PROGRAM EVALUATION

COMMONWEALTH CASH MANAGEMENT

Research Report No. 194

Legislative Research Commission

Frankfort, Kentucky

Committee for Program Review & Investigation

KENTUCKY LEGISLATIVE RESEARCH COMMISSION

SENATOR JOE PRATHER
President Pro Tem

REPRESENTATIVE BOBBY H. RICHARDSON
Speaker

Chairmen

Senate Members

DELBERT MURPHY
Assistant President Pro Tem

JOE WRIGHT
Majority Floor Leader

EUGENE P. STUART
Minority Floor Leader

DAVID K. KAREM
Majority Caucus Chairman

DOUG MOSELEY
Minority Caucus Chairman

HELEN GARRETT
Majority Whip

CLYDE MIDDLETON
Minority Whip

House Members

DAVID THOMASON
Speaker Pro Tem

JIM LEMASTER
Majority Floor Leader

ARTHUR L. SCHMIDT
Minority Floor Leader

WILLIAM (BILL) DONNERMEYER
Majority Caucus Chairman

HERMAN W. RATTLIFF
Minority Caucus Chairman

JIM DUNN
Majority Whip

WOODY ALLEN
Minority Whip

VIC HELLARD, JR., Director

* * * * * *

The Kentucky Legislative Research Commission is a sixteen-member committee, comprised of the majority and minority leadership of the Kentucky Senate and House of Representatives. Under Chapter 7 of the Kentucky Revised Statutes, the Commission constitutes the administrative office for the Kentucky General Assembly. Its director serves as chief administrative officer of the legislature when it is not in session.

The Commission and its staff, by law and by practice, perform numerous fact-finding and service functions for members of the General Assembly. The Commission provides professional, clerical and other employees required by legislators when the General Assembly is in session and during the interim period between sessions. These employees, in turn, assist committees and individual members in preparing legislation. Other services include conducting studies and investigations, organizing and staffing committee meetings and public hearings, maintaining official legislative records and other reference materials, furnishing information about the legislature to the public, compiling and publishing administrative regulations, administering a legislative intern program, conducting a pre-session orientation conference for legislators, and publishing a daily index of legislative activity during sessions of the General Assembly.

The Commission also is responsible for statute revision, publication and distribution of the **Acts** and **Journals** following sessions of the General Assembly and for maintaining furnishings, equipment and supplies for the legislature.

The Commission functions as Kentucky's Commission on Interstate Cooperation in carrying out the program of the Council of State Governments as it relates to Kentucky.

COMMONWEALTH CASH MANAGEMENT

Prepared by:

Tanya Gritz, Project Manager
John Downard

Research Report No. 194

Legislative Research Commission
Frankfort, Kentucky
July, 1982

This Report was prepared by the Legislative Research Commission and paid for from state funds.

FOREWORD

The objective of a cash management program is to increase the Commonwealth's non-tax revenue by collecting and concentrating receipts quickly, investing at the maximum legal rate and disbursing on a timely basis. Existing statutes and cash management practices have not been structured to allow maximization of either earnings on idle cash balances or accountability of available funds.

The Commonwealth must pursue all avenues to generate increased non-tax earnings in order to provide needed services to its citizens at the lowest cost.

The Committee for Program Review and Investigation, at its February, 1981 meeting, voted to conduct a review of the Commonwealth's cash management practices. In response to that request this study examines current practices, possibilities for improved management practices, and proposes several administrative and legislative changes that are necessary to implement improved cash management practices.

Tanya Gritz was project manager and project staff was John Downard. Assistance was provided by the Office for Investment and Debt Management of the Department of Finance and Administration, the Treasurer's Office, and several representatives of the banking and investment community.

Vic Hellard, Jr.
Director

The Capitol
Frankfort, Kentucky
July, 1982

TABLE OF CONTENTS

FOREWORD i

TABLE OF CONTENTS iii

LIST OF TABLES iii

SUMMARY v

INTRODUCTION xviii

CHAPTER I. SUMMARY OF EXISTING CASH MANAGEMENT 1

CHAPTER II. POTENTIAL REVENUE INCREASES FROM IMPROVED CASH MANAGEMENT 5

CHAPTER III. CASH MANAGEMENT: OPERATION 11

FOOTNOTES 45

APPENDICES

I. TAX COLLECTION AND DEPOSITS BY COUNTY 49
II. MAXIMUM CONTRACTION IMPACT 53
III. SELECTED BANKS DATA 57
IV. INVESTMENT PRACTICES OF OTHER STATES 59
V. MEMORANDUM OF UNDERSTANDING, FROM GOVERNOR JOHN Y. BROWN, JR., TO DREXELL R. DAVIS, DATED JULY 8, 1981 62
VI. CALCULATIONS FOR TABLE I 75
VII. PUBLIC DEPOSIT INSURANCE 104

LIST OF TABLES

IA. Potential FY 79-80 Earnings Using Alternative Investments 6
IB. Potential FY 79-80 Earnings of Funds Not Currently Invested 8
IC. Total Potential Increased Earnings From Tables IA and IB 9
II. Management of Quasi-State Funds 13
III. Comparable Kentucky CD Rates 21
IV. Allowed Investment Instruments 25
V. Variable Bank Compensation System, Monthly Account Statement, September, 19xx 42

which are accounts into which various state receipts are deposited (e.g., license sales, park room rentals, tuition). There are about 285 other disbursement and receipt type accounts which have various other names (e.g., checking, escrow, loan-grant).

All receipt accounts are cleared at least monthly when the funds are transferred to the Treasurer. The Department of Finance maintains records of the disbursements to the imprest cash accounts and receipts from the accounts as per each agency's budget. However, no central record is kept of the daily cash position of all of these accounts.

Treasurer. The Treasurer is charged with actually investing the state's idle funds. The Treasurer sets the interest rate, determines the instrument (either certificates of deposit in Kentucky banks or U.S. Treasury debt obligations), the maturity, and the amount per bank or Treasury bill. The Treasurer also, of course, issues state checks and receives state deposits.

Farmers Bank and Capital Trust Company. Farmers Bank and Capital Trust Company is the primary state depository. The bank holds most of the state's liquid funds, invests idle deposits overnight and provides investment counseling to the Treasurer regarding interest rates and maturities available for investing state funds.

Investment Commission. There is technically another component to the current cash management system, the State Investment Commission. It is made up of the Governor, the Treasurer, and the Secretaries of the Departments of Finance and Commerce. The Commission, according to statute, is to determine investment policy relative to U.S. Treasury and state debt obligations. Unfortunately, that responsibility is not clearly distinguished from the Treasurer's responsibilities. However, heretofore the potentially overlapping roles have not been an issue, since the State Investment Commission has not met regularly, nor has it recorded minutes when it did meet; so any action it may have taken is not documented. The Treasurer has therefore assumed the total role of making investments.

Independent Agencies. There is also a fifth aspect to state cash management. That is, a substantial amount of money is only indirectly "state money" and is managed by bodies other than the Department of Finance and the Treasury. These are university funds, insurance funds, state funds in local school districts, county sinking funds, and funds of the six retirement systems, bond proceeds, and the courts. The management of these monies is not directly covered in this report, except to say that the state is probably morally, if not legally, responsible for the handling of these funds as well. As such, the status of these funds should be reported regularly to one governmental entity so one office will have current and accurate knowledge on the status of all state funds.

Conclusions

The current method of handling the Commonwealth's cash is certainly open to criticism. Control of and responsibility for public funds is fragmented and therefore accoun-

tability is impossible. Investment options are limited and management roles are not clearly defined in the statutes. By adopting some of the practices of the private sector that have already been applied by other state governments, both accountability for public funds and return on invested funds can be improved. Table 1 summarizes the sources of potential increased revenue. As explanation follows below:

Sources of Increased Revenue from Improved Cash Management

Earmarked Funds. Some $931 million in FY 1980 was primarily invested in certificates of deposit (mostly one-year savings accounts) in Kentucky banks and U.S. Treasury bills and notes. This money consisted of temporarily idle deposits in the following funds: Agency Fund, Federal Fund, Transportation Fund, Special Deposit Trust Fund, Trust and Revolving Fund, Capital Construction Fund, Bond Redemption and Interest Fund, and Turnpike Authority Revenue Bond Fund. The $931 million was distributed about half in certificates of deposit (CD's) and half in Treasury bills (T-bills). For those funds that are in CD's, the Treasurer determines how much money will be deposited with each bank. After consulting with Farmers Bank and assessing what the going Kentucky CD interest rate is, the Treasurer theoretically subtracts ½ of one percent from that rate and then offers the funds to the banks at that rate. (The amount the rate is discounted was changed to ¼ of one percent in late 1981.) The substraction of ½ of one percent is based on the fact that banks must secure all state time deposits by pledging U.S. T-bills, government agency obligations or certain Kentucky state and local municipal bonds against the deposits. The value of the pledged collateral must be 110% of the value of the deposits. Earnings on the earmarked funds could have been increased by $18 million in FY 1980 with the following changes.

First, the investment options are very limited. Only Kentucky CD's, Kentucky municipal bonds, and T-bills are permitted for investment. If the statutes were broadened to allow additional safe, liquid and higher yielding investments, earnings could increase. Such investments at a minimum include marketable and negotiable certificates of deposit (negotiable CD's, preferably obligations of the fifty largest U.S. banks, are in units of $100,000 or more, and are marketable, that is easily bought and sold through dealers, in the money market). These negotiable CD's are reviewed for soundness by dealer firms such as Merrill Lynch, E.F. Hutton, and others, as well as by governmental banking regulatory agencies.

Other needed investment alternatives include prime commercial paper and debt obligations of U.S. government agencies. Commercial paper is a debt obligation of large corporations. The paper is issued for a maturity of anywhere from one to 270 days. This investment instrument is reviewed for soundness by the rating houses of Moody's and Standard & Poors. Ratings of A-1 or P-1 and paper of short maturities (14 days) are considered quite secure. Also obligations of U.S. government agencies are considered generally as secure as the U.S. Treasury. Some government agency obligations are guaranteed by the U.S. government (Federal Home

Loan Mortgage Bank Bonds), and some are not (Federal Farm Credit Bank Bond), but all are safe, liquid, and generally higher yielding than current investment options.

Some would argue that the statutes are already broad enough and money should stay in Kentucky banks. The policy of "keeping money at home" is not being followed currently, however. About half of the earmarked funds are invested in T-bills. Further, there is no empirical evidence that state deposits are used to make lower cost loans to Kentucky businesses and consumers. Consequently, the argument that keeping state money at home promotes local development has not been empirically proven, even though it seems intuitively plausible. Indeed, there is empirical evidence that raises serious questions as to the validity of the "keep money at home to promote indirect returns" theory. For more discussion on that issue, see Chapter 3, below, and the references to the work of various economists on that point.

Secondly, the earmarked funds could also earn higher rates of return if the interest rate the state must earn were pegged to a standard rate. Currently, the earning rate is determined by averaging, in effect, the rates offered by several large Kentucky banks. Since this rate is often, but not always, lower than other available rates, this policy merely allows Kentucky banks to use state funds at low cost and to reinvest the funds not loaned (and kept in reserve) in higher yielding investments in the national money market (at a larger margin than necessary). About half of the state deposits in banks are in counties where the loan-deposit ratios are less than seventy percent.

Thirdly, the statutory pledging requirement mentioned earlier hampers the state's earning potential. Because banks must tie up assets in their own portfolio, and pledge these assets, the banks' portfolio liquidity is limited. This cost is passed on to the state. The stated cost is ½ of one percent; however, surveys have shown that closer to one percent is foregone in interest earnings (See Table III).

Other states have found different means to assure the safety of public deposits. Two examples are through insurance and pooled collateral. Alternate forms of securing public deposits should be investigated and the 100% pledging requirement repealed.

A fourth measure that is needed to increase earnings on earmarked funds is the development of an in-house trading capacity. This function would involve basically one full-time person who would be responsible to the State Investment Commission. This person would be charged with shopping rates, maturities, and instruments for all state investments, as well as coordinating timely purchases with the state treasurer. His efforts would free the state from having to rely on the advice of one financial intermediary, who could have conflicts of interest. The investment function would then be the responsibility of the State Investment Commission and would involve the input of four agencies to the process. It would be necessary for the legislature to determine where such a person would be placed, either in the Treasury or in the Department of Finance, since statutes presently give both investment responsibilities.

Cash forecasting is also an important element in maximizing returns on investments. This is a procedure that determines when funds will be received and when they will need to be expended. In this way, one can determine the maximum amount of time funds are available for investment. Then investments can be timed to earn the greatest yield (recently that would involve a series of short-term investments rather than a single long-term investment, since short-term rates have been higher).

The OIDM is currently developing a cash forecasting model.

Time Deposits. The second major area in which returns can be increased is with the $84 million in time deposits. These are funds set aside for emergency expenditure and are held in certificates of deposit in Kentucky banks.

Again, if these funds had been invested in higher yielding assets, some of which are and some of which are not currently allowable by statute, earnings could have been increased by $3.2 million in FY 1980. These funds should be invested along with the earmarked funds at a pegged earnings rate. And investment options should be broadened.

The Treasurer is taking steps to increase the earnings on these funds. As of September, 1981, these funds are to be invested along with the earmarked funds and all deposits will be a minimum of $100,000 (which will then remove the eight percent earnings limit on CD's of less than $100,000).

General Depository Accounts. The Treasurer maintains five operating accounts at Farmers Bank: General Depository, Payroll Withholding, Manpower Development and Training, Benefit Unemployment and Unemployment Collection.

The remaining daily balances in these five accounts are currently invested overnight. The amount that is invested is the amount left over every day according to the Treasurer's ledger (see Chapter III). The funds are invested in Treasury obligations on a modified repurchase basis with Farmers Bank (see Chapter III).

The Treasurer is limited by statute from increasing the earnings on these funds. Since he cannot electronically transfer funds out of the Treasury, he must invest the funds overnight with Farmers Bank and accept the rate they are prepared to pay.

If, after shopping overnight repurchase rates, funds could be transferred electronically to a dealer in overnight repurchase agreements, earnings could have been increased by $2.6 million in FY 1980. The check system requires too much time to allow maximum earnings in overnight investments. Sellers of repurchase agreements (banks or dealers) must have the funds within short time frames.

In addition to funds already invested overnight, there are other funds in the Treasurer's accounts available for overnight investment. These funds are the remaining daily balances appearing on the bank's books. These are funds against which checks have been written that have not yet cleared. That average remaining daily balance was $180 million over the months of July, August, and September, 1980, and January, February, and

March, 1981. (See Appendix VI for more detail.)

After considering unpaid investments and uncollected deposits, the earnings on these remaining funds could have been $20.5 million in 1979-80.

As of September 1, 1981, the Treasurer is investing overnight according to the banks' balances rather than the Treasurer's ledger, and the Treasurer will be moving toward a more standard repurchase agreement program with Farmers Bank. However, it is still important that the Treasurer be given the flexibility as well as the responsibility to shop for the best overnight rate and wire the funds to make a purchase when Farmers Bank, for whatever reason, cannot meet that higher rate.

Again, as with long-term investments, the overnight rate should be pegged to a published and publicly reviewable rate, to allow public accountability. The Federal Reserve publishes daily the federal fund rate (the rate at which banks borrow from each other), which is an easily accessed benchmark.

Regulatory Float. This is a term for the lag time in tax collection. Certain taxes are collected once, twice, or three times a year. The time beyond a monthly collection cycle is called regulatory float. If some of these taxes that are collected less frequently than monthly could be collected monthly, the funds could be invested for the extra one, two or more months the state has the funds.

The Department of Revenue has assessed the feasibility of collecting sales and coal severance taxes more frequently than monthly. It found that speeding collections of those taxes would not generate revenue in excess of the extra collection coats. However, the feasibility of collecting monthly those taxes that are presently collected less frequently than monthly should be examined.

If the six taxes identified in Chapter III could have been collected monthly, staff estimates that gross increased earnings would have been $5 million.

Concentrate Receipt and Disbursement Accounts. As stated earlier, there are some 985 state bank accounts throughout the Commonwealth. All these accounts combined have ending daily balances of about $29 million. If these accounts had all been concentrated so these idle balances could have been invested overnight, the earnings potential would have been approximately $3.5 million. There are systems that can clear all receipt accounts daily into a concentration account in one bank. Further, all disbursement accounts could be established at one bank and still maintain the integrity of all agency imprest cash and checking accounts.

The Treasurer and the Department of Finance are already moving to concentrate all agency bank accounts. The progress on this action should be reported to this Committee. It is an important step, not only to increase earnings on the idle funds, but also to gain better control over the state's funds. It will allow the state to know how much money is idle and where it is located at all times.

Lock Box. Another measure that can be taken to improve cash management is to speed the time it takes to receive a tax check, deposit it in the bank, and collect the funds.

The Department of Revenue has recently made major progress in this area. More recently the Governor and the Treasurer agreed to use a lock box system to eventually collect all taxes more quickly. A lock box is simply a mail box at a post office in Louisville, Lexington, and Frankfort to which tax checks are mailed. Then, in the agreed upon system, the Treasurer picks up the mail directly and brings it to the Department of Revenue.

The checks are then processed and deposited in Farmers Bank as quickly as possible. Then Farmers Bank delivers the checks to their correspondent bank. That bank delivers the checks to the Federal Reserve Bank in Louisville for collection as well as their own direct send procedure. The Federal Reserve Bank collects the check, and credits the correspondent bank with the funds, usually within one day (two at the most). Those funds are credited to Farmers Bank, and then the tax receipts are available for use by the state.

A faster system would be the conventional lock box system, whereby the correspondent bank intercepts the mail, separates the tax form materials from the check, photographs the check and sends those tax materials to the state. The checks would go directly to the correspondent bank and then to the Federal Reserve Bank and the direct send system for collection.

It would appear that at least two days could be saved and that requiring the Treasurer or the Department of Revenue to hire additional staff and purchase mail sorting equipment, duplicating much of what the private sector already does well, could be avoided while maintaining confidentiality and accountability. Two days in saved deposit time could mean a $2 million saving per year.

In summary, all of the above changes in the Commonwealth's cash management practices could have meant increased revenues of $55 million in FY 1980 (using then current interest rates).

Another change that will lead to greater control of costs as well as better management and public accountability is banking services contracts.

Currently, only two state agencies contract for banking services—the University of Kentucky and the Department of Transportation toll road section. For the most part, neither bank costs nor compensations are set in advance of doing business. The state's lack of knowledge of the costs of its banking business is characteristic of its fragmented cash management practices. Banking services contracts should be executed periodically to assure that the state is adequately paying for services received and that the state is aware of exactly what it is paying for services required. Payment can still be in the form of compensating balances, or fees if statutes are revised. In any case, costs and method of compensation should be specified in a contract and open to public review.

A formula for determining a fair compensating balance for services is shown in

Chapter III. The elements shown should be the primary ingredients of a bank services contract.

A second management tool is the practice of paying all bills on a timely basis. If the state is continually late in paying bills, not only do late charges and missed discounts cost the state additional fees, but vendors may increase the initial charge to cover the possibility of late payment. The Department of Finance should make sure all bills charged to any state agency are paid in time to take advantage of discounts where appropriate and to avoid late charges.

The final point deals with the role to the State Investment Commission. The Commission is made up of the Governor, Treasurer, and the Secretaries of the Departments of Finance and Commerce. Heretofore, the Commission's role has been weak and ill-defined. Consequently, the cash management functions have been loosely divided between the Treasurer and the Department of Finance. This situation makes it difficult to hold any one body responsible or accountable for managing the state's idle funds.

The State Investment Commission should be made the focal point for cash and investment management. The Commission should be charged with the responsibility to:

(1) develop investment guidelines;
(2) set target earning rates on long- and short-term investments;
(3) oversee investment performance;
(4) implement one or more banking services contracts; and
(5) oversee the management of all state and quasi-state funds.

The Legislature must specify where the staff to actually implement these changes will be housed.

Recommendations, preceded by brief explanatory material, follow. The Committee voted to accept all recommendations except the sixth one.

Administrative Recommendations

The first three recommendations deal with the management of demand accounts of all state agencies, including the Treasurer. These recommendations would promote concentrating cash in as few bank accounts as possible to facilitate overnight investing.

1. All state receipt accounts should be cleared daily (or when sufficient balances accumulate) to a concentration account where the funds can be invested overnight or short term.
2. All disbursement accounts should maintain zero balances, with funds remaining in a concentration account, until checks are presented for payment. Funds in the concentration account should be invested overnight or short term.
3. The five Treasurer accounts should be concentrated and all remaining daily funds above a compensating balance be invested as

per the bank balance as of 8:00 a.m. each working day (or such time that same day collected deposits could be included).

These recommendations are to be implemented in the near future, according to the Governor (see Appendix V).

The next is an administrative procedure which would encourage the state to avoid late charges and take advantage of discounts when paying vendor bills.

4. The Department of Finance should investigate the feasibility of scheduling disbursements of like bills to insure timely payments.

In order to promote faster deposit and collection of tax checks, the Treasurer is in the process of implementing a lock box system operated internally. Generally, more time is saved if the lock box is operated by a bank which is a member of the Federal Reserve System, uses a direct send collection system and is located in a Federal Reserve city, such as Louisville.

5. The Department of Finance and the Treasury should investigate the feasibility of contracting for lock box services from a bank rather than performing the service in-house. Consideration should be given to minimizing receipt-to-deposit time as well as service costs. The results should be reported to the Legislature.

If taxes that are now collected quarterly or annually were collected monthly, it would be possible to invest those receipts for the time period during which they were previously unavailable. More frequent collection could generate more interest income. However, this change would mean an administrative cost, which must be weighed.

6. The Department of Revenue should investigated further the benefits and costs of making monthly payment due dates for the following taxes, insurance premiums taxes, corporate income taxes, individual declared income taxes, unemployment insurance taxes, corporate premium taxes, and Workers' Compensation Insurance premium taxes. The results should be reported to the Legislature.

(This proposal was not recommended by the Committee.)

Legislative Recommendations

The State Investment Commission is presently not active leaving investment responsibilities loosely divided between the Department of Finance and the Treasurer. The Commission should take a more direct and defined approach to investment management by coordinating information about the management of all state and quasi-state funds.

7. (a) Legislation clearly defining "state funds" should be proposed. (b) All funds that are not "state funds" and not invested through the Department of Finance and the Treasury should be reported quarterly to the State Investment Commission (and Of-

fice for Investment and Debt Management), explaining the status of those funds. This category would include retirement funds, university endowment and research grant funds, bond reserve funds managed by a trustee, insurance funds, and local school district state funds.

Another important aspect of improved investment management is to establish clear guidelines within which the investing officer will operate.

8. Legislation should be proposed requiring the State Investment Commission to set investment guidelines, specifying, at a minimum:
   a. goal statement;
   b. definition of money that will be invested;
   c. acceptable instruments (list);
   d. amount of funds which may be invested per instrument;
   e. qualifications of instrument;
   f. target interest rates for long- and short-term funds;
   g. maturity of investment;
   h. investment procedure with respect to in-state versus out-of-state; and
   i. method of distributing funds among institutions and among types of institutions (banks, savings and loans, credit unions, etc.).

   The Commission should review at regular public meetings investment performance relative to the guidelines and report quarterly to the Legislature.

The next recommendation is actually a part of the one above. However, to reiterate, minimum interest rates should be specifically determined so investment performance will be publicly accountable. Priority for all investments could still be given to Kentucky bank certificates of deposit.

9a. Legislation should be proposed that will assure that interest rates earned on long-term and short-term investments are pegged to a minimum acceptable rate standard. That rate should be a rate that is published regularly and can be publicly reviewed and verified. Examples of such rates are the composite certificate of deposit rate quoted daily by the Federal Reserve System for long-term rates (over 30 days) and the federal fund rate for short-term rates (overnight). All investments made should earn at least the targeted rated.

b. Funds available for investment should be offered to Kentucky institutions first. Any remaining funds should be invested in alternative investments.

c. Should the demand for funds exceed the amount available, in-

stitutional priority should be based on higher loan deposit ratios.

A major barrier to increasing returns on the state's idle funds is the narrow range of investment alternatives.

10. Legislation should be proposed that will broaden investment alternatives to allow the Department of Finance and the Treasurer to have broader options for investing state funds, thereby increasing returns. Options should include the following investment instruments: negotiable, marketable certificates of deposit, prime commercial paper and government agency obligations.

If the above three recommendations are endorsed it follows that in order to take maximum advantage of new opportunities:

11. The State Investment Commission should develop an in-house trading capacity in order to shop rates, maturities and instruments available and purchase and sell securities according to investment guidelines. This function will require adding staff capabilities in the area of day-to-day investment rather than relying on the investment advice of one financial intermediary.

12a. Legislation should be proposed specifying that the in-house trading capacity will be housed within the Department of Finance.

b. The investing officer should report to the State Investment Commission and the Commission should report investment results to the Legislature quarterly.

Present statutes restrict the ability of the state to take advantage of the best investment options, especially when time is important.

13. Legislation should be proposed authorizing the electronic transfer of funds out of the Treasury.

Pledging requirements cost the state potential interest income. Officially that cost has been ½ of one percent; it will soon be cut to ¼ of one percent. Unofficially, however, the cost has been closer to one percent. Some states have found other means to secure state deposits and remove the costs pledging imposes on the state as well as on its banks.

14. Legislation should be proposed replacing pledging with an alternative means of collateralizing state deposits. Collateral should be valued at market value and those values reported to the Treasurer quarterly. Collateral should be pledged for state deposits at the ratio of 50 percent of the value of the deposits for banks qualified as having no perceived credit risk at any maturity level.

In the event of default, all participating banks are assessed in pro-

portion to their state deposit holdings to total state deposits among participating banks in an amount to cover the uncollateralized and uninsured portion of the deposit. Collateral should be pledged at the ratio of 100 percent of the value of the deposits for banks of average statistical credentials, and no deposits in excess of FDIC coverage for banks not wishing to be qualified for either 50 percent or 100 percent pledging, or banks which show credit risk at longer maturity levels. Qualifications will be determined on the basis of totally quantified public information to be specified in regulation by the State Investment Commission.

Banking services, like most services purchased by the state, should be purchased on the basis of a contract. Then it is clear what services are being purchased for what price.

15. Legislation should be proposed requiring that banking services be purchased on the basis of a contract. Bid specifications should be set and advertised. Proposals based on cost of services provided should be reviewed and the best bid selected by the State Investment Commission.

Some banking services are more simply paid for by fee than compensation balances, the only present alternative. For example, small accounts which do not hold sufficient balances to cover their cost could be more simply paid for by fee. Yet payments are disallowed by KRS 41.230. When compensating balances are used, the amount should be predetermined to generate revenue at a specified market rate to cover identified costs.

16. Legislation should be proposed authorizing the payment for banking services either by (1) a compensating balance set to generate revenue sufficient to meet specified costs at a current quoted rate of earnings; or (2) direct fee for services.

The Committee expressed concern that the composition of the State Investment Commission may be too heavily weighted toward the interests of the Office of the Governor and that the Treasurer's Office is not sufficiently represented. The current composition, specified by KRS 41.380, is the Governor, the Treasurer, and the Secretaries of Finance and Commerce. To more evenly balance the representation and add other perspectives to the Commission's deliberations, it was recommended that the Legislature maintain an ongoing interest in the Commission's activities via the following recommendation:

17. The State Investment Commission should be composed of the following members:
    1. Governor;
    2. Secretary of Finance;
    3. Treasurer; and
    4. Two appointees of the Governor from a list of five names recommended by the Legislative Research Commission. The individuals named must be qualified, with knowledge and experience in investments and financial management.

INTRODUCTION

The cash management practices of the Commonwealth of Kentucky originated in a more conservative era when public regulation of financial institutions was weak or non-existent.

Over the years, segments of the money market have become more and more secure, although volatile. Because of the development of a wide range of safe opportunities in which to invest idle funds, it is important that Kentucky revise some of its cash management practices to increase non-tax revenue. State Treasurers of recent years have rightly been most concerned with the safety of the Commonwealth's funds. Now it is important to consider utility as well as safety.

The following report does not examine accounting procedures nor does it track dollars through the system. Rather, it deals with the forms in which idle funds are held and how the funds might be held to maximize interest earnings.

CHAPTER I

Summary of Existing Cash Management

Responsibilities of the Department of Finance

There are primarily two state agencies and one bank involved in the current management of the Commonwealth's cash: the Department of Finance, the Treasurer, and Farmers Bank and Capital Trust Company.

The Department of Finance has a wide range of responsibilities which affect virtually every agency in state government. With regard to cash management, there are three areas where the Department exercises control: (1) the disbursement of funds to agencies; (2) determination of the amount of funds available for long-term investment; and (3) the accounting functions associated with disbursing, receiving and investing funds.

The Department of Finance periodically approves the disbursement of funds to agencies' imprest cash accounts up to the authorized limit. That administrative limit totals approximately $11 million.

Secondly, the Department of Finance, through the Office of Investment and Debt Management (OIDM), estimates when funds will be needed for expenditure and thereby advises the Treasurer as to the amount of funds available to invest.

Finally the Department of Finance, through the Division of Accounts, maintains records reflecting the current cash position, as per each agency's budget.

Responsibilities of the State Treasurer

The Treasurer is a constitutional officer whose responsibilities are prescribed by statute. The duties of the Treasurer can be divided into three major categories: (1) issuing checks to pay claims on the Commonwealth; (2) receiving state deposits; and (3) investing state funds. In addition, the Treasurer has various accounting and reporting duties.

Issuing Checks. The Treasurer is required to pay all warrants presented to him by the Secretary of Finance (KRS 41.150). Warrants must specify the date, number, amount, payee, and which appropriation the check is issued against. No warrant may be issued unless money has been appropriated for that purpose. The Treasurer maintains a check register showing all checks issued, to whom, date, and amount, and this register should reconcile with the warrants issued by the Department of Finance.

Receipt of Funds. All receipts of any budget unit, all revenue collected, all public money and dues are to be paid promptly to the Treasurer (KRS 41.210), except for those agencies and institutions not located in Frankfort. Monies of outlying agencies are to be transferred to the Treasury at least monthly (KRS 41.070).

Investing State Funds. The Treasurer is responsible for investing state funds in

banks according to statute (KRS 41.230). In addition, the Treasurer has assumed the responsibility for making investments in U.S. Treasury obligations, even though investments in these instruments is the statutory responsibility of the State Investment Commission (KRS 41.380).

Record Keeping. The Treasurer maintains necessary records to accurately reflect the state's cash balance. The Department of Finance provides the Treasurer with the information necessary to reflect the state's financial condition. The Treasurer is required to maintain records (KRS 41.280) showing all debits and credits of each depository. Currently no such records are maintained.

State Depositories. The Treasurer and the Secretary of Finance are to agree upon those banks which are designated state depositories and are also to determine the need for moving funds from one state depository to another (KRS 41.260).

Farmers Bank and Capital Trust Company

Farmers Bank and Capital Trust Company ("Farmers Bank") pays all checks written by the Treasurer. In addition, it writes all unemployment checks and handles payroll withholding for U.S. Savings Bonds.

Farmers Bank buys repurchase agreements and other short-term investments for the state. Maturing state investments are collected by the Bank and deposited to the Treasurer's account. In addition, Farmers Bank provides investment consulting services to the state.

Daily systematic demand deposit account reconciliation is prepared by Farmers Bank for the state. Monthly statements are also prepared for all Treasury accounts.

Finally, Farmers Bank is a trustee for a number of revenue bond issues for several state authorities. It also acts as agent for the Department of Community Affairs, the Flood Insurance Assistance Program, and as trustee for the Department of Mental Health.

State Investment Commission

The State Investment Commission is composed of the Governor, the State Treasurer, the Secretary of Finance, and the Secretary of Commerce. The Commission's responsibilities are limited to investing surplus and excess funds of the state in direct obligations of the U.S. government (T-bills) or the Commonwealth. Although the Commission was created almost thirty years ago, the Commission has not met on a regular basis.

Accounts

There are ten different types of accounts maintained by the state in banks throughout the state, for a total of approximately 985 demand accounts. By far, the two

types of accounts through which most state funds pass are imprest and receipt accounts.

Imprest Accounts: Imprest cash accounts are disbursement accounts and must conform to guidelines set forth in KRS 45.420 prior to being approved. There are approximately four hundred such accounts, established to allow state agencies to pay their operating expenses.

Such an account is established by the following process: An agency submits to the Department of Finance an application which specifies the items for which expenditure of funds is being requested and establishes a spending limit. In its application the agency estimates the amount of funds to be expended over a two-month period. Both the Department of Finance and the State Treasurer must review and approve each such application. According to officials contacted in both departments, there are no specific guidelines used by either department to evaluate the need for these accounts and all such applications are approved.

When an imprest cash account is approved, an imprest cash authority is automatically established. The authority constitutes a list of items for which expenditure of funds is approved.

Such accounts are post-audited through a system of disbursement schedules. As often as may be necessary, but at least once a month, a disbursement schedule is filed with the Department of Finance, accompanied by the appropriate vouchers and statements of expenditures. The Division of Accounts pre-audits all pay-in vouchers, with the exception of those of the Department of Transportation, which has been delegated total responsibility for pre-audit, and one category of vouchers of the Department for Human Resources, which pre-audits its own travel vouchers.

The pre-audit function reviews approximately 1,800,000 documents annually. Individuals familiar with the operations of the Division of Accounts, both in the Legislative Research Commission and the Auditor's Office, believe it operates efficiently. The Auditor's Office is currently undertaking an evaluation of the Department of Finance, with specific emphasis on this area. However, their report was not complete as of this writing.

There is currently underway an effort within the executive branch to examine all accounting systems utilized by state government, with the goal of achieving more uniform accounting systems. Implementation of these systems is anticipated by early 1982.

Receipt Accounts

There are approximately three hundred receipt accounts in banks throughout the state. These accounts are established so various agencies may deposit and hold fees and other receipts for periods of up to one month. KRS 41.070 requires that these accounts be cleared at least monthly and that all funds be transferred to the State Treasurer.

In most instances, balances are forwarded from the bank to the central agency where the pay-in voucher is processed prior to sending the funds to the State Treasurer. The Treasurer is required to deposit all public money in the bank on the day it is received (KRS 41.210).

The Department of Transportation has developed a slightly different process. Revenue collected from tolls on Kentucky's turnpikes is wire-transferred to the State Treasurer on a weekly basis, minus a compensating balance which is maintained in banks.

The Department of Parks has a receipt account for each facility in a local bank. These banks forward deposit notices to the Department of Parks in Frankfort to enable the central office to maintain records on the status of each account. Once a month a check is written to the State Treasurer to clear these accounts, as required by statute. The Department of Education receives monies from regional educational facilities across the state. These accounts are cleared on a monthly basis. The process of mailing a check and pay-in voucher to Frankfort, recording the transaction in the Department, and transferring the check to Treasury, takes from two to three weeks.

The Treasurer's Office segregates pay-in vouchers by the five major operating funds (General Fund, Agency Fund, Trust and Revolving Fund, Transportation Fund, and Federal Fund). The Department of Finance posts the pay-in vouchers by account number in the general ledger. At the end of each month, Finance sends the Treasurer's Office a trial balance sheet for each fund, which should equal the balance sheet separately maintained by the Treasurer's Office. A copy of the final reconciliation statement is forwarded to the State Auditor.

Receipts from state agencies are deposited separately from those received from the Department of Revenue. Revenue, which collects most tax receipts, reconciles its books with Finance on a monthly basis.

CHAPTER II

Potential Revenue Increases from Improved Cash Management

By improving the cash management practices of the Commonwealth, the state could have increased revenue in FY 79-80 by approximately $55 million. The sources of such increased earnings are shown in Table I. The estimates of additional revenues identified are probably conservative and are taken from actual agency investment reports and bank account statements. Further, the interest rate used to project earnings on funds that are currently not invested is 12%, which is quite low compared to current rates.

The costs subtracted from gross earnings are an estimate only. Bank costs are based on an annual functional cost analysis performed by the St. Louis Federal Reserve Bank on bank operations. Reserve requirement costs are considered, as well as primary bank functions: check clearing, deposit collecting, and account maintenance. Costs are reflective of bank size.

The text following Table I goes into some detail to explain how the potential revenues can be achieved.

Table I-A

Potential FY 79-80 Earnings

Using Alternative Investments

FUNDS CURRENTLY INVESTED	ACTUAL FY 79-80 EARNINGS	ALTERNATIVE INVESTMENTS					
		T-Bill New Issue Rate[1]	Kentucky[2] CD	Kentucky CD 1/2 of 1% Pledging Allowance	National CD (Composite[3] Rate)	Federal[4] Funds	Prime Commercial[5] Paper
Earmarked Funds (T-Bills & CD's) (Average Monthly Amount for FY 79-80 $930,683,453) [7]	$81.2 m [6]	$87.9 m	$94.9 m	$90.3 m	$99.2 m	N/A	$98.1 m
Potential Amount of Increase		6.7 m	13.7 m	9.1 m	18.0 m		16.9 m
Time Deposits ($84 m)	7.4 m	9.3 m	10.2 m	9.7 m	10.6 m	N/A	10.2 m
Potential Amount of Increase		1.9 m	2.8 m	2.3 m	3.2 m		2.8 m
General Depository Accounts ($116.44 m/day)	12.8 m [8]	N/A	N/A	N/A	N/A	$15.4 m	14.74 m
Potential Amount of Increase		---	---	---	---	2.6 m	1.9 m
Administrative Office of the Courts	.517 m	N/A	N/A	N/A	N/A	1.35 m	1.29 m
Potential Amount of Increase						.83 m	.77 m

(University Time and Overnight Investments Not Included)

m = million
N/A = Not Applicable
All rates applied, except Federal Funds, are 3 months.

NOTES TO TABLE I-A

[1]Rates published by the Federal Reserve System by month or nearest week to actual date of investment purchase. Potential earnings in this column are slightly understated since the T-bill discount rate was applied to actual funds invested (average 11.24%).

[2]Average rates quoted from four Kentucky banks over the study period. Actual amount shown is an extrapolation from the national certificate of deposit rate (average 12.45%).

[3]Rates published by the Federal Reserve System by month or nearest week to actual date of investment purchase (average 12.78%).

[4]Same as above (average 13.06%).

[5]Same as above (average 12.35%, 90 days; 12.655%, 30 days).

[6]These figures are earned revenue. Paid investment revenue for earmarked funds reported in the Department of Finance Annual Report, FY 80, was $101 million. For figures other than earmarked earnings, earned return equals returns actually paid.

[7]Amount is currently $587,000,000 (September, 1981).

[8]Figure quoted by the Treasurer's Office.

TABLE I-B

POTENTIAL FY 79-80 EARNINGS OF
FUNDS NOT CURRENTLY INVESTED

Funds Currently Not Invested	Potential Gross Earnings At Average 12%	Costs	Net Earnings
Agency Receipt Accounts[2]	$ 2.7 m	$ 18,000[1]	$ 3.51m
Agency Disbursement Accounts[2]	.81m		
Remaining balances in 5 Treasury Accounts ($180 m/day)[3]	21.47m	1m[1,4]	20.47m
Regulatory Float (See text, page)	5.05m	130,000	4.92m
Lock Box (See text, page)	$ 1 m/day saved[6]	$250,000[5]	$ 1.75m

[1]This is an estimate only, based on average costs at 751 Federal Reserve Banks for checks, deposits, and account maintenance. An earnings allowance of 12% is included (5.95 million checks written and 2.5 million deposits made in treasury accounts).

[2]University funds not already invested are included. The earnings potential from receipt and disbursement account concentration is subject to some degree of error, due to the lack of complete and centralized information on the daily status of these accounts. These figures are based on bank statements of approximately one-half of agency accounts, and two-thirds of university and park accounts.

[3]Remaining balances for the months of July, August and September, 1980, and January, February and March, 1981 were analyzed.

[4]This figure does not include the cost of reserve requirements of approximately $1.5 million at a 7% demand reserve requirement and 12% interest rate. Estimates for costs of other services provided by Farmers Bank not available.

[5]Average cost estimated at 10¢ to 30¢ per item.

[6]Estimated 2 days saving.

TABLE I-C

TOTAL POTENTIAL INCREASED EARNINGS[1]
FROM TABLES I-A AND I-B

Earmarked Funds[2]	$18.0m
Time Deposits	3.2m
General Depository (Overnight)	2.6m
Remaining Balance in Depository Accounts[3]	20.5m[4]
Administrative Office of the Courts	.8m
Receipt Accounts[3] / Disbursement Accounts	3.5m
Regulatory Float[3]	4.9m
Lock Box (2 days)[3]	1.75m
TOTAL	$55.25m

[1]Based on FY 79-80 dates and interest rates.

[2]Fund is currently $587 million, as opposed to $930 million in FY 1980.

[3]12% used.

[4]For alternative calculations see Appendix VI.

CHAPTER III

Cash Management: Operation

Definition: Cash Management

Cash management is defined simply as (1) collecting and concentrating all receipts as quickly as possible, so they can be invested; (2) investing all receipts at the maximum rate, taking into consideration risk and liquidity requirements of the particular investor; and (3) disbursing cash as slowly yet as timely as possible. Cash management is an attempt to track and control the flow of funds through all government agencies, and thereby minimize the working capital required. Historically banks have discouraged improved cash management practices by governments as well as business. Cash management leads to reduced idle balances available for banks' use. However, most banks now realize the need for corporate as well as government efficiency. Indeed, the competitive banks now offer cash management consulting services and encourage rather than discourage the practice.

Only within the last ten years has cash management become a serious consideration of governments. Until recently, interest rates have been relatively low. Improving cash management practices by government heretofore has not been as lucrative. Further, prior to sales tax and coal severance tax revenues in Kentucky, which provide a large and regular monthly inflow of cash, idle balances were much smaller. However, now that high interest rates appear to be the norm and revenue shortages become more common, it is important to investigate all alternatives, in order to manage the revenue for the greatest advantage to the citizens of Kentucky.

Definition: State Money

The first element in reviewing the management of the state's money is to define "state money." That term is not entirely clear. The Department of Finance Annual Report for Fiscal Year 1980 and the Executive Budget for FY 1980-82 estimated approximately $4 billion in state money for FY 80.

Not included in this estimate are other funds which are treated as non-state funds, yet are controlled by certain state agencies. Examples include university grants and endowments. These funds are received, held and managed by the individual universities, their comptrollers and Boards of Trustees. KRS 41.290 specifically allows for these monies to be separate.

Also, the courts hold such funds as jury funds, witness funds, bail bonds, alimony and support restitution, condemnation, garnishment, money collected for others, library fees, savings balances and special escrow funds, which they do not consider state money. These funds, along with their regular state funds (fines, fees, registrations), are invested in

local passbook savings accounts and the interest earned is returned to the General Fund ($517,000 in FY 80).

There are six retirement funds which are not considered state money: Kentucky Employees Retirement System, State Police Retirement System, County Employees Retirement System, Teachers Retirement System, the Legislative Retirement System and the Judicial Retirement System. The Legislative and Judicial Retirement Systems combined and the Teachers Retirement System are managed by their own Board. The other three are managed by the Kentucky Retirement System. Also, the funds of the Deferred Compensation System are not considered state funds in this report, except insofar as funds are a part of the Special Deposit Trust Fund.

Certain bond proceeds are held by the selected trustee and invested by the trustee for the benefit of the issuer and bond holder. Finally, local school district funds, up to 80% of which are appropriated by the Legislature, are not considered state funds. None of these non-state funds was reviewed in-depth in the present study. Rather, the management of the $4 billion of operating funds in its general form for FY 80 is the subject of this particular study.

Cash Concentration: Collections

Regional Receipt Accounts. The first step in effective cash management, as stated earlier, is to collect all revenues and concentrate them as quickly as possible, in order to expedite their placement in interest bearing accounts.

Currently, regional state agencies (those outside Frankfort) collect various types of receipts: park room rental, tuition and student fees, license sales, and so forth. The receipts are deposited into approximately 420 regional receipt type accounts placed throughout the state. These funds are held for various lengths of time. KRS 41.070 requires transmittal of such funds to the Treasury within 30 days. Some funds are in transit for an additional two weeks. A monthly average of the balances of these accounts was determined by reviewing bank statements of all state receipt accounts for the month of September, 1979.

That monthly average balance is $22.6 million. These funds could generate $2.7 million annually if invested at an average annual rate of 12%.

A system that would efficiently invest receipt money and earn interest for the maximum time is one whereby all receipt accounts maintain daily zero balances. Within such a system, receipt funds would be quickly transferred daily (by wire or depository transfer checks, for example) into a concentrated Treasury account. Local banks would be compensated for collecting and transferring deposits by the state's leaving a predetermined minimum compensating balance at all times within the accounts. Current statutes do not permit fees for banking services (KRS 41.230).

TABLE II

MANAGEMENT OF QUASI-STATE FUNDS
(Over $2.4 Billion)

FUND	MANAGER
Retirement Funds ($1.5 Billion)	
Kentucky Employees Retirement System--KRS 61.515(1) State Police Retirement System--KRS 16.510(10) County Employee Retirement System--KRS 78.520(1) Kentucky Retirement Insurance Fund--KRS 161.701(1)	Kentucky Retirement Systems Board
Teachers Retirement System--KRS 161.230; 161.420	Teachers Retirement Systems Board
Legislators Retirement System--KRS 21.560 Judicial Retirement System--KRS 21.347	Judicial Retirement Systems Board
Kentucky Employees Deferred Compensation Trust Fund ($23.6 million)--KRS 18.530	Kentucky Employees Deferred Compensation System Board
County Sinking Funds ($5.5 Million)	Local Government Finance Officer - Dept. of Finance
Tobacco Research Trust Fund	Tobacco Research Institute
University Endowment Funds } (U.K. - $6 Million)	Each University
University Research Funds } (U.K. - $6 Million)	Each University
Workers' Compensation	Dept. of Labor
State Fire & Tornado Insurance Fund	Dept. of Public Protection: Private Insurance Carrier
Bonding Authorities (active): Bond Proceeds (1 Yr. Debt Service Total $200 Million)	
Eight State Universities	Trustee
Kentucky Housing Corporation	Trustee
Pollution Abatement Authority	Trustee
Kentucky Higher Education Student Loan Corporation	Trustee
Kentucky School Building Authority	Trustee
Turnpike Authority of Kentucky	OIDM, Dept. of Finance, Treasurer and/or Trustee
State Property and Buildings Commission	OIDM, Dept. of Finance, Treasurer and Trustee
Kentucky State Racing Commission	Each track
Administrative Office of the Courts (certain funds)	AOC
State funds in local school districts ($702 Million)	Local school districts

local passbook savings accounts and the interest earned is returned to the General Fund ($517,000 in FY 80).

There are six retirement funds which are not considered state money: Kentucky Employees Retirement System, State Police Retirement System, County Employees Retirement System, Teachers Retirement System, the Legislative Retirement System and the Judicial Retirement System. The Legislative and Judicial Retirement Systems combined and the Teachers Retirement System are managed by their own Board. The other three are managed by the Kentucky Retirement System. Also, the funds of the Deferred Compensation System are not considered state funds in this report, except insofar as funds are a part of the Special Deposit Trust Fund.

Certain bond proceeds are held by the selected trustee and invested by the trustee for the benefit of the issuer and bond holder. Finally, local school district funds, up to 80% of which are appropriated by the Legislature, are not considered state funds. None of these non-state funds was reviewed in-depth in the present study. Rather, the management of the $4 billion of operating funds in its general form for FY 80 is the subject of this particular study.

Cash Concentration: Collections

Regional Receipt Accounts. The first step in effective cash management, as stated earlier, is to collect all revenues and concentrate them as quickly as possible, in order to expedite their placement in interest bearing accounts.

Currently, regional state agencies (those outside Frankfort) collect various types of receipts: park room rental, tuition and student fees, license sales, and so forth. The receipts are deposited into approximately 420 regional receipt type accounts placed throughout the state. These funds are held for various lengths of time. KRS 41.070 requires transmittal of such funds to the Treasury within 30 days. Some funds are in transit for an additional two weeks. A monthly average of the balances of these accounts was determined by reviewing bank statements of all state receipt accounts for the month of September, 1979.

That monthly average balance is $22.6 million. These funds could generate $2.7 million annually if invested at an average annual rate of 12%.

A system that would efficiently invest receipt money and earn interest for the maximum time is one whereby all receipt accounts maintain daily zero balances. Within such a system, receipt funds would be quickly transferred daily (by wire or depository transfer checks, for example) into a concentrated Treasury account. Local banks would be compensated for collecting and transferring deposits by the state's leaving a predetermined minimum compensating balance at all times within the accounts. Current statutes do not permit fees for banking services (KRS 41.230).

same services for large corporate customers. Perhaps this solution would only be feasible for large tax revenues. In any case, in this way a check could be directly deposited in the correspondent bank for collection. This approach eliminates three of the five steps in handling the check. Confidentiality and accountability can be maintained as they are for all customers. This process involves handling the check only. All tax materials would still be processed by the Department of Revenue. If contracting for services from a specialist in the field reduces deposit collection time only by one day, that improvement could earn the state approximately one million dollars in earned interest on tax revenue (based on $2.125 billion in tax revenue being collected in FY 1979-80) over a year's time at an annual average interest rate of twelve percent.

Contracting for lock box services may seem expensive (one estimate ranges from six cents to 40 cents per item)[1] but its cost should be weighed against the increased cost and slower deposit time involved by having the Department of Revenue and the Treasurer performing the service internally.

Recommendation

> 2. The Department of Finance and Treasury should investigate the feasibility of contracting for lock box services from a bank rather than performing the service in-house. Consideration should be given to minimizing receipt-to-deposit time as well as service costs. The results should be reported to the Legislature.

Tax Collection Lag: Regulatory Float

Another aspect of speedy cash collection involves the frequency of tax collection. Various taxes are collected at various intervals. For example, sales and use taxes are collected monthly, as are distilled spirits and beer consumption taxes and coal severance taxes. However, other taxes are collected less frequently; insurance premium taxes (KRS 136.330) and corporate income taxes (KRS 141.044) are collected three times per year. Individual declared income taxes and unemployment insurance taxes are collected quarterly. Corporate license taxes (KRS 136.070, 136.100) and Workers' Compensation Insurance premium taxes (KRS 342.450) are collected once per year.[2] (Property taxes are not considered in this analysis, due to the assessment process involved.)

If all these taxes were collected at least monthly, the proceeds could be invested for the benefit of the state. If invested at an annual rate of 12%, the additional revenue (over what is being earned at the current rate of collection) would be approximately $4.92 million per year (based on FY 79-80 revenues). The expense to the Department of Revenue would be approximately $130,000, which is included in deriving the previous ($4.92 million) figure.[3]

An alternative may be for taxpayers to pay taxes monthly to the local bank to the credit of the Treasurer, so interest can be earned, but continue to send tax forms at the same intervals. This approach would reduce additional administrative costs.

Of course, payers may be reluctant to pay taxes more frequently, due to the interest they would lose by giving up principal sooner, as well as the increased paperwork involved. On the other hand, the current practice could be interpreted as the state's making, in effect, interest free loans to certain taxpayers, by allowing them to use money owed the state for several months at no cost. Indeed, interest is charged for delinquent payments beyond existing due dates. If the philosophy which lies behind that penalty were extended, it would follow that more frequent tax payments should be expected, or at least interest charged for the use of the money.

In addition to the interest that could be earned by collecting principal sooner, there would be a one-time increase in the amount of revenue available. However, because that would be a one-time windfall and not a perpetual benefit, it was not considered in the increased revenue figure.

The Department of Revenue has investigated the feasibility of collecting sales and coal severance taxes more frequently than monthly. The projected gains from that change did not appear to outweigh the long-term costs.

In order to collect taxes more frequently, several statutory and regulatory changes would be necessary. The statutes specify that some taxes are to be paid one, some three, and some four times per year.

Recommendation

> 3. The Department of Revenue should investigate further the benefits and costs of making monthly payment due dates for the following taxes: insurance premiums taxes, corporate income taxes, individual declared income taxes and unemployment insurance taxes, corporate premium taxes, and Workers' Compensation Insurance premium taxes. The results should be reported to the Legislature.

This recommendation was not accepted by the Program Review and Investigation Committee.

Disbursements

The third phase of cash management (here discussed second) is effectively managing the timing and handling of disbursements. The responsibility of paying the state's bills is widely distributed throughout state government

Regional Disbursement Accounts. In addition to receipt accounts, the state maintains approximately 560 accounts, including imprest cash, operating and checking accounts, which are all various types of accounts from which funds are disbursed to carry out normal state functions throughout the state. Again, average monthly balances were estimated from bank account statements, taking September, 1979, as an average month for FY 80.

Average daily balances for these accounts were $6.5 million. This amount, if invested at an annual rate of 12%, could be expected to earn $800,000 per year.

This loss of revenue could be minimized, and perhaps eliminated, if disbursement accounts were concentrated at one bank. Such a system would mean that one concentration account would be established while still maintaining most agency disbursement accounts, but all at the same bank. All funds would remain in the concentration account until checks were presented for payment to the separate agency disbursement accounts. At that time, funds would be transferred to those accounts for payment. Until then, however, the agency accounts would be maintained at a zero balance. Such systems are now available. A system of this type would permit the integrity of all disbursing accounts to be maintained. Thus all agencies and officers of the agencies could continue to write the same number of checks, have the same authority to write checks and be responsible for reconciling the monthly statements at the point from which checks on a particular subaccount are written (although automated reconciliation services are available also). In this way, idle funds would be available for investment.

Recommendation

4. All disbursement accounts should maintain zero balances, with funds remaining in a concentration account until checks are presented for payment. Funds in the concentration account should be invested overnight or short term.

Even though it is possible to maintain all accounts intact yet pool the cash at one point, it is also advised that each agency, as well as the Department of Finance, review all accounts and the number of checks drawn on each account. If actual needs can be achieved with fewer accounts and fewer checks, costs of account maintenance, check clearing and account reconciliation can be reduced by eliminating non-essential disbursement accounts.

Statutory changes are not necessary to put the above changes for achieving greater cash concentration into effect. The Department of Finance and the Treasurer's Office are both working toward concentrating receipt and disbursement accounts. However, the emphasis relative to disbursement accounts has been on imprest accounts only. All disbursement accounts should be reviewed for inclusion in a concentration account.

Treasury Disbursement Accounts. The Treasurer maintains five major operating accounts at Farmers Bank in Frankfort: the General Depository Account, Payroll Withholding, Manpower Development and Training, Benefit Unemployment, and Unemployment Collection. These are both receipt and disbursement accounts. Account maintenance on the Treasurer's part could be simplified if these five accounts were all maintained at actual zero balances with funds being concentrated into one general concentration account. Receipts could be collected in the concentrated receipt account. Disbursement funds could be transferred in the Treasurer's ledger and by the bank to the five accounts as checks are presented for payment.

Under this system the problem of determining disbursement float (funds remaining at the bank between the time a check is written and actually presented for payment) within five separate accounts is eliminated. The only remaining float concern is that of depository collection float. Depository collection float is the time it takes the bank to actually collect the funds represented by deposited checks drawn on other banks. In Kentucky, that collection time should take no longer than two days, according to the Federal Reserve Bank of St. Louis; usually it is only one day.

With the establishment of a single concentration account, a set compensating balance is left in the concentration account to pay bank services costs. All funds in excess of the compensating balance should then be invested overnight.

Recommendation

5. The five Treasurer accounts should be concentrated and all remaining daily funds above a compensating balance invested as per the bank balance as of 8:00 a.m. each working day (or such time that same day collected deposits could be included).

For further simplification, some consideration should be given to the necessity of maintaining five accounts. If the same purposes could be achieved with fewer, the simplification could reduce account maintenance costs.

Timing Disbursements. In addition to concentrating disbursement accounts, it is important that bill payment be delayed just enough to maximize the time the state's own funds are invested but be made soon enough to take advantage of any discounts available. A one percent discount that is offered if payment is made within ten days is equal to an 18% annual rate of interest. And certainly, the state must pay quickly enough to avoid additional finance charges of 1 to 18 percent for late payment. The Governor's Management Commission (1981) estimated that if payment were made on a discount basis of 2 percent in 20 days, net 45, $3.2 million per year could be saved.

If indeed the state is habitually late in payment, vendors might increase the initial price to compensate themselves accordingly. When auditing disbursements the Department of Finance should check to be sure discounts are received and late charges are strictly avoided.

The Governor's Management Commission (1981) found that a six-step invoice payment process took from sixty to ninety days to complete and that this slow pace was resulting in higher purchasing costs.

One mechanism some states have found that insures timely payment of bills is scheduling the payment of like bills in the same manner as payroll is scheduled. That is, all recurrent bills of a certain type are paid on the same day of each month, just as payroll is paid on the 15th and 30th of each month in Kentucky. Each type of bill has its assigned day. In this way vendors know when to expect payment and price accordingly, and state personnel know clearly what is expected and when. Additionally, this system serves to better centralize disbursements where appropriate and to maintain better overall control of state monies.

Recommendation

6. The Department of Finance should investigate the feasibility of scheduling disbursements of like bills to insure timely payments.

Investment Management

The second phase of improved cash management (here treated third) involves aggressive investment management.

This report does not pretend to address the many less obvious aspects of investment management improvement available to the state, although in the aggregate such refinements can lead to measurably increased returns. Identifying and implementing these aspects of investment should receive constant attention. This report, however, deals with the major "high pay-off" aspects of current state investment practices which seriously limit investment returns. It must be clearly understood that many of the barriers to increased investment returns are due to statutes initiated in more conservative times which limit the investment options available to the Treasurer and the Department of Finance.

Existing Invested Funds. In FY 1979-80, the state invested $2.4 billion, according to the Department of Finance Annual Report for FY 79-80.[4] Funds invested included the following:

(1) Earmarked funds are funds designated and budgeted for specific purposes but not immediately needed. These eight funds include: Agency Fund, Federal Fund, Transportation Fund, Special Deposit Trust Fund, Trust and Revolving Fund, Capital Construction Fund, Bond Redemption and Interest Fund, and Turnpike Authority Revenue Bond Fund.

All these invested funds averaged approximately $930.683 million in FY 80. (As of March, 1981, the funds were $587 million. At the end of the study period Federal Funds were no longer invested with the earmarked funds and the Fire and Tornado Insurance Fund was added.) About half of the funds are invested in Treasury bills and notes of various maturities up to one year. The rest are invested primarily in one-year Kentucky certificates of deposit. Interest is paid every six months on CD's and is not compounded.

The interest rate received on certificates of deposit (CD's) is a rate set on the particular day in consultation with Farmers Bank and is intended to be the "going rate" for Kentucky CD's, less one-half of one percent. These investments earned approximately $81 million in FY 80. (This is earned, not paid, in FY 80. Paid interest was approximately $100 million. Many investments matured after June 30, 1980, or were purchased before July 1, 1979. Therefore, the interest paid would not be collected until after the fiscal year and not recorded for FY 80. Investments maturing early in FY 80 would be paid for the life of the investment. Only the amount earned for the months the instrument existed in FY 80 is included.)

The one-half of one percent (the Treasurer has recently proposed to reduce this to one-fourth percent) is the Treasurer's allowance for the cost collateralization imposes on banks. Since state time deposits must be pledged (collateralized) with U.S. government and agency obligations or certain municipal bonds, the banks' ability to use these funds, and consequently the return the banks can earn, is limited. Therefore, a reduced interest payment to the state is allowed.

Interest lost, however, is in fact greater than one-half of one percent. A 1981 survey conducted by the Department of Banking and Securities showed certificates of deposit actually earned an average of .93% less than private certificates of deposit of the same types. Also, Table III shows rates quoted by Kentucky banks and rates earned on Kentucky CD's at that time. Rates earned are generally well over 1% less than the going Kentucky rate. So the investment policy described above is costly to the state. If all these funds had even been invested in three-month Treasury bills, for example (about one-half in fact were and still are), the earnings could have been increased by $6.7 million in FY 80. Tables I-A,C show potential earnings at the full Kentucky CD rate, with and without pledging allowances, as well as other alternatives.

(2) Time deposits are a reserve account of approximately $84 million and are invested in 90-day certificates of deposit at some 340 Kentucky banks. The rate set for these funds has been 90 percent of the new issue 13-week Treasury bill discount rate quoted the closest auction day ten days prior to the maturing of the certificates of deposit. All are renewed quarterly. This particular amount has been held since around 1976 and no withdrawals have been made since then. The fund itself was set up long before 1976, with the last withdrawal in December, 1964, for $10 million. The interest rate policy was set by

TABLE III

COMPARABLE KENTUCKY CD RATES

KENTUCKY AVERAGE CD RATE ON DATE SHOWN[1]		COMPOSITE CD RATE ON DATE SHOWN[2]		EARNINGS RATE ON STATE CD INVESTMENTS ON DATES SHOWN		
7/1/79	10.34	7/79	10.23	6/28/79	9.00	8 mo.
				7/02/79	9.00	6 mo.
				7/05/79	9.00	12 mo.
				7/14/79	9.00	6, 9, 12 mo.
				7/16/79	9.00	12 mo.
10/1/79	11.83	10/79	13.83	9/28/79	10.00	9 mo.
				10/06/79	10.00	4 mo.
				10/10/79	10.50	6 mo.
				10/13/79	10.50	6, 7 mo.
3/1/80	14.25	3/80	17.74	2/23/80	11.75	9 mo.
				2/23/80	11.50	12 mo.
				2/26/80	13.00	6 mo.
				2/28/80	12.75	9 mo.
				3/05/80	13.50	6 mo.
				3/07/80	14.50	6 mo.
4/1/80	16.1875	4/80	15.80	4/11/80	15.00	6 mo.
				4/15/80	14.50	9 mo.
				4/18/80	14.00	6 mo.

[1]Average of rates quoted for four (4) Kentucky banks on $100,000 negotiable CD, 180 day maturity for the quarter (not the day).

[2]180-day maturity for average of five dealers.
Usually sold in lots of $1 million.

Frances Jones Mills when she was State Treasurer. These funds earned $7.4 million in FY 80. If these funds had been invested at the full Treasury-bill rate, earnings would have been $1.9 million more; earnings would have been $2.8 million more if invested at the full Kentucky certificate of deposit rate at that time. Recently the decision was made to move these funds into the earmarked fund and invest them along with the earmarked funds. (See Appendix V.)

(3) The Treasurer's five major operating accounts held at Farmers Bank are the General Depository Account, Payroll Withholding, Manpower Development and Training, Benefit Unemployment, and Unemployment Collection.

The General Depository Account has been invested on an overnight basis since December, 1973. Since August, 1980, the other four have been invested overnight as well. (Although ending balances before and after August, 1980, are not significantly different, April and May, 1980, ending balances were $38 million; September, October and January averaged $30 million.) The amount that is invested on a particular day is based on the ledger balance at the Treasury two days prior to that particular investment day, minus the amount owed Farmers Bank for investments purchased on the day of investment. For example, the subtotal cash balance (before unpaid investments are subtracted) on the Treasurer's ledger on October 27, 1980, was $168.234 million. The unpaid investments (investments purchased by Farmers on behalf of the state, but for which a check has not yet been delivered) on October 29 were $53.2 million. This amount is subtracted from the ledger balance of the 27th. The difference, $115 million, is the amount invested on October 29.

All five accounts' investment for the day is within that total. The funds are invested on a modified repurchase agreement arrangement. This arrangement is executed in-house; that is, within Farmers Bank. The bank holds a large portfolio of Treasury bills (T-bills) and notes, primarily for the purpose of fulfilling the overnight repurchase agreement needs of the Treasury. These held bills are sold to the Treasury and repurchased daily. T-bills are actually sold on a discount basis and the discount is converted to a discount rate (or a comparable certificate of deposit or bond equivalent yield). The rate given the Treasurer is the average of the discount rates for the same bills being sold on that particular day, as quoted by dealers, even though the T-bills have been in the bank's portfolio for various lengths of time.

This arrangement is maintained currently because money cannot be legally disbursed from the Treasury without a warrant (an authorization from the Department of Finance) and a check (a legal claim on the funds). Consequently, Farmers Bank, acting as investing agent, does not actually have state cash to go into the market, serve as a broker, and purchase higher yielding instruments. It is not willing, nor would any securities dealer be, to take a position daily in various instruments and then resell those instruments to the

Treasury without cash in hand. However, with respect to T-bills, it is actually serving as a dealer, but the bank feels it prudent to take a conservative position and deal only in highly secured (although not always highly liquid) T-bills and notes. This is not an unreasonable position for a bank to take. If funds could be disbursed daily by wire, so that overnight purchases could be made from any financial intermediary, at least $2.6 million more could have been earned in FY 80 by requiring the federal fund rate. In order for the state to be in a position to shop for the best overnight rate, the ability to wire funds quickly is required. Repurchase agreement dealers must have the cash in hand within minutes of a verbal agreement. (As of this writing, the overnight repurchase system with Farmers Bank is being revised.)

The above are the general state funds currently invested. They do not include the six retirement funds investments, university endowment and research fund investments, county sinking funds, Workers' Compensation insurance, bond reserve funds, local school district state funds, or funds under the auspices of the Administrative Office of the Courts. These other funds are deemed non-state money and therefore are not covered in detail in this study. However, a case could be made that the above monies all include funds for which the state is ultimately responsible, morally, if not legally.

Additional Investable Funds. Even without considering "non-state" funds, not all available demand account funds are being invested at this time. Two major areas where more funds are available for at least short-term investments are funds in idle demand accounts of state agencies and the remaining balances in the five Treasurer accounts after the overnight investment is made (and funds generated by minimizing regulatory float discussed earlier).

With respect to state agency demand accounts, if all funds were concentrated, they would be available for investment. This concentration can be accomplished by placing all funds in disbursement accounts (imprest cash, checking, operating) in one bank while maintaining the integrity of all necessary accounts. Also all receipt accounts could be cleared to a single concenteration account by wire daily, leaving a minimum compensating balance in the receipt bank. This transferred amount could then be invested along with other state funds.

Both the Treasurer's Office and the Department of Finance's Office for Investment and Debt Management have recommended concentration of receipt and disbursement accounts. The method of clearing these accounts must be specified. Some means of clearing accounts such as with a depository transfer check (DTC), allow the funds to remain in the depository bank longer than will a wire transfer executed the same day the DTC is written. If a DTC is used, the time lapse must be considered as services compensation and so accounted for in the total compensation amount allowed to remain in the bank. Other means

are available as well. The DTC is more efficient than wire transfers for smaller amounts of funds (less than $18,000 at 12% interest rates), since wiring is more expensive ($6 per transfer).

Not all state money in the five Treasury accounts is currently invested overnight. The amount that is invested is based on the daily remaining balance on the Treasurer's ledger. Understandably, the Treasurer is investing what his figures show as available funds. However, there is generally a large bank balance left every day in the Treasurer's accounts due to checks written but not yet cleared. By taking an average of the ending daily balances shown on the bank statements for the five accounts, one can estimate the average daily amount still available for investment overnight after the Treasurer has executed an overnight repurchase agreement. By averaging the ending balances, the money owed Farmers Bank for investments not paid and the funds posted as deposits but still uncollected on the particular date posted are taken into account. (Even though Farmers Bank states that immediate credit is given for deposits, this analysis considers only actual collected deposits as available for investment.)

According to the Federal Reserve Bank of St. Louis, deposits are credited to banks within the Federal Reserve System within one day, usually, with a maximum of two days in this district. Although Farmers Bank is not a Federal Reserve Bank, it should be expected at the least to meet Federal Reserve standards. (Actually the Federal Reserve is slower than many private collection services.) Consequently, by averaging ending balances, a potential maximum two-day time lag in deposit collection is considered.

For the present study, bank statements for July, August, and September, 1980, and January, February, and March, 1981, were analyzed. The average daily remaining amount was $179.7 million. Investing this amount at an average annual rate of 10% could yield $17.9 million; at 12%, $21.5 million. Costs of approximately $1.1 million must be allowed, due to the bank's clearing checks, collecting deposits, maintaining accounts, and an earnings allowance of 12%. (These estimates were based on figures provided in the 1979 Bank Functional Cost Analysis, Federal Reserve Bank, St. Louis.) Total investment of remaining balances could yield the state approximately $16.8 to $20.4 million per year. (It should be noted that although this figure represents earnings lost to the state, it does not necessarily equal earnings available to Farmers Bank, due to their check clearing processes and internal investment procedures.)

The Treasurer's Office is aware of the idle remaining balances. The Treasurer and the Department of Finance have recommended that steps be taken to reduce that amount. Moreover, the Treasurer has stated that the office is moving to a zero daily balance, investing overnight all collected funds as per the bank balance. Every effort should be made to accomplish this goal immediately.[5]

Increased Earnings on All Funds

Investment Alternatives. Under present statutes the investment alternatives available to the Treasurer and Department of Finance are quite limited. KRS 41.230 permits investment in certificates of deposit and KRS 41.380 permits investment in U.S. government obligations and those of the Commonwealth of Kentucky. Of course, these statutes are the major limitation to generating interest revenue.

TABLE IV

ALLOWED INVESTMENT INSTRUMENTS

Treasury Deposits	Direct Obligations, U.S. Government Kentucky Bank Certificates of Deposit Kentucky State General Obligation Bonds
Collateral for Kentucky Deposits	Direct Obligations, U.S. Government Government Agency Obligations Revenue Bonds of Educational Institutions (Kentucky) Revenue Bonds of Kentucky Schools General Obligation Bonds of Counties of 1st, 2nd and 3rd class cities (Kentucky) Kentucky Bonds (revenue and Gen. Oblig.) Housing Authority Bonds of any Housing Authority
Kentucky Bond Proceeds	Trustee: Wide range specified in official statements
University of Kentucky Time Deposits	U.S. Government Obligations U.S. Government Agency Obligations Export-Import Bank Obligations
Kentucky Pension Plans	Stocks, bonds, KIDFA notes, mortgages
Fire and Tornado Insurance Funds	Direct obligations of U.S. Government Kentucky Revenue and General Obligation Bonds Kentucky City and County Revenue and General Obligation Bonds

It is interesting to note the inconsistencies with which the statutes view various investment instruments. For example, U.S. government agency securities are permitted to be pledged as collateral for state deposits in Kentucky banks, but are not permitted for direct state investments. State bond proceeds held by a trustee before expenditure may be invested in virtually all instruments available.

Kentucky pension funds, although invested for different objectives, invest in stocks, bonds, mortgages, and other varied instruments, yet the Treasurer can purchase only certificates of deposit in Kentucky banks and certificates of indebtedness of the U.S. government and certain Kentucky bonds.

However, there are other instruments available which the state could take advantage of which are very secure, liquid, and which are higher yielding. For example, negotiable and marketable certificates of deposit of the very large banks (deposits over $1 billion) purchased on the secondary market [other states have interpreted certificates of deposit (CD's) purchased on the secondary market as investments and not deposits, and therefore, no collateral is required] are considered safe and liquid. Two Kentucky banks issue such negotiable CD's—Citizens Fidelity Bank and Trust Company and First National Bank of Louisville. In 1978, the average national rate for three-month CD's was 8.20 percent, as compared to 7.94 percent for federal funds and 7.22 percent for three-month new issue T-bills.[6] In 1979, the average rate three-month CD's was 11.19 percent, as approved to 11.22 percent and 10.041 percent for federal funds and three-month T-bills respectively.[7] Marketable and negotiable CD's are traded in lots of $1 million. The average amount outstanding is in access of $134 billion. (The federal fund rate is given for information only. It is a short-term rate, rather than a long-term rate, and therefore is not really a relevant comparison.)

Commercial paper is another investment instrument generally considered safe, liquid, and suitable for government investment. These are obligations of corporate indebtedness. They are issued for any periods from one day to nine months. Commercial paper is rated by Moodys and Standard & Poors (S&P). A rating of A-1 (Moodys) or Prime-1 (S&P) is considered to indicate a safe investment. Rates for 1978 and 1979 averaged 7.94% and 10.97% respectively.

Another obvious addition to a state's range of investment alternatives which Kentucky cannot now make is government agency securities. This category includes issues of Federal Farm Credit Banks (Federal Intermediate Credit Banks, Banks for Cooperatives, Federal Land Banks), Federal Home Loan Banks, and the Federal National Mortgage Association. These issues are considered very secure and generally have yields greater than Treasury obligations.

By adding only negotiable CD's and commercial paper, the earmarked investments of $930,683,453 (average) in FY 79-80 could have earned $17 to $18 million

beyond what they actually earned in that year.

These are the minimum additions required to allow the Treasurer and Department of Finance the appropriate range within which to safely invest state monies.

It can be argued that rather than writing legislation which specifies commercial paper, negotiable certificates of deposit and government agency securities, a more general provision should be used: for example, "The state investment agent shall invest as a prudent person would, and the investment decisions will be under the review of the Investment Commission and the General Assembly." This flexibility with oversight should be permitted, due to the fast changing nature of the money markets. New instruments which may be appropriate for state investment are continually being developed. A limited list of alternatives may cost the state potential earned income by missed opportunities. As a safeguard, strict Investment Commission and General Assembly overview and clear investment guidelines would prevent special interest pressure from being brought to bear on the investing officer.

Recommendation

> 7. Legislation should be proposed that will broaden investment alternatives to allow the Department of Finance and the Treasurer to have greater options for investing state funds, thereby increasing returns. The legislation should include the following as allowable investment instruments: negotiable marketable certificates of deposit, prime commercial paper and government agency obligations.

In-State vs. Out-of-State Investment. Before a decision on how best to broaden investment alternatives is made, a decision must first be made concerning whether Kentucky funds should be kept at home to yield "indirect" returns, or simply so invested as to maximize direct earnings. Perhaps by now permitting investments in Treasury obligations, the policy is already too broad. Perhaps pension funds and bond proceeds should only be invested in Kentucky. Perhaps collateral requirements should be dropped to allow banks to make more loans to Kentuckians. Or perhaps collateral should be in Kentucky municipals only. Any of these policies would appear to keep more Kentucky money at home, if that is the goal. The current investment objectives of the Commonwealth are to invest state funds in a manner that will generate the maximum aggregate yield—yield being defined as including direct yield or interest paid plus indirect yield, or the extent to which the local economy is benefited through the broadening of the tax base and the generation of revenue.

There are those who believe that by keeping money in the state of origin there is an economic multiplier effect.[8] That is, state deposits in banks generate consumer and commercial loans, which generate spending, which generates increased income, sales taxes, and

income taxes. The theory goes on to hypothesize that the tax revenue collected from state taxpayers should be returned to the counties of origin to minimize the economic contraction effects of withdrawing tax funds. This resulting multiplier effect generates increased indirect revenue for the state. Advocates of this theory believe this indirect revenue generated by investing funds in Kentucky bank certificates of deposit offsets and justifies foregoing possibly higher earning investments in the national money market. There are several reasons for this position. First, a state is not a profit-oriented business. A state's first goal is the welfare of the citizens, not profit maximization, as would be the goal of a business. And, by investing at home and foregoing potentially higher direct returns, a compensating indirect return is generated.

Respected economists can be found to support or to reject this theory. However, a review of this literature revealed to this writer no empirical examples of how much indirect revenue is generated. A report written for the State of Oregon by Deloitte, Haskins, and Sells came to the same conclusion: There may be such a thing as indirect return, but it has not been quantitatively demonstrated. Models developed by various states' banker associations show the working of the concept. However, these models are too small and simplified to be an accurate and reliable expression of the workings of the open economy of any state.[9]

In order to examine the impact of state deposits on local economies in Kentucky, a comparison was made of tax revenue collected by county (sales, individual income, general property, motor vehicle, and county clerk's legal process) and state deposits per county in Kentucky (see Appendix I). This particular comparison was made to address the proposition put forth by keep-money-at-home advocates that state local deposits offset the contraction effect caused by tax payment withdrawals in localities. The tax collections shown by county, of course, are not the total; rather, only those amounts that could be identified by county. Appendix I shows that a much greater proportion of funds is withdrawn in taxes collected per county than is deposited back. It is hard to imagine that the deposits returned could seriously offset the withdrawal impact of tax payments.

Secondly, state deposits only made up 2.5 percent of total deposits in the state's banks in FY 79-80. The amount available for bank deposit in the future will be less, due to drawing down of the earmarked funds. It is difficult to gauge whether any revenue generated from this proportion of funds would exceed in indirect revenues the income that could be earned at maximum money market rates. The difficulty in such a determination increases when one considers that the total loan-to-deposit ration of most Kentucky banks is in the range of 50 to 60 percent. This further reduces the amount actually loaned. Finally, 110 percent collateralization requirements seriously limit a bank's ability to make loans with state deposits. State law requires banks to match deposits with certain municipals and government obligations; therefore, the bank must hold a larger proportion of its invest-

ment portfolio in these instruments than it may wish, which ties up loanable funds.

Thirdly, it is not clear that deposits made in local banks even stay in that locale.

> The argument of keeping money at home is no longer valid; even the smallest banks regularly deal in national money markets. Hence, a government's funds invested locally often do not stay at home.[10]

A sample of fifty Kentucky banks supports that statement: forty-five of the fifty appear to be net lenders of funds to other banks (Appendix III). That is, they lend money or invest in federal funds, which means at some point these excess funds leave the locale or state—either directly or through a correspondent bank which is a Federal Reserve member. Further, half the state deposits are in counties whose banks lend at less than a 70 percent loan-to-deposit ratio. This means 30 to 50 percent of those deposits are not invested locally (Appendix I and II). Of course, local bond purchases should also be considered. Consequently, it is impossible to track the real use and impact of state deposits.

A previous study conducted in 1975 by an Appropriations and Revenue subcommittee, chaired by Senator Baker, also concluded that there is no evidence that a real indirect return in fact exists.[11]

Target Interest Rates. Since there appears to be differing opinions as to whether the state should invest solely in-state or not, it seems that a compromise is in order. Currently, the interest rate on funds to be invested in Kentucky banks is determined by "averaging" rates quoted by the large Kentucky banks as rates they are willing to pay. This average rate is then offered to any bank holding maturing certificates of deposit on that day. The bank either accepts or rejects the rate offered. These "state rates" may be significantly different from national rates.

Greater returns could be realized and a publicly accountable rate set if the following procedure were adopted. Funds should be offered to Kentucky institutions first at a publicly reviewable rate: the composite money market rate published by the Federal Reserve daily,[12] for example, for long-term funds and the Federal Fund rate[13] for overnight funds. If any funds are available after such an offering, or if no or only a few Kentucky institutions are willing to pay the pegged rate, then the funds should be invested at the highest rate available in permissible investments available in the national market.

In the event more funds are requested than are available, a set, publicly reviewable distribution system should be developed. Bidding for deposits would insure that funds go to areas of greatest return, and therefore greatest need. This is a free market approach.

However, some other means could be developed that would insure that the state would earn the specified rate, but also insure that smaller institutions would not be shut

out. Perhaps a plan based on loan-deposit ratios would be appropriate if more funds were requested than were available. Institutions with higher loan-deposit ratios or other measures of lending activity would have priority for state funds. This approach would maximize the multiplier effect—if there is one.

In any case, this type of alternative would allow funds to stay in state when there is a need for the funds, yet insure a fair market rate of return for state funds and allow public scrutiny of the rate received.

Recommendation

8 a. Legislation should be proposed that will assure that interest rates earned on long-term and short-term investments are pegged to a minimum acceptable rate standard. That rate should be a rate that is published and can be publicly reviewed and verified. Examples of such rates are the composite certificate of deposit rate quoted daily by the Federal Reserve System for long-term rates (over 30 days) and the federal fund rate for short-term rates (overnight). All investments made should earn at least the targeted rate.

b. Funds available for investment should be offered to Kentucky institutions first. Any remaining funds should be invested in alternative investments.

c. Should the demand for funds exceed the amount available, institutions should receive priority based on higher loan-deposit ratios.

Electronic Funds Transfer. In addition to increasing the investment alternatives, another element is necessary not only for efficient cash management generally, but certainly for investment management specifically. The current statutes require a warrant and check to be issued before funds may be released from the Treasury. This is a time-consuming and cumbersome process. It has been shown already that time is indeed money. If funds cannot be transferred with a very short time after an investment decision is made, either the investment is lost or a friendly banker must put himself in the precarious position of making the purchase for the state, in effect a loan, and hoping a reimbursement check will follow within a few days. No securities dealers and very few banks would take that risk or would obligate their own money in such a way. Such would not be a sound practice for the "friendly bank" or the state. However, Farmers Bank in fact does this, and then subtracts that "loaned" amount from the state's demand account balance. That "loaned" amount averaged $58 million per day during the six months studied. That amount is deducted from the Treasury daily balance in order to determine the amount to invest overnight.

Previous studies conducted by the Legislative Research Commission have recommended legislation permitting electronic funds transfer—"Program Evaluation: Kentucky Public Deferred Compensation System," January, 1980, and "A Report to the Interim Committee on Appropriations and Revenue," from the Subcommittee on Debt and Investment Management, 1975. The Governor's Management Commission (1981) has also recommended statutes permitting electronic funds transfer. A bill to permit electronic funds transfer was introduced in the 1980 General Assembly but failed in Committee.

The overnight investment operation especially requires the implementation of electronic funds transfer. The present system, although far better than nothing, earns less than would be possible if the actual idle overnight funds could be available to be quickly wired to make purchases after shopping for the highest overnight rate quoted by reputable financial intermediaries. In addition, the current system requires Farmers Bank to hold more and perhaps lower yielding Treasury obligations than they otherwise would. Modern cash management requires the ability to quickly move large amounts of cash to speed availability and to take advantage of the opportunities available.

Recommendation

9. Legislation should be proposed authorizing the electronic transfer of funds out of the Treasury.

Pledging. Kentucky statutes (KRS 41.240) require that when a deposit is placed in a bank, the bank must pledge certain securities having a face value 10% in excess of the value of the deposit. This is to secure the deposits should the bank fail. Actually from the state's point of view, for all banks to pledge 110% of all deposits is insurance against the possibility of all banks failing at once. Such an occurrence is highly unlikely. From each bank's point of view, however, each is insuring against the possibility of its own failure and does not have to be concerned with the failure potential of another bank.

When the State Treasurer deposits state funds in the bank, each bank must send to the Treasurer a list of securities it is pledging. These securities must remain inactive in the bank for as long as the deposits are there. The securities are valued at par, which means their market value may be more or less than the actual face value. The statutes state, however, that the securities shall have a face value in excess of the value of the deposits and a market value at least equal to the deposits. To maintain certification of market values of securities would be difficult for the Treasurer, since the values of securities change daily. Consequently, 110% pledging does not actually provide 110% of security value.

If a bank does not have sufficient securities on hand to meet its own liquidity needs as well as pledging needs, it must actually use the state deposits to purchase the needed collateral.

As a result, pledging not only is ineffective at providing 110% security, it imposes substantial costs: (1) there are costs to the bank in lost flexibility of freely managing all securities in the bank's portfolio; (2) to the degree the banks use loanable funds to hold securities, loans are not made and the possible multiplier effect of state deposits is negated; and (3) One-half of one percent, according to the Treasurer, is foregone by the state on certificate of deposit interest, due to pledging costs imposed on banks. That one-half of one percent amounted to $4.66 million lost in state earnings in FY 80. The Treasurer is proposing to drop the collateral allowance to one-fourth of one percent. That measure would still have cost $2.33 million in FY 80. (The net cost depends on the amount invested in CD's. It appears less will be available in the future, due to spending down of funds in the Turnpike Authority Fund.) In any case, a pledging allowance should not be permitted for those funds that are already insured by the Federal Deposit Insurance Corporation (first $100,000 per bank, with demand and time accounts being insured separately).

Due to these costs, some states have developed alternatives to full pledging. Virginia has a variable pledging plan. Smaller banks must pledge more; however, pledging ratios average about 50 percent of the value of deposits. Connecticut has a plan whereby 3 percent of the value of deposits is pledged. Then this collateral is placed in a pool. If one bank fails, the pool is sufficient to reimburse that loss.

Indiana has a state insurance plan, the Indiana Deposits Insurance Fund. Each bank pays 1/48 of one percent of the value of the deposits monthly as an insurance premium for the safety of the deposits. The premiums (about $75,000 to $80,000 per month) are paid to the State Treasurer, who invests them for benefit of the state Treasury. The fund is reviewed periodically from an actuarial point of view and adjusted accordingly.

Compared to pledging, the insurance type plan could be less costly to the state and less restrictive to banks. For example, a deposit of $200,000 will cost the state one-half of one percent per year in pledging allowance, or $1,000 per year. Whereas, under the insurance plan in use in Indiana, a deposit of $200,000 would cost $500 per year. If the pledging allowance is dropped to one-fourth of one percent, the costs of the two plans would be equal, but the restrictions in the bank's portfolio would be less under the insurance plan.

A benefit of pledging, other than security, is the fact that the pledging requirement spurs banks' interest in the Kentucky municipal bond market. Since Kentucky municipal bonds are desirable not only for tax purposes, they also meet the pledging needs. If pledging requirements were reduced or dropped, the change could adversely affect the market for small Kentucky municipals, especially school bonds, but also general obligation bonds of counties and cities of the first through third classes. (Only these local bonds are eligible for pledging.)

In fact pledging results in an indirect subsidy of local bonds. The state foregoes one-half of one percent in interest earned as a result of encouraging banks to buy

municipals. It could be argued that the cost of pledging is borne by all citizens and the benefits accrue to only those benefiting from the particular bond. This may not be a fair distribution.

Various dealers in Kentucky local municipals have maintained that without a pledging requirement Kentucky municipals would continue to be salable, but at a higher price. The reasoning is that local banks will want local school bonds to be competitive in price with other bonds (those of other states and cities and revenue bonds), since both will meet the tax-free income requirements (federal taxes). However, others feel that Kentucky municipals (school bonds, in particular) are so strong that pledging does not affect the price. These bonds are desirable with or without pledging.

A review was made of ten local school bonds issued by Kentucky communities from January, 1981, to June 26, 1981, comparing yield rates with those of other bonds, as indicated in the weekly Bond Buyer. Kentucky municipals are generally 40 to 60 basis points below the Bond Buyer index. Indeed, prices are lower than average now. However, U.S. government debt obligations and government agency bonds are eligible collateral as well and are higher yielding. For banks with lower income, government obligations may have higher after-tax yields as well. Nevertheless, lower yielding school bonds still sell, indicating that there are other factors determining which securities are bought by banks than pledging and price. Pledging should not be considered a sole determinant. Other major considerations are the income level and corresponding tax bracket of the bank, whether the bank's portfolio already holds sufficient municipals, and community good will. Legal limits are also determinants of securities selected. Also, the pending IRS ruling disallowing interest deductions paid states on their deposits if the deposits are collateralized with municipal bonds will affect the market for municipal bonds.[14]

Alternatives to pledging should be investigated to:

(1) minimize the cost state deposits incur upon banks;
(2) increase the state's earnings; and
(3) insure the security of the state's deposits.

Recommendation

10. Legislation should be proposed replacing pledging with an atlernative means of collateralizing state deposits. Collateral should be valued at market value, with values reported to the Treasurer quarterly. Collateral should be pledged for state deposits at the ratio of 50 percent of the value of the deposits for banks qualified as having no perceived credit risk at any maturity level. In the event of default all participating banks would be assessed according to the proportion their state deposit holdings are of total state deposits among participating banks, in an

amount to cover the uncollateralized and uninsured portion of the deposit. Collateral should be pledged at the ratio of 100 percent of the value of the deposits for banks of average statistical credentials and no deposits in excess of FDIC coverage should be made in banks not wishing to be qualified for either 50 percent or 100 percent pledging, or banks which show credit risk at longer maturity levels. Qualifications should be determined on the basis of totally quanitifed public information to be specified in regulation by the State Investment Commission. (An analysis of this proposal is included in Appendix VII.)

Cash Forecasting. No detailed cash forecasting procedures are currently in place. The Department of Finance's Division of Accounts projects expenditures on an annual basis broken down by month. The Department of Revenue, of course, projects receipts. Investments are timed according to traditional practice, which is, for the most part, one year, 90 days, or overnight. (Some long-term revenue bonds were purchased in 1958 and 1964 for rates close to four percent.) Cash forecasting technically requires a combined projection of cash inflow and outflow by source of receipt and payee for at least the following time periods: a week, a week in advance; a month, a month in advance; and a year, a year in advance.

Cash forecasting is important for two primary reasons. One is simply management. The state should know at all times from where money is coming and to whom it is being paid. Then if normal patterns begin to change, problems can be anticipated and, often, crises avoided. Secondly, cash forecasting is important in order to allow the investing officer to time the maturity of investments to the greatest advantage or to earn the greatest return.

Normally, longer term investments earn higher yields. So, if it can be accurately predicted when certain funds will be received and when they will be needed for expenditure, the investment officer can invest the funds for the maximum amount of time and earn the greatest return. That maximum time may be one week, two weeks, one month, or two years. The information cash forecasting can provide is important for short-term as well as long-term investment.

However, over the last few years, the yield curve has been inverted and, generally, long-term investments earn lower yields than short-term. Consequently, no attempt has been made in this report to demonstrate the increased return potential from longer investments. There probably is none. However, it is still important to be able to forecast receipts and expenditures in order to shop rates and maturities to best time investments, whether they be short, a series of short, or long-term investments. The investment officer also gains the ability to time investment maturities, taking into account future trends in rates.

Trading Capacity. If investment alternatives are broadened in order to maximize return on investments, and more sophisticated procedures followed, it will be necessary for the state to develop an internal trading capacity. Rates vary frequently throughout the day for different maturities and different obligations. The state itself must be able to shop rates among various dealers and make purchase and sell orders to financial intermediaries directly. By relying on a single financial intermediary to advise and make transactions on behalf of the state, an untrained state officer invites criticism for the advising bank as well as the officer himself, whose training necessitates that he rely on that advice without question. A trained staff, equipped with specific investment guidelines, would be more likely to be free of charges of conflicts of interest, real or imagined.

Most transactions to purchase long-term or overnight investments should be made no later than 12:00 noon, while options are still greatest. One individual whose sole interest is the investment of state funds should take on that responsibility. He should call each day several financial intermediaries, in and out of Kentucky, and invest a prudent amount of state funds at the best rate quoted, minimizing risk through diversification, but also minimizing transaction costs by investing large lots. Of course, to repeat, this individual must operate within clear and precise investment guidelines. The physical location of this capacity will be discussed in a following section, *Responsibility for Investments.*

Recommendation

11. The State Investment Commission should develop an in-house trading capacity in order to shop rates, maturities and instruments available and purchase and sell securities according to investment guidelines. This development will require adding staff capabilities in the area of day-to-day investment rather than relying on the investment advice of one financial intermediary.

Responsibility for Investments: State Investment Commission

The responsibility for investing state funds, as stated earlier, is disbursed among several agencies. The investment responsibility of even the very specific general state funds or "earmarked funds" is somewhat unclear. The State Investment Commission, established in 1952 by KRS 41.380, is made up of the Governor, State Treasurer, Secretary of the Department of Finance, and the Secretary of the Department of Commerce. In the opinion of Legislative Research Commission legal staff, the Commission is charged with making policy concerning the investment of state funds in U.S. government obligations and Kentucky bonds only and determining the rate and amount per obligation. It is the Treasurer's responsibility to invest funds in certificates of deposit in Kentucky banks, determine the rate, the amount per bank, and maturity. However, KRS 42.410 says the Office for Investment and Debt Management (OIDM) is responsible for the maximization of the return on

state investments. Traditionally, the Department of Finance advises the Treasurer as to how much money is available and for what length of time. Then the Treasurer alone accepts rates and determines what instruments will be purchased for both CD's and T-bills. The Treasurer also decides from what banks CD's will be purchased and for how much. Appendix I shows state deposits per county. Appendix III is a sample of state deposits per selected banks. There appears to be no system for distribution. Investment decisions are made without a formal, comprehensive investment policy.

In view of the increased responsibilities proposed in the development of a trading capacity and the need for better investment performance and public accountability, the State Investment Commission should become the body to assume total responsibility for at least the investment of "earmarked funds" (including the time deposit funds) or longer term surplus funds; and excess funds or funds available to invest for a time period from overnight to thirty days.

First, the State Investment Commission should be responsible for overseeing investment performance. If an in-house trading capacity is developed, the individual who provides that capacity should report to the Investment Commission at regular intervals.

However, since the Legislature is charged with assigning duties to the Treasurer and the Legislature has also assigned an investment performance function (KRS 42.410) to the Office for Investment and Debt Management (as well as a staff function to the Investment Commission), the Legislature should determine to which office the improved trading capacity function will be assigned.

Recommendation

12a. Legislation should be proposed specifying that the in-house trading capacity will be housed within the Department of Finance.

b. The Investing Officer should report to the State Investment Commission and the Commission should report investment performance to the Legislature quarterly.

Secondly, the State Investment Commission should establish clear investment guidelines. The guidelines should be reviewed for comment by the Legislature and should specify a goal statement, types of instruments in which to invest, and target interest rates for long- and short-term funds. The guidelines should also specify the procedure with respect to in-state versus out-of-state investment, how funds which stay in state are to be distributed among institutions and among types of institutions (banks, savings and loans, credit unions, etc.), and the procedure by which institutions will be selected to provide services.

The Commission is the appropriate body to review investment performance and

compliance to interest rate standards and investment guidelines. It should also recommend proposed policy changes to the Legislature when necessary.

Recommendation

13. Legislation should be proposed requiring the State Investment Commission to set investment guidelines, specifying at a minimum:
    a. goal statement;
    b. definition of money that will be invested;
    c. acceptable instruments (list);
    d. amount of funds which may be invested per instrument;
    e. qualifications of instrument;
    f. target interest rates for long- and short-term funds;
    g. maturity of investment;
    h. investment procedure with respect to in-state versus out-of-state; and
    i. method of distributing funds which stay in state among types of institutions (banks, savings and loans, credit unions, etc.).

    The Commission should review, at regular public meetings, investment performance relative to the guidelines and report quarterly to the Legislature.

Thirdly, the Commission should review and comment on the management status of all state and quasi-state funds as reported to the Office for Investment and Debt Management.

Finally, the State Investment Commission should meet regularly, announcing its meetings ahead of time so that interested public may attend, and record minutes of the meetings.

The composition of the State Investment Commission may be too heavily weighted toward the interests of the Office of the Governor, and the Treasurer's Office may not be sufficiently weighted. The current composition of the State Investment Commission—Governor, Treasurer, and the Secretaries of the Departments of Commerce and Finance—means that three of the four members represent the Office of the Governor.

To more evenly balance the power and perhaps add other perspectives to the Commission's deliberations, perhaps the Legislature should somehow maintain an ongoing interest in the activities of the Commission.

According to case law (Howard v. Saylor, 1947) and an Attorney General's Opinion (OAG 77-473), appointments to boards and commissions are to be made by the Governor. However, legislation may specify the offices to be represented, as is done in KRS 157.815, for example, creating the Kentucky School Building Authority. This statute designates, "(K) The chairman of the interim joint committee on education" shall be a member of the commission ex-officio.

The following listing shows the makeup of investment commissions of randomly selected states. Finally, an alternatives is proposed to revise the existing composition of the State Investment Commission to more evenly balance the power, yet continue to meet constitutional requirements.

INVESTMENT COMMISSIONS OF OTHER STATES

STATE	MEMBERS	HOW ASSIGNED
NEW JERSEY	3 knowledgeable of investing 2 other	Appointed by Governor
	5 representatives of pension system	Appointed by each pension system
MARYLAND	Treasurer	Elected
VIRGINIA	Treasurer Commissioner of Taxation Assistant Secretary of Administration & Finance Comptroller Financial Community Representative	All appointed by Governor
W. VIRGINIA	Governor State Auditor Treasurer	All Elected
TENNESSEE	State Funding Board Governor Treasurer Commissioner of Finance Secretary of State Comptroller	 Elected by General Assembly Appointed by Governor Elected by General Assembly Elected by General Assembly
WISCONSIN	4 public members (with 10 yrs. financial experience) 2 representatives from retirement system Secretary of Dept. of Administration	Appointed by Governor Appointed by Governor (Executive Branch)
ILLINOIS	Treasurer	Elected
FLORIDA	Bd. of Administration Governor Comptroller Treasurer	 Elected Elected Elected

STATE	MEMBERS	HOW ASSIGNED
GEORGIA	State Depository Board	
	Governor	
	Commissioner of Revenue	Appointed by Governor
	State Auditor	
	Commissioner of Banking and Finance	
	Comptroller	
N. CAROLINA	Investment Advisory Commission	
	Treasurer	Appointed by Governor
	2 trustees of retirement system	
	2 members from public	Appointed by Treasurer
KENTUCKY	State Investment Commission	
	Governor	Appointed by Governor
	Secretary of Finance	
	Secretary of Commerce	
	Treasurer	Elected

Recommendation

14. The State Investment Commission should be composed of the following members:

1. Governor
2. Secretary of Finance
3. Treasurer
4. Two appointees of the Governor from a list of five names recommended by the Legislative Research Commission. The individuals named must be qualified, with knowledge and experience in investments and financial management.

Banking Services Compensation

Bank relationships and bank services are, of course, a very important part of cash management. A state requires a considerable amount of banking services; consequently, the cost of these services can be extensive. The costs must be analyzed annually to assure that the state is not spending money needlessly and that banks are being fairly compensated for services provided.

Currently, all banking services must be paid through compensating balances. KRS 41.230 specifies that no fees may be paid for banking services. Although services provided by Farmers Bank and Trust and other regional banks have been paid through compensating balances to some degree, no effort has been made to determine exactly what the costs of

providing the services rendered are and what the compensating balances should be to generate that revenue. These circumstances result in some banks being underpaid and some being overpaid.

Even the bank which provides the majority of the state's banking needs, Farmers Bank and Capital Trust, operates without contractual fee and service specifications. In December, 1973, the Treasurer's Office, the Department of Finance, and Farmers Bank agreed on a compensating balance of $30 million for that bank. In April of 1974 that amount was reduced to $25 million and in December, 1974 to $20 million. At that time interest rates were in the range of four to five percent (based on Federal Fund rates). So, a $20 million dollar compensating balance would generate approximately $1 million annually to apply toward the bank's expenses. (Based on expenses to clear checks, collect deposits and maintain seventy-two accounts for various state agencies, Farmers Bank costs are approximately $1.2 million per year. At 13.7 percent interest rates, a compensating balance of $9.5 million is required to cover these expenses.)

A subcommittee of the Approporiations and Revenue Committee investigating the compensating balance issue in September, 1975, could find no basis for the balance set. Today, the balance that remains in the Treasurer's account daily is far in excess of $20 million. It still appears that no effort has been made to specify a compensating balance based on actual bank costs and then maintain that balance.

Not only are charges not specified but there is no predetermined objective criteria by which banks are selected to provide certain services. In some cases, the choice is obvious—the only bank in the town where a service is needed. In some cases an attempt is made to distribute services among all banks wishing to participate. This type of random system makes effective cash management virtually impossible.

There are three major ways that are used to objectively select a banker: direct placement, rotation, and bidding. Direct placement is the system used currently. It is the least complicated, yet also generally the least justifiable. It can be justified, however, if a contract exists specifying service costs and compensation rendered. This is not done with general state accounts. (Accounts of the Department of Transportation (toll roads) and the University of Kentucky do have contracts of this nature.)

Rotation "gives everyone a chance." This method, too, can be loosely constructed or terms can be very specific. Perhaps the most objective method, although certainly not a foolproof one, is bidding. "In a governmental environment which traditionally has had sealed bid purchasing requirements, it is almost an anachronism that banks have not been so selected."[15]Bidding is fast becoming the norm in selecting bank services. Although the bank services required may not always fit into neat bid packages, it is still quite possible to set precise specifications without ignoring political and operational realities. Different categories of services can be bid separately to allow for situations where

a bank may be able to perform some but not all services required.

Whatever method is used, costs can be contained with a contract specifying (1) what services will be provided, (2) the cost per unit of service, and (3) how that cost will be paid. The amending of KRS 41.230 and the payment for services by fee is the simplest means of compensation. That option is probably most appropriate, especially for small accounts at regional banks. However, fees can also be too static in large accounts, not allowing for changing economic constraints throughout the year. In fact, a bank could suffer a hardship if costs increased during the life of the contract.

An alternative is the specified compensating balance method of payment, under which a predetermined amount of money based on actual bank costs is left at all times in the state's demand account and not transferred out or invested. This remaining balance is then available to the bank to invest on its own behalf, thereby generating the compensation for all services rendered, demand account services as well as other services.

Compensating balance determination can be accomplished in various ways—some being more static than others. Table V shows a common variable bank compensation, which is used in Dekalb County, Georgia.[16] (In September, 1981, a compensating balance at Farmers Bank was determined; it is addressed in Appendix V.)

This system allows clear review of actual bank costs as bid by the bank. It also gives the bank consideration for the actual cost of money at a relatively low Treasury bill bond equivalent yield (a higher earning allowance rate standard would result in less total compensation) and for reserve requirements. It is intended to be calculated monthly to prevent long-term excess gains or losses on either party's part. This kind of formula will allow for cost control and accountability to the public.

Whatever method is selected to choose a bank and determine appropriate compensation, public accountability should be a primary consideration. As such, a contract is a basic requirement which would specify services required, how the services will be provided, the cost of the service and how it is to be paid.

Contract selection and specification is an appropriate function of the State Investment Commission. By that body's reviewing and selecting a bank services contract, a public forum will be provided and impressions of favoritism can be minimized.

Table V

VARIABLE BANK COMPENSATION SYSTEM
MONTHLY ACCOUNT STATEMENT
September, 19xx

Service Charges: Activity	Quantity	Unit Price	Total Cost
Checks Paid	18,514	.046	$ 851.64
Items Deposited	72,212	.016	1,203.39
Cash Deposited (per $100)	2,458	.10	245.80
Credits & Debits	417	N/C	-0-
Wire Transfers	105	2.00	210.00
Stop Payments	39	3.00	117.00
Phone Calls-Acct. Bal.	23	1.00	23.00
Account Reconciliation	15,000	.027	405.00
TOTAL SERVICE COSTS			$3,055.83

CONVERSION FORMULA

$$\frac{\frac{365}{\text{Days in Month}} \cdot (1 - \text{Reserve Rate})}{\text{Earning allowance defined as average 13-week T-bill bond equivalent yield}} = \text{Collected Balances required to support \$1.00 of services}$$

EXAMPLE

No. days in month -- September -- 30 days
Bank reserve rate -- 7 percent Fn
Average 13-week T-bill rate -- 13.675 percent

$$\frac{\frac{365}{30} \cdot (1 - .07)}{.13675} = \$95.67 \text{ Collected Balances required to support \$1.00 of services.}$$

$$\underset{\text{Collected Bal. to support \$1.00 of services}}{95.67} \times \underset{\text{Total Services Cost}}{\$3{,}055.83} = \underset{\text{Average required compensating balance for service period}}{\$292{,}351.26}$$

NOTE: This is Kentucky demand deposit reserve requirement used for the example only. Federal Reserve reserve rates are higher and vary by size and type of account.

Recommendations

15. Legislation should be proposed requiring that banking services be purchased on the basis of a contract. Bid specifications should be set and advertised. Proposals based on cost of services provided should be reviewed and the best bid selected by the State Investment Commission.

16. Legislation should be proposed authorizing the payment for banking services either (1) by a compensating balance set to generate revenue sufficient to meet specified costs at a current quoted rate of earnings; or (2) by direct fee for services.

Concentration of Information Concerning State Funds

Despite the fact that Kentucky has a State Treasurer and a Department of Finance, the state's funds are not all centrally managed. These two offices share some of the responsibilities, with other responsibilities distributed elsewhere. Further, there is no central point of information regarding "state" money. And, to add to the confusion, there is not even a clear definition of what state money is.

Table II showed some of the distribution of responsibility for managing state funds. At the least, this divergence, with no central reporting point, makes information gathering difficult and hampers public scrutiny. At the worst, the scattering of funds and responsibilities makes total and effective cash management impossible.

Funds outside the auspices of the Department of Finance and the Treasury are sometimes referred to as non-state money. Yet, it would appear to the average citizen that all these funds are at least state-related and that therefore one state office should be knowledgeable about all funds—state and "non-state." Ultimately, it would be advisable to investigate the feasibility of combining all responsibilities for state or state-related money under one office of the Department of Finance, still within the executive branch of government.

In the meantime, it would expedite accountability if all such offices were to report quarterly to the Office for Investment and Debt Management concerning the status of funds under others' control. The Office for Investment and Debt Management (OIDM) would be responsible for knowing at all times where all the state's money is and how it is being handled. The responsibility of the office could include: (1) review and comment on reports of fund status from other agencies; (2) report to the Legislative Research Commission on their findings; and (3) sharing of information among agents of different funds, so that each could benefit from the successes and failures of the others.

The responsibility to maintain current and accurate knowledge of state funds will

require a comprehensive information system. At least two such systems appear to be under development. The Department of Finance, OIDM, is investigating the feasibility of implementing a system which will report on the status of funds in all state bank accounts daily.

An inter-agency group made up of representatives from all state agencies is developing a much broader information system: the Unified Integrated System of Accounts. This system will provide computer access to information concerning the daily transactions within all budget units, thereby providing a daily accounting of funds and budget status.

Recommendations:

17. a. Legislation should be proposed clearly defining "state funds."

    b. The status of all funds that are not "state funds" and not invested through the Department of Finance and the Treasury should be reported quarterly to the State Investment Commission (and Office for Investment and Debt Management). These particular funds would include retirement funds, university endowment and research grant funds, bond reserve funds managed by a trustee, insurance funds, and local school district state funds.

FOOTNOTES

1.Two Kentucky Banks and Chase Manhattan Bank, New York. Other estimates are much lower.

2. Tax Facts, 1980, Department of Revenue.

3. Estimated by the Department of Revenue to collect sales and coal severance taxes bi-monthly. It is based on ten extra personnel and increased computer time needed. LRC staff estimates that no more than ten extra staff would be needed to accelerate the proposed taxes to monthly, so the same figure was applied here.

4. LRC staff estimate is an average of 1.1 billion invested in FY 80, not including retirement funds.

5. Based on a memorandum of understanding from the Governor to the Treasurer, July 8, 1981.

6. Federal Reserve Bulletin.

7. Ibid.

8. Wayne Dobson, University of Nebraska; Jerry Hollenherst, Southern Illinois University.

9. *The Oregon State Local Government Investment Pool*, Deloitte, Haskins, Sells, 1978. A Master's thesis written by R. Rutz, 1976, University of Nebraska, showed an empirical example of the working of the multiplier. However, values for critical parameters were determined by assumption, thereby limiting the practical use of the example.

10. *Government Finance*, June, 1981, "A Case Study in Obtaining Cash Management Services." (See No. 14). These economists also support this thesis: Kerry S. Cooper, Louisiana State University; Clifford Wheeler, University of Missouri; J. Richard Aronson, Paul S. Nadler, Rutgers University; James Verbrugge, University of Georgia; William J. Stober, Merlin Hackbart, Randolph McGee, University of Kentucky; Donald J. Puglisi, University of Delaware.

11. A report to the Interim Joint Committee on Appropriations and Revenue from the Subcommittee on Investment and Debt Management, September, 1975.

12. This is a rate quoted by the Federal Reserve daily and is an average of several money center banks' quoted rates.

13. Federal funds are funds that banks borrow from each other. Rates are quoted by the Federal Reserve daily.

14. Internal Revenue Service Ruling 80-55 was to go into effect in June, 1981. It was delayed pending further study.

15. Op. cit. *Government Finance.*

16. Ibid.

APPENDICES

APPENDIX I

TAX COLLECTIONS AND DEPOSITS
BY COUNTY

COUNTY	SELECTED TAX REVENUE[1]	EARMARKED FUNDS[2]	INACTIVE FUNDS[2]	TOTAL STATE DEPOSIT[2]	% TOTAL STATE DEPOSIT / TOTAL DEPOSITS IN COUNTY
Adair	$ 2,602,791	$	$ 200,000	$ 200,000	.8
Allen	2,914,047	1,265,000	530,000	1,795,000	3.3
Anderson	3,370,804	500,000	350,000	850,000	2.1
Ballard	2,648,180	200,000	560,000	760,000	1.9
Barren	10,057,467	7,920,000	1,955,000	9,875,000	6.7
Bath	1,491,277		210,000	210,000	.8
Bell	10,400,611	1,300,000	1,180,000	2,480,000	2.3
Boone	22,165,179	4,500,000	1,280,000	5,780,000	4.1
Bourbon	5,547,916	4,270,000	790,000	5,060,000	5.7
Boyd	30,037,860	2,100,000	1,250,000	3,350,000	1.2
Boyle	8,613,778	2,650,000	1,097,500	3,747,500	3.9
Bracken	1,497,635	100,000	335,000	435,000	1.3
Breathitt	3,680,086	750,000	1,180,000	1,930,000	3.9
Breckinridge	3,618,071	600,000	920,000	1,520,000	2.7
Bullitt	8,493,464	700,000	660,250	1,360,250	2.5
Butler	1,993,692	1,000,000	190,000	1,190,000	3.2
Caldwell	4,696,782	850,000	750,000	1,600,000	1.8
Calloway	8,513,020	1,400,000	760,000	2,160,000	1.2
Campbell	24,650,593	550,000	1,785,000	2,335,000	1.3
Carlisle	1,305,767	100,000	210,000	310,000	1.8
Carroll	2,984,014	1,250,000	575,000	1,825,000	8.0
Carter	5,139,900	850,000	715,000	1,565,000	1.4
Casey	2,361,734	1,200,000	120,000	1,320,000	4.7
Christian	17,382,305	9,680,000	1,025,000	10,705,000	4.8
Clark	10,451,245	5,195,000	650,000	5,845,000	3.8
Clay	4,068,223	750,000	125,000	875,000	1.6
Clinton	1,375,295	850,000	220,000	1,070,000	3.7
Crittenden	2,744,337	400,000	260,000	660,000	1.8
Cumberland	1,172,818	200,000	240,000	440,000	1.9
Daviess	35,803,397	6,850,000	1,460,000	8,310,000	2.6

[1] Department of Revenue Annual Report, 1978-79. Taxes include: sales, individual income, general property, motor vehicle, county clerk legal process.

[2] Legislative Research Commission, March, 1981.

COUNTY	REVENUE	EARMARKED FUNDS	INACTIVE FUNDS	TOTAL STATE DEPOSIT	% TOTAL STATE DEPOSIT / TOTAL DEPOSITS IN COUNTY
Edmonson	$ 1,531,595	$ 1,500,000	$ 670,000	$ 2,170,000	8.5
Elliott	864,509	400,000	300,000	700,000	5.5
Estill	3,173,889	700,000	75,000	775,000	3.1
Fayette	100,369,099	31,505,000	3,270,000	34,775,000	3.0
Fleming	2,911,377	700,000	615,000	1,315,000	2.2
Floyd	12,412,809	4,200,000	1,560,000	5,760,000	2.9
Franklin	15,964,564	7,000,000	2,750,000	9,750,000	3.7
Fulton	3,089,364	933,000	900,000	1,833,000	2.9
Gallatin	1,182,526		265,000	265,000	1.9
Garrard	2,298,674		230,000	230,000	.6
Grant	3,342,629	600,000	575,000	1,175,000	2.0
Graves	10,459,008	1,425,000	525,000	1,950,000	2.1
Grayson	4,613,513	2,591,000	818,750	3,409,750	3.9
Green	2,210,275	900,000	580,000	1,480,000	3.0
Greenup	11,277,074	156,000	330,000	486,000	.8
Hancock	3,505,913		240,000	240,000	.9
Hardin	19,503,831	10,940,000	960,000	11,900,000	6.2
Harlan	11,955,504	1,000,000	360,000	1,360,000	1.5
Harrison	4,161,566	6,650,000	1,055,000	7,705,000	8.6
Hart	2,946,580	1,900,000	1,040,000	2,940,000	5.4
Henderson	16,369,086	6,670,000	1,570,000	8,240,000	5.7
Henry	3,025,870	2,940,000	1,180,000	4,120,000	4.9
Hickman	1,479,679	500,000	500,000	1,000,000	6.2
Hopkins	18,409,489	1,350,000	1,610,000	2,960,000	1.5
Jackson	1,500,476	100,000		100,000	.4
Jefferson	300,860,588	66,723,000	3,020,000	69,743,000	1.7
Jessamine	6,138,376	2,350,000	305,000	2,655,000	4.7
Johnson	7,296,970	950,000	587,500	1,537,500	1.5
Kenton	42,363,169	16,425,000	1,590,000	18,015,000	5.6
Knott	2,843,780		175,000	175,000	.9

Appendix I
continued

COUNTY	REVENUE	EARMARKED FUNDS	INACTIVE FUNDS	TOTAL STATE DEPOSITS	% TOTAL STATE DEPOSIT / TOTAL DEPOSITS IN COUNTY
Knox	$ 5,295,820	$1,150,000	$ 120,000	$ 1,270,000	1.9
Larue	2,443,772	900,000	1,067,000	1,967,000	4.4
Laurel	10,076,105	200,000	157,500	357,500	.2
Lawrence	2,929,682	600,000	302,500	902,500	2.7
Lee	1,174,010	200,000	225,000	425,000	1.7
Leslie	2,026,904		139,000	139,000	.9
Letcher	6,478,179	100,000	665,000	765,000	.9
Lewis	1,649,893	1,500,000	130,000	1,630,000	1.9
Lincoln	2,789,900	1,900,000	635,000	2,535,000	6.6
Livingston	2,334,386		235,000	235,000	.8
Logan	5,522,790	1,493,000	1,225,000	2,718,000	2.7
Lyon	1,341,734	200,000	300,000	500,000	3.5
McCracken	25,984,217	6,200,000	1,350,000	7,550,000	2.2
McCreary	1,754,392	1,100,000	250,000	1,350,000	5.1
McLean	2,301,035	1,250,000	500,000	1,750,000	4.7
Madison	12,771,364	1,750,000	840,000	2,590,000	5.9
Magoffin	1,818,554		130,000	130,000	.7
Marion	3,368,489	1,575,000	1,080,000	2,655,000	3.5
Marshall	8,267,882	850,000	1,164,000	2,014,000	1.5
Martin	3,677,480	200,000	130,000	330,000	1.1
Mason	5,583,241	2,700,000	724,900	3,424,900	5.0
Meade	3,411,580		580,000	580,000	2.2
Menifee	592,622				0
Mercer	4,809,862	2,750,000	760,000	3,510,000	10.6
Metcalfe	1,095,125	100,000	370,000	470,000	1.7
Monroe	1,944,140	1,700,000	660,000	2,360,000	4.4
Montgomery	5,538,764	4,851,000	760,000	5,611,000	4.2
Morgan	1,930,932	450,000	440,000	890,000	2.1
Muhlenberg	9,738,985	400,000	410,000	810,000	.9
Nelson	6,641,479	356,000	577,250	933,250	.18

Appendix I
continued

COUNTY	REVENUE	EARMARKED FUNDS	INACTIVE FUNDS	TOTAL STATE DEPOSITS	% TOTAL STATE DEPOSIT / TOTAL DEPOSITS IN COUNTY
Nicholas	$ 1,295,194	$1,600,000	$ 355,000	$ 1,955,000	6.2
Ohio	6,046,940	2,650,000	425,000	3,075,000	5.0
Oldham	6,708,442	1,350,000	325,000	1,675,000	3.0
Owen	1,418,572	600,000	692,500	1,292,500	3.0
Owsley	499,608	50,000		50,000	.5
Pendleton			60,000	60,000	.2
Perry	9,271,107	600,000	665,000	1,265,000	1.7
Pike	20,849,433	4,000,000	1,220,000	5,220,000	1.3
Powell	1,651,866	500,000	225,000	725,000	3.3
Pulaski	12,243,082	8,055,000	1,105,000	9,160,000	5.0
Robertson	270,331	200,000	135,000	335,000	5.3
Rockcastle	1,869,162	2,750,000	280,000	3,030,000	7.8
Rowan	4,380,340	1,500,000	470,000	1,970,000	5.2
Russell	2,424,197	1,000,000	150,000	1,150,000	3.9
Scott	4,907,301	100,000	695,000	795,000	.7
Shelby	6,259,810	4,150,000	1,030,000	5,180,000	3.8
Simpson	4,151,823	1,300,000	490,000	1,790,000	2.3
Spencer	1,168,277	100,000	120,000	220,000	1.0
Taylor	4,980,974	3,000,000	495,000	3,495,000	5.4
Todd	2,069,469	1,200,000	470,000	1,670,000	8.3
Trigg	2,606,624	3,400,000	900,000	4,300,000	8.3
Trimble	895,537	1,150,000	419,250	1,569,250	5.8
Union	5,329,521	4,500,000	1,565,000	6,065,000	6-2
Warren	24,636,183	6,900,000	1,545,000	8,445,000	3.0
Washington	2,123,277	1,100,000	540,000	1,640,000	2.5
Wayne	2,445,944	3,300,000	650,000	3,950,000	8.2
Webster	3,857,723	3,945,000	995,000	4,940,000	7.2
Whitley	9,754,127	4,200,000	1,745,000	5,945,000	3.5
Wolfe	773,855		150,000	150,000	2.4
Woodford	4,935,399	3,720,000	545,000	4,265,000	5.6

Appendix II

MAXIMUM CONTRACTION IMPACT [1]

	LOANS (000)	TOTAL DEPOSITS (000)	TOTAL LOAN DEPOSIT RATIO (w/pub. funds)	TOTAL DEPOSITS LESS STATE DEPOSITS	REVISED LOANS
Adair	$ 16,405	$ 25,626	.64	$ 25,426,000	$ 16,272,640
Allen	32,844	53,901	.61	52,106,000	31,784,660
Anderson	20,371	40,500	.50	39,650,000	19,825,000
Ballard	19,469	40,917	.48	40,157,000	19,275,360
Barren	107,189	146,597	.73	136,722,000	99,807,060
Bath	15,489	25,631	.60	25,421,000	15,252,600
Bell	68,073	106,850	.64	104,370,000	66,796,800
Boone	92,255	139,924	.66	134,144,000	88,535,040
Bourbon	52,031	88,016	.59	82,956,000	48,944,040
Boyd	203,255	287,776	.71	284,426,000	201,942,460
Boyle	67,796	94,105	.72	90,357,500	65,057,400
Bracken	15,591	33,035	.47	32,600,000	15,322,000
Breathitt	33,212	49,063	.68	47,133,000	32,050,400
Breckinridge	36,498	56,142	.65	54,622,000	35,504,300
Bullitt	39,243	53,878	.73	52,518,000	38,338,140
Butler	23,458	37,617	.62	36,427,000	22,584,740
Caldwell	61,538	87,688	.70	86,088,000	60,261,600
Calloway	128,256	179,643	.71	177,483,000	126,012,930
Campbell	110,979	173,257	.64	170,922,000	109,390,080
Carlisle	10,484	17,343	.60	17,033,000	10,219,800
Carroll	12,229	22,798	.54	20,973,000	11,325,420
Carter	78,566	111,199	.71	109,634,000	77,840,140
Casey	20,262	27,804	.73	26,484,000	19,333,320
Christian	131,940	222,508	.59	217,803,000	124,963,770
Clark	101,337	153,699	.66	147,854,000	97,583,640
Clay	38,859	54,351	.71	53,476,000	37,967,960
Clinton	19,417	29,294	.66	28,224,000	18,627,840
Crittenden	23,211	37,233	.62	36,573,000	22,675,260
Cumberland	16,744	23,004	.73	22,564,000	16,471,720
Daviess	195,652	318,178	.61	309,868,000	189,019,480

[1] 1980 Sheshunoff. Figures are for 1979.

Appendix II
continued

	LOANS (000)	TOTAL DEPOSITS (000)	TOTAL LOAN / DEPOSIT RATIO	TOTAL DEPOSITS LESS STATE DEPOSITS	REVISED LOANS
Edmonson	$ 16,658	$ 25,554	.65	$ 23,384,000	$ 15,199,600
Elliott	9,148	12,718	.72	12,018,000	8,652,960
Estill	18,893	25,342	.75	24,567,000	18,425,250
Fayette	842,505	1,167,429	.72	34,775,000	815,510,880
Fleming	35,668	58,859	.61	57,544,000	35,101,840
Floyd	104,902	196,667	.53	190,907,000	101,180,710
Franklin	78,942	262,035	.30	252,285,000	75,685,500
Fulton	34,521	63,025	.55	61,192,000	33,655,600
Gallatin	10,275	14,220	.72	13,955,000	10,047,600
Garrard	24,134	37,528	.64	37,298,000	23,870,720
Grant	41,115	59,325	.69	58,150,000	40,123,500
Graves	51,625	93,338	.55	91,388,000	50,263,400
Grayson	58,069	87,490	.66	84,080,250	55,492,965
Green	29,777	49,871	.60	48,391,000	29,034,600
Greenup	40,586	60,951	.67	60,465,000	40,511,550
Hancock	17,127	24,730	.69	24,490,000	16,898,100
Hardin	119,165	192,346	.62	180,446,000	111,876,520
Harlan	48,717	89,009	.55	87,649,000	48,206,950
Harrison	55,268	89,880	.61	82,175,000	50,126,750
Hart	29,820	54,091	.55	51,151,000	28,133,050
Henderson	88,794	145,224	.61	136,984,000	83,560,240
Henry	52,730	83,275	.63	79,155,000	49,867,650
Hickman	8,463	16,100	.53	15,100,000	8,003,000
Hopkins	120,688	203,153	.59	200,193,000	118,113,870
Jackson	14,156	24,902	.57	24,804,000	14,138,280
Jefferson	3,117,897	4,164,259	.75	4,094,516,000	3,070,887,000
Jessamine	38,884	56,906	.68	54,251,000	36,890,680
Johnson	68,167	102,336	.67	100,799,000	67,535,330
Kenton	222,690	319,021	.70	301,006,000	210,704,200
Knott	11,263	19,081	.59	18,906,000	11,154,540

Appendix II
continued

	LOANS (000)	TOTAL DEPOSITS (000)	TOTAL LOAN / DEPOSIT RATIO	TOTAL DEPOSITS LESS STATE DEPOSITS	REVISED LOANS
Knox	$ 46,095	$ 67,182	.69	$ 65,912,000	$ 45,479,280
Larue	33,108	44,787	.74	42,820,000	31,686,800
Laurel	103,598	151,470	.68	151,112,500	102,756,500
Lawrence	20,781	33,203	.63	32,300,500	20,349,315
Lee	16,130	24,798	.65	24,373,000	15,842,450
Leslie	5,420	14,552	.37	14,413,000	5,332,810
Letcher	48,956	76,738	.64	75,973,000	48,622,720
Lewis	32,533	83,867	.38	82,237,000	31,250,060
Lincoln	35,198	38,447	.92	35,912,000	33,039,040
Livingston	19,614	29,025	.68	28,790,000	19,577,200
Logan	64,294	100,528	.64	97,810,000	62,598,400
Lyon	6,487	14,363	.45	13,863,000	6,238,350
McCracken	238,782	339,062	.70	331,512,000	232,058,400
McCreary	20,606	26,340	.78	24,990,000	19,492,200
McLean	22,814	37,000	.62	35,250,000	21,855,000
Madison	28,168	43,362	.65	40,772,000	26,501,800
Magoffin	11,959	19,004	.63	18,874,000	11,890,620
Marion	38,015	75,112	.51	72,457,000	36,953,070
Marshall	100,208	130,329	.77	128,315,000	98,802,550
Martin	18,973	29,293	.65	28,963,000	18,825,950
Mason	41,606	68,053	.61	64,628,100	39,423,141
Meade	12,971	26,473	.49	25,893,000	12,687,570
Menifee	0	0	0	0	0
Mercer	20,832	33,227	.63	29,717,000	18,721,710
Metcalfe	19,938	26,727	.75	26,257,000	19,692,750
Monroe	38,642	53,256	.73	50,896,000	37,154,080
Montgomery	94,007	132,266	.71	126,655,000	89,925,050
Morgan	30,980	42,955	.72	42,065,000	30,286,800
Muhlenberg	52,853	86,614	.61	85,804,000	52,340,440
Nelson	33,977	52,344	.65	51,410,750	33,416,988

Appendix II
continued

	LOANS (000)	TOTAL DEPOSITS (000)	TOTAL LOAN / DEPOSIT RATIO	TOTAL DEPOSITS LESS STATE DEPOSITS	REVISED LOANS
Nicholas	$ 21,350	$ 31,712	.67	$ 29,757,000	$ 19,937,190
Ohio	32,213	61,500	.52	58,425,000	30,381,000
Oldham	37,228	55,920	.67	54,245,000	36,344,150
Owen	34,885	43,734	.80	42,441,500	33,953,200
Owsley	7,013	10,517	.67	10,467,000	7,012,890
Pendleton	15,901	27,239	.58	27,179,000	15,763,820
Perry	32,519	76,051	.43	74,786,000	32,157,980
Pike	291,248	389,216	.75	383,996,000	287,997,000
Powell	17,471	22,002	.79	21,277,000	16,808,830
Pulaski	138,788	182,492	.76	173,332,000	131,732,320
Robertson	1,268	6,260	.20	5,925,000	1,185,000
Rockcastle	27,957	38,722	.72	35,692,000	25,698,240
Rowan	22,375	38,138	.59	36,168,000	21,339,120
Russell	17,601	29,722	.59	28,572,000	16,857,480
Scott	71,097	107,308	.66	106,513,000	70,298,580
Shelby	91,386	134,592	.68	129,412,000	88,000,160
Simpson	49,957	79,074	.63	77,284,000	48,688,920
Spencer	16,284	21,447	.76	21,227,000	16,132,520
Taylor	49,232	65,100	.76	61,605,000	46,819,800
Todd	11,422	20,020	.57	18,350,000	10,459,500
Trigg	35,703	51,764	.69	47,464,000	32,750,160
Trimble	20,250	27,074	.75	25,504,700	19,128,525
Union	70,821	97,380	.73	91,315,000	66,659,950
Warren	203,191	281,891	.72	273,446,000	196,881,120
Washington	40,895	64,386	.64	62,746,000	40,157,440
Wayne	35,530	48,300	.74	44,350,000	32,819,000
Webster	46,097	68,750	.67	63,810,000	42,752,700
Whitley	117,491	169,473	.69	163,528,000	112,834,320
Wolfe	4,539	6,137	.74	5,987,000	4,430,380
Woodford	56,271	76,438	.74	72,173,000	53,408,020

Appendix III

Selected Banks Data

	State Deposits[1] (000)	Loan / Deposit[2] (%)	Bank Lending[3] (Borrowing) (000)
Citizens Fidelity - Louisville	$ 13,400	.74	$ (137,599)
Central Bank and Trust - Lexington	2,250	.70	2,382
Citizens National Bank - Bowling Green	1,975	.69	(1,000)
Bank of Murray	525	.68	2,000
Central Bank & Trust - Owensboro	2,950	.58	2,955
State Bank & Trust - Richmond	700	.66	3,225
Farmers Bank & Trust - Madisonville	665	.64	2,425
State National Bank of Maysville	1,300	.63	3,600
Simpson County Bank - Franklin	690	.60	(485)
Union National Bank of Barbourville	1,270	.67	3,600
Madison National Bank of Richmond	100	.65	5,650
National Bank of Cynthiana	3,510	.56	2,200
Farmers Bank & Trust - Henderson	1,050	.48	3,300
Peoples Bank - Olive Hill	250	.73	1,300
Traders Bank & Trust - Mt. Sterling	1,060	.67	1,100
Bank of Oldham County - LaGrange	1,175	.57	300
Farmers National Bank of Scottsville	600	.47	5,350
First Peoples Bank - Springfield	740	.54	2,000
Franklin Bank & Trust Company	1,030	.66	3,800
Farmers Bank & Trust - Bardstown	56	.69	2,600
Jackson County Bank - McKee	100	.56	2,250
Peoples Bank & Trust - Greensburg	1,000	.49	2,850
First National Bank - Louisa	1,225	.62	1,300
Peoples Bank - Shepherdsville	300	.66	(300)
Cecilian Bank - Cecilia	110	.55	5,200
Salem Bank	210	.70	2,400
American Fidelity Bank & Trust - Barbourville	0	.66	2,550

[1] March 9, 1981, Legislative Research Commission

[2] 1979-1980 Sheshunoff

[3] 1979-1980 Sheshunoff

Total for all Kentucky Banks: $352.801 million purchased; $560.939 million sold.

	State Deposits[1] (000)	Loan / Deposit[2] (%)	Bank Lending[3] (Borrowing) (000)
Lincoln County National Bank - Stanford	$ 750	.74	$ 2,025
First State Bank - Pineville	50	.61	1,300
Union Bank & Trust - Irvine	500	.70	1,100
Grant County Deposit Bank - Williamstown	125	.75	750
Bank of the Mountains - West Liberty	300	.62	1,950
Bank of Lyon County - Eddyville	500	.10	1,400
Auburn Banking Company	290	.57	600
Bullitt County Bank - Shepherdsville	424	.60	430
First National Bank of La Center	355	.43	300
Canmer Deposit Bank	570	.67	0
Community Bank - Erlanger	100	.74	(450)
Citizens Bank - Dry Ridge	110	.74	600
Old Bank - Perryville	110	.58	950
Planters Bank of Todd County - Trenton	950	.60	(125)
Waco Deposit Bank	80	.78	1,250
Continental Bank of Kentucky - Louisville	1,400	.57	310
Bank of New Haven	150	.64	550
Green River Bank - Morgantown	580	.62	1,200
Bank of Marrowbone	320	.76	500
Farmers & Traders Bank of Mt. Olivet	335	.20	700
First Security Bank of McLean County - Island	100	.81	375
Citizens Bank & Trust - Burgin	750	.52	0
Farmers Exchange Bank - Millersburg	50	.42	0

INVESTMENT PRACTICES OF OTHER STATES

Connecticut selects 20 or so banks from which it buys CDs (some are in-state; most are money center banks). Buys CDs in secondary market to get around collateralization requirement. Uses CD, CP, BA, TB, and government agencies.

Delaware "prudent man rule"; no evidence state funds develop local economy; laws should be broad. The weight of available evidence indicates that it is economically and operationally unsound investment practice to limit investments to in-state financial institutions. The purchase of the securities of financial institutions should not be limited to the securities of Delaware. Further, the State should not be required to purchase its securities through Delaware financial institutions acting as brokers or dealers.

Illinois invests float; invests funds in-state.

Kansas funds placed locally on a competitive basis.

Minnesota adopted "strategic" development strategy. Rather than place funds in local banks and hope that they are used for local loans, investment funds are channeled directly into business that:

* provide jobs.
* stimulate low-income housing.
* hence social and economic conditions of certain population groups such as social minorities.
* serve to indirectly reduce tax burdens of citizens.
* promote energy development.

* promote small business development.

* promote the agricultural sector.

New Jersey — objective is to provide professional investment services and realize the maximum possible returns commensurate with minimum levels of risk. This objective is not clouded by other considerations. "Prudent man rule." All short-term competitive bidding. Portfolio compositions:

U. S. Agencies	50%
CD	15%
CP	30%
RA	5%
Average Maturities	40-90 days

Out-of-state banks provide the best rates.

North Carolina — has collateralization requirement, yet rate on CDs cannot be less than the market rate for TB and agencies. Banks do not have a problem with this. Shops for highest rates; goes out-of-state; cannot look to in-state investments only; must be aggressive.

Virginia — CDs in in-state banks only; do not give money away, however.

Washington — "prudent man rule," 10% internal investments

Wisconsin — "prudent man rule." Portfolio:

* 47% U. S. governments and agencies
* 21% CP
* 16% RA
* 12% CD
* 4% BA

No collateralization requirements; state's objectives same as corporation. Subscribe to philosophy that money is a free-flowing object of trade that ignores political boundries, and that attempts to promote local or regional business through bank deposits is to little avail.

West Virginia — competitive bidding of CD monies.

Compiled by the Office of Investment and Debt Management, Department of Finance, July 20, 1981.

OFFICE OF THE GOVERNOR

FRANKFORT, KENTUCKY 40601

JOHN Y. BROWN, JR.
GOVERNOR

July 8, 1981

The Honorable Drexell R. Davis
State Treasurer
Capitol Annex
Frankfort, KY 40601

Dear Mr. Davis:

Memorandum of Understanding

The following is my understanding of the results of our meeting on Friday, June 26, concerning the changes in the management of our bank funds.

You, the Department of Revenue, the Farmers Bank and Capital Trust, the Office for Investment and Debt Management, and the Office of Management and Programs will work together to implement a Cash Concentration Program beginning with a lockbox operation located in Louisville and Lexington. This operation will begin immediately with the Department of Revenue ordering such new forms and other material as is necessary, establishing the lockboxes with the Post Office using "unique" zip code technology, and working with the Post Office to intercept mail. You will proceed first with the Severance Tax within the next sixty days, then the Withholding Tax within ninety days, and have all taxes come to the lockbox within one hundred fifty days. The Department of Revenue will be responsible for staffing and coordinating its activities to enable it to empty the lockboxes twenty-four hours a day, six days a week.

You are to work with Farmers Bank and Capital Trust so that they will immediately begin to accept deposits from you up to 6:00 p.m. Farmers Bank and Capital Trust will cooperate with you to begin within sixty days direct sendings on Saturday to selected points in the United States to expedite collections. Farmers Bank and Capital Trust, in coordination with the Revenue Department and yourself, is to be staffed to accommodate the Department of Revenue lockbox operation twenty-four hours a day, six days a week.

Within the next several weeks, you and the Farmers Bank and Capital Trust will arrange a procedure whereby the Commonwealth of Kentucky receives credit for all available balances on a daily basis and within six weeks will begin a Zero Balance Program for all State funds located in this bank. Farmers Bank and Capital Trust will present to the Commonwealth of Kentucky on a daily basis a

statement of collected balances and gross available balances and on a monthly basis a detailed analysis of its banking activities which will include such things as cost for items deposited, cost per items paid, and costs for other services rendered by the Bank. These other costs should be detailed.

Your office and the Farmers Bank and Capital Trust will work with the Office for Investment and Debt Management and the Office for Management and Programs to immediately begin coordinating the checking accounts throughout the State. The Farmers Bank and Capital Trust will arrange the methodology for transferring balances "above target balances" on a daily basis to the General Fund Account at the Farmers Bank and Capital Trust.

You will work with the Office for Investment and Debt Management and the Office for Management and Programs to immediately bring the "inactive accounts" into line with the other savings accounts we have throughout the State. This eighty-four million dollars must immediately begin earning the maximum rate. Combining these funds with other funds deposited with these banks will accomplish this.

If any portion of this Memorandum of Understanding deviates from your understanding of the results of our meeting, please let me know immediately.

Sincerely,

John Y. Brown, Jr.
Governor

cc: Mr. George L. Atkins
Mr. Gene Smith
Mr. James R. Ramsey

COMMONWEALTH OF KENTUCKY

Department of Banking and Securities

Frankfort 40601

Appendix V
continued

MEMORANDUM

TO: Randall L. Attkisson
Commissioner

FROM: Mark J. Robinson MJR
Review Examiner

DATE: June 24, 1981

SUBJECT: Survey of State Monies on Deposit in State-Chartered Banks

This memorandum is pursuant to the memorandum dated February 24, 1981 from William R. Miller to District Chief Examiners ordering that a survey of State monies on deposit in State-chartered banks be conducted.

Banks examined during the months of March, April and May were included, and examiners reported from 55 banks in which they found a total of 181 certificates of deposit in denominations of $100,000 or more--the total dollar amount being $56,468,652. These CD's, which are owned by the State Treasurer or some State Agency including the Turnpike Authority and the Capital Construction Fund, originated during a period from 3-8-80 to 5-21-81, in terms ranging from 30 days to 1 year. While the survey was being conducted, examiners compared rates paid for State funds to rates paid for other funds originating on similar dates and in similar amounts. The findings of those comparisons are not consistent and consequently not meaningful.

Upon completion of the survey, rates paid by Citizens Fidelity Bank & Trust Co., Louisville, Kentucky, on CD's in denominations of $100,000 or more, were compared to rates paid for each of the 181 State CD's. The findings are as follows:

1. 147 CD's bear lower rates than the corresponding Citizens Fidelity rate. The greatest variance was 8.5% vs. 15% or 650 basis points. The second greatest variance, which was found at three different banks, was 12.95% vs. 18.25% or 530 basis points.

Memorandum
Randall L. Attkisson
June 24, 1981
Page two

2. 24 CD's bear higher rates than the corresponding Citizens Fidelity rate. The greatest variance was 14.625% vs. 9.875% or 475 basis points.

3. 10 CD's bear identical rates with the corresponding rate offered by Citizens Fidelity.

4. 12.88% is an average of the rates offered by Citizens Fidelity for CD's in denomination, term and origination date similar to those 181 CD's included in the survey. 11.95% is an average of the rates paid on those 181 CD's. Apparently State Government has forgone $525,000 of annual interest income on the $56,468,652 included in this survey as a result of the 93 basis point difference in averages. The total for all State monies would undoubtedly be considerably higher.

July 13, 1981

Honorable John Y. Brown, Jr.
Governor
Commonwealth of Kentucky
Capitol Building
Frankfort, Kentucky 40601

Dear Governor Brown:

The following is offered as a clarification of the Memorandum of Understanding dated July 8, 1981, based on our agreement for the management of state funds as I understand it.

From the inception of our discussions concerning cash and investment management, the central proposition advanced by the Finance Department and Governor's Office has been that the Treasury Department should set up a lockbox system for the depositing of state receipts. I accepted this responsibility at our June 26, 1981, meeting. Having taken this responsibility, I want to do the job correctly, because if the system fails or does not live up to expectations, the blame will fall upon me.

In line with this thinking, it is my responsibility to set up the lockbox system. We plan to work "hand and glove" with the Revenue Department and the Office of Investment and Debt Management, but the system design is my responsibility. I already have a highly respected consulting firm on the job professionally devising a lockbox system that could possibly be expanded to include all state receipts. Work is progressing rapidly. I do not envision any major redistribution of work loads between Revenue and Treasury. I must, however, require that actual mail pick-ups be done by my office, and that the design of the system be my responsibility.

I see no particular problems meeting the implementation schedule outlined in your memorandum. We have not consulted with the Revenue Department as yet concerning any potential problems relating to changing the addresses on tax documents. This will be a major undertaking for the Revenue Department, and could possibly cause some delays.

With regard to scheduling mail pick-up times, banking deadlines, check collection procedures, and so forth, I offer the following. Until our lockbox consultants complete their study, no one knows exactly when taxes arrive at the post office, the amounts of taxes, what type of taxes are represented, check clearance patterns, and the like. Changes that may be required in the operations of the Treasury Department, the Revenue Department, and Farmers Bank will not be known until the study is completed. Farmers Bank has agreed to establish such hours and provide such staff as is deemed necessary to accommodate a lockbox operation. This is all that can be done at this point.

The responsibility for moving all imprest cash accounts to our general depository bank lies with the Finance Department. As soon as the Finance Department feels that it is ready to move on this, the Treasury Department and Farmers Bank are ready to begin immediately.

Coordinating the temporary bank accounts across the state will take some time to accomplish. Accounts have to be located, compensating balances have to be determined, cash concentration reporting software systems have to be devised and procured, and the entire operation has to be coordinated with the Office for Investment and Debt Management. We are working with all due speed on this, and will be implementing the program just as soon as feasible.

The state's "inactive accounts" will begin earning interest on the same basis as our earmarked accounts upon the maturity of the 90 day time agreements now in effect. This will occur on September 8, 1981.

Rest assured that the Treasury Department is moving rapidly to implement the programs that we have mutually agreed to. The only differences are ones of detail. I think that you will be proud of the results of our efforts.

Sincerely,

Drexell R. Davis

DRD:cg

cc: Mr. George L. Atkins
Mr. Gene Smith
Dr. James R. Ramsey
Mr. Robert H. Allphin

COMMONWEALTH OF KENTUCKY
OFFICE OF STATE TREASURER
FRANKFORT 40601

DREXELL R. DAVIS
TREASURER

CLINTON H. NEWMAN II
ASSISTANT TREASURER

M E M O R A N D U M

TO: Randall L. Attkisson, Commissioner
Department of Banking & Securities

FROM: Clinton H. Newman II
Assistant State Treasurer Clinton H. Newman II

SUBJECT: Survey of State Monies on Deposit in State-Chartered Banks

DATE: August 7, 1981

Thank you for the additional information on the aforementioned survey done by Mark Robinson of your staff. There are several important discrepancies in the survey which need to be mentioned. In an effort to clarify and correct the survey, I have numbered each item listed, and have furnished an explanation of each item on the attached sheet.

The most important discrepancy is that no distinction has been made between the state's inactive time deposits and the CD's with Kentucky banks for the state's "earmarked" accounts. Inactive time deposits earn an interest rate equal to ninety (90) percent of the Treasury Bill rate resulting from the weekly Treasury Bill auction immediately preceding the ten day before time agreement maturity date (See attached letter to Adairville Banking Company for computation of interest rates for time agreements maturing March 9, 1981.)

At the time the survey was conducted, the interest rate for CD's was calculated as the "going CD rate" for Kentucky banks, less a 1/2% allowance for the state's collateralization requirement. Although the quoted Citizens Fidelity rate is generally close to the "going rate", a number of the state's larger banks are contacted, and the going rate is an average of the rates quoted by several banks.

Mr. Robinson says that:

> The variance existing in some cases is attributable to the fact that some of the funds are part of the state's inactive investments held in time-deposit-open-accounts at various banks, which supposedly bear rates at 90% of the 90-day U.S. Treasury Bill rate. However, rates on those CD's are not, in many cases, 90% of the Treasury Bill rate quoted by Citizens Fidelity.

His table, however, seems to make comparisons between the interest rate for inactive time deposits and the rates for CD's. This as akin to comparing apples and oranges. These discrepancies are probably a result of not fully understanding how our various interest rates are determined.

After looking over our explanations, I hope you will find that the state's investments are not in as bad a situation as suggested by Mr. Robinson's survey, and the amount of interest the state has "foregone" is not nearly as large as suggested.

We would be pleased to work with your department on any further studies in this area. I believe that we would have access to information that would be most important to fully understanding the state's investment program.

As a point of information, rates for all inactive time deposits will be calculated in the same manner as CD's (going rate less 1/4%) beginning at their next maturity date, September 8, 1981.

CHN:cg

Attachments

Appendix V, continued

SAMPLING OF KENTUCKY STATE GOVERNMENT CD'S

AGENCY	AMOUNT	DATE OF ORIGINATION	TERM	RATE PAID BY CD HOLDER	RATE PAID BY CIT. FID. BANK
1. Treasurer	$400,000	3-9-81	90 days	14.1%	15.375%
2. Dept. of Transportation*	120,000	3-11-81	90 days	12.33%	15.00%
3. Treasurer	315,000	12-8-80	90 days	12.95%	17.5%
4. Treasurer*	285,000	12-9-80	90 days	12.95%	18.25%
5. Turnpike Authority	100,000	10-31-80	1 year	11.25%	12.0%
6. Transportation Fund	100,000	6-18-80	1 year	7.0%	7.75%
7. Treasurer	400,000	12-9-80	90 days	12.95%	18.25%
8. Treasurer	120,000	3-8-81	90 days	12.69%	15.375%
9. Treasurer*	700,000	1-19-81	90 days	15.75%	17.00%
10. Treasurer*	400,000	5-21-81	1 year	18.5%	15.00%
11. Treasurer	400,000	11-17-80	205 days	13.0%	13.75%
12. Treasurer	100,000	12-8-80	90 days	12.95%	17.5%
13. Treasurer	100,000	5-5-80	1 year	10.5%	9.5%
14. Treasurer	156,000	12-19-80	6 mos.	14.58%	15.75%
15. Treasurer*	160,000	3-1-81	90 days	12.0%	15.1%
16. Capital Construction Inv. Fund*	200,000	9-10-80	6 mos.	13.5%	10.125%
17. Soc. Sec. Int. Earned Fund	100,000	8-19-80	1 year	14.625%	9.875%
18. Treasurer*	275,000	12-9-80	90 days	12.95%	18.25%
19. Transportation Fund	200,000	5-4-80	1 year	10.5%	9.5%
20. Turnpike Authority	200,000	10-31-80	6 mos.	12.25%	13.25%
21. Area Development	150,000	12-5-80	6 mos.	14.0%	15.0%
22. Turnpike Authority	200,000	10-31-80	9 mos.	11.25%	12.0%
23. Turnpike Authority	200,000	1-3-81	1 year	11.5%	12.5%
24. Treasurer*	150,000	3-11-81	90 days	12.33%	15.0%
25. Treasurer	200,000	10-31-80	6 mos.	12.25%	13.25%
26. Treasurer	365,000	12-27-80	90 days	12.95%	16.50%

*Citizens Fidelity quotation sheets are attached.

EXPLANATION OF SURVEY OF STATE MONIES ON DEPOSIT IN STATE-CHARTERED BANKS

Item	Explanation
1	Treasury records show no 90 day investments made on 3-9-81. A $400,000 investment made on 3-9-81 for 180 days earned 14% compared to the Citizens Fidelity rate of 14.5%.
3,4,7,12,18,26	Erroneous comparison of time deposit interest rate with Citizens Fidelity CD rate. Problem described in text of memorandum. See sample letter to Adairville Banking Company dated November 24, 1980 attached.
2,24	Basic problem described above. 12.33% interest rate was for period 3-11-80 to 6-9-80. Your table shows investment period as 3-11-81 to 6-8-81, or one year later. The 12.33 investments had matured one year earlier than shown on your table, making comparisons even more invalid. See sample letter to Adairville Banking Company dated February 29, 1980 attached.
8	Basic problem described above. See sample memorandum to Commonwealth of Kentucky Depository Banks dated February 25, 1981 attached.
10	Treasury records show no 1 year investment made on this date. We do show 6 months investments on this date earning 15%.
14,15,16	Treasury records show no CD investments made on these dates.
17	Social Security Interest Earned accounts are always invested for 6 months, not one year as shown on table. An investment was made on 8-19-80 to mature 2-19-81. This account was reinvested from 2-19-81 to mature 8-19-81 earning the 14.625 shown on table.
5,6,9,11,13,19, 20,21,22,23,25	Correct as stated.

COMMONWEALTH OF KENTUCKY

TREASURY DEPARTMENT

FRANKFORT 40601

DREXELL R. DAVIS
TREASURER

CLINTON H. NEWMAN, II
ASSISTANT TREASURER

M E M O R A N D U M

TO: Adairville Banking Company
Adairville, Kentucky

FROM: Drexell R. Davis
State Treasurer

SUBJECT: Renewal of ninety (90) day Certificates of Time Deposit and notice of interest due.

DATE: November 24, 1980

The Commonwealth's ninety (90) day Certificates of Time Deposit mature December 8, 1980. Please remit your interest payment in the amount indicated below to DREXELL R. DAVIS, State Treasurer, Commonwealth of Kentucky, New Capitol Annex, Frankfort, Kentucky 40601.

As stated in the Certificates, the Treasurer shall consider the deposit to be renewed for an additional 90-day period unless either party declares an intent not to renew ten (10) days prior to the maturity date of the Certificate. The original Certificate should be retained in your files for as long as you remain a depository for the State's inactive deposits.

The new maturity date for our time deposit will be March 9, 1981. The interest rate for that period will be 12.95 percent as determined by reference to the average bid prices of 14.384 from the weekly auction of 13-week Treasury Bills on November 24, 1980. Ninety (90) percent of 14.384 makes the interest rate of 12.95 percent applicable for the Certificates.

INTEREST NOTICE

9 percent interest due on $280,000.00 Certificate of Time Deposit = $6,300.00, due and payable on December 8, 1980. Please pay amount shown.

COMMONWEALTH OF KENTUCKY
TREASURY DEPARTMENT
FRANKFORT 40601

DREXELL R. DAVIS
TREASURER

CLINTON H. NEWMAN, II
ASSISTANT TREASURER

M E M O R A N D U M

TO: Commonwealth of Kentucky Depository Banks

FROM: Drexell R. Davis
State Treasurer

SUBJECT: Renewal of ninety (90) day Certificates of Time Deposit

DATE: February 25, 1981

The Commonwealth's ninety (90) day Certificates of Time Deposit mature March 9, 1981. Your notice of interest due is attached. Please remit your interest payment to DREXELL R. DAVIS, State Treasurer, Commonwealth of Kentucky, New Capitol Annex, Frankfort, Kentucky 40601.

As stated in the Certificates, the Treasurer shall consider the deposit to be renewed for an additional 90-day period unless either party declares an intent not to renew ten (10) days prior to the maturity date of the Certificate. The original Certificate should be retained in your files for as long as you remain a depository for the State's inactive deposits.

The new maturity date for our time deposit will be June 8, 1981. The interest rate for that period will be 12.69 percent as determined by reference to the average bid prices of 14.10 from the weekly auction of 13-week Treasury Bills on February 23, 1981. Ninety (90) percent of 14.10 mades the interest rate of 12.69 percent applicable for the Certificates.

cg

Attachment

COMMONWEALTH OF KENTUCKY
COMPENSATING BALANCE CALCULATION

	No. of Items (1980)	Activity Charge	Total Charge
Checks Deposited	3,293,951	.4½	148,227.80
Checks Paid *	7,140,022	.10	714,002.20
Deposit Items Returned	18,000	1.00	18,000.00
Collection Items	1,450	5.00	7,250.00
Cost of Investments **			
Services			134,500.00
Cost of Consultant Services ***			125,000.00
TOTAL COSTS (Yearly)			$1,146,980.00

* Includes Account Reconciliation and Microfilm Services
** Includes salaries, phone call, wire transfers, hardware, vault space, etc
*** Lockbox design, computer systems modifications, new microfilm retrieval system, etc.

$1,146,980 ÷ Earnings Factor$_1$ = x ÷ .93$_2$ = Daily compensating balance

[1] (90 day Treasury bill rate, recalculated each day as the rate changes)

[2] (Allowance for 7% reserve requirement)

DAILY OVERNIGHT INVESTMENT COMPUTATION

Available Funds from Bank Ledger + _____

Less:
1) Treasury checks cashed at bank window - _____
2) Amount due bank for investments made for Treasurer - _____
3) State portion of Fed Letter - _____
4) Daily compensating balance - _____

TOTAL available for Overnight Repurchase = _____

Average Compensating Balance, September 1-18 = $8.2 million

Average Overnight Investment, September 1-18 = $134.5 million

Activity charges have been negotiated with the bank and are comparable to those charges used by Louisville and Lexington banks.

Activity charges are higher than those used in Mrs. Gritz's example. Mrs. Gritz used figures provided in the 1979 Bank Function Analysis, Federal Reserve Bank, St. Louis, which are now obsolete. The Federal Reserve now charges our bank more per item than these figures.

APPENDIX VI

CALCULATIONS FOR TABLE I

Earmarked Funds

EXAMPLE:

$500,000 CD purchased 11-10-78 @ 8.125
(Matured 11-10-79)

No. of months in FY 80 = 4.5

Earnings in FY 80 = $\frac{8.125}{12}$ X 4.5 X 500,000

Potential Earnings

Other available interest rates at same time of purchase 1978: year average; 1979-80: nearest week Federal Reserve Bulletin):

T-Bill (3-month) = 7.22
(Discount rate, not yield)

Commercial Paper (90-119 day) = 7.94

Negotiable CD (3-month) = 8.22

$\frac{\text{Rate}}{12}$ X 4.5 X 500,000 = Potential Earnings

This calculation was made for each separate investment over the entire fiscal year. Actual earnings were totaled and potential earnings for each type investment were totaled. The same calculation was made for T-Bills, using amount earned minus amount invested divided by total number of months of life of instrument times number of months in FY 80 for actual earnings. Then other rates were applied to amount invested.

This calculation is not the amount paid, which was $100 million in FY 80. (Department of Finance Annual Report, FY 80) It is amount earned.

Time Deposits

Actual earnings as reported on Department of Finance Annual Report were $7.4 million.

	Treasurer Actual Rate	3-Mo. T-Bill	Commercial Paper	Kentucky CD*	National CD
Quarter 1	8.5	9.74	9.98	10.5	10.8
Quarter 2	8.7	9.68	10.88	11.0	11.08
Quarter 3	9.9	11.018	12.65	13.5	12.96
Quarter 4	12.33	13.70	19.77	13.25	15.45

Rate used was the one closest to the actual rate determination day published.

$$\frac{\text{Rate}}{4} \times \$84{,}136{,}750 = \text{Earnings for quarter}$$

Sum of earnings for 4 quarters = total.

* Best rate quoted on four-bank survey

Overnight

Treasurer reported annual earnings of $12.8 million with an average earning rate of 10.86 percent.

Federal Funds averaged 13.06 in FY 79-80:

$$\text{New earnings} = \$15.4 \text{ million} = \frac{13.06}{10.86} \times \$12.8 \text{ million}$$

Demand Accounts

Averaged ending daily balances of agency accounts as per bank statements for the state agency accounts.

Treasurer's Accounts

The Auditor's Office found an ending daily balance on July 27, 1978 of $112.5 million (Audit of the Commonwealth of Kentucky's cash and investments, June 1979). This analysis considered the General Depository Account.

Department of Finance estimated the float with two different methodologies. One produced an average daily float of $59 million with outstanding checks of $120 million. The second method produced an average daily float of $115 million, after subtracting unpaid investments from the daily bank balance.

Their second methodology is similar to the one used by LRC staff considering all five accounts, with one exception:

Unpaid Investments. Frequently Farmers Bank purchases investments (long term, not overnight) and makes other expenditures for the state. That amount is owed the bank until the check for the investment is prepared and paid to the bank. (That amount averaged $58 million per day over the six months studied.) When that check is presented it appears as an account debit three or four days after the investment is purchased. Therefore, if one subtracted the amount owed the bank for investments from the ending balance and then subtracted that amount again when the check cleared, that sum would be subtracted twice. Consequently, the figure used in the LRC report did not subtract unpaid investments when investments were purchased, but only when checks for investments cleared. That subtraction is made on the bank statements.

This yields the same result on a monthly average as subtracting the unpaid investments when purchased, but then not subtracting the amount again when the checks clear because the investment sum has already been subtracted.

Uncollected Deposits. It takes from one to two days to actually collect deposits and for the funds to be available for investment (or withdrawal). By using an average ending daily balance and not considering what is available on a particular day, "good funds" availability is simply shifted later by two days, but the amount over an average 30-day period is not critically affected. (EXAMPLE: A deposit is posted on Monday and collected on Wednesday. Then a deposit is posted on Tuesday, collected on Thursday, etc. The posted deposits for Monday to Wednesday will equal the collected deposits for Wednesday through Friday, so the average for the second three days is estimated by the posting of the first three days. Therefore, the average balance posted is equal to the average balance available to invest, just shifted two days later.)

Attached are sample bank statements and the sums of the ending daily balances of the five accounts. The average of ending balances of all five accounts over the six months as per the statements is $179.7 million. If expenses were paid by fees rather than by compensating balance and this balance were invested everyday at an annual rate of 12 percent, the earnings potential is:

$$\$179.7 \text{ million} \times \frac{.12}{365} \times 365 = \$21.564 \text{ million}$$

(This method assumes batch processing.)

The attached statements for the University of Kentucky account are also included to show what a statement looks like for an account that is invested fully, leaving only a compensating balance.

TOTAL DAILY ENDING BALANCES

(Five Treasury Accounts)

July, 1980		August, 1980		September, 1980	
Day		Day		Day	
1.	$139,331,753	1.	$192,566,332	1.	$218,617,570
2.	121,914,556	2.	192,566,332	2.	204,191,606
3.	81,891,640	3.	192,566,332	3.	173,487,140
4.	117,097,946	4.	240,415,586	4.	174,232,574
5.	117,097,946	5.	184,446,908	5.	158,414,353
6.	117,097,946	6.	174,149,692	6.	158,414,353
7.	140,866,965	7.	235,522,758	7.	158,414,353
8.	111,378,515	8.	236,454,553	8.	135,920,503
9.	116,106,110	9.	236,454,553	9.	139,294,051
10.	188,071,535	10.	236,454,553	10.	136,994,629
11.	185,045,717	11.	188,497,637	11.	171.775,807
12.	185,045,717	12.	192,459,478	12.	189,969,167
13.	185,045,717	13.	181,437,524	13.	189,969,167
14.	185,425,544	14.	235,727,221	14.	189,969,167
15.	169,702,712	15.	294,160,293	15.	188,910,744
16.	150,627,613	16.	294,160,293	16.	158,482,617
17.	157,545,231	17.	294,160,293	17.	150,062,849
18.	165,424,085	18.	208,495,938	18.	142,622,906
19.	165,424,085	19.	227,681,065	19.	178,724,576
20.	165,424,085	20.	243,111,677	20.	178,724,576
21.	140,402,931	21.	198,355,342	21.	178,724,576
22.	177,327,808	22.	229,723,554	22.	86,420,181
23.	235,566,811	23.	229,723,554	23.	185,301,565
24.	216,631,343	24.	229,723,554	24.	220,014,203
25.	190,237,390	25.	187,246,185	25.	225,612,087
26.	190,237,390	26.	176,289,507	26.	221,118,094
27.	190,237,390	27.	158,628,175	27.	221,118,094
28.	219,607,047	28.	208,883,365	28.	221,118,094
29.	226,649,615	29.	218,617,570	29.	191,853,427
30.	193,665,801	30.	218,617,570	30.	149,228,231
31.	217,811,950	31.	218,617,570		

Average Daily Balance

$160,956,158	$217,932,741	$176,589,042

TOTAL DAILY ENDING BALANCES

(Five Treasury Accounts)

(continued)

Day	January, 1981	February, 1981	March, 1981
1.	$132,108,951	$245,374,009	$246,902,618
2.	168,365,012	196,314,891	193,629,211
3.	168,365,012	155,396,993	205,270,616
4.	168,365,012	140,548,371	147,368,192
5.	183,807,691	181,810,160	159,967,134
6.	135,541,110	178,156,786	134,777,580
7.	158,151,446	178,156,786	134,777,580
8.	204,609,002	178,156,786	134,777,580
9.	154,405,362	158,584,472	143,561,431
10.	154,405,362	175,286,554	165,194,142
11.	154,405,362	146,399,004	118,277,595
12.	139,979,567	144,544,585	183,352,831
13.	126,259,052	181,957,435	157,108,258
14.	138,051,457	181,957,435	157,108,258
15.	122,319,110	181,957,435	157,108,258
16.	136,449,161	169,203,350	156,787,936
17.	136,449,161	145,935,561	171,735,099
18.	136,449,161	140,040,391	120,701,151
19.	129,381,819	213,529,103	155,933,794
20.	174,363,376	228,732,997	162,423,670
21.	167,854,686	228,732,997	162,423,670
22.	185,753,904	228,732,997	162,423,670
23.	204,322,217	206,591,070	173,722,632
24.	204,322,217	186,190,189	188,831,644
25.	204,322,217	162,707,237	187,927,918
26.	176,456,117	243,924,729	241,142,865
27.	163,921,112	246,902,618	223,249,008
28.	160,234,042	246,902,618	223,249,008
29.	233,998,516		223,249,008
30.	245,374,009		150,820,815
31.	245,374,009		127,828,296

Average Daily Balance

$164,231,104	$188,311,698	$170,052,628

GENERAL DEPOSITORY
TREASURER OF KENTUCKY

SEPTEMBER 1980

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		*BALANCE FORWARDED		08 31 80	184,784,169.35+
14,000,000.00-	3,729.27-				
6,048.09-	14,163,816.46-				
10,753,045.03-	85,480.44-				
2,637,278.45-	4,559,371.63-				
539,853.00-	3,382,330.95-		96,500,000.00+		
		147,125.00+	186,212.44+		
		443,309.25+	93,325.50+		
		101,842.50+	1,800.00+		
		1,400.00+	7,011.81+		
		111,511.08+	289,800.00+		
		65,871.41+	102,078.90+		
		101,377.87+	1,214,062.50+		
		2,653,588.54+	4,167,500.00+		
		73,644.25+	141,230.54+		
		42.13+	5,335,000.00+		
		15,000,000.00+	10,210,000.00+	09 02 80	171,600,949.75*
13,500,000.00-	521,344.69-				
.09-	.20-				
100,000.00-	.10-				
185.00-	1,559.63-				
3,666.78-	27,680,612.19-				
64,380.33-	1,043,768.49-				
24,620.82-	4,278,327.00-				
1,255,319.43-			114,000,000.00+		
		1,700,000.00+	.10+		
		.20+	.02+		
		2,620,350.31+	919,493.69+		
		32,458.33+	2,653,773.79+		
		217,875.00+	47,000.00+		
		500,000.00+	92,260.00+		
		132,313.00+		09 03 80	139,283,305.48*
6,759,383.96-					
14,500,000.00-	976.20-				
6,718.19-	4,570,892.80-				
4,762,516.31-	53,340.48-				
695,332.29-	27,462,531.07-				
3,426,594.00-	956,070.77-		113,500,000.00+		
		7,405,524.49+	1,000,000.00+		
		25,137,740.38+	216.75+		
		94,361.93+	6,723,345.31+	09 04 80	136,709,522.23+

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			136,709,522.23*
		4,395,319.63+	31,527.77+		
		102,687.50+	500,000.00+		
		2,000,000.00+	2,000,000.00+		
		500,000.00+	500,000.00+	09 04 80	146,739,057.13*
13,000,000.00-	87.00-		114,500,000.00+		
949.00-	1,340.99-				
845.34-					
7,424,063.44-	57,710.72-				
494,769.23-	2,670,709.45-				
1,566,706.00-	1,010,436.65-	562,989.11+	3,449,877.13+		
		10,436,541.01+	10,100.00+		
		45,025.00+	31,010.41+		
		235.00+	100.00+		
		193,750.00+	62.00+		
		2,650,706.67+	381,834.00+		
		76,250.00+	3,375.00+		
		5,750.00+	5,692,000.24+		
		1,081,846.12+		09 05 80	128,408,797.50*
4,000,000.00-	1,395,502.06-		113,000,000.00+		
8,285,306.84-	57,380.41-				
501,671.09-	143,849.91-				
1,074,576.00-	1,350,712.78-				
6,721.93-	323.45-	26,453.31+	91,812.48+		
		56,051.24+	11,953.50+		
		163,877.27+	94,404.26+		
		185.00+	74,513.93+		
		3,011,678.33+	2,006,141.66+		
		6,045,208.31+	36,233.57+		
		13,167.73+	412.00+		
		14,714.40+	28,525.00+		
		3,200.00+	177.00+		
		145,000.00+		09 08 80	106,416,462.02*
3,000,000.00-	104,833.81-				
1,068.22-	6,049.58-				
201,324.62-	320,915.00-				
685,353.46-	624,181.22-				
1,914,313.43-	20,727.84-				
148,146.87-		124,000,000.00+	33,583.33+		
		288,187.50+	3,725,782.68+		
		1,683,781.20+	36,233.57+		
		13,167.73+		09 09 80	109,170,283.98

		DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			109,170,283.98*
	+7-				
	.88-				
	.04-				
	4.97-				
	07.54-		113,000,000.00+		
		6,467.99+	500,000.00+		
		772,805.44+	7,260,951.71+		
		40,855.89+	122,457.45+		
		31,859.72+	252,545.44+		
		2,000.00+		09 10 80	107,332,396.85*
	179.12-				
	712,622.58-				
	20,731.54-				
	29,256,760.33-				
	562,635.10-		113,000,000.00+		
		2,954,938.78+	503.39+		
		164,900.00+	643.90+		
		5,280,630.39+	17,426,940.75+		
		31,702.77+	28,821,822.64+		
		522,804.00+	48.37+		
		830,000.00+	1,780,000.00+	09 11 80	143,589,507.04*
53.62-	4,537.06-				
30.50-	1,650,857.58-				
066.14-	18,049.33-				
,496.00-	10,022,669.34-				
9,259.00-	545,980.45-	2,413.82+	3,703,529.07+		
		10,935,043.71+	6,000.00+		
		21,000.00+	13,113.18+		
		27,998.82+	1,511.00+		
		31,326.00+	26,250.00+		
		11,563,268.76+	3,385,102.62+		
		6,374,041.00+		09 12 80	158,330,276.00*
32,500,000.00-	14,989.65-				
5,732.31-	64.61-				
18,947,251.66-	49,356,339.48-				
45,371.37-	63,631.70-				
5,933,491.00-	221,592.00-				
1,248,059.61-		2,282,970.24+	100,500,000.00+		
		3,206,415.11+	8,030,333.35+		
		76,813.87+	5,506,202.78+		
		106,973.25+	51,681.00+		
				09 15 80	149,755,142.21+

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			149,755,142.
1,224,093.51-					
		83,074.03+	184,948.16+		
		105,350.00+	60,865.00+		
		5,025.00+	34,666.68+		
		5,524.99+	67,135.20+		
		504,416.67+	85,425.00+		
		134,975.00+	301,523.16+		
		5,033.41+		09 15 80	151,333,104.50+
9,500,000.00-	1,428.75-				
5,893,402.08-	20,053,656.12-				
37,625.70-	112,153.47-				
12,637,503.52-	116,116.00-				
266,818.43-	3,236.02-				
4,939.79-		1,798,188.35+	86,136.59+		
		60,801.78+	13,352.12+		
		38,200.00+	2,300.00+		
		36,682.13+	72,581.83+		
		80,197.44+	31,311.16+		
		8,859,539.93+	901,166.14+		
		812.03+	909.92+		
		721.00+	673.00+		
		30,163.28+	11,130,000.00+		
		4,345,000.00+	4,890,000.00+		
		10,815,000.00+	165,000.00+		
		1,115,000.00+	75,000.00+		
		78,446.36+	114,500.00+		
		14,947.91+	333.11+		
		10,652.76+	52,500,000.00+	09 16 80	119,973,841.46*
83,500,000.00-	2,458.61-				
199.83-	8.00-				
820.12-	2,726,900.16-				
21,650,399.40-	25,505.98-				
95,348.91-	8,596,830.43-				
71,457.00-	294,267.00-	89,500,000.00+			
			142,170.48+		
		50.71+	51,571.14+		
		7,372,388.32+	3,148,181.62+		
		147.39+	34,125.00+		
		20,000.00+	32,761.06+		
		4,964.11+	7,783,301.88+		
		26,601.38+	170.28+		
				09 17 80	111,126,079.39*

CHECKS	[illegible]	DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			111,126,079.30*
		106,563.63+	44,872.27+		
		46,642.62+		09 17 80	111,324,157.91*
30.00-	.05-				
100.00-	.10-				
1.00-	.01-				
1.00-	10.00-				
100.00-		.20+	.50+		
		40.00+			
07,000,000.00-	229.85-				
2,986,635.15-	13,027,780.13-				
18,796.28-	80,821.44-				
33,781,240.79-	69,377.00-				
1,304,727.23-	10.00-	83,500,000.00+	5,001,894.86+		
		16,220,000.00+	9,145,187.43+		
		6,731,549.17+	89,882.18+		
		3,200.00+	20,148.94+		
		3,080.52+	324.00+		
		155.77+	708.00+		
		24,354.16+	50,000.00+		
		400,000.00+	33,138,937.06+		
		5,179,329.21+		09 18 80	112,563,089.88*
106,000,000.00-	266.17-				
942.15-	1,000.00-				
90.00-	.30-				
.36-	.02-				
.50-	100.00-				
.03-	.10-				
.01-	.40-	.01+	300.00+		
		.50+	.10+		
4,022.74-	841,990.78-				
12,712,070.41-	27,518.29-				
61,317.78-	678,488.62-				
92,102.00-	2,416,657.21-		107,000,000.00+		
		13,372,967.61+			
		771.08+	272.00+		
		137.37+	17,296,297.17+		
		12,090,972.45+	358.21+		
		63.00+	459.00+		
		31,505.55+	208,057.78+		
		.59+	12,410.85+		
		2,834.67+	4,962.31+		
				09 19 80	149,302,745.55*

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			149,302,745.55*
		189.00+		09 19 80	149,302,934.55*
70,500,000.00-	894.28-				
435.00-	852,855.78-				
24,075,282.07-	113,409.95-				
72,265.23-	2,273,753.79-				
148,541.00-	1,669,088.88-		106,000,000.00+		
		92,749.98+	174.01+		
		93,767.44+	2,000,000.00+		
		106,897.25+	1,930,249.33+		
		2,100.00+	3,750.00+		
		17,350.00+		09 22 80	59,843,446.58*
20,500,000.00-	488,468.26-				
11,036,031.16-	56,418.56-				
28,107.61-	438,434.46-				
87,711.00-	813,522.67-				
9,279.33-	30.00-				
1,449.27-		170,500,000.00+	61,965.67+		
		13,802,769.32+	3,633,660.00+		
		2,115,312.50+	3,408,160.00+		
		8,135,015.62+	2,004,180.55+		
		326,362.22+	15,783.29+		
		899.13+	29,249.47+		
		48,781.94+	177.06+		
		694.00+	447.53+		
		634.00+	592.49+		
		457.98+		09 23 80	160,469,137.03*
94,000,000.00-	332,919.48-				
24,118,959.99-	55,306.92-				
22,123.56-	4,578,635.97-				
34,572.00-	200,939.53-				
1,892.21-	14,622.63-	90,500,000.00+	26,395.83+		
		188.00+	4,533,875.00+		
		21,630,422.30+	15,825,287.41+		
		11,974,769.19+	150,000.00+		
		50,000.00+		09 24 80	191,800,102.47*
11,500,000.00-	1,877.19-				
3,266.79-	1,260,097.73-				
26,464,703.06-	39,542.37-				
33,132.40-	39,335.83-				
64,621.00-	1,602,505.43-	60,000.00+	25,184,506.63+		
		4,790,000.00+	395,000.00+	09 25 80	81,220,527.30

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			81,220,527.30*
		2,390,000.00+	4,402.29+		
		79,381.02+	10,884.70+		
		13,086,161.71+	8,967,351.18+		
		25,083.33+	1,812.50+		
		28,426.67+	25,670.79+		
		500.00+	581.55+		
		7,439.91+	4,240.64+		
		84,000,000.00+		09 25 80	189,852,463.59*
210.00-	241,279.24-				
13,518,331.15-	32,073.73-				
18,683.31-	25,333,392.23-				
96,740.00-	2,294,742.29-				
[illegible],500,000.00-	5,220.45-				
13,601.70-		111,500,000.00+	33,295.13+		
		95.22+	22,600.00+		
		1,145,337.46+	14,000.00+		
		15,646,444.97+	449,743.41+		
		17,338,256.94+	8,652,283.92+		
		.09+	6,888.34+	09 26 80	183,607,134.97*
[illegible]7,000,000.00-	.60-				
300.00-	1,009.76-		119,500,000.00+		
55.80-	700.83-				
3,619,181.33-	19,512,619.50-				
51,924.11-	314,274.24-				
13,221,025.59-	114,647.00-				
3,304,516.48-		674,829.63+	55,541.31+		
		.21+	33,350.00+		
		8,562.50+	1,520.00+		
		13,008,338.95+	5,009,062.50+		
		99,117.88+	82,661.70+		
		60,518.01+	48,857.27+		
		109,541.64+	26,321.56+	09 29 80	155,185,194.89+
[illegible]8,500,000.00-	21,859,265.40-				
[illegible]7,976,270.73-	52,914.28-				
[illegible],401,953.05-	3,441,537.72-				
60,476.00-	1,579,207.43-				
2,190.20-	15.00-				
659.12-	19,299.42-		127,000,000.00+		
		17,692,420.52+	1,578,836.44+		
		16,418,865.94+	2,370,624.83+		
		170.00+	162.00+		
				09 30 80	114,352,487.27+

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		BALANCE FORWARDED			114,352,487.27*
[illegible]0,500,000.00-	25.00-				
5.00-	25.00-				
			9,553,953.29+		
		94,500,000.00+	350.00+		
		156.54+	837,500.00+		
		1,012,500.00+	75,000.00+		
		2,068.75+	37,500.00+		
		15,000.00+	40,216.66+		
		186.24+	2,320,501.52+		
		2,702,085.74+	3,182,005.11+		
		2,000.00+	431,247.00+		
		55,750.00+		09 30 80	119,066,599.83*

Balance 8/31/80	184,784,169.35
Deposits	676,378,248.16
Credit Memos	39,890,427.75
Encode Credits	341.84
R/P	2,238,000,000.00
Subtotal	3,139,053,187.10
Checks Paid	739,031,037.92
Debit Memos	678,852.32
Enode Debits	101,734.87
Cold Checks	174,962.16
R/P	2,280,000,000.00
Balance 9/30/80	119,066,599.83

UNEMPLOYMENT COLLECTION
TREASURER OF KENTUCKY

SERTEMBER 1980

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		*BALANCE FORWARDED		08 31 80	329,085.07+
186.34-	675.65-			09 02 80	278,123.77*
99.31-	50,000.00-				
		521,344.69+	38,891.81+	09 03 80	838,360.27*
341.96-	54.72-			09 04 80	737,529.98*
433.61-	100,000.00-				
534.24-		60,897.79+		09 05 80	797,893.53*
145,000.00-		51,094.87+		09 08 80	703,988.40*
57.26-	122.66-			09 09 80	784,869.64*
112.82-	284.16-	81,458.14+			
500,000.00-		36,443.75+		09 10 80	321,313.39*
100.00-	92.78-			09 11 80	321,120.61*
36.42-	65.37-				
300,000.00-	5,033.41-	400,893.85+		09 15 80	416,879.26*
477.40-		360,706.76+	95,587.07+	09 16 80	872,695.69*
431.88-		109,899.04+		09 17 80	982,162.85*
17.41-	400,000.00-				
400,000.00-				09 18 80	182,145.44*
1,106.03-	2,889.34-				
2,171.61-		60,079.93+		09 19 80	236,058.39*
191.20-	216.03-			09 22 80	235,358.05*
293.11-		69,735.09+		09 23 80	305,093.14*
50,000.00-	150,000.00-				
720.56-	39.92-	44,490.75+		09 24 80	148,823.41*
4,240.64-	11.57-				
486.93-		43,957.80+		09 25 80	188,042.07*
242.65-	18.92-			09 26 80	187,365.76*
414.74-					
165.31-	105.19-				
101.13-	100,000.00-			09 29 80	48,176.64*
55,541.31-		16,723.82+			
		10.00+	46,180.10+	09 30 80	94,366.74*

Balance 8/31/80	329,085.07
Deposits	1,517,040.57
Credit Memos	521,354.69
Subtotal	2,367,480.33
Debit Memos	2,259,815.36
Cold Checks	13,298.23
Balance 9/30/80	94,366.74

BENEFIT UNEMPLOYMENT
TREASURER OF KENTUCKY

SEPTEMBER 1980

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		*BALANCE FORWARDED		08 30 80	11,629,010.12+
1,700,626.00-		1,000,000.00+		09 02 80	10,928,384.12*
2,754,166.00-		376,903.65+	2,400,000.00+	09 03 80	10,951,121.77*
1,633,244.00-		1,200,000.00+		09 04 80	10,517,877.77*
1,178,967.00-		1,300,000.00+	7,062.00+	09 05 80	10,645,972.77*
1.00-	1,824,236.00-				
177.00-		1,500,000.00+		09 08 80	10,321,558.77*
1,602,076.00-		2,000,000.00+	470,000.00+		
		7,692.43+		09 09 80	11,197,175.20*
1,589,267.00-		1,700,000.00+		09 10 80	11,307,908.20*
1,382,696.00-		11,380.00+		09 11 80	9,936,592.20*
925,219.00-		1,441.00+	825,000.00+		
		900,000.00+	2,500,000.00+	09 12 80	13,237,814.20*
1,443,894.00-				09 15 80	11,793,920.20*
881,304.00-		13,863.00+	1,500,000.00+	09 16 80	12,426,479.20*
1,165,712.00-		1,400,000.00+		09 17 80	12,660,767.20*
1,397,463.00-	216.00-	1,300,000.00+	15,109.00+		
137.00-	24,866.56-	1.00+		09 18 80	12,553,194.64*
189.00-	1,401,920.00-	15,467.00+	2,393.00+		
200.00-		800,000.00+		09 19 80	11,968,745.64*
2,675,873.00-				09 22 80	9,292,872.64*
2,431,036.00-		800,000.00+		09 23 80	7,661,836.64*
1,241,505.00-		1,900,000.00+		09 24 80	8,320,331.64*
838,776.00-		1,797.00+	1,500,000.00+	09 25 80	8,983,352.64*
605,807.00-		1,462.00+	19,804.00+		
		2,400,000.00+		09 26 80	10,798,811.64*
1,139,954.00-	574,829.63-	1,200,000.00+	10.00+	09 29 80	10,284,038.01*
1,485,038.00-		7,776.00+	1,300,000.00+	09 30 80	10,106,776.01*

Balance 8/31/80	11,629,010.12
Deposits	30,369,458.65
Credit Memos	7,692.43
Encode Credits	10.00
Subtotal	42,006,171.20
Checks Paid	31,298,780.00
Debit Encodes	553.00
Debit Memos	600,062.19
Balance 9/30/80	10,106,776.01

MANPOWER TRAINING
TREASURER OF KENTUCKY

SEPTEMBER 1980

Page 1 of 1

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		*BALANCE FORWARDED		08 30 80	3,712,130.72+
				09 02 80	3,307,188.72*
404,942.00-				09 03 80	4,348,393.72*
258,795.00-	1,700,000.00-	3,000,000.00+		09 04 80	4,143,847.72*
204,546.00-				09 05 80	7,015,424.72*
128,423.00-		3,000,000.00+		09 08 80	6,797,692.72*
217,732.00-				09 09 80	6,644,275.29*
7,692.43-	145,725.00-			09 10 80	6,542,032.29*
102,243.00-				09 11 80	6,437,608.29*
104,424.00-				09 12 80	6,494,224.29*
118,384.00-		175,000.00+		09 15 80	6,326,724.29*
167,500.00-				09 16 80	6,180,138.29*
146,586.00-				09 17 80	6,066,298.29*
113,840.00-				09 18 80	5,966,031.29*
100,267.00-				09 19 80	5,858,392.29*
110,697.00-		2,836.00+	222.00+	09 22 80	5,690,058.29*
168,334.00-				09 23 80	5,507,052.29*
183,006.00-				09 24 80	5,386,501.29*
120,551.00-				09 25 80	5,311,848.29*
74,653.00-				09 26 80	5,255,288.29*
56,667.00-		107.00+		09 29 80	5,066,524.29*
188,764.00-				09 30 80	4,963,045.29*
103,479.00-					

Balance 8/31/80	3,712,130.72
Deposits	6,177,943.00
Encode Credits	222.00
Subtotal	9,890,295.72
Checks Paid	3,219,558.00
Debit Memos	1,707,692.43
Balance 9/30/80	4,963,045.29

PAYROLL WITHHOLDING
TREASUER OF KENTUCKY

SEPTEMBER 1980

CHECKS	CHECKS	DEPOSIT	DEPOSIT	DATE	BALANCE
		*BALANCE FORWARDED		08 30 80	18,163,084.20+
				09 02 80	18,065,959.20*
97,125.00-		535,312.97+	798,513.80+	09 04 80	12,094,261.48*
7,305,524.49-		14,991.07+		09 05 80	11,546,263.44*
562,989.11-		68,886.43+	65,651.11+	09 08 80	11,680,800.98*
		104,833.81+		09 09 80	11,497,447.29*
288,187.50-				09 10 80	11,490,979.30*
6,467.99-		50,483.62+	46,682.62+	09 12 80	11,585,731.72*
2,413.82-		2,708,526.07+	4,747,381.32+	09 15 80	19,040,115.95*
1,523.16-				09 16 80	19,029,463.19*
10,652.76-		672,004.89+	987,382.59+		
4,779,329.21-	4,577,028.30-	25,951.94+		09 18 80	11,358,445.10*
		590,969.87+	353,391.16+		
		173,887.52+	3,171,573.33+		
		288,187.50+	560,597.71+		
		4,779,329.21+		09 25 80	21,276,381.40*
				09 26 80	21,269,493.06*
6,888.34-		2,180.20+	7,526,956.06+		
17,692,420.52-		3,891,234.56+		09 30 80	14,997,443.36*

Balance 8/31/80	18,163,084.20
Deposits	32,007,411.73
Credit Memos	157,497.63
Subtotal	50,327,993.56
Debit Memos	35,330,550.20
Balance 9/30/80	14,997,443.36

Your Full Service Statement With

L05 [redacted]

VISA [redacted]

CITIZENS UNION
National Bank & Trust Co.

P O BOX 575 • CITIZENS BANK SQUARE • PHONE 254-1112
LEXINGTON KENTUCKY • 40501

UNIVERSITY OF KENTUCKY
[redacted]
UNIVERSITY OF KENTUCKY
GENERAL ACCOUNTING OFFICE
LEXINGTON, KENTUCKY 40506

CUSTOMER NUMBER	PAGE NUMBER
01375066 00	1

STATEMENT PERIOD	
FROM	TO
10-31-79	11-30-79

ACCOUNT NUMBER / BALANCE FOWARD	TOTAL CREDITS NO	TOTAL CREDITS AMOUNT	TOTAL DEBITS NO	TOTAL DEBITS AMOUNT	FEE	CLOSING BALANCE
1375066 01 1,732,53925	247	70,858,86978	74	66,622,42633		5,968,98270

ACCOUNT NUMBER / DEBIT AMOUNT	DEBIT AMOUNT	TRANSACTIONS CREDIT AMOUNT	DATE	BALANCE
CHECKING ACCOUNT	* * * * * * * * * * * * * *			
1375066 01	AVERAGE BALANCE 1,612,642.85			
		8400DP		
		62911DP		
		63021DP		
		87587DP		
		1,09150DP		
		1,65650DP		
		5,96550DP		
		9,75418DP		
		10,22968DP		
		33,16206DP		
		1,000,00000DP		
		1,131,30986DP		
2320RC	28102DM	1,331,44659DP		
163,97237DM	1,200,00000DM		11-01-79	3,895,09772
		27282DP		
		28102DP		
		60175DP		
		75174DP		
		1,28651DP		
		1,74264DP		
		2,25312DP		
		2,48649DP		
		3,29156DP		
		58,66295DP		
		318,40105DP		
		426,64638DP		
		426,76186DP		
5000RC	3,15600RC	1,200,32877DP		
10324DM	17506DM			

Please examine statement at once and refer any [illegible]

*Code explanations see other side

Your Full Service Statement With

VISA

CITIZENS UNION National Bank & Trust Co.

P O BOX 5750 CITIZENS BANK SQUARE PHONE 254-1112
LEXINGTON KENTUCKY 40501

UNIVERSITY OF KENTUCKY
[redacted]
UNIVERSITY OF KENTUCKY
GENERAL ACCOUNTING OFFICE
LEXINGTON, KENTUCKY 40506

CUSTOMER NUMBER	PAGE NUMBER
01375066 00	2

STATEMENT PERIOD FROM	TO
10-31-79	11-30-79

ACCOUNT NUMBER / BALANCE FORWARD	TOTAL CREDITS NO	TOTAL CREDITS AMOUNT	TOTAL DEBITS NO	TOTAL DEBITS AMOUNT	FEE	CLOSING BALANCE

ACCOUNT NUMBER / DEBIT AMOUNT	DEBIT AMOUNT	CREDIT AMOUNT	DATE	BALANCE
1375066 D1				
2,882,00000DM			11-02-79	3,453,38208
		17506DP		
		1,52150DP		
		9,96486DP		
		137,20349DP		
2000RC	18535DM	2,884,36877DP		
1,103,21374DM	2,140,00000DM		11-05-79	3,243,19667
		560DP		
		8100DP		
		18535DP		
		25000DP		
		62150DP		
		91300DP		
		2,74920DP		
		5,50154DP		
		5,98519DP		
		16,22001DP		
		50,38068DP		
		78,74390DP		
90600RC	96419DM	2,140,65783DP		
7,68153DM	5,023,00000DM		11-06-79	512,93975
		1593DP		
		40550DP		
		96419DP		
		98222DP		
		1,00404DP		
		1,20700DP		
		1,54425DP		
		13,78933DP		
		50,38075DP		

Your Full Service Statement With

CITIZENS UNION National Bank & Trust Co.

VISA

P O BOX 5750 CITIZENS BANK SQUARE PHONE 254-1112
LEXINGTON KENTUCKY 40501

UNIVERSITY OF KENTUCKY
[redacted]
UNIVERSITY OF KENTUCKY
GENERAL ACCOUNTING OFFICE
LEXINGTON, KENTUCKY 40506

CUSTOMER NUMBER	PAGE NUMBER
01375066 00	3
STATEMENT PERIOD	
FROM	TO
10-31-79	11-30-79

ACCOUNT NUMBER / BALANCE FORWARD	TOTAL CREDITS NO	TOTAL CREDITS AMOUNT	TOTAL DEBITS NO	TOTAL DEBITS AMOUNT	FEE	CLOSING BALANCE

ACCOUNT NUMBER / DEBIT AMOUNT	DEBIT AMOUNT	TRANSACTIONS CREDIT AMOUNT	DATE	BALANCE
375066-01				
		128,49265DP		
100RC	15677DM	5,024,54405DP		
145,11758DM	4,956,00000DM		11-07-79	633,99451
		15677DP		
		17300DP		
		1,18195DP		
		2,41811DP		
		2,91115DP		
		8,32175DP		
		9,07528DP		
		24,07364DP		
25300RC	97600RC	4,957,52346DP		
500,00000DM	88504			
2,335,76637			11-08-79	2,801,94921
		46900DP		
		60110DP		
		78096DP		
		88129DP		
		88504DP		
		99330DP		
		1,45126DP		
		1,49925DP		
		1,76330DP		
		2,16336DP		
		2,18395DP		
		5,26245DP		
		25,45934DP		
		29,35495DP		
		36,68409DP		
		149,23166DP		

*Code explanations see other side

Alternative Calculations for Treasurer's Accounts

The check "float" is a difficult number to establish with certainty after-the-fact. For that reason, others' estimates of that number are presented to allow the reader to determine for himself which is most accurate.

Other Estimates Calculated by this Writer

1. September 1980, and March 1981 (Average): (for all five accounts)

Ending balance on day 0, minus deposits posted on day 0, minus checks cleared on day 1, plus deposits posted on day 2. This methodology allows a two-day collection time for posted deposits and subtracts the checks that clear the evening following the determination of the ending daily balance. (This method assumes batch processing.)

Result: $173,917,500 average daily balance invested at 12% results in annual lost earnings of $20.9 million.

2. For 6 months studied:

Average daily balance less average unpaid investments (funds owed Farmers Bank for investment purchases made). This calculation equals:

$$\begin{array}{r} \$179.7 \text{ million} \\ -\quad 58.0 \text{ million} \\ \hline \$121.7 \text{ million} \end{array}$$

The actual Federal Fund average rate during the six months studied was 15.742%. If invested at that rate, annual lost earnings are:

$$\begin{array}{r} \$121.7 \text{ million} \\ \times \quad 15.742\% \\ \hline \$\ 19.16 \text{ million} \end{array}$$

(This method subtracts investment expenditures twice--once when the check clears and once as above.)

Calculations by Other Offices

3. The State Auditor's Office: Audit of the Commonwealth of Kentucky's Cash and Investments, Fiscal Year ended June 30, 1979.

On June 30, 1979 the bank balance in the General Depository Account only was $214.4 million. The Treasurer invested $112 million, leaving a "float" of $102.4 million in this account. There was $20.8 million remaining in the other four accounts. This total balance of uninvested funds left at the bank equals $123.2 million.

Annual lost earnings if invested at 12% are:

$$\begin{array}{r} \$123.2 \text{ million} \\ \times \quad .12 \\ \hline \$\ 14.78 \text{ million} \end{array}$$

(This method subtracts the Treasurer's investment twice, since the bank balance is already net of that day's investment.)

4. The Department of Finance estimated the float in two ways. (a) Outstanding checks less unpaid investments equals a "float" of $59 million for months of March 1980 to February 1981.

Lost earnings by this method if invested at 12% are:

$$\begin{array}{r} \$59 \text{ million} \\ \times\ .12 \\ \hline \$7.08 \text{ million} \end{array}$$

(b) Ending daily balance, as per bank statement, less unpaid investments (on an average calculation this method will subtract investments twice). This results in an average daily float of $114,692,000 for April 1980 with a range of $56 million to $169 million.

Annual lost earnings if balance was invested at 12% are:

$$\begin{array}{r} \$114.7 \text{ million} \\ \times \quad .12 \\ \hline \$\ 13.76 \text{ million} \end{array}$$

The range of float estimates, then, is from $59 million to $179 million, with $122.5 million as a median. Whichever method the reader feels is most accurate is in excess of the $8 million compensating balance set on September 1, 1981 (which is based on a relatively low earnings rate and set to generate a consultant fee of $125,000, which means that balance probably could be still lower).

This means median lost earnings of $15 million per year. Bank costs of approximately one million dollars should be subtracted from all calculations of lost earnings.

Regulatory Float (FY 80)

One-time Collection Per Year:

Corporate license $11,782,304

Workers Compensation Premium $31,780,000

Three-time Collection Per Year:

Insurance Premiums Tax $33,729,250

Corporate Income $158,846,014

(first installment 50%; 2nd & 3rd 25% each)

Four-time Collection Per Year:

Individual Declared $ 59,583,160

Unemployment Insurance$ 27,171,448

EXAMPLES

Insurance Premium Tax	NOW		Potential With Monthly Collection		
Month	Principal	Interest	Principal	Interest	Int. on Int.
1	0		$2,810,770	$ 22,486	$
2	0		2 X(2,810,770)	44,972	180
3	0		3 X(2,810,770)	67,458	541
4	$11,243,083	$89,944	4 X(2,810,770)	224,860	1,085
Spend	------	------	------	------	------
5	0				
6	0				
7	0		(Repeat Above)		
8	$11,243,083	$89,944			
Spend					
9	0				
10	0		(Repeat Above)		
11	0				
12	$11,243,083	$89,944			
Spend					
Total	$33,729,250	$269,834	$33,729,250	$674,580	$ 5,418

$679,998

Difference = $410,164

CORPORATE INCOME

Month	NOW Principal	NOW Interest	MONTHLY Principal	MONTHLY Interest	MONTHLY Int. on Int.
1	0		$ 13,237,168	$105,897	
2	0		26,474,336	211,795	$ 847
3	0		39,711,504	317,692	2,548
4	$79,423,007	$635,384	52,948,672	423,589	5,110
5	0				
6	0				
7	0		(Repeat Above)		
8	$39,711,503	$317,692			
9	0				
10	0				
11	0				
12	$39,711,503	$317,692			
Total	$158,846,014	$1,270,768	$158,846,014	$1,058,973	$8,505

$1,067,478

Difference = $1,931,666

The same methodology was used for the rest of the taxes listed, considering existing collection cycle.

Individual declared

Difference = $408,987

Unemployment Insurance

Difference = $219,696

Corporate License

Difference = $378,965

Workman's Compensation Insurance Tax

Difference = $880,153

Total Difference @ 10% = $4,229,631
@ 12% = $4,920,000

Cost was estimated based on ten extra employees and increased computer time. (If taxes were paid monthly but paper work submitted at existing cycle, perhaps increased administrative cost would be less.)

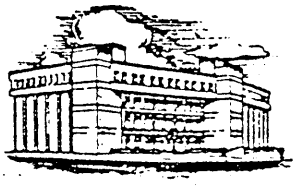
Lock Box

$2,125,000,000 tax receipts collected in FY 80; assume collected evenly over 260 days per year.

$$\frac{\$2.125 \text{ billion}}{260} = \$8.173 \text{ million daily collections}$$

$$8.173 \times \frac{12\%}{365} = \$2,697 \text{ interest earned per day}$$

$$2,697 \times 365 = \$984,447 \text{ annual potential earnings for one day saved deposit time}$$



FARMERS BANK & CAPITAL TRUST COMPANY

FRANKFORT, KENTUCKY

CK C. SAUFLEY
PRESIDENT

March 24, 1981

Honorable Drexell R. Davis, Treasurer
Commonwealth of Kentucky
New Capitol Annex
Frankfort, Kentucky 40601

Dear Drex:

As you know, members of your staff and mine have had several recent meetings in order to find a way in which you, with our cooperation, can improve the overnight investment program. We, like you, realize that in these hard economic times every effort should be made to increase the revenues from the state's investments. Together, we have always been willing to consider improving the investment program. We believe that our staffs have sufficiently proved the worthiness of our recommendation regarding the delaying of reducing your book balances with respect to the overnight investment program.

We are aware of the continuing attention being focused on the overnight investment program, particularly in light of the period of high interest rates we recently endured and the necessity of cutting the state's budget. Actually, as you know, we have been studying ways to improve the program since the Governor's Task Force made its recommendations last year. You have already included in the program the balances which were being maintained in the four restricted bank accounts. Secondly, we have been studying ways to reduce the gap which exists between your book balances and ours. We believe the recommendation hereinafter set out will go a long way toward reducing that gap, but would point out that there will always be some gap, since we give you immediate credit on your daily deposits. If we were to adopt an availability schedule such as the ones used by those banks currently discussing lock box arrangements with the state, then you would not be given immediate credit for your deposits and there would be less of a gap between your balance and ours. However, that would not be in the best interest of the state.

Honorable Drexell R. Davis
March 24, 1981
Page Two

Specifically, we are recommending that you do not alter your present bookkeeping procedures. They have already been examined and audited by appropriate parties and we see no need to change them. However, for purposes of calculating the amount available for investment in the overnight program, we recommend that your balance not be reduced until checks have actually been released from the state. Currently, you are reducing your balance the day the checks are written. We recommend that the reduction for overnight investment purposes take place the next day, when the originating departments release the checks. With respect to the eight types of checks, other than the payroll checks, the calculation is very simple, since those checks are returned to the originating department the day they are written. With respect to the payroll checks, however, the calculation is a little more complicated, since payroll checks may be held for several days due to the fact that the Department of Personnel established official release dates, the 13th and 28th of each month. We are recommending that those payroll checks be added back to the book balance for each of the days they are retained prior to release.

Our respective staffs have analyzed the check writing process for the last four months of 1980 to determine what additional amounts could have been invested had the new procedure been in effect. Their studies have indicated that an average of $44,500,000 would have been available on a daily basis and that it would have earned $1,892,890.67. That figure, if projected, would indicate that the state could conceivably obtain additional revenue of $5,600,000 per year.

The amounts were calculated by applying interest rates actually paid during the four month period. The average rate for the period was 12.65%. Last week, we were paying 13%. Any projections would naturally have to take interest rates and total investment into consideration. Should the state choose to invest in longer term securities, as recommended by the Task Force, then the overnight program would be diminished.

While on that point, I should say that our staffs believe the overnight program has been over emphasized, since it was never intended to be the prime investment vehicle for the state. Perhaps because it is easy to use, it has been overused.

We agree that you and I should meet, without delay, to discuss the feasibility of this proposal. If we agree, we can initiate the procedure almost immediately, for, as stated above, it is merely an improvement on the existing program.

Honorable Drexell R. Davis
March 24, 1981
Page Three

Once the program is initiated, it will be necessary for us to purchase additional government securities, so as to be able to sell them to the state under the repurchase agreement arrangement. On our part, we will have to be more efficient in the management of our balances in other banks. Needless to say, those institutions represent a certain amount of influence in the Commonwealth and their general welfare is a factor to be considered in the adoption of this program. I am sure you will understand that there may be some negative views toward our recommendations, but hard decisions have to be made in hard times.

After examining this proposal, let me know when we can get together to discuss it.

Sincerely yours,

Zack

Zack C. Saufley
President

ZCS/br

APPENDIX VII

Public Deposit Insurance

Current Practice

Kentucky statutes (KRS 41.240) require that state deposits be secured with pledged collateral in the form of certain security instruments. These securities must be worth 110 percent of the value of the state deposit and must be held idle to secure the deposit. The collateral is actually held by a trustee selected by the depository bank. Identifying information relative to the pledged security is kept on file at the Treasurer's Office. Approximately 300 banks have over-pledged their deposits by $37 million and 42 banks are under-pledged by $13 million (September 30, 1981). Statutes require that the par value of the securities pledged should be 110 percent of the value of the deposits and the market value of the securities is to be 100 percent of the value of the deposits. The first $100,000 need not be collateralized due to FDIC coverage for that amount.

In actual practice, the Treasurer tracks securities at par value only. No estimate of market value of the securities relative to deposits is made. This would be a most difficult task. Some 4,000 securities are listed as collateral. Many more would be needed if market value were the criterion of value. It would also be an expensive task for the Treasurer to maintain market values for all these securities. Probably estimates from a broker/dealer would be needed.

Collateral is not pledged for all deposits. Even though the statutes do not distinguish time and demand deposits relative to pledging, the practice has been to secure time deposits only. Until

recently, little effort was made to determine the balances of all demand accounts. Consequently, it would have been most difficult to maintain collateral for demand accounts.

Current Practice Assessment

The current practice for securing state deposits is not wholly satisfactory for several reasons.

First, by valuing security at par value rather than market value, the state's deposits are not 100 percent secure. A sample of securities pledged against deposits showed the security was actually only worth 83.5 percent of the deposit being insured.

Second, demand deposits are not secured. Based on FY 79-80 data, ending daily balances of demand accounts at all banks amounted to some $30 million, with a few accounts averaging over a hundred thousand dollars per day. (FDIC coverage insures the aggregate deposits of the Treasurer per bank up to $100,000 regardless of the number or type of accounts. Even if another state agency has an account in which it is collecting funds on behalf of the Treasurer, those are technically the Treasurer's funds and will be insured for $100,000 only once per bank. Public demand and time accounts are insured separately.)

Third, requiring each bank to secure the state deposits it holds at 110 percent of the value of the deposit is cumbersome and costly to the banks. It requires banks to hold securities aside and limits the liquidity of their own investment portfolios. Further, since each bank is insuring only its own deposits, this process is insuring against the event that all banks will fail at once. This is unlikely and therefore is a case of excessive effort.

Fourth, if banks do not already have the appropriate security on hand, they must purchase the security with the state deposit. If they must purchase U.S. Treasury obligations, those funds are no longer available for local loans.

Finally, the Treasurer estimates that the cost of pledging is 1/4 of one percent of the value of the time deposit. This is potential revenue lost to the state of over $1 million per year.

A major argument against changing the 110% pledging policy is the possible negative impact on the municipal bond market. It is charged that a reduction in pledging requirements will raise municipal bond prices and reduce the saleability of local debt. These arguments are of only limited validity. First, a reduction in pledging requirements will have virtually no impact on state debt. Those issues are already marketed on a national basis, and thus are already competitive in price with all other municipal debt. Further, only four to five percent of all state debt outstanding was pledged as collateral as of September, 1981.

Local debt would incur the greatest impact; however, even that would be slight. In FY 80 there was $4.3 billion of local debt outstanding. Of that, only $774 million was local pledgeable debt. Further, only 10.2 percent of the pledgeable debt was pledged in September, 1981. Of that pledgeable debt, most of it is school building bonds.

School bonds currently sell between 40 to 60 basis points below market rate. If their price were to increase an average of 50 basis points due to a reduction in pledging requirements, that cost would approximate $250,000 more per year for all schools collectively. This cost should be compared to the over one million dollars per year that pledging is currently costing the state (over $4 million in FY 79-80).

Proposed Alternatives

In order to meet these deficiencies of the existing method of providing deposit security, three alternatives were reviewed, one of which was bonding. Bonding of state deposits would require each bank to secure a bond to insure the safety of the state's deposits from a private insurance agent. Although this method would be administratively simple, it could be costly (one estimate is 1/2 of one percent of the value of the deposit). More importantly, this type of bonding is most difficult to obtain, especially for smaller banks (those with under $100,000,000 in deposits). Thus, most Kentucky banks would become ineligible to receive state deposits.

Two other alternatives, which are actually in practice in certain other state, were reviewed. One is reduced and pooled pledging. Tihs form of security is practiced in Washington, South Dakota and North Carolina. It involves requiring each bank that is holding deposits (time and demand) to pledge securities worth ten percent (or some other ratio) of the value of the deposits. Deposits are valued at average ending daily balances for the quarter. Securities are held by a trustee of each bank's choosing. Under contract between the state, depository and trustee, it is the bank's and trustee's responsibility to maintain the market value of the securities pledged. Securities can be freely exchanged so long as the portfolio value remains at an appropriate level.

Records of securities held for pledging are kept by the Treasurer. In the event of a loss, the Treasurer will assess each depository bank in proportion to the amount of state deposits it holds. This is a shared risk proposal.

In order to minimize that risk, which would fall most heavily on the banks with larger deposits, the State Investment Commission could perform an ongoing review of the soundness of each bank in which it deposits funds. That review would probably best be done by an objective third party consultant specializing in bank analysis. This is the same system larger banks use to determine where they may safely deposit their own funds.

Such a consultant would report periodically to the Commission on the security of each bank and monitor the banks on the basis of quarterly call reports (statements of condition) on an ongoing basis. Then, should any adverse trends appear in banks in which state funds are deposited, the State Investment Commission would be notified immediately. Or, such evaluation could be done in-house, if the criteria were totally quantitative, removing all subjective comment.

The third alternative reviewed is public deposit insurance. This plan is used in Indiana, Wisconsin, and Iowa. It operates something like FDIC on the federal level. However, the proposed deposit insurance will insure only the deposits of a particular depositor, not all depositors. This system would involve each bank holding state deposits paying an insurance premium. Those premiums would go into a pool held and invested by the Treasurer. This pool would serve to back state deposits if any banks failed. Pledging of some sort, however, would have to remain in place until the actuarial pool was large enough to cover the single largest deposit. Based on the total deposited, assessment rate and size of the single largest deposit, the pool could take up to several years to accumulate.

In order to assess the alternatives, a clear understanding of the requirements of a plan is needed.

Conditions Plan Should Meet

1. Public deposit insurance should cover demand and time deposits valued at average ending daily balance for the quarter:

	TOTAL		LARGEST DEPOSIT/BANK
Time	$402,619,000	(9-81)	$22.2 m
Demand	30,000,000	(FY 79-80)	15.0 m*
	$432,619,000		

*Estimated general depository and other accounts at Farmers Bank and Capital Trust (ending daily balance).

NOTE: Demand accounts are now being concentrated. Receipt accounts will be cleared frequently, leaving balances no larger than $100,000 per bank. Those accounts will be insured by FDIC. Disbursement accounts are being consolidated at Farmers Bank and Capital Trust.

NOTE: Plan must cover the largest aggregate deposit at a single bank. (Consider greater dispersion of time and demand funds. Disbursement concentration accounts perhaps should not be at the same bank where the five major Treasury accounts are kept.) (Consider payment by fees rather than compensating balance, so all ending daily balances of disbursement accounts are zero. Then large ending balances in demand accounts can be avoided by investing overnight.)

2. Assessment rates (either for insurance or pooled pledging) will be calculated to cover the largest single deposit. Therefore, 341 banks will pay a rate depending on the balances at the 342nd bank. However, actual assessment will be applied to each bank's own state deposits.

3. If total deposits decrease, but the largest single deposit does not, then assessment rates must increase to cover the largest single deposit.

4. State deposits per bank should not exceed 10 percent of total deposits or the sum of capital, surplus, and undivided profits and reserves, whichever is less.

Deposit Insurance. A state deposit insurance system whereby every public depository receiving or having any state funds on deposit shall quarterly pay into the state deposit fund at the percent rate per year based on the average daily balance of such deposits (greater than FDIC coverage) so deposited with it for the preceding three months.

The fixed rate of payment into the fund is based on the standard that the fund should have sufficient reserves to enable it to pay promptly all losses likely to occur, but the charge to the depositories should be no higher than is necessary for this purpose.

Advantages:

- Relatively simple to administer.
- Once adequate pool is reached, no further assessments need be made.
- Exact costs of securing deposits can be determined.
- State can hold and invest pool to own advantage.
- Allows for public deposit security of all deposits.

Disadvantages:

- Until an adequate insurance pool is attained, pledging will be required to stay in place. Thus, a cost for two systems will be incurred. The larger the Treasurer's deposits per bank, the longer time will be required to build the pool. (It is possible current large balances could be reduced.)
- Requires cash outlay by banks.

(EXAMPLE: Based on $430 million in deposits less 340 banks X $100,000 FDIC = $34 million = $396 million to insure. Currently largest single deposit appears to be $22.2 million in CD's. 1 percent premium per year ($4 million) paid quarterly and invested at 10 percent = 4.5 years to accumulate $22.2 million.) (If the largest deposit were reduced, the time involved would be less.)

Reduced and Pooled Collateral. A state deposit insurance system whereby each depository pledges securities the market value of which is equal to 10 percent of the value of the deposit less $100,000.

Collateral will be physically held at a trustee bank. The maintenance of the value of the security is the responsibility of the depository and trustee. Lists of pledged security will be held by the Treasurer. Securities can be freely substituted as long as the aggregate appropriate value is maintained. The Treasurer will be notified of all substitutions.

All pledged collateral will constitute a single pool to be used in the event of a loss. In the event of a loss, all depositories will be assessed in proportion to their state deposit holdings.

Advantages:

- Can be in place with minimal start up time.
- Administrative effort on part of the Treasurer is not increased.
- Pooling aspect reduces the burden of 110 percent pledging on banks immediately.
- Allows for public deposit security of all deposits.

- No cash outlay for banks.
- Reduces need to send funds out-of-state via banks.
- Banks retain earning potential of securities.
- Actual cost of valuing securities at market value can be determined.

Disadvantages:

- Actual cost of 10 percent (or whatever ratio) liquidity loss to banks may be difficult to assess.
- Maintenance of market value may require additional effort on part of some banks.
- Shared risk (minimized through objective bank qualification and limited amount of deposits per bank.)

Other alternatives suggested, although not practiced in any state at this time:

1. Private Insurance: Purchase deposit insurance from a private carrier. (Not feasible)
2. Deposit limited amount of funds in bank solely on basis of third party rating. Any deposits above that amount will be pledged at 100% of market value.