
- B. Of the four systems which responded positively, only one had adopted a policy which mandated that all idle balances be kept on deposit at local banks.

Question 9. How many banks are used for depositing the school system's money?

A. Only eight systems used just one bank to deposit their funds.

B. Twenty-one systems used two banks.

C. Sixteen systems used either three or four banks.

D. Twenty-two systems (approximately one-third of the population) used five or more banks.

Question 10. How are banks compensated for services rendered?

A. Thirty-seven systems reported maintaining minimum or compensating balances to compensate depository banks.

B. Only five systems reported paying fees to compensate their depository banks.

C. Of the 24 systems who marked "other," responses fell into two categories. The first group all made comments which indicated that they understood that their banks were earning interest off their deposits. The second group all responded that their banks were not compensated.

Question 11. How many non-interest bearing checking accounts does you school system maintain?

A. Twenty-seven systems reported maintaining between one and five non-interest bearing checking accounts.

B. Nine systems reported using between six and ten non-interest bearing checking accounts.

C. Five systems reported using between 11 and 15 non-interest bearing checking accounts.

D. Two systems reported using 15 or more non-interest bearing checking accounts.

Question 12. How many interest bearing checking accounts does you school system maintain?

A. Twenty-one systems reported maintaining between one and five interest bearing checking accounts.

B. Twenty-two systems reported maintaining between six and ten interest bearing checking accounts.

C. Seven systems reported maintaining between 11 and 15 interest bearing checking accounts.

D. Four systems reported maintaining 15 or more interest bearing checking accounts.

Question 13. What procedure is followed in carrying on the investment program in your school system?

A. Forty-eight systems reported that an appointed officer had the authority to make investments within prescribed guidelines.

B. Not one system reported that the Board of Education took a direct hand in the investment of idle funds.

C. Of the 18 systems who marked "other," most indicated that an officer (e.g., administrator) made investments but with no guidelines. Three systems indicated that the superintendent made investments at his discretion.

Question 14. What types of investments has your board made in the last five years?

A. The following is a listing of the types of investments most commonly used by Florida school systems. The number beside each investment indicates the number of systems which reported the use of that particular investment.

1. Passbook Savings - 30
2. State Investment Pool - 58
3. U. S. Treasury Notes - 9
4. U. S. Treasury Bills - 7
5. Bank Certificates of Deposit - 61
6. Repos (local banks) - 30

B. Five systems marked "other" when responding to Question 14. All five either invested in federal agency securities or in repurchase agreements with brokers.

Findings from the Adapted Cash Management Model

Listed below are findings that were generated when certain cash management procedures were adapted and imposed on financial data gathered in the Hernando County School System. The procedures were adapted from the cash flow analyzation model by John A. Jones and S. Kenneth Howard (1973). Additional findings were made when selected strategies for increasing cash flow were applied. These are also listed below.

1. When accumulative revenues were computed for fiscal years 1979-80, 1980-81, 1981-82, no significant fluctuation in the annual accumulation of revenues was found. It was found that total revenue received from one year to the next increased significantly.

2. When accumulative expenditures were computed for fiscal years 1979-80, 1980-81 and 1981-82, no significant fluctuation in the annual cycle of expenditures was found. It was found that total expenditures made from one year to the next increased significantly.

3. When accumulative revenues and accumulative expenditures were compared, it was found that the Hernando County School System ended the 1980-81 base fiscal year in deficit while a large surplus was available in the general fund at the end of the 1981-82 fiscal year. Calculations also showed that a surplus was available at the end of the 1979-80 fiscal year.

4. When the accumulative surplus for the base fiscal year 1980-81 was calculated, it was found that a net total of 290,201,823 dollar days were available for investment. (A dollar day is one dollar available for one day.)

5. When all payrolls were combined and paid once each month, it was found that a total of 102,918,782 additional dollar days were generated during the 1980-81 base fiscal year.

6. When all payrolls were spread over the summer months, including teachers, it was found that the Hernando County School System would not have ended the 1980-81 base fiscal year in deficit. Also, this procedure revealed that there would have been an increase in idle funds available for investment during the 1981-82 fiscal year.

7. When it was assumed that the Hernando County School System would have issued tax anticipation notes in an amount equal to the total deficit during the 1980-81 fiscal year, it was found that an

additional 94,050,000 dollar days would have been available for investment. In addition, had the hypothetical tax anticipation notes been held until the last day of the 1980-81 fiscal year, the notes could have been paid out of the surplus that was generated by spreading all payrolls over the summer months.

III. CONCLUSIONS

Many specific and limited conclusions could have been drawn from the data and findings generated by this study. Perhaps the most important general insight, however, was born out of the discovery that there is absolutely no reason for any school system not to have a cash management program. The ability to manage one's cash resources effectively is not a function of either size or wealth. To the contrary, at least two other factors, unrelated to size or relative wealth, were shown by this study to be crucial to the existence of a cash management program.

First among these crucial factors is that of commitment. Related literature and data from the study showed clearly that school boards, and by inference administrators, must be convinced that it is important to properly manage their systems' cash resources. Even though Florida's school systems are mandated by state law to invest idle funds, the commitment to the cash management process obviously fluctuated from one system to the other. This was evidenced best by the lack of board adopted policies defining and governing the cash management process.

The second crucial factor that is absolutely necessary to the efficient operation of cash management programs is that of understanding. To begin with, those in positions of responsibility must realize that cash management is a process comprised of several elements and not just a single activity. Without understanding that cash forecasting, managing cash flow, bank relations, and investing idle funds are all integral parts, it would be impossible to establish and operate an effective cash management program.

In all candor, it must be said that Florida's school systems--as a group--did not exhibit much understanding that cash management is a process. With respect to bank relations, for instance, only four of the state's 67 systems had adopted a policy defining relationships with local banks. Managing cash flow was another area of weakness. This was witnessed by the fact that many systems kept far too many bank accounts and paid their bills much more often than needed.

In summary, it should be said that conclusions in this section have been limited to only those general insights that have broad implications for the establishment and operation of cash management programs. They include the following:

1. No school system, regardless of size or wealth, is prohibited from having a cash management program.
2. The commitment of boards of education and school administrators is crucial to the success of cash management programs.

3. Understanding that cash management is a process and understanding the interrelated elements of that process are crucial to the success of cash management programs.

IV. RECOMMENDATION

The findings and conclusions in this study suggested but one recommendation. That recommendation includes a description of the cash management process and those related elements which must be incorporated if any cash management program is to be successful. The recommendation itself is that school systems include the ideas and concepts in the following model when they develop or restructure their cash management programs.

Preliminary Concerns

Before any successful cash management program can be established, one basic element must be present. That is to say, the governing board and top administrators of the school system must be committed to the concept. They must believe that cash management is not only worthwhile, but that it is absolutely necessary.

Manifestations of commitment can be seen in the school board's willingness to adopt appropriate policies that would define and govern the program. Those policies should first include the basic ones which would provide the framework and goals around which the program would be implemented. In addition, the board must be willing to adopt policies governing relationships with local banks. If school boards are not willing to deal in a businesslike way with local banks, then their

commitment to an effective cash management program is highly suspect, at best.

The second preliminary concern that must be dealt with before the establishment of a successful cash management program stems from the need to understand that cash management is a process and not a single activity. After school boards have committed to managing their cash resources in the most effective way possible, it is incumbent on those boards with the help of their administrators, to inform themselves of the appropriate procedures and strategies that will be required to accomplish the task.

It is obvious from the data collected by the questionnaire that many of Florida's school systems do not understand the process of cash management. While virtually every system invested idle funds, when they had them, most systems neglected one or more of the basic elements of the cash management process--cash forecasting, managing cash flow, bank relations and investing idle funds.

The Model

For clarity, the following steps are presented in the order in which they would be considered if no cash management program existed. For those systems who have already begun to develop their cash management procedures, it should be a simple matter to adapt the following steps to meet individual needs.

Step I. Once the school district's governing board has committed to the development of a cash management program, the first action to be taken would be the development and adoption of policy

statements which would define and govern that program. Those policies should include at least the following:

1. An introductory statement identifying cash management as a process consisting of four basic elements--cash forecasting, cash flow management, bank relations, and investment of idle funds.

2. The identification of a single employee of the board who would have responsibility for and commensurate authority over the implementation and ongoing operation of the program--the cash manager.

3. A goal statement setting from 2 to 5 percent of the total budget as the annual target for interest income from the investment of idle funds.

4. A statement encouraging cooperation between the cash manager and the various departments of the school system. Without cooperation, it would be impossible to properly implement all four elements of the cash management process.

5. Finally, provision should be made for the periodic reporting to the board on the current status and projected operation of the cash management program.

Step II. The establishment of good bank relations is the second step that should be taken in the development of a cash management program. As in Step I, the governing board of the school district should adopt policies that would define relationships with local banks. Before such policies are finally adopted, however, representatives from the local banking community should be encouraged to participate in the policy making process. As was noted in Chapter

II, Bankers recognize an obligation to provide leadership, counsel and participation in all matters relating to local finance. Because of this recognized obligation, local bankers represent a pool of free consultative help that should be continuously used by local school systems in the development and ongoing operation of their cash management programs.

When policies defining bank relations are adopted, they should include the following points:

1. The provision for competition among banks, for depository accounts or the establishment of a schedule which would allow all local banks to participate over time as depositories for the school system. The purpose here would be to limit the number of depository banks to no more than two, preferably one, at any given time.

2. A complete listing of services expected from the bank. In addition to the typical services such as honoring stop payment requests and requests for wire transfers, two other, less typical, services should be included. Those two services are full account reconciliation and the brokering and safekeeping of money market investment instruments. Also, in addition to and along with the listing of services, there should be included the per unit cost to the school system for each service.

3. A stipulation that the minimum number of demand deposit accounts be maintained. This number should not exceed the number of major budget fund categories plus one additional for payroll.

4. A stipulation that no non-interest bearing demand deposit accounts be kept. Currently, there is no regulation or law that would

prohibit banks from offering interest bearing checking accounts to school systems.

5. A provision that no compensating balances be kept in any demand deposit account. The work of Dembowski, fully discussed in Chapter II of this paper, shows clearly that banks should be reimbursed for services by the payment of fees, not by keeping large balances in demand accounts. The only balances kept in demand accounts are the minimums required to earn interest.

6. A provision which would constitute an agreement between the bank and school system for the bank to provide advice and consultation in ongoing development and operation of the school system's cash management program.

7. A provision that would mandate the continuous evaluation and monitoring of all banking relationships.

At this juncture, it should be pointed out that the establishment of appropriate bank relations is an especially sensitive area for school systems. In the points just covered, for instance, there are several places where the potential for friction, even conflict, is very high. The first good example of this comes from point #1 where the use of only one bank and competition among banks are encouraged. In many communities, especially smaller ones, banks resent having to compete.

Another potential source of conflict grows out of the advice in this section that school systems pay fees for services rather than keep compensating balances. Traditionally, keeping compensating balances

has been the norm for reimbursing banks. Indeed, many banks have adopted policies which prohibit institutional and commercial customers from using interest bearing demand deposit accounts. Nevertheless, such policies are policies of the local bank. There is no legal or regulatory mandate requiring school systems to maintain compensating balances in their checking accounts.

Finally, it should be emphasized that productive bank relations are essential to the operation of an effective cash management program. The extent to which bankers are cooperatively involved will have substantial impact on the program's ultimate effectiveness. The ability of the school system to encourage that cooperative involvement, based on those seven points discussed earlier in this section, is even more important.

Step III. The next logical step in the development of a cash management program would be the identification of appropriate techniques that would help to accurately forecast the availability of idle cash balances. As was shown earlier in this paper, two basic methods of cash forecasting are required.

First, a long range forecast is needed. In school districts, the framework for developing the long-range forecast is built in; it consists of the annual school budget. While not usually thought of as a tool to be used in the cash management process, it meets all the requirements of the adjusted net income method of long-term cash forecasting. Remember Wilkins's definition from Chapter II:

Beginning Cash + Cash In - Cash Out = Ending (Idle) Cash

That equation is an exact description of the budgetary process.

It is also recommended here that procedures used earlier in Chapter III to manipulate information from the Hernando County School System be used in conjunction with the annual budget to provide a more accurate and meaningful long-term forecast. Specifically, by developing annual records of accumulative revenues, accumulative expenditures, and accumulative surpluses, cyclical trends and unusual occurrences in all of these areas will be revealed.

To summarize, the purpose of the long-term forecast is to give the school system the best general idea about when funds might be available for investment. The long-term forecast is only meant to provide the basis for a tentative annual investment plan. The actual investment plan will be constantly adjusted to meet contingencies that are revealed by the short-term forecast.

As has just been implied, the second type of forecast that is needed is a short-term forecast. The type of short-term forecast that is recommended would be based on at least the weekly, preferably the daily, reconciliation of receipts and disbursements. Not only should the school district's books be reconciled, but checks that have been written should also be compared with those which have actually cleared the bank. Consequently, the need for banks to provide full account reconciliation services as was called for in Step II of this section is explained.

By having in place an ongoing short term forecast procedure like that just described, school districts will be able to invest funds

for very short periods of time. This will significantly enhance the efficiency of the cash management program; and, over the course of the entire year, it will provide information that will help evaluate the accuracy of the long-term forecast.

Finally, it should be said that the ability to forecast the availability of idle cash balances is the bedrock of any cash management program. Literally, there can be no cash management program if school systems cannot foresee the existence of idle cash balances.

Step IV. The fourth step in developing a cash management program, managing cash flow, is often confused with cash forecasting when the overall cash management process is considered. To distinguish between the two procedures, the following definition of managing cash flow is offered: Managing cash flow includes all of those strategies that might be implemented to either hasten the receipt of revenues or to delay the disbursement of expenditures.

Several specific strategies were considered in this paper that would enhance the management of cash flow in any school system. Evidence was clear, for example, from the manipulation of data from the Hernando County School System that combining payrolls and using tax anticipation notes can significantly increase the availability of idle fund balances. It is also interesting to note that these two strategies are exactly consistent with the definition. Combining payrolls, for instance, is nothing more than a delay in the disbursement of expenditures while the use of tax anticipation notes simply hastens the receipt of revenues.

Other instances of how school systems do and do not effectively manage their cash were seen in the responses to certain items on the questionnaire. How often claims and obligations against the school district are approved and paid, for instance, has tremendous impact on the amount of cash that is available for investment. If bills are consistently being paid before it is actually necessary to pay them, then the accumulative negative effect over the course of a year would be substantial.

Another example from the questionnaire of poor cash management practice was the overuse of demand accounts and the use of too many depository banks. Not only is the use of multiple accounts and banks extremely expensive in a direct way, but it is also time consuming and usually causes delays in reconciliation and investment procedures.

Reduced to its simplest form, a school system's cash flow management procedure will consist of the aggregate strategies that will result from the answers found for the following questions: When considering disbursements, can they be delayed? When considering revenues, can their receipt be hastened?

Cash managers, therefore, should examine, both categorically and individually, every area of receipts and disbursements. Every instance that they find where more money can be made available for investment for a longer period of time should become a part of the cash flow management procedure.

Finally, it should be emphasized that the cash manager must have the authority to delay disbursements when appropriate. However,

these decisions must not be taken unilaterally and arbitrarily. They should be made within guidelines that would be established by the board (part 4, Step I of this model).

Step V. The fifth and final step in the cash management process is the investment of idle funds. Assuming that the other three elements in the process--forecasting cash, managing cash flow, and establishing appropriate relations with local banks--have been properly carried out, then investing idle funds should be a relatively simple procedure.

The first consideration when investing idle funds is to only invest in those areas which are legally approved by the state. In Florida, the list of allowable investments according to state law is quite extensive and provides enough variety to meet all contingencies. From that list--any bank or savings and loan deposit, U. S. Government securities, federal agency obligations, state and local school bonds, and the Local Government Surplus Funds Trust Fund (state investment pool)--the following investments are recommended.

For short term, "overnight" investing, at least two vehicles should be available to every school system. First, every system should be prepared to invest in the state investment pool. Second, every system with large enough surpluses should negotiate a day-to-day repurchase agreement with its local bank. These two strategies will allow the school district to seek the highest available rate and will preserve the opportunity to invest locally.

For longer term investments, school districts should be prepared to invest in U. S. Government securities, certificates of

deposit at local banks, and in the state investment pool. These instruments will allow school districts to again seek the most profitable interest rates and to invest locally when possible.

The second area that must be considered has to do with the four basic factors that must be taken into account when making any investment. Specifically, the cash manager must examine each investment in terms of its risk, yield, maturity, and liquidity. This is especially true when considering investments other than those just suggested.

Risk, as was pointed out in Chapter II, should not be of much concern. Because states usually delimit the kinds of investments that school districts can legally make, the risk factor has already been taken into account. It should be pointed out, however, that some concern has been expressed in the banking community about the relative risk of some allowable investments, especially investment pools operated by agencies of the state government.

Yield, or rate of return, is a very important consideration when making investments. As has been shown earlier in this paper, the annual rate earned on an investment can vary substantially depending on whether that particular investment is purchased at par, premium or discount. Table XIV, page 62, clearly shows the difference.

Maturity, or the amount of time from purchase or deposit until redemption or withdrawal, can have serious negative impact on earnings if all investments are not "timed" properly. The cash manager will be at least embarrassed if interest is lost and penalties must be paid because an investment was made for too long a period of time.

Since school districts will eventually encumber and spend every dollar that they receive, the liquidity of their investments must also be of prime concern. All investments should be easily converted to money and be as free from risk as possible.

Finally, there is one other, less obvious, consideration to be made when investing idle funds. Specifically, school districts should invest with or through local financial institutions whenever possible. Assuming that good bank relations have been established, then local banks should be given preference as long as their rates are competitive.

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APPENDICES

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$483,045				
July 1, 1980					\$ 483,045
2					483,045
3					483,045
4					483,045
5					483,045
6					483,045
7	\$ 29	\$ 29			483,074
8	4,783	4,812			487,857
9					487,857
10	273,287	278,099			761,144
11	83	278,182			761,227
12					761,227
13					761,227
14	3,377	281,559			764,604
15	4	281,563	\$ 17,920	\$ 17,920	746,688
16					746,688
17					746,688
18	2,355	283,918	23,705	41,625	725,338
19					725,338
20					725,338
21	4,584	288,502			729,922
22			2,009	43,634	727,913
23	475,656	764,158			1,203,569
24					1,203,569
25	10,563	774,721			1,214,132
26					1,214,132
27					1,214,132
28	92	774,813			1,214,224
29	750	775,563			1,214,974
30					1,214,974
31	30,000	805,563	307,689	351,323	937,285
				Sub Total:	\$24,671,391

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$937,285				
August 1, 1980					\$ 937,285
2					937,285
3					937,285
4					937,285
5	1,364	\$ 806,927			938,649
6					938,649
7			\$163,720	\$ 515,043	774,929
8	13	806,940			774,942
9					774,942
10					774,942
11			111	515,154	774,831
12	337,215	1,144,155			1,112,046
13					1,112,046
14	1,122	1,145,277			1,113,168
15	226	1,145,503			1,113,394
16					1,113,394
17					1,113,394
18	220	1,145,723			1,113,614
19	80	1,145,803	50,099	565,253	1,063,595
20					1,063,595
21	800	1,146,603	206,789	772,042	857,606
22	409,640	1,556,243	125	772,167	1,267,121
23					1,267,121
24					1,267,121
25	8,948	1,565,191			1,276,069
26	25	1,565,216			1,276,094
27	56	1,565,272			1,276,150
28					1,276,150
29	40,000	1,605,272	3,185	775,352	1,312,965
30			313,453	1,088,805	999,512
31			48,049	1,136,854	951,463
				Sub Total:	\$32,446,642

Date	Revenue	Accumulative Revenue	Expenditure	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$951,463				
September 1, 1980					\$ 951,463
2	27	\$1,605,299			951,490
3					951,490
4	252	1,605,551			951,742
5	50	1,605,601			951,792
6					951,792
7					951,792
8					951,792
9	155	1,605,756	\$ 80,111	\$1,216,965	871,836
10	28,732	1,634,488			900,568
11	472	1,634,960			901,040
12	5	1,634,965			901,045
13					901,045
14					901,045
15					901,045
16			146,533	1,363,498	754,512
17					754,512
18	3,002	1,637,967	15	1,363,513	757,499
19	51	1,638,018			757,550
20					757,550
21					757,550
22			300,225	1,663,738	457,325
23	348,353	1,986,371			805,678
24	80	1,986,451	13	1,663,751	805,745
25	352,153	2,338,604			1,157,898
26	3,561	2,342,165			1,161,459
27					1,161,459
28					1,161,459
29					1,161,459
30	26,878	2,369,043	599,236	2,262,987	589,101
31			20	2,263,007	589,081
				Sub Total:	\$27,480,814

Date	Revenues	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$589,081				
October 1, 1980	5,759	\$2,374,802			\$ 594,840
2	2	2,374,804			594,842
3					594,842
4					594,842
5					594,842
6					594,842
7	50	2,374,854			594,892
8	47	2,374,901			594,939
9	97	2,374,998			595,036
10	287,476	2,662,474			882,512
11					882,512
12					882,512
13	8,590	2,671,064			891,102
14	50	2,671,114			891,152
15	1,298	2,672,412			892,450
16	84	2,672,496			892,534
17					892,534
18					892,534
19					892,534
20	16	2,672,512			892,550
21			\$287,790	\$2,550,797	604,760
22	1,357	2,673,869	775,363	3,326,160	(169,246)
23	382,192	3,056,061			212,946
24	45,568	3,101,629	30,228	3,356,388	228,286
25					228,286
26			341,856	3,698,244	(113,570)
27			78	3,698,322	(113,648)
28	89,752	3,191,381	92,514	3,790,836	(116,410)
29	149	3,191,530			(116,261)
30	934	3,192,464			(115,327)
31	58,706	3,251,170	219,208	4,010,044	(275,829)
Sub Total:					\$15,392,830

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	(\$275,829)				
November 1, 1980					(\$ 275,829)
2					(275,829)
3	74	\$3,251,244			(275,755)
4					(275,755)
5	92	3,251,336			(275,663)
6	913	3,252,249	\$231,547	\$4,241,591	(506,297)
7	10,821	3,263,070			(495,476)
8					(495,476)
9					(495,476)
10	287,733	3,550,803	35	4,241,626	(207,778)
11					(207,778)
12	128	3,550,931			(207,650)
13	312	3,551,243			(207,338)
14	12,797	3,564,040	171,159	4,412,785	(365,700)
15					(365,700)
16					(365,700)
17			787	4,413,572	(366,487)
18	1	3,564,041			(366,486)
19	626	3,564,667	119,900	4,533,472	(485,760)
20					(485,760)
21	348,304	3,912,971	468,000	5,001,472	(605,456)
22					(605,456)
23					(605,456)
24	72,679	3,985,650	72,622	5,074,094	(605,399)
25	1,480	3,987,130	15,191	5,089,285	(619,110)
26	529,709	4,516,839			(89,401)
27					(89,401)
28			595,199	5,684,484	(684,600)
29					(684,600)
30	500,000	5,016,839			(184,600)
				Sub Total:	(\$11,777,172)

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	(\$184,600)				
December 1, 1980					(\$ 184,600)
2					(184,600)
3	18	\$5,016,857	\$ 90,000	\$5,774,484	(274,582)
4					(274,582)
5	50	5,016,907			(274,532)
6					(274,532)
7					(274,532)
8	4,141	5,021,048			(270,391)
9					(270,391)
10	278,825	5,308,873	3,182	5,777,666	14,252
11	200	5,309,073			14,452
12	119	5,309,192			14,571
13					14,571
14					14,571
15	1,641	5,301,833	108	5,777,774	16,104
16					16,104
17	811	5,310,844			16,115
18	287,316	5,598,160	738,999	6,516,773	(435,568)
19	130,905	5,729,065			(304,663)
20					(304,663)
21					(304,663)
22	53,711	5,782,776	20,000	6,536,773	(270,952)
23	65,928	5,848,704			(205,024)
24					(205,024)
25					(205,024)
26					(205,024)
27					(205,024)
28					(205,024)
29					(205,024)
30	271	5,848,975	159,448	6,696,221	(364,201)
31	20,099	5,869,074	183,125	6,879,346	(527,227)
Sub Total:					(\$6,109,307)

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	(\$527,227)				
January 1, 1981					(\$ 527,227)
2					(527,227)
3					(527,227)
4					(527,227)
5					(527,227)
6	162	\$5,869,236			(527,065)
7	315,000	6,184,236			(212,065)
8	10,458	6,194,694	\$ 19,394	\$6,898,740	(221,001)
9	314,132	6,508,826	535	6,899,275	92,596
10	567	6,509,393			93,163
11	60	6,509,453			93,223
12	178	6,509,631			93,401
13	8,362	6,517,993	460	6,899,735	101,303
14					101,303
15	163	6,518,156			101,466
16					101,466
17					101,466
18					101,466
19	518	6,518,674	70,000	6,969,735	31,984
20	705,038	7,223,712	122,990	7,092,725	614,032
21			519,714	7,612,439	94,318
22	348,505	7,572,217			442,823
23	1,907	7,574,124			444,730
24					444,730
25					444,730
26	58,472	7,632,596			503,202
27	40,518	7,673,114	25	7,612,464	543,695
28	8	7,673,122	58,304	7,670,768	485,399
29	826,294	8,499,416	505,651	8,176,419	806,042
30	30,400	8,529,816	273,521	8,449,940	562,921
			Sub Total:		\$2,803,193

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$562,921				
February 1, 1981					\$ 562,921
2	78,919	\$8,608,735			641,840
3					641,840
4	285	8,609,020			642,145
5			\$130,529	\$8,580,469	511,596
6	156,101	8,765,121			667,697
7					667,697
8	833	8,765,954			668,530
9					668,530
10	265,187	9,031,141			933,717
11	414	9,031,555			934,131
12	21,419	9,052,974			955,550
13	115	9,053,089			955,665
14					955,665
15					955,665
16					955,665
17	17,963	9,071,052	1,463	8,581,932	972,165
18	342,463	9,413,515	9,987	8,591,919	1,304,641
19	21	9,413,536			1,304,662
20	162	9,413,698	830,980	9,422,899	473,844
21					473,844
22					473,844
23	367,470	9,781,168			841,314
24	177	9,781,345			841,491
25	54,608	9,835,953	262	9,423,161	895,837
26	50	9,836,003			895,887
27	30,071	9,866,074	350,447	9,773,608	575,511
28			84,523	9,858,131	490,988
				Sub Total:	\$21,862,862

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$490,988				
March 1, 1981					\$ 490,988
2	1,680	\$ 9,867,754			492,668
3	327,904	10,195,658			820,572
4					820,572
5	2,752	10,198,410	\$ 754	\$9,858,885	822,570
6	393	10,198,803			822,963
7					822,963
8			184	9,859,069	822,779
9	5,847	10,204,650			828,626
10	616,470	10,821,120			1,445,096
11	33,315	10,854,435			1,478,411
12	483	10,854,918			1,478,894
13	74	10,854,992	160	9,859,229	1,478,808
14					1,478,808
15					1,478,808
16	1,106	10,856,098	224,494	10,083,723	1,255,420
17	642	10,856,740			1,256,062
18	146	10,856,886			1,256,208
19	2,948	10,859,834			1,259,156
20			553,146	10,636,869	706,010
21					706,010
22					706,010
23	353,174	11,213,008			1,059,184
24	370,462	11,583,470	25,000	10,661,869	1,404,646
25	61,252	11,644,722			1,465,898
26	99	11,644,821	31,208	10,693,077	1,434,789
27					1,434,789
28					1,434,789
29					1,434,789
30	8,834	11,653,655			1,443,623
31	40,031	11,693,686	348,787	11,041,864	1,134,867
Sub Total:					\$34,975,776

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$1,134,867				
April 1, 1981	147				\$ 1,134,867
2	147	\$11,693,833			1,135,014
3	85	11,693,918			1,135,099
4					1,135,099
5					1,135,099
6	35	11,693,953			1,135,134
7	1,191,447	12,885,400			2,326,581
8	151	12,885,551	\$ 1,010	\$11,042,874	2,325,722
9	185	12,885,736	711	11,043,585	2,325,196
10	286,928	13,172,664			2,612,124
11					2,612,124
12					2,612,124
13	21,964	13,194,628			2,634,088
14	8,583	13,203,211	108	11,043,693	2,642,563
15	202	13,203,413	570,018	11,613,711	2,072,747
16	23	13,203,436	128,158	11,741,869	1,944,612
17					1,944,612
18					1,944,612
19					1,944,612
20					1,944,612
21	121,832	13,325,268			2,066,444
22	732	13,326,000			2,067,176
23	406,529	13,732,529			2,473,705
24	72,128	13,804,657			2,545,833
25					2,545,833
26					2,545,833
27			71,960	11,813,829	2,473,873
28	4,641	13,809,298			2,478,514
29	565	13,809,863	142,958	11,956,787	2,336,121
30	26,422	13,836,285	287,279	11,244,066	2,075,262
			Sub Total:		\$62,305,237

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$2,075,264				
May 1, 1981	23,232	\$13,859,517			\$ 2,098,496
2					2,098,496
3					2,098,496
4	71	13,859,588			2,098,567
5	26,618	13,886,206			2,125,185
6	82	13,886,288			2,125,267
7	3	13,886,291			2,125,270
8					2,125,270
9					2,125,270
10			\$ 60,179	\$12,304,245	2,065,091
11	277,700	14,163,991			2,342,791
12	78,292	14,242,283			2,421,083
13	160	14,242,443	701	12,304,946	2,420,542
14					2,420,542
15	837	14,243,280			2,421,379
16					2,421,379
17					2,421,379
18	32,731	14,276,011			2,454,110
19	23	14,256,034			2,454,133
20	4	14,276,038	50,000	12,354,946	2,404,137
21	40	14,276,078	863,275	13,218,221	1,540,902
22	91	14,276,169			1,540,993
23					1,540,993
24					1,540,993
25					1,540,993
26	457,048	14,733,217			1,998,041
27	625	14,733,842			1,998,666
28	79	14,733,921			1,998,745
29	90,103	14,824,024	90,000	13,308,221	1,998,848
30					1,998,848
31			430,359	13,758,580	1,548,489
			Sub Total:		\$64,513,394

Date	Revenue	Accumulative Revenues	Expenditures	Accumulative Expenditures	Accumulative Surplus
Beginning Balance:	\$1,548,489				
June 1, 1981	53	\$14,824,077			\$ 1,548,542
2	56	14,824,133			1,548,598
3	25	14,824,158			1,548,623
4	797	14,824,955			1,549,420
5	84	14,825,039			1,549,504
6					1,549,504
7					1,549,504
8	9,945	14,834,984			1,559,449
9	477	14,835,461	\$ 621	\$13,759,201	1,559,305
10	622,137	15,457,598			1,181,442
11			884,591	14,643,792	1,296,851
12	614	15,458,212			1,297,465
13					1,297,465
14					1,297,465
15	3,667	15,461,879	486,635	15,130,427	814,497
16			491,828	15,622,255	322,669
17	22,065	15,483,944			344,734
18	28	15,483,972			344,762
19					344,762
20					344,762
21					344,762
22	1,739	15,485,711	208,900	15,831,155	137,601
23	4,612	15,490,323			142,213
24	632	15,490,955	264,125	16,095,280	(121,280)
25			54,029	16,149,309	(175,309)
26					(175,309)
27			60	16,149,369	(175,369)
28					(175,369)
29	2,315	15,493,270	94,911	16,244,280	(267,965)
30	17,680	15,510,950	676,358	16,920,638	(926,643)
31	106,151	15,617,101			(820,492)
Sub Total:					\$21,636,163

Dan McIntyre
Principal

Ken Bonfield
Assistant Principal

Wendy Tellone
Dean of Students

WEST HERNANDO JR. HIGH SCHOOL

9412 Fox Chapel Lane
Spring Hill, Florida 33526-9456

Telephone 904/683-6368

November 5, 1983

On October 9, 1983, you were mailed a questionnaire concerning cash management practices in your school system. The information that is gathered from the questionnaire will be used to help develop a cash management model. This model will be constructed so that it could be used by any public school system to increase its income from the investment of idle funds.

It is extremely important that each of Florida's sixty-seven school systems respond. Returns from each system will eliminate the possibility for any sampling error in the study. In addition, you should know that information which you provide will not be used to identify your system. The main purpose of the study is to build a model and not to compare individual systems.

Since the first copy of the questionnaire may have been misplaced, there is enclosed an additional copy. I do hope that you will be able to complete and return the questionnaire by November 18, 1983.

Finally, let me thank you in advance for your help. I know your time is valuable, and your cooperation will be greatly appreciated.

Respectfully,

Dan McIntyre
Principal

DM/jb

Encl.



James K. Austin, Ed. D.
Superintendent of Schools

The School Board of Hernando County, Florida

919 U.S. Hwy. 41 North
BROOKSVILLE, FLORIDA 33512 - 2997
Phone (904) 796-6781

Paul H. Clemons, Th.D., L.L.D., D.D.,
Chairman
Mary Ann Hogan, Vice Chairman
Louise Boehme
Joseph V. DeLena, Ed. D.
Donald Hensley, D.C.

One of my principals, Dan McIntyre, is currently finishing his Doctoral work at the University of Tennessee, Knoxville. Through his dissertation, Dan is attempting to develop a cash management model that will provide school districts with practical help in the investment of idle funds.

This letter is to ask your help in completing the brief questionnaire that you will be receiving in the next few days. It is my opinion that the successful completion of Dan's project could help us all increase our Districts' income from investments.

Finally, let me thank you for your cooperation in advance, and I will appreciate any help that you might give.

Sincerely,

James K. Austin
Dr. James K. Austin,
Superintendent

JKA/jb

Dan McIntyre
Principal

Ken Bonfield
Assistant Principal

Wendy Tellone
Dean of Students

WEST HERNANDO JR. HIGH SCHOOL
9412 Fox Chapel Lane
Spring Hill, Florida 33526-9456
Telephone 904/683-6368

Enclosed is the questionnaire that was mentioned to you by my superintendent, Dr. Ken Austin, in his recent letter. The purpose of this questionnaire is to collect data that will help in the development of a cash management model that could be implemented by any public school system. Hopefully, significant increases in the income earned from the investment of idle funds can be realized by the use of the model developed from this study.

While answering this survey will require time, the potential benefits to you and your board should more than compensate. In addition, you should understand that results will be reported for groups of school systems and not by individual systems. It is not the purpose of this study to compare one system with another.

Let me thank you in advance for your cooperation. Knowing that your time and that of your staff is valuable, I have tried to reduce the work involved to a minimum.

Finally, I ask that you please return your completed questionnaire by October 21, 1983. And again, let me thank you! Your assistance is greatly appreciated!

Respectfully,


Dan McIntyre
Principal

DM/jb

Attachment
Encl.

AN EQUAL OPPORTUNITY EMPLOYER



RALPH D. TURLINGTON
COMMISSIONER

STATE OF FLORIDA
DEPARTMENT OF EDUCATION

TALLAHASSEE 32301

LEE ROBERTS, CHIEF
BUREAU OF MANAGEMENT
SYSTEMS AND SERVICES
DIVISION OF PUBLIC SCHOOLS

August 19, 1983

To: District School Superintendents

From: Dudley Brewton, Administrator *DB*
Financial Management Section

Subject: Completion of Enclosed Questionnaire

Mr. McIntyre has discussed the objective of his questionnaire with me and it appears that the information that he has asked for could result in a cash management model which would be useful to districts. Although many of you have a comprehensive investment program in place, this model may be useful to many districts in Florida.

Any assistance that your staff could give toward completing this questionnaire would be appreciated.

Q U E S T I O N N A I R E

PROJECT: A STUDY TO ANALYZE CURRENT CASH MANAGEMENT PRACTICES AND TO DEVELOP
A CASH MANAGEMENT MODEL FOR USE BY PUBLIC SCHOOL SYSTEMS

Dear Superintendent and/or Designee:

The following questions are, for the most part, self-explanatory. There are, however, a few points that should be kept in mind:

- a. Please answer all questions as completely as possible. If some cannot be answered, please return the questionnaire with as many answers as possible.
- b. Answers should be based upon Central Office accounts only. Do not include internal accounts maintained and controlled at the building level.
- c. In your opinion, if additional information might be helpful, please include it. Remember, the purpose of this study is to find out how the cash management process is being implemented in Florida so that a model can be developed which might help all public school systems increase investment income.
- d. Please return your completed questionnaire and any additional information by OCTOBER 21, 1983, in the enclosed self-addressed envelope.

* * * *

1. Has your Board of Education adopted a cash management policy? (If "yes," please attach a copy of the policy.)

☐ Yes ☐ No
2. Does one employee in your system have responsibility for the cash management process?

☐ Yes ☐ No
3. If the answer to Question 2 is "yes," what is the relationship of the employee to the Board?

☐ Superintendent ☐ Assistant Superintendent for Finance	☐ Business Manager ☐ Other (please list _____)
---	---
4. Does your system employ outside consultants (including local bankers) to assist in the cash management process?

☐ Yes ☐ No
 (If "yes," please explain. _____)

Questionnaire
Page 2

5. How does your school system determine the amount of idle cash that it will have available for investment during any given fiscal year?
 - ☐ By investing only the unobligated surplus, if any, from the previous fiscal years.
 - ☐ By systematically developing cash forecasting/cash flow charts. (If this method is used, please attach copies of any forms used.)
 - ☐ By developing cash budgets using historical data concerning revenues and disbursements.
 - ☐ Other (please explain _____)
6. How often does the Board of Education approve for payment claims and obligations to the school district?
 - ☐ Weekly ☐ Monthly
 - ☐ Bi-monthly ☐ Other (please list _____)
7. How often are claims and obligations of the school district actually paid?
 - ☐ As received ☐ Monthly
 - ☐ Weekly ☐ Other (please explain _____)
 - ☐ Bi-monthly _____
8. Has your Board of Education adopted a policy defining the school system's relationship with local banks? (If "yes," please attach a copy of the policy.)
☐ Yes ☐ No
9. How many banks are used for depositing the school system's money? (Do not consider a branch a separate entity.)
☐ One ☐ Two ☐ Three ☐ Four ☐ Five or more
10. How are banks compensated for services rendered?
 - ☐ By maintaining minimum or compensating balances.
 - ☐ By paying fees for account maintenance and for other services.
 - ☐ Other (please explain _____)
11. How many non-interest bearing checking accounts does your school system maintain?

12. How many interest bearing checking accounts does your school system maintain?

Questionnaire
Page 3

13. What procedure is followed in carrying on the investment program in your school system?

- ☐ An appointed officer makes recommendations to the Board of Education and the Board completes the transaction.
- ☐ An appointed officer has the authority to make investments within prescribed guidelines. (Please attach a copy of guidelines.)
- ☐ Other (please explain _____

_____)

14. What types of investments has your board made in the last 5 years?

- ☐ Passbook Savings Accounts
- ☐ State of Florida Investment Pool
- ☐ U. S. Treasury Notes
- ☐ U. S. Treasury Bills
- ☐ Bank Certificates of Deposit
- ☐ Repurchase Agreements (with local banks)
- ☐ Other (please list _____)

15. List the total amount of interest received from all sources during the 1980-81 school/fiscal year. (This should include all interest income reported in accounts #430 in the Annual Financial Report.)

\$ _____ General Fund

\$ _____ Debt Service

\$ _____ Capital Projects

\$ _____ TOTAL

* * * *

THANK YOU FOR YOUR COOPERATION!

VITA

Daniel Lee (Dan) McIntyre was born on July 12, 1945, in Ocala, Florida. He attended public schools in Florida and Georgia, graduating from Thomson High School in Thomson, Georgia, in 1963. After graduation from high school, he attended the University of Georgia and then Augusta College where he received a Bachelor of Arts in history in 1969.

Beginning in 1969, Dan served for two years as a teacher and coach in the Burke County, Georgia, school system. After serving for one year in the same capacity in the Oglethorpe County, Georgia, school system, he entered the graduate program in the fall of 1972 in educational administration and supervision at Western Carolina University in Cullowhee, North Carolina. In 1974, he graduated from Western Carolina with a Masters of Arts in education.

After serving for two years as a teacher in the Henderson County, North Carolina school system, Dan began a program of doctoral study in the fall of 1975 at The University of Tennessee, Knoxville. Before completing his doctoral work, he accepted the position of superintendent in the newly formed Trenton Special School District in Trenton, Tennessee. He served as superintendent in Trenton from 1976 until the end of the 1980-81 school year.

He is currently serving as principal of West Hernando Middle School in Hernando County, Florida school system. He is married to the former Phyllis Elaine Howard. They have two children, Katie and Danny.

Dan is also a member of various professional and civic organizations, including Phi Delta Kappa, the American Association of School Administrators, and the Florida Association of School Administrators.