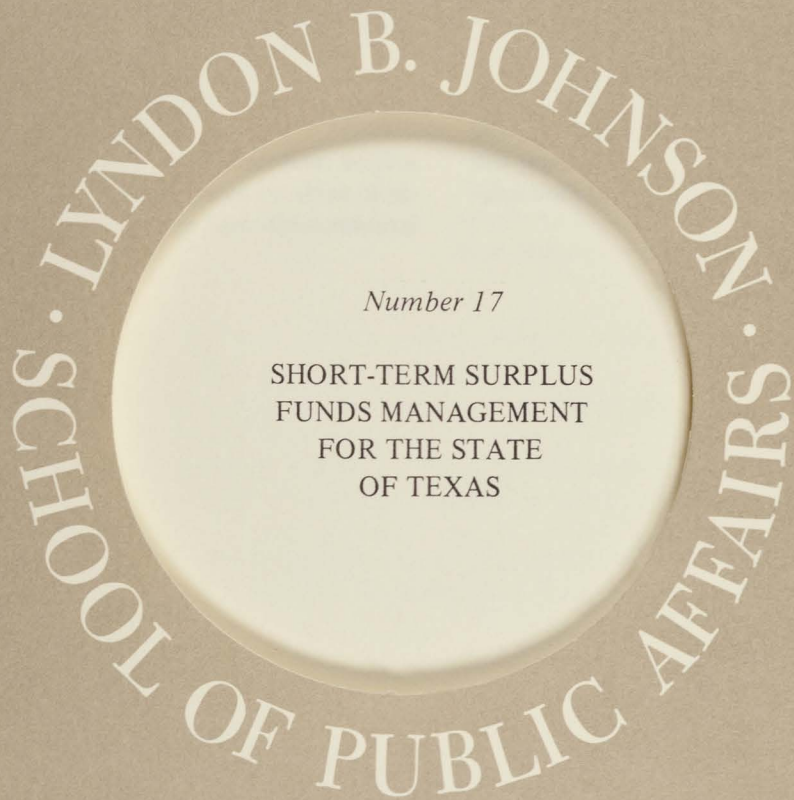


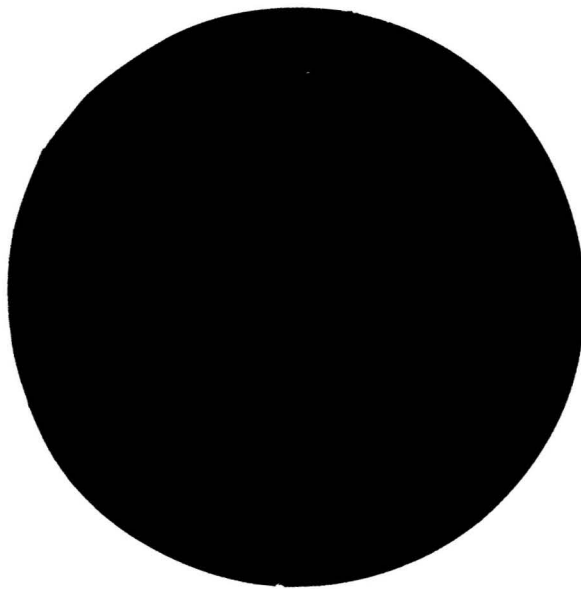
POLICY RESEARCH PROJECT REPORT



Number 17

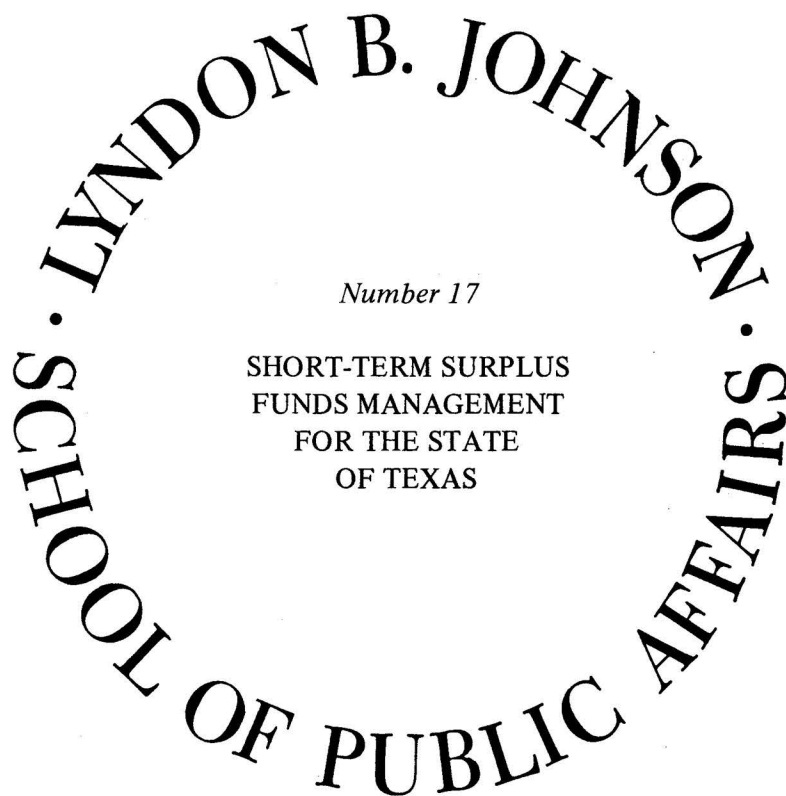
SHORT-TERM SURPLUS
FUNDS MANAGEMENT
FOR THE STATE
OF TEXAS

THE UNIVERSITY OF TEXAS AT AUSTIN



LYNDON B. JOHNSON SCHOOL OF PUBLIC AFFAIRS

POLICY RESEARCH PROJECT REPORT



A Report by

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The University of Texas at Austin

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FOREWORD

The Lyndon B. Johnson School of Public Affairs has established interdisciplinary research on policy problems as the core of its educational program. A major part of this program is the policy research project in which a team of several faculty members, each from a different profession or discipline, and graduate students with diverse backgrounds work together on an important public policy issue. These projects are conducted in response to public and governmental needs.

This report on the management of short-term surplus funds for the State of Texas was prepared by three members of the policy research project on State Governmental

Operations. The project was undertaken in response to research needs of the Joint Advisory Committee on Government Operations, established by the 64th Texas Legislature to conduct an evaluation of Texas state government and make recommendations for needed changes.

The intention of the LBJ School is to develop men and women with the capacity to perform effectively in public service and to develop information that will enlighten and inform those in decision-making roles. It is our hope that this report and others produced by the School will be of value both to policy makers and to the public.

Jurgen Schmandt
Acting Dean

PREFACE

Short-Term Surplus Funds Management for the State of Texas is a report prepared by a team from an LBJ School policy research project during the academic year 1975-76. The project team worked with staff from the Texas Advisory Commission on Intergovernmental Relations to provide research support for the Joint Advisory Committee on Governmental Operations. It was the mandate of the Joint Advisory Committee to recommend improvements in the economy and efficiency of Texas' government.

During the course of the year the project responded to research requests on a variety of topics. Because of their general interest this report and another, *Public Sector Productivity Programs: Background and Analysis with*

Special Reference to Two State Governments, are being released by the Lyndon B. Johnson School as part of the School's regular publication program.

The School's participation in this research venture was made possible by grants from the Office of Community Service, Coordinating Board, Texas College and University System of funds under Title I of the Higher Education Act of 1965 and from the University of Texas, University Research Institute. These funds enabled the School to provide staff support to the research team and underwrote the costs of contacting the several state governments which cooperated in the research.

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INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

In conjunction with the Joint Advisory Committee on Governmental Relations and the Texas Advisory Commission on Intergovernmental Relations, the State Government Policy Research Project of the Lyndon B. Johnson School of Public Affairs conducted an analysis of the short-term investment policies of the State of Texas.

During the study we received assistance from state treasury departments all over the country and their cooperation was invaluable in our Texas study. As a result of this research, we began raising questions about Texas short-term (less than one year) investment policies of operating funds:

- Why are there no revenue-expenditure forecasts?
- Why does the state maintain a costly ratio of demand deposits in relation to its time deposits?
- Why does the state not have a more flexible investment policy which allows investment in market instruments other than time deposits?
- Why does the state maintain hundreds of inactive demand accounts in banks throughout the state?

Although many Texas financial policy makers were unavailable for comment and current statistics were not readily available from state agencies, we were able to make the following general observations:

- Successful experiences in other states to the contrary, our treasurer maintains it is impossible to forecast a revenue-expenditure pattern. The state holds hundreds of millions of dollars in non-interest bearing demand accounts—much more than is necessary to pay the state's bills. As a result, in the past 20 years the state has lost at least \$130 million in unearned interest. Since the size of state budgets and revenues has increased 68 percent in the past five years, the unearned interest during that period alone has been estimated at \$80 million. With increasing state revenues, there exists an increasing potential for losses in the foreseeable future.
- Demand deposits are kept in over 1,200 banks throughout the state. In 1971 most of these accounts averaged fewer than one transaction per year. If this

money had been placed in interest-bearing accounts it could have yielded approximately \$34 million in the past five years.

- Although the state is currently receiving a higher interest rate on time deposits than interest rates available in the national market, the state's restrictive investment policy has cost the state uncalculated millions of dollars over the years. For instance in 1969 the state was earning 4.5 percent on its deposits while the U.S. Treasury Bill rate for 181-day bills was 6.84 percent and in August, 1974, the same bills were earning 9.11 percent while the state was receiving 7 percent. If the state had investment flexibility it could have taken advantage of the market.

ABSTRACT OF REPORT

This analysis, divided into six parts, explains the background of current Texas short-term investment policy and suggests possible alternatives to augment state interest earnings on invested surplus funds.

Chapter I discusses some of the investment policy goals commonly ascribed to by investment managers. This section also prescribes the boundaries of this study with regard to the various state Funds and defines some of the terms used in this inquiry.

Chapter II focuses on the management of the state's operating funds. It outlines the state cash flow through the payment system, describes the background of the legal constraints on the state's investment policies and explains the current operation of the state depository system in relation to the state banks.

Chapter III addresses the need for a cash flow forecasting system in the state and outlines the basic components of such a system.

Chapter IV describes various short-term investment instruments feasible for Texas and offers comparisons to other states.

Chapter V analyzes the arguments both for and against policies advocating in-state investment of surplus state funds. This "keep the money at home" policy is often hotly debated and some states have abandoned its use.

RECOMMENDATIONS

Recommendations are offered in the final section and appropriate material supports each. In summary, we recommend:

1. *The treasurer should initiate a complete cash flow forecasting study. This study would provide recommendations for the organization, methodology, and implementation of a sound forecasting system to be adopted by the treasurer as soon as practically possible.*

2. *The large amounts of money held in demand deposits should be reduced to 4 percent or less of the Treasury's average daily balance.*

3. *The State Depository Law should be amended to give the treasurer additional authority to invest surplus state monies in U.S. Government securities, federal agency securities, repurchase agreements, certificates of deposit, and Texas savings and loan shares.*

4. *Time deposits should be placed and liquidated on a carefully planned basis consistent with the need for working capital. Such deposits should also serve as stimuli to local economies within the state.*

5. *The state should reduce the number of Fund accounts it maintains.*

6. *The Local Education Fund accounts should be incorporated into the general fund structure of the state.*

CHAPTER I

MONEY MANAGEMENT PRINCIPLES

Money management is a term encompassing a number of concepts such as: accounting procedures, cash flow measurement, cash payment mechanisms, banking procedures, and investment policies. This report focuses on one of these concepts—investment policies—and will touch briefly on cash flow and banking procedures.

This section introduces some terms and concepts which are common to all governmental fiscal management systems. A glossary of money management terms appended to this report provides additional information. Explanations of specific money market instruments are given in Appendix B.

Investors, both corporate and public, follow three key maxims in their investment programs: *security* of funds, *liquidity* of investments, and maximization of *yield*. Within the public sector there are additional restraints imposed on an investor's decisions resulting from legal strictures and policies governing the placement of funds locally.

STATE FUNDS

As revenues flow into the state through taxes and other sources they are allocated to support the state's programs. To facilitate control of expenditures, separate accounts or Funds* are set up to receive revenues or to hold money until needed. These Funds may be either bookkeeping accounts or separately held deposits.

In Texas there are approximately 300 different state Funds, each of which can be used only for specific purposes. These Funds can be categorized into three groups. First are the *Permanent Funds* from which only the interest accrued can be spent for certain dedicated purposes. An example of this would be the Permanent School Fund. Second are the *Retirement Funds*, such as the Teachers Retirement Fund, from which both the principal and the earnings can be spent. Third are the *Operating Funds*. These are appropriated by the Legislature from taxes and are received and disbursed quickly through the many state Funds over the course of the year. The General Revenue Fund is the largest of the operating Funds. Four

*We capitalize the word *Fund* in this report to indicate an account or a designated sum of state money. In lower case *funds* is synonymous with money.

Funds (the General Revenue Fund, the Highway Fund, the Available School Fund, and the Omnibus Tax Fund) provide the bulk of all state operating Funds. Each, except the General Revenue Fund, is earmarked for a specific type of expenditure. State law prohibits even temporary transfers of dollars from one fund to another.

IDLE FUNDS

All state Funds receive revenues at different times and at some points have more money than they need for current daily expenditures. These dollars are referred to as "surplus funds.**" In a well-managed cash flow system surplus money will not be left idle. The key to good management of surplus funds is the ability to forecast state expenditures so that money can be invested and still be available when needed. This is done in several states through various means such as day-to-day warrant flow analysis in Indiana, and sophisticated computer forecasting in California. In any case, the necessity for idle funds can be reduced or eliminated. Many states have done so by using a variety of investment instruments which provide a range of flexibility. Common investment instruments used for this purpose in other states include U.S. Treasury and other federal agency obligations, state and local bonds, savings and loan association shares, bank certificates of deposit and time deposits, repurchase agreements, and commercial paper. Many of these instruments have fixed maturity dates, but have high liquidity because of active secondary markets. These instruments are described in Appendix B of this report.

INVESTMENT POLICY GUIDELINES

Investment managers usually operate under statutory or self-imposed guidelines which incorporate the concepts of security, liquidity, and yield. These guidelines cover three basic areas:

**Of the many terms now in use we have adopted "surplus funds" for this report. The term "idle funds," frequently used in this context, we have employed for uninvested money. Therefore, in our usage some surplus funds will be invested funds and some will be "idle funds."

Short-Term Surplus Funds Management

1. *Procedural guidelines* which define the limitations and requirements governing banks that serve as depositories for state funds.
2. *Portfolio composition guidelines* limiting the type and number of investment instruments. These are most likely to be prescribed by statute.
3. *Liquidity guidelines* specifying the amount of funds to be invested, length of investment, and type of investment so that money matures constantly or is in highly liquid form for conversion into cash.

CHAPTER II

BACKGROUND OF THE TEXAS CASH FLOW AND DEPOSITORY SYSTEM

This chapter examines the short-term investment policies within the state's money management system. The entire state money management system interlocks so that change in any one part affects the whole system. As a result it is often difficult to trace the interaction of different components of the system. We hope to simplify this task by restricting our discussion to state operating Funds, specifically to the General Revenue Fund, which accounts for about 32 percent of the money appropriated for fiscal year 1975.¹ To do this we will first establish the restraints set by the legal fund structure, the state payment mechanism, and the state depository laws. Current operation of state investment policies are then contrasted with their generalized counterparts used in other states.

THE TEXAS FUND STRUCTURE

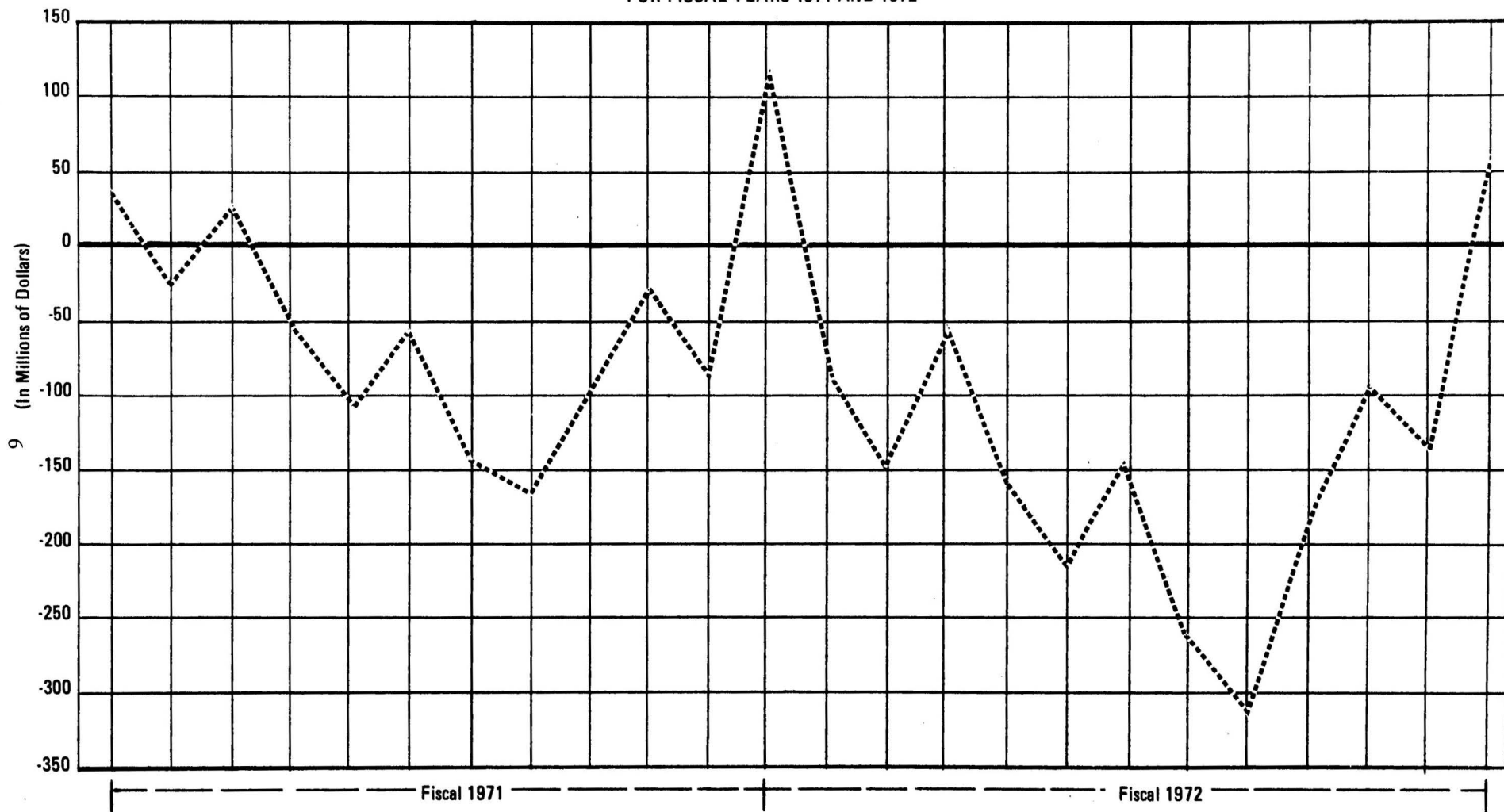
The Texas financial structure uses numerous operating Fund accounts to finance state programs. These Funds provide stability in financing the state's multiple activities. Dedicated revenues, Special Funds, and priority allocation systems help protect certain programs during the appropriation process. These and other factors have resulted in a vast array of Funds. Texas has approximately 300 different Funds in the Treasury, a reduction from over 400 Funds in 1960. Three-hundred Funds are still too many to efficiently account for state operations.

Many agencies previously financed by special or dedicated Funds are now financed through the General Revenue Fund. During 1974 the Legislative Budget Board examined the state's Fund structure to assay measures needed to optimize flexibility in allocating state revenues. Several simplifications were recommended. The study recommended the elimination of the priority allocation systems and the automatic financing provisions in several state Funds. Generally, it appears that monies from all sources should be deposited in the state's General Revenue Fund.² Placing all money not constitutionally dedicated in the General Revenue Fund should increase legislative control over all types of state spending. Fiscal responsibility of money managers, such as the State Treasurer, would also be enhanced by eliminating unnecessary accounting deficits suffered by the state and its agencies.

Present law does not permit interfund transfers to cover temporary deficits in General Revenue Fund accounts. In addition, the constitution prohibits the state from borrowing money or from deficit spending. Thus the comptroller cannot issue warrants on insufficient accounts even if the Legislature has appropriated the money for an agency. There has been a recurring problem with the General Revenue Fund being in deficit (see Chart II-1 covering a recent period of state deficit). As recently as 25 years ago, Texas banks automatically deducted a portion of a state employee's paycheck before cashing it to compensate themselves for interest lost because the state could not redeem the warrants presented for payment.

The problem of General Revenue Fund deficits still occurs from time to time but the treasurer relieves the burden on state employees by establishing "special demand deposits." Although the treasurer cannot legally borrow from other Funds, a special law permits him to use other state Funds as collateral with the banks in anticipation of revenues.³ The banks receive money formerly in other accounts and hold it in special demand accounts, on which they pay no interest. In this way the state "borrows" money from a restricted account and is able to have the banks redeem warrants drawn on a depleted General Revenue Fund account. This permits the state to issue warrants drawn on an empty account but it also results in the state not earning interest on funds tied up in the special demand accounts. The interest on these funds goes to the banks which are providing the state a service by holding unredeemable warrants without penalty until revenues replenish the General Revenue Fund. Although the special demand account has not been used since 1973, its past use has resulted in significant costs in terms of lost interest. As recently as 1971, according to the state auditor, Texas could have earned an additional \$7.2 million in interest if money tied up in special demand accounts had instead been invested.⁴ This does not mean that the state illegally operated an unbalanced budget. The General Revenue Fund is balanced at the end of each fiscal year even though it may have operated in a deficit condition during most of the year (see chart II-1). The fund managers know that enough revenues will be earned before the end of the year to produce a balanced budget. The problem is that the

CHART II-1
DEFICITS CARRIED BY THE GENERAL REVENUE FUND
FOR FISCAL YEARS 1971 AND 1972



Derived from G. McNeil (1973) *Money Management Study*, Office of the State Auditor: Austin, Texas, p. 35.

The deficits were financed through the use of special demand deposits. Note that the Fund always balanced at the end of the fiscal year in August.

multiplicity of Funds results in a rigidity in money management and unplanned revenue and expenditure patterns result in money not being available when it is needed. This legal inflexibility and lack of planning has necessitated the use of interest-losing special demand accounts.

THE STATE PAYMENT MECHANISM

The Fund structure serves as the legal mechanism for the control of appropriations, revenues, and expenditures. Within this mechanism there is a system of checks-and-balances to ensure proper handling of public money. The Texas Constitution requires that before money can be drawn from the treasury it must be appropriated by the Legislature. The process requires the comptroller to authorize legitimate payments in pursuance of legislative authorization; thereafter, the treasurer makes the actual payments.⁵ The notice of authorization from the comptroller to the treasurer is a warrant. Legally, warrants are collectible items, but Texas banks currently treat them as cash. Warrants cannot be used as money to settle debts between third parties. Essentially, a state-issued warrant is an order to pay while a state-issued check is an actual payment.

An 1899 U.S. Supreme Court case involving the State of Texas defines a warrant as being

drawn by state authorities in payment of an appropriation made by the legislature for a debt due from the state to an individual and payable upon presentation if there be funds in the treasury. (*Houston & T.C.R.C. v. Texas* (1899) 177 U.S. 66, 20 S.C.545)

Warrants are payable only at the treasury. It is only with the issuance of a treasurer's check that the bank has the authority to reduce the state's account and credit the payee. In practice, bankers credit the payee's account immediately when warrants are deposited and assume the cost of the float as they would for a check. Because warrants are not fully negotiable, banks could at their option regard them as collectible items and delay crediting of payee accounts until warrants cleared the treasury. They could also levy a service charge for handling, but have not in the past because of good relations with the state.

Warrants add delay to the disbursement of state funds because they require more handling than do checks. There are numerous steps which are involved (see Chart II-2), but they can be simplified as follows: (1) The comptroller issues a warrant upon receipt of a properly validated voucher. The voucher may come directly from an agency or from an agency via the Board of Control (this can take four to six weeks). (2) Processing time for a warrant in the comptroller's office averages about two days. (3) Once the warrant has been internally audited and the comptroller has certified the money is on deposit in the treasury, it is

forwarded to the originating agency (this can take up to 10 days) which in turn forwards it to the vendor. (4) Within hours after the comptroller issues the warrant he notifies the treasurer of its issuance. This allows the treasurer time to make cash available for the payment of the warrant. (5) Meanwhile, the vendor takes the warrant to his bank which gives him immediate credit as it would for a check. (6) The bank in turn forwards it to one of the clearing banks. (7) These clearing banks redeem the warrants at the treasury for a check drawn on the state's account for the amount of the warrant.⁶

The warrant system is an antiquated money management practice, but it has advantages. It can be used as an "early warning system" by both the treasurer and the banks to recognize large cash demands several days before the money is actually needed. Also, when the state is running a temporary negative cash balance, the slowness of the system allows the state more time to accrue revenues to pay the warrants. Since the banks carry the float on warrants, the state reaps a free short-term "loan" from the delay. However, when the state is in a positive cash flow position, it loses interest revenues because at the time a warrant is written, the treasurer must certify to the comptroller that the amount of money is on deposit. Since the float time for warrants can be two weeks, that money sits idle in a demand account. This could amount to a substantial loss of potential interest revenues.

Is the cost of the dual warrant-and-check system worth it? It involves paying for the same thing twice, but its "early warning" feature could compensate for administrative costs incurred by the duplication. About half of the 50 states have discarded the dual system and have adopted the use of checks only. They generally cite the cost of the cumbersome process as their reason for discarding it. The remaining states still use the dual warrants-and-checks procedure and feel that, for them, the cost of the system is compensated for by the ability it offers to alert them of short-term expenditures on a daily basis.

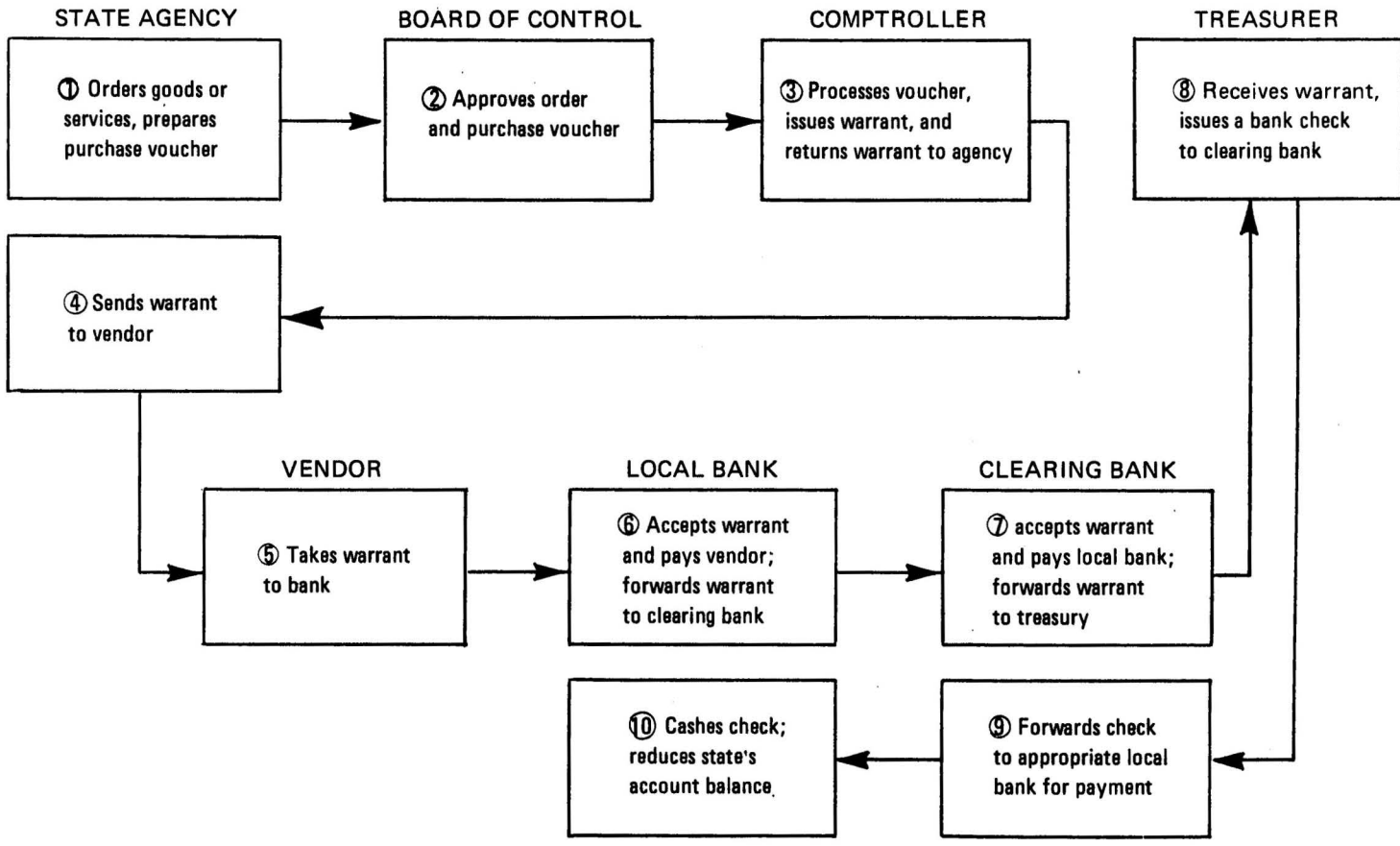
THE STATE DEPOSITORY LAW

Texas has a depository law which controls the investment and distribution of all state dollars not controlled by other statutes. The background of the law has a strong influence on current investment policies and on the method by which the state deposits money in Texas banks.

Historical Aspects

As in most other states, Texas' operating funds were long held idle in the vault of the state treasury. In the last part of the nineteenth century the problem of investment of state funds arose as governments abandoned the independent treasury system for the bank deposit system. The

CHART II-2
SIMPLIFIED DIAGRAM OF THE TEXAS CASH FLOW SYSTEM



∞

change in systems was a reaction to the harmful economic effects caused by the withdrawal of large sums of money from circulation to pay taxes rather than the desire to secure interest (which was lost to funds lying idle). In the late nineteenth and early twentieth centuries efforts were made to use the state banking system as an instrument of rural banking and credit policy, inasmuch as the economy was still overwhelmingly agricultural. In 1905 the Legislature granted the treasurer permission to deposit state monies in Texas commercial banks. The treasurer was charged with approving the collateral pledge by these banks (one in each senatorial district) as security for the state funds deposited.

Security was the most critical problem of state fund deposits. Deposits were not only subject to political manipulation for private ends, but the conscious pursuit of a rural credit policy aggravated security problems by dispersing funds among predominantly small, weak banks.

Security, again, not interest revenue, was the central concern of efforts toward banking reform prior to 1900. Treasurers were almost universally allowed to retain for their personal or political party use whatever interest revenues might accrue from their custody and deposit of state funds.

The theory underlying this practice was that the treasurer was responsible only for the safety of the funds committed to him, that the funds were not required nor expected to earn interest, and that any such interest was merely a personal "windfall" of the treasurer.⁷

During the twentieth century this concept was replaced by the recognition that interest derived from state funds was also the property of the state. In Texas, the laws were rewritten to require the treasurer to deposit funds belonging to the state in such manner that "the State shall receive the highest rate of interest possible on such funds". The State Treasurer became personally liable for 5 percent a month on the funds he failed to deposit properly.⁸

THE STATE DEPOSITORY BOARD

In 1919 the State Depository Law was redrafted and a State Depository Board was formed to handle the selection and regulation of depository banks. The Board was instructed to invest the funds in Texas banks to earn the highest possible rate of interest. If available state funds exceeded the amount requested by banks, the board was authorized to buy U.S. Treasury securities. This policy was followed until Congress passed the Banking Act of 1933 which forbade payment of interest on demand deposits. Before this Act, both active and inactive accounts held by banks were paid interest. The State Depository Law was amended in 1937 to reflect this change and it created a distinction between time and demand deposits and instructed the

treasurer to keep adequate funds in demand accounts to meet the state's cash requirements. Since that time, the board has been restricted to investing state operating funds in time and demand deposits only.

Currently, the board's membership consists of the State Banking Commissioner, the State Treasurer, and a citizen appointed by the Governor. These positions are held by Robert E. Stewart, Jesse James, and J.C. Dingwell. The board's powers include the determination and designation of the amount of state funds that will be deposited and in which state banks, the ratio of demand to time deposits, and the interest rate paid on the time deposits. The board meets by law every other year to consider the applications of banks that request designation as depositories for state funds. As of August 31, 1974, there were 1,210 state and national banks in Texas under contract to serve as state depositories.

To qualify as a state depository a bank must state in its application its amount of paid up capital, its permanent surplus, the amount of state funds it will accept, and a pledge to keep its books open for examination. After a bank has been designated as a depository (generally a matter of routine), state law requires collateral to be pledged for deposits allotted to it. This information together with the amount of deposit requested is submitted to the board for review. The State Depository Board meets biennially for the purpose of making this review and grants deposit contracts for two-year periods. Practically speaking, its approval of bank applications is virtually automatic. Staff support for the board is provided by the treasury.

The sole state criterion for the approval of depositories is the security of state funds. The board has a perfect record in this respect. No state money (principal) has ever been lost as a result of a bank failure since the formation of the State Depository Board.⁹

Statutes further require that the treasurer distribute the state's deposits among the approved depositories on a fair percentage basis in proportion to the amount that they are authorized to hold. This has apparently been interpreted by the treasurer to apply to the placement of both time and demand deposits since deposits of both types are found in all depository banks. Some support is given to this interpretation by the separate provision authorizing the treasurer to designate central clearing banks and to keep demand deposits with these banks sufficient to clear state checks. (See Appendix A for an annotated summary of the current state depository laws.)

TYPES OF DEPOSITORY BANKS AND ACCOUNTS

There are two categories of depository banks, district and non-district. There are 16 district banks designated to redeem state warrants. Of these, 7 redeem almost all of the state's warrants and are occasionally referred to as "clearing banks." Warrants presented at non-district banks are cleared

TABLE II-3

STATE DEPOSITORY BANKS FY 1970-1974

Number of banks the State holds depository contracts with:

1970	1971	1972	1973	1974
1,077	1,081	1,144	1,175	1,210

Number of accounts within these banks:

1970	1971	1972	1973	1974
2,172	2,197	2,345	2,381	2,447

The number of banks doing business with the State has increased 11% between 1970 and 1974. There were 815 banks in 1960 that served as state depositories, so it seems the number is constantly rising. The number of accounts in each of the depositories is more than double the number of banks doing business with the State. In most cases each bank has both a demand and a time account with the State.

Information in Tables 3-7 is taken from G. McNeil, (annual 1970-1974) *State Treasury Audit Report*, Office of the State Auditor: Austin, Texas

through the district banks for payment. the 1,194 non-district banks simply serve as storehouses for state money.¹⁰ There are essentially four types of accounts kept with these banks: demand deposits, time deposits, Local Education Funds, and special demand deposits.

Demand deposit accounts are non-interest bearing accounts held by both district and non-district banks. Non-district accounts are generally inactive and a 1971 study noted that non-district demand accounts average less than one debit per year.¹¹ In past years as much as 25 percent of state funds were held in non-district accounts, but recent trends, beginning in 1973, show less than 6 percent of funds held in these accounts (see Table II-8 for investment trends).

Time deposit accounts in district and non-district banks comprise all short-term investments of the general revenue account. These funds currently earn 6 percent and 7 percent interest, depending on the size of the deposit. The rate of interest is determined by the State Depository Board. Until 1973 it seems there was an informal board policy to maintain a balance between time and demand deposits. For every dollar in a time account there would be a dollar in a demand account. In 1974 an average of 75 percent of state operating funds were in time deposits earning interest. In 1967 the board required the treasurer to provide a 90-day written notice prior to the withdrawal of money invested in time accounts. This has prevented the treasurer from withdrawing these funds for immediate use.

TABLE II-4

DEMAND DEPOSITS FY 1970-1974

Year end (August 31) demand deposits with all banks:

1970	1971	1972	1973	1974
\$371,326,101	\$295,225,816	\$349,038,518	\$331,275,922	\$384,965,757

Although the state budget has increased substantially in the past five years, the amount of cash in demand accounts at the end of the fiscal year in the five years studied has not.

TABLE II-5

TIME DEPOSITS FY 1970-1974

Fiscal year end time deposits with all banks:

1970	1971	1972	1973	1974
\$316,410,691	\$332,853,534	\$432,261,088	\$779,164,710	\$1,113,603,280

The substantial increase in State funds in time deposits is important. Whereas in 1970 the time accounts balances almost equaled the demand accounts, in 1974 the time accounts were nearly double the demand accounts.

Since that time it is believed that the notice period has been reduced to two weeks. State Depository Board minutes were not available for substantiation of these policies.

The *Local Education Fund* is the result of a legal requirement segregating certain fees collected by state universities from the rest of the General Revenue Fund (*Texas Ed. Code*, Art. 51.003). For a long time these funds were held in separate bank accounts by the treasurer as demand deposits only. Their placement in time deposit accounts is determined through consultation between university officials, the State Treasurer, and the banks holding the funds. Prior to 1968 few of these funds were placed in time accounts. By 1974, about two-thirds of these funds were being held as time deposits in district and non-district banks. By legal requirement these monies are placed in banks nearest the universities that generated them.

The final account, the *special demand accounts*, is a result of problems Texas has had coordinating its cash flow. The treasurer receives most, but not all, taxes, fees, and other collected revenues. Because of the lack of coordination between the collection and deposit of taxes and the commitment and disbursement of funds, Texas occasionally

finds its General Revenue Fund in a deficit (see Chart II-8). Since the state is constitutionally prohibited from borrowing money to replenish the General Revenue Fund, it occasionally cannot redeem warrants presented for payment. At one time these warrants were discounted by the banks since they could not collect the money owed to them by the state until the deficit in the General Revenue Fund was erased. To prevent losses to state employees and vendors doing business with the state when cashing warrants, the treasurer established special demand accounts with certain banks. Even though the General Revenue Fund may intermittently go into the "red", the state has monies in other dedicated Funds which are earmarked for other purposes. The treasurer is prohibited from temporarily transferring money from these Funds to cover deficits in the General Revenue Fund. The special demand accounts, essentially a legally sanctioned bookkeeping device to "borrow" money from other state Funds, are demand deposit accounts containing money from dedicated state Funds held by the banks as collateral against "hot" general revenue warrants until the General Revenue Fund is replenished with enough tax revenues to pay for the

TABLE II-6

LOCAL EDUCATION FUNDS FY 1970-1974

Year end (August 31) Local Education Fund demand deposits:

1970	1971	1972	1973	1974
\$8,046,458	\$6,667,511	\$7,902,108	\$7,656,072	\$5,992,448

Year end (August 31) Local Education Fund time deposits:

1970	1971	1972	1973	1974
\$4,008,750	\$4,865,000	\$8,755,000	\$8,695,000	\$13,059,000

TABLE II-7

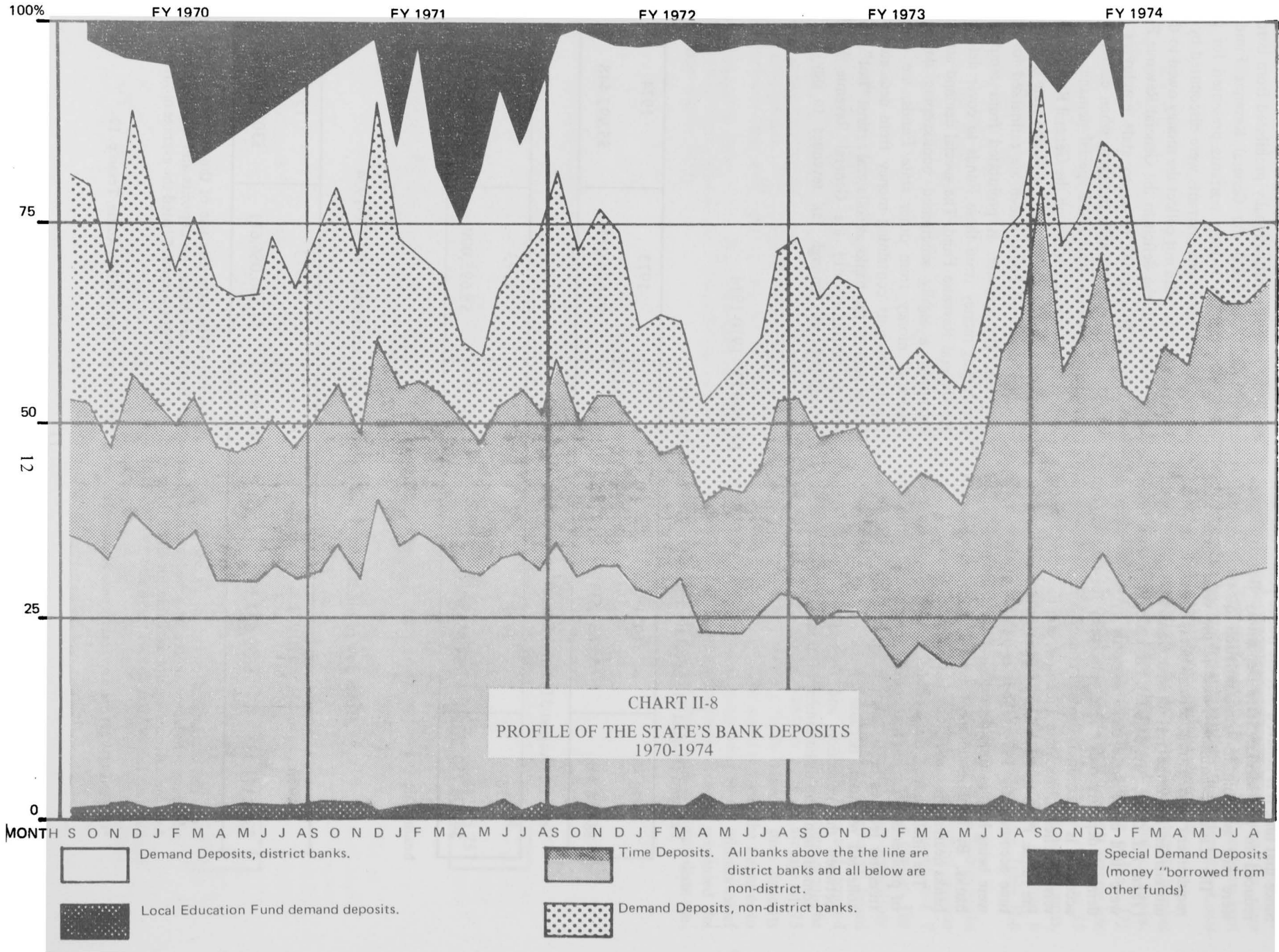
Total flow of funds through the Special Demand Accounts: FY 1970-1974

1970	1971	1972	1973	1974
\$304,171,383	\$679,697,395	\$1,219,805,261	\$1,166,086,611	\$307,108,370

Note the dramatic decrease in the use of the Account in 1974. The extensive use of the account is not adequately reflected in the attached chart because these figures are based on deposits and withdrawals. Average balances are not available for all of this period. A State Auditor's report* listed the average monthly balances for 1971 at \$55,471,996 and 1972 at \$142,414,702.

*G. McNiel (1973) *State of Texas Money Management Survey*. Office of the State Auditor, Austin, Texas. p. 12

Source: G. McNiel (annual 1970-74) Audit Report on the State Treasury, Office of the State Auditor: Austin, Texas.



warrants. Money deposited in special demand accounts does not earn interest for the state. In a study performed by the state auditor in 1973, it was shown for fiscal year 1971-72 that if the state had been able to eliminate the need for special demand accounts the state could have realized additional revenues of \$7.2 million at prevailing interest rates without collecting additional tax dollars (Chart II-8 shows the period of deficit covered by special demand accounts).¹² Due to the recent General Revenue Fund surplus there were no special demand deposits during the 1975 fiscal year.

BANKING COMMUNITY CONCERNS

Having discussed the legal aspects and the structure of the state money management system and before discussing current policy implications, it is important to consider how state fiscal policies affect the banking community. In general, the banks maintain an excellent relationship with the treasurer. Even when the state requests interest rates higher than market rates or when the state is temporarily in a deficit situation, the banks have been willing to accommodate the treasurer.

State Collateral Requirements

Since 1937 the State Depository Law has allowed banks to receive state deposits in amounts up to the paid capital stock and permanent surplus of a bank. Before 1937, only a fixed percentage of state funds could be deposited in a bank and the percentage was dependent on the capital stock of the bank. Now the banks must pledge specified forms of collateral to receive state funds on deposit. The collateral usually exceeds the amount of money the state has on deposit, the theory being that if a bank were to fail the state could recover its losses through the collateral it holds. In the past 10 years only one bank has failed in Texas and the state recovered its deposits from that bank.

The collateral requirement secures state deposits, but it ties up a large amount of capital which the banks could in other ways invest or loan out. During periods of tight money, banks have been reluctant to hold state time deposits because of the cost of holding collateral. For a time most banks would not accept a time deposit without a compensating increase in their non-interest bearing demand deposit accounts. The net effect of this was to lower the real interest rate the state was receiving.

Other states have dealt with the safety of funds through other means including lower collateral rates and a pooled self-insurance program among banks. Before undertaking any action in this area, serious consideration must be given to both the security of state funds and the economic impact of the collateral requirements.

In interviews with Austin bankers it was intimated that

district banks occasionally have incurred costs handling state funds. On more than one occasion the banks have reported receiving unexpectedly large amounts for deposit and having to go onto the market to temporarily borrow collateral. It was stated that this tends to discourage many bankers from wanting to hold a significant amount of state deposits.

Compensating Balances

Currently the state does not pay for the services it receives from Texas banks, nor do the banks require a minimum compensating balance. If the state were to decrease its high ratio of demand deposits the banks could impose a service charge for processing warrants and doing business with the state. Maintenance of a minimum balance, rather than payment of per item charges, is customary for governmental units. The portion of the state's demand deposits which could fairly be labelled compensating balances is difficult to determine because none are formally required by the banks.

Calculation of compensating balances requires itemization of services and assignment of costs. Since the banks do not presently have a formal compensating balance arrangement with the treasury, records are not kept of the cost of banking services. These services include handling state deposits, paying state checks and warrants, and servicing bond coupons and investment instruments held by the treasurer for funds other than operating funds. In addition, the banks absorb the cost of "float" on the clearance of state warrants which can be substantial in some instances.

State Fiscal Administration

Some of the costs incurred by the banking industry are compensated by the state's liberal demand deposit ratio. This ratio compensates them for costs incurred through time-consuming fiscal administration. For instance, some district banks incur losses exceeding \$6,000 per month because of float delay. In 1972, when the Federal Reserve threatened to quit honoring state warrants because of the losses it was incurring, the Texas banking industry reaffirmed its support for the warrant system.¹³ If the state invested its money more diligently, slow administrative practices on the part of the state would probably not be tolerated as willingly by the banks.

CURRENT STATE INVESTMENT POLICIES

Official policy statements by the treasurer or the State Depository Board are not available, but there is sufficient evidence to show that there are several policies consistently upheld.

Of primary importance is the security of the funds

entrusted to the treasurer. This is the overriding criterion for the state investment policy and this is adhered to zealously, if not overly so. Almost as important to the treasurer is making the banking community feel confident in the state's ability to pay for warrants issued. Were he to fail in this, the warrant system could be prohibitively expensive through lawful service charges on each of the nine million warrants issued annually.

To ensure that warrants are easily redeemable, the treasurer has been convinced of the need to maintain an extremely liquid bank balance. Until 1973 the State Depository Board seemed to have a policy of maintaining 50 percent of the state's money in demand accounts and the other 50 percent in time accounts (see Chart II-8). This was done at a tremendous loss of interest but the treasurer believed it impossible to forecast a minimum cash balance needed in the demand accounts:

There is no generally accepted average daily balance in the demand accounts which is necessary to conduct the state's business. The balances in all funds in the Treasury are *technically* subject to being withdrawn on demand. Such balances are subject to daily and seasonal fluctuations and the disbursements of the funds are managed or controlled by varied and many agencies. Because of this it is *impossible* to accurately determine the maximum amount of withdrawals that might be made at any given time, and we must have sufficient demand account funds available for the immediate payment of all warrants that might be presented for payment.¹⁴

Using various forecasting techniques, a number of other states have been able to maintain a proper degree of liquidity while at the same time keeping their demand deposits at 3 percent or less of their total cash flow (see Table II-9). This low demand deposit ratio has allowed them to earn millions of dollars from surplus funds previously left idle in demand deposits. The past 10 years have been quite difficult in the market, yet none of the states contacted—even those with the most liberal investment policies—have lost any money.

Finally, the depository board has responded to the legislative mandate to apportion the deposits "as far as possible on a fair percentage basis" among qualified depositories.¹⁵ This is interpreted by the board to include both time and demand deposits. These provisions date from 1923 and predate both the growth in the number of Texas banks and the modern practice of governmental surplus cash management. Texas is unusual among the states

because of the large number of banking accounts it maintains (see Table II-10). It should be recognized that distribution of deposits does not speed payment of state obligations because all warrants are sent to district banks for payment.

Results of Policies

What have been the results of these policies? Chart II-8 shows the percentage of change in end-of-month balances for a five-year period. The use of special demand deposits varied during this period, but in a properly managed money system this should be unnecessary. As mentioned earlier, the use of special demand deposits in 1972 alone cost the state over \$7 million in lost interest. Maintaining an overly liquid treasury balance has lost the state millions more. Compared with the 17 states shown in Table II-9, Texas idle funds in 1973 averaged \$485 million while combined the other 17 states held only \$322 million.

If, during the 1971-75 period, the state had invested its money at a level of 97 percent instead of the 50-87 percent it actually maintained in time deposits, the state could have realized an estimated \$90 million more in interest earnings.¹⁶ This high level of time deposits could be maintained only if the state were to forecast its revenues and expenditures, which the present treasurer believes is impossible. The numerous demand deposits maintained in non-district banks average less than one transaction per year.¹⁷ As just noted, keeping these accounts is quite costly. If the state had been permitted to invest in out-of-state securities, such as Treasury bills (which were at one time earning 9.11 percent interest while state deposits were earning 7 percent interest) the state could have earned even more interest.¹⁸

Recent policy shifts have not been detected because data after 1974 are not available. It is known that time deposit rates are now earning 7 percent, currently higher than market rates, but the ratio of demand to time deposits is rising again. A Comptroller's report for fiscal year 1975 shows 22 percent of deposits were in non-interest bearing demand deposits. Based on Comptroller calculations, there was on the average \$215 million in excess demand deposits. At a rate of 7 percent interest this would have yielded an additional \$15.05 million if it had been invested in time deposits.¹⁹ Projected budget surpluses may be more than \$1 billion, indicating even greater losses in foregone interest for the next fiscal period.

TABLE II-9
DEMAND DEPOSIT BALANCES IN SELECTED STATES

Idle Funds by State (ADB) 1973

	<u>Amount in Millions</u>	<u>As a Percent of Total Cash Surplus</u>	<u>Percent of Cash Invested</u>
Alaska	\$ 24	3.4%	96.6%
Arizona	5	3.0	97.0
California	47	3.1	96.9
Colorado	14	4.4	95.6
Florida	46	6.0	94.0
Georgia	31	8.8	91.2
Hawaii	1	0.5	99.5
Idaho	6	7.2	92.8
Kansas	25	8.9	91.1
Louisiana	3	0.8	99.2
Maine	6	4.5	95.5
Missouri	31	14.1	85.9
New Hampshire	4	18.8	81.2
New Mexico	18	13.6	86.4
North Carolina	54	5.7	94.3
Oregon	5	0.4	99.6
Vermont	2	2.5	97.5
Texas (1975)	319	22.0	78.0
(1973)	485	51.0	49.0

Source: Bob Bullock (1976) *Money Management: Idle Funds* Office of the Comptroller (April 20, 1976): Austin, Texas
p. 21.

TABLE II-10

DEMAND DEPOSIT ACCOUNTS IN SELECTED STATES

<u>State</u>	<u>Number of Banks in the State</u>	<u>Number of Banks Used for Demand Deposits</u>
Alaska	15	3
Arizona	17	16
California	170	10
Colorado	248	4
Connecticut	65	65
Delaware	11	1
Florida	675	11
Georgia	450	7
Hawaii	8	7
Idaho	203	24
Illinois	1,187	2
Kansas	613	7
Louisiana	288	2
Maine	N/A	45
Maryland	113	23
Michigan	250	200
Minnesota	737	50
Missouri	679	3
Nebraska	350	14
Nevada	N/A	8
New Hampshire	74	18
New Jersey	234	73
New Mexico	76	4
North Carolina	830	200
North Dakota	170	1
Oregon	90	44
Tennessee	N/A	400
Vermont	N/A	7
Virgin Islands	212	210
Wisconsin	625	1
Wyoming	71	3
Texas (1975)	1,400+	1,240+

Source: Bob Bullock (1976) *Money Management: Idle Funds* Office of the Comptroller (April 20, 1976) Austin, Texas p. 22.

CHAPTER III

CASH FLOW FORECASTING

Financial managers must make accurate receipt and expenditure estimates to maximize earnings from surplus fund investments. Otherwise, demand deposits could become far larger than necessary to meet warrant redemptions. Such a situation leaves money idle in non-interest bearing accounts.

Alternatively, demand deposits in a deficit situation could force the treasurer to use non-interest bearing special demand accounts. Poor cash management causes interest earning losses in either instance. A cash flow forecasting system can prevent these unwanted cash positions by providing the treasurer with predictive data. If the timing of receipts and expenditures is known, the treasurer can foresee the need to liquidate assets or to invest idle cash; interest earnings are then maximized while providing adequate funds to cover all state warrant obligations.

Texas does not now employ a cash flow forecasting system, but most states do. Many of these cash flows forecasting systems consist of sophisticated computer programs that coordinate various state funds, sources of receipts and legal types of expenditures for specific tax revenues, all within practical investment restraints. However, the fundamental idea of forecasting can be easily presented.

REVENUE FORECASTS

The first step in forecasting revenues is to determine from where the money is coming. The basic element that provides information is historical data. Additionally, revenue data can be drawn from the comptroller and other agencies with revenue collection authority. In other states, data from individual state agencies is also collected because they often receive federal grants and other monies. An overview of most state revenue sources is outlined in *The State Tax Guide* which lays out the title, yield, percentage rate base, and due dates for all present Texas taxes and fees.²⁰ Financial balance sheets, statements, statistical schedules, and audits are public record and can also be consulted. The data could then be analyzed, aggregated, and plotted historically for the state as a whole. This would provide the treasurer with a "cash calendar" with which to predict revenue collections. Exceptionally large receipts

should be tagged and removed from the "cash calendar" to make a smoother cash flow and to enhance forecasting capabilities.

EXPENDITURE FORECASTS

Expenditures seem to be a more difficult element to predict. Except for states like Louisiana, which legally require all expenditures to be scheduled beforehand, most states use budget appropriation figures to estimate expenditures. Budget authorizations give the treasurer a good outline of future expenditures and their timing. As a safety feature, Colorado refines this process by adding a yearly across-the-board percentage increase to all state expenditures. But, whether fixed or variable, all expenditures can be accounted for in advance. For instance, bond retirements are fixed at the time of sale as to principal and interest, while payrolls of different agencies tend to fall on the same day of each month. Blanket expenditures, petty cash funds, imprest funds and the like may be variable at the exact time of their expenditure, but over time tend to regularize to form a discernable pattern—usually in a cyclical expenditure pattern. Even for variable expenditures to purchase materials, supplies, and services, patterns of expenditures can be deduced as an aggregate cyclical phenomenon with normal monthly peaks and valleys.

COORDINATING REVENUE-EXPENDITURE CYCLES

The next step is to combine the two forecasts. In Louisiana, the legislature passed laws which acted to smooth out revenues and expenditures patterns. Tax payment dates were rescheduled. Expenditures were required to be paid by type and by date. Salaries in all state agencies were required to be paid on the 16th of each month. Supply and service payments were scheduled to be payable only on specific dates. Each agency was required in the new constitution to provide advance notice of all expenditures by including them in the yearly budget request. All expenditures, whether normal or emergency, were sequenced with the treasurer's cash flow forecast. Only windfall revenues were not encompassed in the Louisiana scheduling requirements. Unlike Louisiana, Texas

has no revenue-expenditure forecasting system. Drastic cyclical fluctuations are the norm in Texas (see Chart III-1). For example, in 1972 revenues ranged from less than \$25 million in September, climbed to \$200 million in November, and fell to \$40 million in December. During the same four-month period, expenditures ranged from a low of \$110 million to a high of \$210 million.²¹

Good communication with depository banks must be established because precise warrant redemption data are vital to good expenditure and investment forecasts. In the late afternoon, banks could provide estimates of the following day's warrant redemptions. This would give investment officers a rough figure with which to judge the need for short-term investment or liquidation of assets. Early the following morning, the banks could reassess the day's warrant business. The investment manager could then finalize his investment decisions for that day. By subtracting the warrant redemptions and the required compensating balance from the total demand deposit size the idle cash figure is determinable. If it is positive, cash can be invested in short-term investment instruments with maturity dates synchronized to future revenue and expenditure patterns. If negative, invested assets equal to the bank's warrant estimate can be liquidated to cover the daily demand.

LENGTH OF FORECAST

Various time periods are used in forecasting. Periods of projection usually begin with a yearly estimate based on line-item budget appropriations and projected receipts. These figures provide a broad set of limits. Yearly estimates are broken down into quarterly, monthly, weekly, and daily figures. Other patterns can be used. For example, Georgia uses a 10-day "rolling" estimate, updated daily. This provides a constant 10-day data lead time. Louisiana uses a 90-day estimate superimposed on its yearly estimates. Such compilations of receipt and expenditure data into periods provides the treasury with a cash calendar with which to base future trends.

From the states interviewed, it appears that an effort is made to keep the forecasting process as simple as possible. Most receipt projections are generated manually. Treasury personnel call all receipt collectors and instruct them to derive their own forecasts and then to transmit the data to the treasury. Expenditure forecasts are more often produced from a computer program which assimilates all disbursement data. Officials in Louisiana, however, expressed some disapproval of complete reliance on computer programs. They believe computer programs are too inflexible to cope with certain extraordinary revenues that unexpectedly occur. Even with this reservation, Louisiana successfully relies on computers for the bulk of its forecasting.

Many states insist upon internal management of the forecasting system even if consulting firms were hired to design it. Georgia, Louisiana, and Colorado all stressed the importance of having career personnel trained in forecasting techniques rather than hiring outside personnel or structuring a forecasting unit external to the treasury. This concept serves three functions: Existing personnel have a better understanding of the idiosyncracies of their state's financial patterns; it saves money; and by eliminating additional personnel costs, legislatures have been more receptive to the establishment of forecasting systems.

INVESTMENT STRATEGIES

Short-term investment strategies can be derived directly from accurate cash flow forecasts. Investment strategies are a function of: daily net cash position, prevailing interest rates and practical restraints on the number of alternatives. These restraints consist of statutory limitations, minimum denominations required to purchase certain securities, for example, certificates of deposit (CDs) often come in \$100,000 denominations, maturity dates of the instrument and market conditions. A carefully designed computer program can assimilate receipt and expenditure data and derive the soundest investment strategy which conforms to the given restraints. Three states interviewed in depth on forecasting all used short-term instruments, particularly certificates of deposit and repurchase agreements.²² Their investment officers use the programs for adjusting their investment mix to coordinate demand deposit size with expected warrant demands. For instance, since the treasurer knows when large payroll warrants are to be redeemed, he can synchronize CD maturity dates to expire when the warrants are due. Repurchase agreements (RAs), which can be traded daily, are used to cover unforeseen expenditures. By timing investments and liquidations with cash needs, demand deposits can be kept at a minimum while providing the maximum amount of cash for investment.

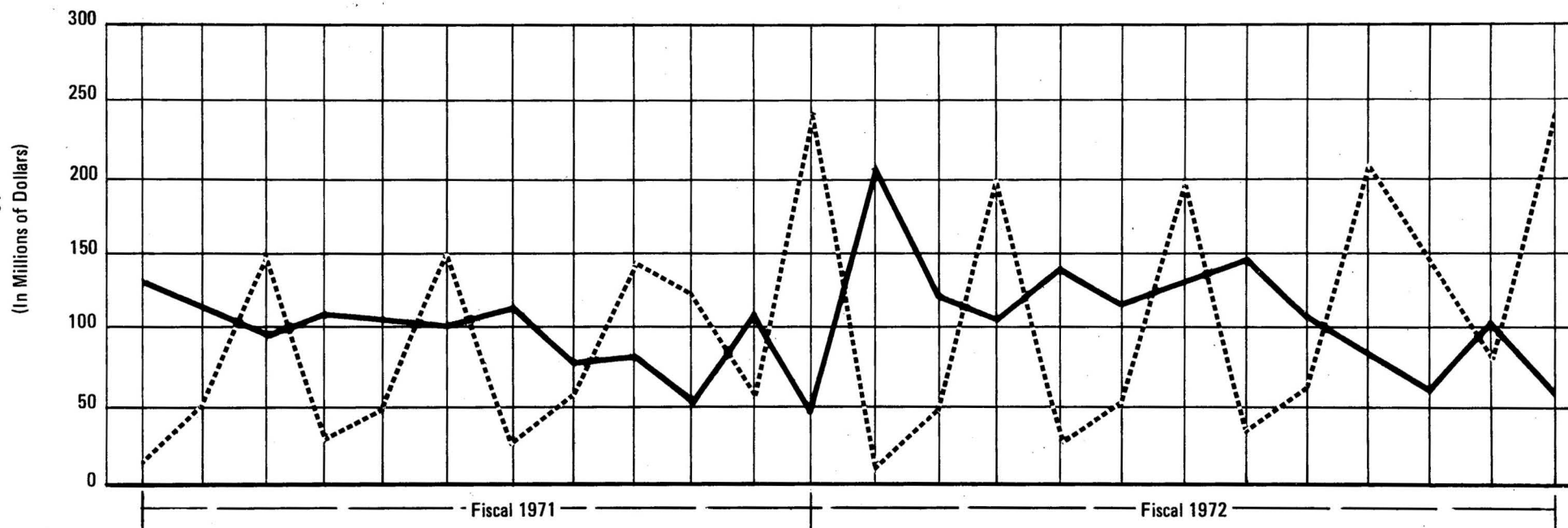
Louisiana officials claim to have increased their interest earnings as a direct result of their forecasting system from \$1 million in 1968 to \$45 million in fiscal 1975. Colorado's system, which began in February, 1976, is predicted to increase that state's interest earnings by 10 percent. The experiences of these states show that forecasting is possible. A carefully designed and implemented forecasting system can not only increase the efficiency of a state's investment program, but can facilitate a much higher yield on those investments.

Without an extensive cash flow analysis it is impossible to say by what amounts Texas could increase its surplus cash investments. However, our survey of ten leading states (Appendix C) indicates that 97 percent investment of

CHART III-1

REVENUES AND EXPENDITURES OF THE GENERAL REVENUE FUND
FOR FISCAL YEARS 1971 AND 1972

..... Revenues
———— Expenditures



Source: G. McNiel, *Money Management Study*, ibid, pp. 35-36.

treasury assets is not an unreasonable goal. Figures shown in Table III-2 are based on a goal of 97 percent investment. Using the actual interest rate earned on time deposits during each of the years in question, the estimated losses

due to idle cash were calculated. The 5-year total (1971-1975) is estimated at \$91 million lost. Similar calculations employing different investment goals and rates of return can be found in Appendix E.

TABLE III-2

CALCULATED LOSS OF POTENTIAL INTEREST 1971-5

FISCAL YEAR	TOTAL DEPOSITS	AMOUNT THAT SHOULD HAVE BEEN INVESTED (97%)	INTEREST RATE IN EFFECT (ACTUAL)	INTEREST THAT SHOULD HAVE BEEN EARNED	ACTUAL INTEREST EARNED DURING FISCAL YEAR	ESTIMATED LOSSES
1971	\$ 562,300,000	\$ 545,430,000	4.97%	\$27,100,000	\$15,185,000 ¹	\$11,915,000
1972	685,700,000	665,130,000	4.96	32,990,000	16,573,000	16,417,000
1973	955,000,000 ²	926,350,000	5.36	49,650,000	25,561,000	24,417,000
1974	1,105,700,000 ²	1,072,530,000	6.68	71,640,000	51,674,000	19,971,000
1975	1,448,100,000	1,404,660,000	6.83	95,900,000	77,100,000 ³	18,838,000
				TOTALS:	\$186,093,000	\$91,232,000

NOTES

1. Number obtained from Auditor's Report
2. Comptroller's estimate of daily balance
3. Comptroller's estimate

CHAPTER IV

SHORT-TERM INVESTMENT INSTRUMENTS

Once a money manager can forecast receipts and expenditures, the next step is to invest the predicted cash surplus. The primary duty of a state treasurer is to safeguard state revenues, but, as cash surpluses begin to accumulate and state taxes become more burdensome, the state treasurer assumes a greater responsibility for ensuring that the state will receive the maximum interest returns on the money entrusted to his care. Less than vigorous investment policies could eventually force the taxpayer to make up for the millions left unearned by a weak investment policy. To obtain the highest possible interest returns, with appropriate concern for security and liquidity, a money manager should be allowed a flexible range of investment instruments to permit intelligent investment choices as the securities market changes.

Very few states, according to a Council of Governments survey (1975), limit the investment decisions of their short-term money managers as severely as Texas does. In Texas the Depository Law currently authorizes the State Treasurer to deposit state operating funds in demand and time accounts only. Several states combine bank deposits with U.S. Treasury obligations (Florida, Hawaii, Maryland, Indiana, and others); some states, such as Georgia, add authority for repurchase agreements in U.S. Treasury securities; and, on the other end of the investment spectrum, Vermont permits, and its treasury actively seeks, commercial paper investments.

Certificates of deposit, U.S. Treasury obligations, and repurchase agreements are common investment instruments in most states. Even greater latitude is given the investment officers of California and Washington (see Table IV-1).

Within the state of Texas wider investment authority is given some of the other state Funds. For example, the State Comptroller invests General Revenue Sharing funds in U.S. Treasury bills. The Permanent University Fund, the Employees Retirement System, and the Teachers Retirement System all are permitted to invest in short-term commercial paper. Of the four major Funds held outside the treasury only the Permanent School Fund places temporary cash exclusively in time deposits.

As mentioned earlier, security is the major consideration in the investment of public funds. For this reason, officials may be happy to operate under restrictions which minimize

the risk of investment. In addition, they may choose not to use all of their investment authority. Investment income foregone is not as potent a political issue as is lost principal. The states of California and Colorado are exceptions to the "security comes first" rule because they place a higher yield equal to security as an investment policy, unlike Texas which places prime emphasis on security.

The amount of authority given to investment officers varies among states. "Legal lists," or lists of approved investments, are commonly established by statute. A few states prescribe ratios of diversified portfolio holdings. Investment authority is often placed with a board or is divided among elected officials. At the other extreme, a few states give discretionary authority to a single investment officer under a "prudent person rule." It is to be noted that none of the state treasuries examined during the course of this study have experienced losses in their short-term investments during the last 10 years while all have had broader investment discretion.

The interest returns of Texas cannot be validly compared with the rates received by other states because of the varying legal requirements in each state, but it is instructive to examine the earnings of the state on its time deposits during the past two decades (see Table IV-2). When examining the increase in earnings, remember that state budgets have increased phenomenally during this period.

Texas has enjoyed a substantial increase in the interest rate earned by its time deposits during the period covered by Table IV-2. Table IV-3 shows, however, that interest rates on all forms of investment were rising during this period. This table also shows that during most of the last 15 years the state's money could have been drawing greater interest in investments other than time deposits. Only occasionally have the rates paid by Texas banks exceeded the U.S. Treasury rate on 6 month notes. The past fiscal year was one such period.

In summary, Texas' depository law provides restrictive investment policy which, if compared to alternative investment methods available, has resulted in lost investment opportunities. Most other states have limitations on the discretion of their investment managers, but few impose legal restrictions as severe as those placed on the Texas State Treasurer.

TABLE IV-1

COMPARISON OF SHORT-TERM INVESTMENT INSTRUMENTS

California

- Time Deposits and Certificates of Deposit
- U.S. obligations and bonds
- Federal agency securities
- State, city, county, local bonds
- Prime commercial paper
- Repurchase agreements
- Bankers acceptance
- Bills of exchange for time drafts

Washington

- Certificates of Deposit
- U.S. obligations and bonds
- Federal agency securities
- State, city, county, local bonds
- Prime commercial paper
- Repurchase agreements
- Common preferred stock
- Reconstruction, inter-American development and National Mortgage Association bonds, debentures, or notes
- Mortgages
- Obligations and bonds of Canada
- Bonds and obligations of any state
- Equipment trust certificates

NOTE: Neither state uses its full investment authority. California is not now using banker's acceptances or bills of exchange, while Washington is not using mortgages or common stocks for short-term investments.

TABLE IV-2

INTEREST RATES AND INTEREST EARNINGS ON STATE TIME DEPOSITS
IN DEPOSITORY BANKS, FISCAL YEARS 1951-1975

Year	Interest Rate ^A	Interest Earnings
1951	3/4%	\$ 156,620.36
1952	3/4%	234,132.71
1953	3/4%	288,909.53
1954	3/4%, 1-1/2%	965,496.58
1955	1-1/2%	1,160,273.24
1956	1-1/2%	1,747,801.24
1957	1-1/2%, 2%	2,475,889.35
1958	2%, 2-1/2%, 2%	3,101,690.77
1959	2%	2,199,132.70 ^B
1960	2%, 2-1/2%	1,742,949.35
1961	2-1/2%	1,578,844.26
1962	2-1/2%	1,597,122.73
1963	2-1/2%, 3%	2,966,478.83
1964	3-1/2%	5,490,033.80
1965	3-1/2%	5,988,367.67
1966	3-1/2%, 4%	8,706,204.93
1967	4-1/2%	10,995,093.64
1968	4-1/2%	11,526,425.64
1969	4-1/2%, 5%	12,529,800.35
1970	5%	14,820,567.00
1971	5%	15,185,156.00
1972	5%	16,572,523.00
1973	5%, 6%, 7%	25,560,550.00
1974	7%	51,673,633.00
1975	7%	77,100,000.00 ^C

^AMore than one rate for a fiscal year indicates that the interest rate was raised or lowered by action of the Depository Board at some point during the fiscal year.

^BThe decrease in interest earnings beginning in FY 1959 resulted from shifts of state funds from time deposits to Special Demand Accounts that were necessary to "finance" the deficit in the General Revenue Fund that began in October, 1958

^CComptroller estimate

^DRefer to Appendix D for comparison of annual earnings with annual revenues.

Source: Compiled from *Audit Report, State Treasury Department, 1951-1974*, Office of State Auditor, Austin, Texas.

TABLE IV-3

COMPARATIVE INTEREST RATES AVAILABLE
FROM ALTERNATIVE INVESTMENT INSTRUMENTS
(MEASURED IN PERCENT) FY 1960-1975

Texas Fiscal Year	US TREAS. BILLS (90 days) ^a	US TREAS. BILLS (180 days)	Savings & Loan ^b	Banker's Prime Rate ^c	Depository Board Interest Rates	
					Actual (set)	Earned Yield ^d
1960	3.557	3.635	3.50	4.5	2.5	not avail.
1961	2.366	2.593	3.50	4.5	2.5	"
1962	2.656	2.856	3.50-4.00	4.5	2.5-3.0	"
1963	2.935	3.021	3.50-4.00	4.5	3.0-3.5	"
1964	3.493	3.623	4.00	4.5	3.5	"
1965	3.805	3.896	4.00	5.0	3.5	"
1966	4.488	4.651	4.00-5.50	5.5-6.0	3.5-4.5	"
1967	4.521	4.740	5.00	5.5-6.0	4.5	"
1968	5.084	5.363	5.00	6.0-6.75	4.5	"
1969	6.060	6.208	5.00	6.0-8.5	4.5-5.0	"
1970	6.967	7.106	5.00-5.75	8.5-7.0	5.0	"
1971	4.727	4.908	5.75	6.5-5.0	5.0	4.97
1972	3.917	4.279	5.75-5.00	4.5-5.8	5.0	4.96
1973	6.070	6.312	7.25	6.0-10.0	6.0-7.0	5.36
1974	7.884	7.968	7.50	8.7-12.25	7.0	6.68
1975	6.345	6.595	7.75	8.70	7.0	6.93

^aTB rate is actual market yields. *Fed. Res. Bulletin* (monthly 1968-76) Board of Gov. of Fed. Res. Sys.: Washington, D.C., vols., 56-62.

^bFor deposits of \$1,000-\$100,000. Effective 27 Nov. 74, gov't units were permitted to hold deposits under \$100,000 and could receive interest rates irrespective of maturity dates. Also, after 21 Jan. 70, maximum rates of interest on all single maturity deposits over \$100,000 were suspended.

^cAverage rate or annual range of figures.

^dCalculated earned yield on all state time deposits. Prepared by the Comptroller's Office.

CHAPTER V

“KEEP THE MONEY AT HOME”

The preceding chapter discussed expanded investment opportunities which could increase the rate of return on state investments. Why did the state adopt the policy to keep all of its deposits in Texas banks rather than diversifying its investments? The State Depository Law and the state's short-term investment policies are based on a theory often referred to as the “keep the money at home” principle. The question is whether the state should seek to maximize the rate of return on its investments, for instance by also investing in out-of-state markets, or place surplus

state funds only in local banks, which traditionally give lower rates of interest but supposedly reinvest these funds in the form of local loans. Both positions have been expounded by expert economists. Neither side has proven its argument. However, current policy is to accept the latter argument and to invest state surplus funds only in Texas bank time deposits. Arguments both for and against this proposition are complicated and empirical data are lacking to resolve the debate.^{2,3} The issues are summarized in the following table:

TABLE V-1

PROS AND CONS OF THE “KEEP THE MONEY AT HOME” ARGUMENT

PRO

1. State deposits permit banks to increase the amount of local loans, including farm and small business loans.
2. The loans result in local spending and stimulation of the local economy; growth in local personal income is a multiple of the amount of loaned money (multiplier effect) and results in sales tax income to the state owing to increased purchasing by citizens. The increase in tax revenues offsets the lower income of bank deposits relative to out-of state investments.
3. State deposits provide extra loan capacity which permits the banks to serve those who are not “preferred” customers.
4. Taxes paid to the State are removed from the checking accounts of the taxpayers. Unless returned to the banks in the form of demand deposits or low interest time deposits they reduce bank capital.

CON

1. State deposits form a small fraction of bank reserves (approximately 2%) and do not substantially affect the ability to make loans; further there is no guarantee that local loans will be made with the money. If national security markets offer attractive alternatives, banks are free to invest out-of-state. Conversely, if local loan opportunities are great, funds may enter the State to support local loans. Further, collateral requirements reduce the loan reserves and the ability to make loans.
2. The extent of the multiplier effect has never been demonstrated nor is it certain that loaned money will be used to make purchases in the State.
3. If the State fails to realize the maximum income on idle funds, the taxpayer's money is being wasted.
4. Taxes are paid from time deposits and savings and loans.
5. The State is under no obligation to subsidize the banks.

Proponents of the "keep the money at home" argument feel that to maximize the rates of return for the state as a whole the state must forego larger direct yields in the out-of-state markets and invest in local banks at a lower rate of return. The difference will be made up by the increased lending power available to the banks so they can generate more loans for local industries. Proponents of this theory also assert that by lending these state funds a "multiplier effect" could create new money several times the original amount of the loan. Thus, tax receipts for the state could grow appreciably and could then be reinvested in local banks and the process could begin again. If all this were true, it could help explain the immense prosperity of the businesses in the state. But, in an interview with a major holder of state funds, it was found that it was that bank's policy *not* to compute state funds held by that bank in its loan ratio and *not* to invest state funds in local loans.²⁴ The reason given was that state funds were subject to rapid withdrawal and they were historically unpredictable, therefore the bank could not depend on them for stable investments. It is not known to what extent this policy is maintained by other Texas banking institutions, but it appears that the "keep the money at home" argument in Texas' case is negated because some banks invest the money in out-of-state markets.

If the state truly desires an enforceable "keep the money at home" policy it has several alternatives. The State

Depository Board could be authorized to acquire shares of savings and loan institutions. These institutions, by law, may pay slightly higher rates of interest on deposits than commercial banks (currently they may pay 7¼ percent to government institutions). Expanding the Board's authority in this area might, first, improve its negotiating position with the State's banks. Second, this type of investment more effectively keeps the money at home since savings and loans institutions not only make deposits with local commercial banks but also make loans to local businesses and individuals.

Another alternative might be patterned after the Illinois Plan. Rather than assuming that deposits of state money in local banks will generate local loans, Illinois assures local use of funds by distributing time deposits as a reward for participation in local development programs. For instance, if the state wanted to encourage banks to invest in a specific capital project beneficial to the state it could offer deposits to those targeted institutions.

In summary, it may be seen that Texas purportedly bases its short-term investment policies on the "keep the money at home" theory. The state forgoes the opportunity to use investment instruments which may return a higher yield in hopes that by investing the money locally it will generate local business loans. In practice, there is no assurance that the banks will not themselves invest the state funds outside of Texas.

CHAPTER VI

RECOMMENDATIONS FOR IMPROVEMENT OF SHORT-TERM INVESTMENT POLICY

RECOMMENDATION ONE

The treasurer should initiate a complete cash flow forecasting study. This study would provide recommendations for the organization, methodology, and implementation of a sound forecasting system to be adopted by the treasurer as soon as practically possible.

Texas does not have a cash flow forecasting system. The state treasurer has maintained for years that he has no means of predicting warrant demands. Thus, he is compelled to hold excessively large sums of money in demand deposits. He also has stated that establishing a forecasting system in Texas is unnecessary. However, given the nature of Texas' financial management structure, such a system could easily be created.

The treasurer is responsible for custody of all state funds and for surplus cash investment. As the administrative agent of the State Depository Board, the treasurer is in the unique position to coordinate cash flow. Precise receipt estimates could easily be provided by the comptroller, who currently directs a sound revenue estimating system. Although Texas could have difficulty collecting data from the 225-plus state agencies, it is possible. Louisiana has 236 agencies and receives precise information with little or no difficulty. On the expenditure side, the Legislative Budget Board and the Governor's Budget Office have sophisticated budget systems capable of giving accurate data to the State Treasury.

Whereas the treasurer can only invest idle cash in time deposits, he can negotiate maturity dates and interest rates. The 30-day lag on interest earnings and the 14-day withdrawal notice for time deposits could be circumvented if the timing of warrant obligations was sequenced. Again the treasurer is in a unique position enabling him to coordinate maturity dates with warrant demands.

The major drawback to any Texas forecasting system is the proliferation of demand deposits. It would be appropriate to consolidate these deposits into a maximum of four accounts since the treasurer has testified that most banks do not regularly redeem warrants. Even if they do handle warrants, they send them to their corresponding banks for repayment. It is possible to arrange for a network of corresponding banks, for instance, two banks in Austin and

one each in Dallas and Houston. In Article 2533 of the State Depository Law the board has been instructed to designate *one* or more banks which have been selected as state depositories in centrally located cities to be used for clearing checks and other obligations. The treasurer's leverage on the depository board could be used to inform the banks of any consolidations. Consolidated demand deposits would allow for more investment in time deposits.

Beyond the initial costs of a study, no new costs need be incurred by the state. The treasury department could distribute forecasting duties among existing personnel. A forecasting system could make the treasury more efficient since all financial transactions would be predicted and coordinated.

There are no legal restrictions prohibiting a cash flow forecasting system in Texas. However, an optimum cash flow forecasting system would require consolidation of demand deposits. In any case, the initiative would be the sole responsibility of the treasurer.

RECOMMENDATION TWO

The large amounts of money held in demand deposits should be reduced to 4 percent or less of the treasury's average daily balance.

Based on both the experiences of other states and the recent analysis by the State Comptroller's Office,²⁵ there is sufficient evidence to prove that too much state money is held in demand deposit accounts and that this situation has resulted in tremendous interest losses (see Table IV-2 for cumulative estimated losses over a 5-year period). Other states manage to invest 96 to 99 percent of their average daily balance and there is no technical reason that Texas cannot do the same (see Table II-9). Since the state's revenues have increased by 86 percent in the past five years and they are anticipated to grow at a faster rate in the foreseeable future, it is essential that the state reform its policies on demand deposits or the potential interest losses will be considerable.

A statutory revision to allow the reduction in the number of banks holding demand deposit accounts is strongly recommended to meet the goal set by this recommendation. The large number of demand accounts

serve no vital purpose in the conduct of the state's business. Reducing the number of accounts will not harm the state's ability to meet its debts. Most banks do not redeem warrants against the deposit held in their accounts. Rather, they forward them to one of the state's clearing banks for processing. The state should, through some process such as bids, designate a handful of banks to serve as account managers for the state. Other states are successful in doing so (see Table II-10). By reducing the number of accounts, more money would be available for investment purposes. For instance the U.S. Postal Service, beginning in 1972, consolidated its 32,000 accounts to 9,600. This increased surplus funds for investment by about \$200 million and thus yielded investment income of \$10 million.²⁶

If the state were to drastically reduce its demand deposits, it would need to consider a fair compensating balance for bank services rendered. Since the banks do not presently have a formal compensating balance arrangement with the treasury, records are not kept on the cost of their services. These services currently include handling state deposits, paying state checks and warrants, and servicing bond coupons and investment instruments held by the treasurer for Funds other than operating Funds. In addition the banks absorb the cost of "float" on the clearance of state warrants.

The experience of other states may provide a rough index of the appropriate level of compensating balances. New Mexico, which has a single fiscal agent, keeps \$2.5 million on deposit as a compensating balance; Maryland, with a total of three fiscal agents, holds \$4.1 million on deposit; and California, which has demand accounts in nine banks, keeps an average daily compensating balance of under \$12 million.

RECOMMENDATION THREE

The State Depository Law should be amended to give the treasurer additional authority to invest surplus state monies in U.S. Government securities, federal agency securities, repurchase agreements, certificates of deposit, and Texas savings and loan shares.

Currently, state investments of surplus operating funds are made only in time deposits in state commercial banks. By contract, these deposits are generally tied to a compensating ratio of non-interest bearing demand deposits. This policy has tended to dampen interest income on these public funds for two reasons, the first precipitating the second:

1. The State Treasurer must negotiate with a single set of investment recipients—the commercial banking community—to determine amounts to be invested, to set a single interest rate on time deposits and to agree on the minimum withdrawal notice.

2. The ratio of demand deposits to time deposits is very excessive. As a result, the *actual yield* earned from state surplus money, even when the time deposit interest rate is high, is below acceptable levels.²⁷

During fiscal year 1975 the treasury maintained a demand to time deposit ratio that averaged 22 percent. An analysis of 10 other states conducted by this project (see Appendix C) shows that none of these states ever invested less than 95 percent of their surplus funds in the past few fiscal years. Moreover, none of these states suffered any loss of principal on public funds so invested. Several of these states employ warrant-and-check systems similar to Texas, but unlike Texas they do not use that payment system as an excuse for a low investment rate. From the record of these other states it can be surmised that the cause of a low rate of return does not lie in the payment mechanism but in the range of investments available and the administrative investment policies pursued.

Using day-end balances of the Texas time and demand deposits for fiscal year 1975, this project executed a computer analysis which allowed us to determine that if excess average daily deposits had been invested in U.S. Treasury bills at the prevailing interest rate, and allowing 5 percent of the funds to remain idle to meet daily cash needs, \$16,030,717 in additional interest would have been generated.²⁸ Allowing only 3 percent to remain idle (a level easily attainable, as shown by Table II-9 which shows the results of surveys of other states), we calculated the potential interest income sacrificed by Texas to be \$17,886,321.

As a consequence of the inflexible state investment portfolio and the treasurer's weakened bargaining position with banks, investment of surplus funds in time deposits averaged 78 percent in 1975. Had it been at a 95 percent level of investment in time deposits, earning 6.92 percent interest, which the treasurer claims was the rate of interest on time deposits for that year, our computer analysis showed interest income of \$17,101,795 foregone. If state surplus money had been invested at the more desirable 97 percent level at that same interest rate, yield on these public funds would have been increased by \$19,106,529. Since interest earned on public funds is as much public property as the principal itself, management of those funds should be improved.

With greater choice among investment instruments, including U.S. Government securities, federal agency securities, certificates of deposit (CDs), repurchase agreements (RAs), and savings and loan shares, the treasurer could have gained a higher average yield by selecting those instruments bearing the highest market yield available. As stated earlier, this would have the added beneficial effect of forcing banks to be more competitive for state deposits. At present, banks can look to the market and use it to force the treasurer's time deposit interest rate down, but the converse is not also

true. The treasurer can use the market to demand higher interest rates on time deposits but in the end he *must* put all his money in time or demand deposits only, and the actual yield is therefore consistently lower.

It would be especially beneficial if the treasurer could invest money on a daily basis. By using negotiable certificates of deposit or repurchase agreements for 1- to 29-day investments (as is done in most other states), four supplementary benefits could be obtained.

1. With CDs and RAs at the treasurer's discretion, money in surplus over daily cash needs for only a few days could be invested for interest and not left idle in demand deposits.

2. If cash flow projections were in error because of such things as windfall revenues, surplus monies could be immediately invested whereas they would now lie idle until the treasurer can place a time deposit.

3. If cash flow projections err, resulting in a daily cash deficit, the treasurer could liquidate highly negotiable CDs without loss of principal and still produce interest revenue.

4. Finally, very short-term investments in CDs and RAs would allow the treasurer to invest idle funds for immediate interest earnings until longer term, higher yield investments became available. It is perhaps important to understand that we are referring to money which the treasury does not now invest.

The expansion of investment authority to include use of state savings and loan institutions would be sagacious. First, they can pay, by law, a higher rate of interest than commercial bank time deposits. Since 1974, savings and loans were permitted to hold government deposits at rates of interest higher than commercial customers irrespective of maturity dates.²⁹ Second, in keeping with the investment purpose of bolstering local economic development, savings and loans would be most useful because they not only keep accounts with local commercial banks, but they uniformly put more money into local loans than commercial banks do.

Perhaps the most significant argument that can be raised for broadened investment discretion relates to the principle of security which now preoccupies present Texas investment policies. Collateral required to secure time deposits is generally U.S. Government securities.³⁰ If U.S. securities and federal agency securities backed by the full-faith-and-credit of the U.S. Government are secure enough to serve as collateral, they must be equally secure as investments in and of themselves. Furthermore, CDs and savings and loan deposits are also protected in their principal by the U.S. Government through FDIC and FSLIC.

Note that this recommendation does *not* include commercial paper, stocks, bonds, bankers acceptances and the like. As was stated by the investment officer of the State of Louisiana, "such investments change too drastically, too

quickly for you to make any adjustment in your investment."³¹ We have recommended only those eminently secure investment instruments which do not diminish the present safety of public funds, but which, by increasing portfolio flexibility, enable the treasurer to prudently exercise discretionary authority and thereby ensure that "the State shall receive the highest rate of interest possible on such funds."³²

RECOMMENDATION FOUR

Time deposits should be placed and liquidated on a carefully planned basis consistent with the need for working capital. Such deposits should also serve as stimuli to local economies within the state.

Texas holds all of its surplus fund investments in commercial bank time deposits. This is an attempt to use its funds to stimulate local economic development. Illinois, a state of about the same financial magnitude as Texas, serves as a good contrast to the weaknesses of Texas' "keep the money at home" policy. The Illinois Plan (see also Appendix C) was implemented in 1971 to apportion time deposits to over 900 state banks. Under this Plan, time deposits are placed for 30-, 60- and 90-day periods on a staggered basis throughout each month. Each investment is based on a series of cash flow forecasts which anticipate daily cash needs. Thus, the time deposits mature precisely when the cash is needed. Conversely, Texas places its time deposits without definitive maturity dates. When it is determined that cash will be needed, two-weeks notice must be given to the depository banks prior to removal of a time deposit. This reactive pattern is inefficient in meeting emergency cash needs.

Policy goals of both the Texas and Illinois depository systems stress support of local economies within the states. Whereas the Illinois system is a planned, purposeful effort to achieve those ends, Texas' is not. Illinois has a four-part program which allocates time deposits to specific banks as "rewards" for specific financial loans the banks make to projects deemed to be in the public interest. Other time deposits are placed in banks on a competitive bid basis in conjunction with the individual bank's deposit-to-loan ratio. Texas has no comparable programs to insure public funds are kept within the state. It, instead, sets an interest rate amenable to the banks, and divides deposits on a prorated basis—not on a loan-to-deposit ratio which is a ready measure of local use of funds.

Louisiana, while it deposits its funds in a manner similar to Texas, reviews the schedules and financial statements of banks after making deposits to see if the banks are using them for local loans. Texas, however, does not examine the bank's secondary investments of state funds to determine if they are actually used locally. With no program to

encourage the investment of state funds at either a primary or secondary level, the Texas effort to stimulate local economic development through time deposit investments is futile.

Two policy modifications are suggested:

1. *Stagger time deposit investments.* Time deposits should be staggered by both investment and maturity dates in a planned system. Additionally, the Depository Board should strive to negotiate a minimum withdrawal period for its time deposits. This would allow more flexibility in the use of time deposits and produce a greater ability to meet cash needs while achieving a higher level of investment.

2. *Establish incentives for in-state investment.* If Texas is to invest state funds to encourage local economic development, it should establish incentives for in-state investment. The difference between the Illinois and the Texas "keep the money at home" approaches is analogous to the difference between federal block grants, where total discretion for its use is in the hands of the users, as opposed to categorical grants as exemplified by Illinois' system, where use is determined prior to the award. Deposits to banks should be made for specific purposes, and measures such as loan-to-deposit ratios should be used to encourage banks to invest money locally and to ensure that it is not being reinvested in national investment markets.

RECOMMENDATION FIVE

The state should reduce the number of Fund accounts it maintains.

Currently the state has around 300 different Funds in the treasury. Several agencies financed by special or dedicated Funds should be financed through the General Revenue Fund. The reduction in the number of accounts would increase accountability and reduce bookkeeping. This reduction would provide more flexibility in money management and reduce the need for special demand deposits. It would also make these monies more accountable to legislative intent.

Generally accepted accounting principles stress the reduction of the number of separate Funds to as few as possible.³³ Accountability and verification of the accuracy of records is thereby simplified and administrative costs reduced.

One of the major benefits of consolidating the fund structure would be increased money management flexi-

bility. Present constitutional and statutory restrictions prohibit interfund transfers, limiting the treasurer's ability to invest surplus funds because he must consider the sources and expenditures of dedicated Funds required by myriad statutes.

This causes forecasting difficulties, but more significantly it necessitates the use of special demand accounts when the General Revenue Fund is in a temporary deficit. During recent testimony, the Treasurer asserted that the state may need to return to the use of special demand accounts in the foreseeable future even though the state has an anticipated cash surplus.³⁴

Most legislation encompasses restrictive provisions whose purpose is to preserve the integrity of the Fund and to insure the implementation of the legislative intent. This purpose has not always been met.

RECOMMENDATION SIX

The Local Education Fund accounts should be incorporated into the general fund structure of the state.

The Local Education Fund (LEF), enacted in 1951 (Education Code, Article 51.003), is the only operating Fund in the state with its own set of bank accounts, physically separated from the other state operating Funds. Although the amount of money is relatively small (\$19.1 million in 1974), it should not be separated. As a separate Fund, its accountability to the treasurer is weakened because universities do not have to maneuver through the warrant-and-check system to spend this money.

An unusual legal restriction requires that these monies be deposited in a bank nearest to the university generating the money. Since the banks are aware of this restriction, they have the opportunity to take unfair advantage of the universities. A 1971 study showed that Lamar University held \$332,500 in a demand account at a local bank and between 1966 and 1969 the account was inactive.³⁵ Accordingly there was no interest earned on the deposit.

Investment of the funds has been generally neglected. It was not until 1968 that LEF money began to be placed in time deposits even though 17 years of experience showed the Fund to be extremely stable. Currently two-thirds of the money is invested in time deposits. This is a vast improvement, but higher returns might be possible if the money were invested in the General Revenue Fund.

FOOTNOTES

¹This is derived by dividing total 1975 expenditures (\$5.38 billion) into the total amount expended from the General Revenue Fund (\$1.75 billion) to determine the percentage rate. The figures are from the Comptroller's 1975 Annual Financial Report.

²Daron K. Butler, *Subcommittee on Administrative Support and Fiscal Management: Initial Report with Recommendations to the Joint Advisory Committee on Governmental Operations* (Austin, Texas, TACIR, 1976), p. 49.

³State Depository Law Article 2543d (3), VATS.

⁴G. McNiel, *Money Management Study*, Office of the State Auditor (Austin, Texas, 1973), p. 31.

⁵*Constitution of the State of Texas*, art. 3. sec. 49a; art. 8, sec. 6.

Vernon's Annotated Revised Civil Statutes, art. 4357.

⁶The preceding process was derived from discussions with agencies, the Comptroller's Office, banks, the Federal Reserve System, and the State Board of Control.

⁷U.S. Advisory Commission on Intergovernmental Relations, *Investment of Idle Cash by State and Local Governments* (Washington, D.C.: U.S.A.C.I.R., 1961) p. 8.

⁸John Logue and Ralph Quintinilla, "History of the State Depository Law" (Memorandum presented to State Senator Bill Patman, Austin, Texas, April 10, 1969).

⁹S.K. Cooper, "The Economic Effects of Alternative Uses of Inactive State Funds: The Cash of Texas" (unpublished Ph.D. dissertation, University of Texas at Austin, 1971), p. 101.

¹⁰G. McNiel, *State Treasury Audit Report*, Office of the State Auditor (Austin, Texas: Office of the State Auditor, 1974). These are the most recent figures available at the time this report was prepared.

¹¹Cooper, "The Economic Effects", p. 111.

¹²McNiel, *Money Management*, p. 31.

¹³*Ibid.*, pp. 24, 37.

¹⁴In a letter from Jesse James, State Treasurer, to the Senate Cost of Government Study Committee, December 10, 1962.

¹⁵VATS, art. 2532.

¹⁶See calculation of estimated losses due to uninvested demand deposits in Table III-2.

¹⁷Cooper, "The Economic Effects", p. 111.

¹⁸During August, 1974, U.S. Treasury Bills—six months—had a market yield of 9.11 percent. Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, vol. 60, no. 12 (Washington, D.C.: Board of

Governors of the Federal Reserve System, 1974), Table A-32.

¹⁹Bob Bullock, *Money Management: Idle Funds*, Office of the Comptroller (Austin, Texas: Office of the Comptroller, April 10, 1976), p. 19.

²⁰*The State Tax Guide, 1975* (Chicago: Commerce Clearing House, 1975), p. 611-614. There are also two separate volumes on Texas taxes.

²¹G. McNiel, *Money Management*, p. 35.

²²Merlin Hackbart and Robert S. Johnson, *State Cash-Balance Management Policy*, (Lexington, Kentucky: Council of State Governments, 1973).

²³A series of articles were published in the form of a public debate on this topic between 1968 and 1973:

Sammie Kerry Cooper, *The Economic Effects of Alternative Uses of Inactive State Funds: The Case of Texas*. Unpublished doctoral dissertation, The University of Texas at Austin, May, 1971.

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²⁴In an interview with Scott Chapman, Investment Officer for Austin National Bank, 1976.

²⁵Bullock, *Money Management: Idle Funds*.

²⁶McNiel, *Money Management*, p. 26.

²⁷Formula to determine actual yield.

²⁸Appendix E.

²⁹Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, vol. 60, no. 12.

³⁰VATS, art. 2529.

³¹Telephone interview with E. J. Maciasz, Deputy Treasurer, Baton Rouge, Louisiana, April 21, 1976.

³²VATS, art. 2529.

³³National Committee on Governmental Accounting, *Governmental Accounting, Auditing, and Financial Report-*

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ing (Chicago, Illinois: National Committee on Governmental Accounting, 1968), p. 8.

³⁴ Testimony by Jesse James, State Treasurer of Texas, before the Joint Advisory Committee on Governmental

Operations, Subcommittee on Administrative Support and Fiscal Management, April 15, 1976.

³⁵ Cooper, "The Economic Effects", p. 127.

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APPENDIX A

SUMMARY OF CASH MANAGEMENT STATUTES

DEPOSITORIES AND THE INVESTMENT OF TREASURY CASH Vernon's Annotated Civil Statutes

Article

2525	Depository board: Powers and make-up
2526	Notice to banks: The Treasurer must notify all banks of requirements to be a state depository
2527	Application for deposits: Specific bank procedures and information requirements when applying
2528	Acceptance: Board approval of depository banks
2529	Qualifications of depositories: Notification to banks, collateral securities allowed and required, general revenue depository requirements
2529a	Exemption of banks from furnishing security for deposits to extend deposits are insured: If deposits are already secured by the Federal Reserve Act, then no further security is required
2529b	Pledge of bonds of Home Owners' Loan Corporation: HOLC bonds guaranteed by U.S. are lawful security
2530	Deposit of securities: Where security collateral pledged by depository bank are held
2530a	Deposit and substitution of securities; acceptance of certain securities by Treasurer; banks may exchange pledged security with further evidence
2531	Failure to qualify: Disqualified banks forfeit depository rights for one year
2532	Placing deposits: Prorating deposits among qualified banks; banks must publish depository money on account
2533	Centrally located depositories: Board shall designate clearing house banks in centrally located cities
2534	Withdrawals: All demand deposits subject to withdrawal at any time; time accounts withdrawals are a part of contractual arrangements with bank/board
2535	Remittances: State depository banks must remit in cash without charge
2536	Repealed
2537	Cancellation of contracts: Depositories can cancel contracts with 30 days notice; Board may cancel with 15 days notice

SUMMARY OF CASH MANAGEMENT STATUTES

- 2538-2543 Repealed
- 2543a Investment of funds by State Depository Board: Authorizes Board to invest permanent funds not elsewhere controlled in bonds of class similar to the Permanent School Fund
- 2543b Defense bonds and other United States Obligations: investment of bond proceeds by state:
2543b-1 When labor/material shortages delay expenditures of appropriated funds, these funds may be invested in U.S. obligations until labor/material are available, at which time the obligations must be redeemed and all proceeds used for the appropriated purpose
- 2543c Transferred to Education Code, Sec. 51.003; relates to special higher education depositories
- 2543d Disposition of interest on time deposits: Who gets the interest; creates General Revenue Special Demand Accounts
- 2525 **Depository Board:**
Members: State Treasurer—Jesse James
Banking Commissioner—Robert E. Stewart
Governor's Appointee—J. C. Dingwell, Austin
Powers: "(The) Board shall have the power to determine and designate the amount of state funds deposited by them in State Depositories that shall be 'demand deposits,' and may contract with said depositories in regard to the payment of interest on 'time or demand deposits' not to exceed such rate as may be lawful under any Act of Congress and such rules and regulations as may be promulgated by the Board of Governors of the Federal Reserve System and the Board of Directors of the (FDIC)."
Definitions: "Time" and "Demand" deposits, the Board and the Treasurer.
Time Deposits are defined as "any deposit with reference to which there is in force a contract that neither the whole nor any part of such deposit may be withdrawn by check or otherwise prior to the expiration of the period of notice which must be given in writing in advance of withdrawals."
Decisions: Enactment of law waived state's right to priority in payment of its deposits from insolvent depository's assets.
- 2526 **Notice to Banks**
The Treasurer will notify banks of the conditions applicants for depository status must comply with on the second Tuesday in September of odd-numbered years (next date is September 9, 1975)
Depositories are designated for two years
If more depositories are required, Board will notify banks for further application for funds
- 2527 **Application for deposits**
Applications must be submitted by October 15 to Treasurer
Application must include:
1) Amount of paid up capital stock and surplus
2) Amount of State funds it will accept
3) Statement of Condition on application date
4) Permission given to Board, or representative, to open and inspect books at any time

2528

Acceptance

Treasurer distributes list of applicants to other Board members

Board meets on first Monday in November and determines who shall be approved

- 1) Board can reject banks "whose management or condition, in the opinion of the Board, does not warrant the placing of state funds in their possession."
- 2) No application shall be granted when liabilities for borrowed money exceeds its capital stock (Board may waive at own discretion).

2529

Qualifications of depositories

Treasurer will notify banks designated as State Depositories

By November 25, banks must post surety bond or collateral securities

- 1) Surety bond, if used, must be signed by an authorized surety company, payable to the Treasurer, and be *at least double* the amount of State funds allotted
- 2) Collateral securities, if used, are at 105% of State funds deposited:
 - a) U.S. Obligations with guaranteed principal and interest
 - b) Texas State bonds
 - c) Bonds and other obligations of the University of Texas
 - d) General Revenue warrants drawn on the State Treasury
 - e) Farm Mortgage Corporation bonds, if principal and interest guaranteed by U.S. Government
 - f) Shares of state Building & Loan Associations, if insured by F.S.L.I.C.
 - g) Home Owners Loan Corporation bonds, if guaranteed by U.S.
 - h) Texas Relief Bonds—can pledge at face value (100%)
 - i) Bonds of schools, counties, cities, road districts—pledge at 120% of value
- 3) Securities are collateral valued at par or market value, whichever is less. If securities decrease in value, the Board may require more.
- 4) U.T., city, state, county, road district school bonds or obligations must be approved by the Attorney General and must satisfy same criteria as Permanent School Fund Bonds (registered with S.E.C., issued by U.S. firm, 10 years consecutive dividends)
- 5) Depositories can secure part bond/part collateral securities. When using State warrants, they must have acquired them for at least 98% of stated value, or if exchanged for a loan, the payee's rate of interest must not exceed 8% per annum.
- 6) Security not required to the extent insured by U.S. (\$40,000).
- 7) "The Board shall have the power to reject any and all collateral or surety bonds tendered by a State Depository, without assigning any reason therefor, and its action in doing so shall be final and not subject to review."
- 8) Because a bank officer or owner is also a Depository Board member will not disqualify the bank (1967 enactment).

2530

Deposit of securities

Collateral securities of State Depositories are retained in State Treasury vaults or at a bank of the Board's choosing. A custodian bank must have at least \$500,000 in capital.

With the Board's approval, a Depository may substitute securities. The Board will surrender interest coupons upon request.

If the Board feels that securities are unsatisfactory, they may require as much as they believe satisfactory. Bonds and securities will be inspected from time to time.

If a Depository fails to pay on check of Treasurer, the bonds can be sold and money disbursed with warrants of the Comptroller from the proceeds thereof.

2531 Failure to qualify

Any bank that fails to qualify forfeits depository status for one year, *at the option of the board.*

2532 Placing deposits

“... it shall be the duty of the Treasurer to deposit the funds belonging to the State (in such depositories), as far as practical on a fair percentage basis, and shall at all times keep such funds equitably prorated in proportion to the amount which each is entitled to receive by drawing warrants alternately thereon, or by apportioning the warrants so drawn, and after giving the notice required for withdrawal of funds deposited to the credit of any ‘time deposits’ in any State Depository or Depositories.”

No bank is entitled to State funds in excess of paid up capital stock and permanent surplus. Reductions in capital stock or surplus reduces eligible state depository amount and the Treasurer can withdraw funds accordingly, except when General Fund warrants are collateral, when the limitation on funds does not apply and the Board may determine the level of State fund deposits.

If, after prorating deposits a surplus exists, the surplus shall be prorated among the applying banks, provided this proration shall not affect arrangements made by the Board for clearing *checks* (2533 and below).

All State Depositories shall collect all checks, drafts, and demands for money deposited with them and, if they use *due diligence*, they shall not be liable on collections until the proceeds thereof have been duly received by the Depository Bank. If collection expense is not allowed by Congress or Federal Reserve, the Legislature will appropriate money for that purpose.

If State Depositories are full, the Treasurer with permission of the Board may hold money in Treasury vaults or in one or more banks for such periods as advisable. These banks must meet collateral requirements specified in Article 2529 (does not limit based on capital and surplus rules).

2533 Centrally located depositories

The Board shall designate one or more banks in centrally located cities to be used as clearing banks. The Treasurer shall maintain adequate “demand deposits” in these banks so that the checks of the State may at all times pass current as cash.

2534 Withdrawals

All “demand deposits” are subject to withdrawal at any time.

2535 Remittance

Depositories must remit to the Treasurer on his demand free of charge. Depository liability shall not cease until money is received by the Treasurer. Failure to remit state items will result in forfeiture of right to further deposits and the Board can withdraw remaining funds.

2536 Repealed (1933). Related to the extension of payments by depository banks.

2537 Cancellation of contracts

Banks can cancel contract for time deposits and demand deposits with 30 days notice. The Board *can* cancel in 15 days “any time they deem it to the interest of the state to do so.” The Board *shall* cancel a depository contract when the condition of the bank warrants such action.

- 2538–
2543 Repealed (1927-1933). Related to investment of state surplus in excess of aggregate amount allotted to State depositories; repealed also are provisions relating to interest rates and a Rate Board.
- 2543a Investment of funds by State Depository Board
- Permanent funds of School for the Blind, Deaf, Austin State Hospital, State Orphan's Home and other permanent funds not otherwise provided for may be invested in bonds similar to the Permanent School Fund. Only amounts in fund over \$1000 can be so invested.
- 2543b,
b-1 Funds accumulated but not usable because of labor or material shortages; investment in United States obligations.
- "Where the State of Texas has heretofore or hereafter accumulated funds for certain purposes, such funds may be invested in government bonds or other obligations of the United States of America; provided, however, that where other regulations shall permit the State to acquire the necessary labor and materials, the obligations of the United States . . . shall be sold . . . and the proceeds . . . used for the purpose . . . originally authorized or collected."
- 2543c Transferred to Education Code, Sec. 51.008.
- Certain receipts of colleges and universities shall be kept separate from other funds deposited in the Treasury.
- "The Governing Boards of the State institutions of higher education of this State are directed to designate special depository banks . . . for the purpose of receiving and keeping certain receipts . . . The State Treasurer is directed to deposit the receipts, or funds representing such receipts in the special depository bank or banks nearest the institution credited with the receipts, so far as is practicable . . ."
- 2543d Disposition of Interest on Time Deposits (1969 Enactment)
- 1) Interest allocated monthly to Funds by Treasurer
 - 2) Priorities:
 - a) Constitutional funds receive pro rata portion of interest
 - b) Pro rata portion to protested tax payments (statutory)
 - c) Remainder to General Revenue Fund
 - 3) "Whenever a deficit occurs in the General Revenue Fund, the State Treasurer *may* place with any designated depository bank an offsetting compensating balance in a special account known as "Special Demand Account Secured by General Revenue Warrants Only."
- 4357 Warrants (Cash budgeting in special funds)
- "No warrant shall be drawn against an appropriation of a special fund unless there is sufficient cash money . . . to pay such warrant, and no warrant, general or special shall be released or delivered by the Comptroller unless there is sufficient balance in the appropriation against which the warrant is drawn to pay such warrant."

APPENDIX B

MONEY MARKET INSTRUMENTS

UNITED STATES TREASURY OBLIGATIONS

Treasury bills are non-interest-bearing instruments that promise to pay the bearer a fixed sum after a specified number of days from the date of issue. Bills are issued at a discount and the yield to the investor is measured by the difference between the discounted purchase price and the par value.

The full faith and credit of the United States Government is pledged to the payment of these bills; hence there is practically no credit risk. Bills are issued with maturities of 91, 182, 270, and 365 days, and in denominations of \$10,000, \$100,000, \$500,000, and \$1 million amounts deliberately designed to inhibit small investors. Bills have maximum liquidity, with a receptive secondary market.

Independent of government operation, dealers and dealer banks maintain the secondary market that offers investment opportunities in varying amounts and with almost any desired maturity dates. In accordance with the country's general economic situation, certain bills may be difficult to purchase at any specific time. They may be in high demand and simply not available, or conversely, a particular issue may not be attractive to the short-term investor.

Three *other U.S. Treasury obligations* are marketable, interest-bearing securities available to short-term investors. These securities differ in initial maturity:

Initial Maturity	U.S. Treasury Designation
More than 5 years	Bonds
1 - 7 years	Notes
1 year or less	Certificates of Indebtedness

These issues are available in denominations of \$1,000, \$5,000, \$10,000, \$100,000, and \$1 million. Notes and certificates are sometimes issued in denominations exceeding \$1 million and bonds are available in minimum denominations of \$500.

Certificates are issued only in bearer form; notes and bonds are issued in either bearer or registered form. The full faith of the United States Government is pledged to the payment of all three.

Like Treasury Bills, these obligations, when they achieve relatively short maturities, have near-maximum liquidity, with a broad secondary market available. Although bonds have a minimum maturity of five years and their primary market is not applicable to the purposes discussed here, the secondary market may present some bonds as attractive short-term investments.

FEDERAL AGENCY ISSUES

The terms of issuance of Federal agency obligations are specified in the enabling legislation. The following agency instruments are guaranteed by the full faith and credit of the United States Government:

Export Import Bank and Participation Certificates
Farmers Home Administration Insured Notes
GNMA - Federal Home Loan Mortgage Corporation
GNMA - FNMA Bonds
GNMA - Participation Certificates

These instruments generally yield a slightly higher interest rate than United States Treasury issues without additional risk.

Interest on all these instruments is computed upon a 360-day year and is paid semi-annually. Maturities are available from 2 to 25 years. They do not carry specific state and local income tax exemptions; a fact which makes them less attractive than United States Treasury obligations for private investors in most states, but does not affect their attractiveness to governmental investors. All are eligible for Federal Reserve advances and discounts. All are exchanged in the secondary market.

Other interest-bearing obligations are issued by federal agencies, but they provide no guarantee that interest or principal will be paid. Five agencies issue such obligations:

- Federal Intermediate Credit Banks
- Banks for Cooperatives
- Federal Land Banks
- Federal Home Loan Banks
- Federal National Mortgage Association

Issuing maturities on these obligations vary from 6

months (issues of the Bank for Cooperatives) to a maximum of 15 years (issues of the Federal National Mortgage Association, commonly known as Fanny Mae). Of these five agencies, the first three make loans for agricultural purposes. The last two deal in real estate financing. These obligations are issued in denominations varying from a minimum of \$1,000 by the Federal National Mortgage Association and the Federal Land Banks to \$1 million by the Federal Home Loan Banks. Fanny Mae issues short-term notes maturing on any business day between 30 and 370 days after issuance, the face amounts varying from \$5,000 to \$5 million.

Although the United States Government does not guarantee payment of interest and principal on these securities, these agencies were created and are supervised by the Federal Government, so that for all practical purposes there is no credit risk. Liquidity is excellent and the secondary market is good. The yield on federal agency issues are slightly higher than that of Treasury Bills.

CERTIFICATES OF DEPOSIT

A negotiable time certificate of deposit is a receipt given by a bank for the deposit of funds. The bank promises to return the amount deposited plus interest to the bearer of the certificate. The fact that the bank agrees to pay the amount of the deposit plus interest to the bearer of the certificate allows the certificate to be negotiable and traded prior to the actual maturity date. If the credit rating of the issuing bank is high, CDs are considered high-grade short-term investments, with higher rates of return than Treasury Bills.

COMMERCIAL PAPER

The term commercial paper has been used traditionally to describe the various types of short-term credit instruments issued by business and banking firms to raise funds. In recent years, however, the term has been employed more and more to mean specifically the short-term promissory notes issued by a relatively small group of business firms that borrow funds in the money market.

One of the advantages of commercial paper from the standpoint of the buyer is that the risk is relatively slight. In addition to the buyer's own credit check, commercial dealers and brokers maintain extensive credit files and the paper which they place is subjected to credit examination. Commercial paper dealers and brokers have in recent years

raised the standards of their paper through the use of audited financial statements, credit investigation, and influence over the borrowing and operating policies of borrowers, so that losses on commercial paper have been negligible even in years of depression. Commercial paper purchases, therefore, are arranged only with concerns which have a firmly established earning power, open lines of credit to cover outstandings, adequate balances and financial condition, and other satisfactory banking relationships.

The open market rates on commercial paper are relatively sensitive indicators of changes in the supply and demand for short-term funds. The rate has usually been from one-fourth to one-half percent above the Treasury Bill yield, resulting in yield differentials that make commercial paper attractive to investors.

REPURCHASE AGREEMENTS

For short-term investment, the repurchase agreement (or "repo") is an instrument that can be tailored to suit specific needs. Essentially, the repo entails selling a money-market instrument, such as a Treasury Bill, to a buyer. A simultaneous agreement is executed at the time of the sale under which the buyer promises to resell and the seller promises to repurchase the security at a specified date. Prices and dates for the sale and resale are agreed upon at the initial negotiation. The repurchase price includes an interest earning for the buyer; the seller has the use of the buyer's money during the period and also takes the gain or loss on the instrument caused by money market fluctuations.

STATE AND LOCAL BONDS

The State government does not pay income tax. Consequently it is not to its advantage to invest in "municipals", which are exempt from federal or state income taxes and thus yield rates of interest that are less than the ones available on taxable securities.

TIME DEPOSITS

Time deposits are interest-bearing accounts accepted by commercial banks that are essentially nonnegotiable certificates of deposit. They usually have maturities of 30 days or longer. Security of the deposit is based ultimately on the credit and stability of the commercial bank accepting it. Liquidity is limited by the required notice before withdrawal and by a yield penalty.

APPENDIX C

INVESTMENT OF SURPLUS STATE FUNDS IN TEN STATES

This study encompasses research conducted on 10 other states using telephone and in-person interviews, documentation supplied by various state officials, and the statutes of the individual states. It is arranged in two ways. First, the material is presented by state in alphabetical order: California, Colorado, Georgia, Illinois, Indiana, Louisiana, Maryland, New Mexico, Washington, and Wisconsin. Second, the material presented for each state is organized under five subject classifications: liquidity, portfolio composition guidelines, distribution formula for deposits, interest rates, and collateral requirements. The states were selected for a combination of reasons to provide a basis of comparative analysis with Texas: financial reputations, innovativeness of programs, variety of investment instruments, recent policy changes, level of yield, and other factors.

Based on the results of this survey, the following statements are noted in comparison to Texas:

- These states attempt to limit the amount of money they hold in their demand deposit accounts so they can invest more money. Almost all of them do this through revenue and expenditure forecasting systems to predict accurately cash needs and plan the investment periods for maximum investment potential.
- Most allow their investment managers a wider degree of discretion. They permit investments in U.S. Government obligations, repurchase agreements and other short-term instruments.
- Most of these states have consolidated their banking services to a handful of banks and accounts. Some have actually reduced the number of banks holding demand deposits to only one or two.
- A number of these states have active investment boards which meet regularly to determine investment strategy and the diversity of investments and to receive and use professional investment advice.

From the spread of alternatives presented by these 10 states, it can be readily seen that whether they individually adhere to the "keep the money at home" principle or not, the investment by states of surplus funds can result in significantly higher yield and improved liquidity, without sacrificing safety of principal. The State of Texas, if it

chooses to amend its present investment policies, has a vast variety of successful programs from which to choose the particular methods it finds best suited to its own needs.

STATE OF CALIFORNIA

Liquidity

Investment of state surplus cash is under the authority of the Pooled Money Investment Board (PMIB), chaired by the treasurer. The PMIB, consisting of the Controller, and the Director of Finance as well as the treasurer, is under statutory direction to invest state surplus monies "to realize the maximum return consistent with safe and prudent treasury management."¹ The PMIB is charged with investing the pooled investable cash of the General Fund and all state agencies. The pooled funds are known as the Surplus Money Investment Fund (SMIB). In addition to investment responsibilities the PMIB maintains demand deposits in nine geographically dispersed California banks (branch and unit) for the convenience of the many scattered state agencies. These nine banks, because of California's branch banking system, are equivalent to having only one or two demand deposit (DD) depositories in a highly unitized state.²

These banks, in exchange for handling demand accounts, are awarded compensating balances based on a computer allocation which provides a balance for uncollected funds and a balance for services rendered. The balance for uncollected funds is now computed on a basis of total state funds—(coin and currency + checks encoded + cashier's checks) X (a constant of 1.2 days), primitively approximated. This is equal to about \$36 million. The balance for services is computed using compensation rate for handling, encoded checks paid, coins and currency, dishonored checks, and warrants paid. This total, \$12.5 million, when added to the first equals a grand total of \$48.5 million daily minimum balance in the nine California banks handling DD's. There are a wide range of additional variables added into these simplified extracts of decisioning parameters, such as the California prime rate, and previously constructed annual, monthly, and quarterly forecasts. In 1974 the daily minimum balance was only \$37 million, but while California was earning \$231.2 million in interest on an average daily

investment of \$2594.6 million out of \$2631.3 million available, the rate of investment was 98.6 percent.³ On this year's average portfolio of \$3.4 billion, even though the dollar volume in DD's has grown, the investment rate remains 98.6 percent.⁴

Portfolio Composition Guidelines

Under the authority of Article 1, Chapter 3, Section 16430, of the Government Code of California, the PMIB is empowered to invest in:

1. TD's
2. Negotiable CD's
3. U.S. Government securities
4. Federal agency securities
5. State, county, city, and local bonds
6. Bankers acceptances
7. Repurchase agreements
8. Prime commercial paper

The prime commercial paper must be (1) limited to U.S. companies worth \$500 million, (2) rated P-1 or A-1, (3) with the purchases not to exceed 90 days maturity in more than 10 percent of the outstanding paper of a single corporation nor exceed 15 percent of the total invested state funds.

Distribution Formula of Deposits

California, because of its wide variety of authorized investment instruments can invest on an unlimited basis from one day onward. The state, even with this wide laterality, invests about one-third of its available funds in time deposits in 109 of the state banks. These deposits are negotiated on a competitive basis between the banks and Treasurer. They are of three types:

1. Regular TD's dispersed geographically,
2. Job corps development corporation deposits to promote minority business development (in nine participating banks), and
3. The newly authorized negotiable time CD's are being readied for use.

The remaining two-thirds of surplus funds are invested by the PMIB in government securities (including a limited amount of overnight RA's).⁵

Interest Rates

The interest rates on TD's and CD's are negotiated between the treasurer (under the authority of the PMIB) and the banks of the state, who are in competition for the deposits. The current rate obtained for TD's was 6-¼ percent.⁶ All other investments by the PMIB are made at the market rate at the time of purchase of the security.

Collateral Requirements

Under section 16522, chapter 4, of the Government Code of California, each depository bank must provide collateral equal to 110 percent of face value of any deposit of state funds. Such collateral must be in U.S. Government securities, Federal agency securities, or California municipal bonds.

STATE OF COLORADO

Liquidity

Under a \$50,000 cash management grant of the legislature last year, Colorado set up a demand deposit competitive bid system.⁷ The banks considered of sufficient size to handle state cash flow were asked to submit bids on four demand deposits (main depository, unemployment compensation, lock box accounts, and an investment transactions clearing account). The bidding banks were scrutinized carefully with many measures of efficiency, volume ability, and costs. Two banks were selected in Denver to handle all four accounts and to receive compensatory balances for their services.⁸

With the DD's reduced to four in two banks, the Treasurer instituted a 30-day computerized forecast employing the results of the cash flow management grant study. What this meant in fiscal year 1975 was \$358 million of \$373 million daily working cash invested for an investment level of 96.1 percent.⁹ With one year of experience under the new system, Colorado has increased this to 97.3 percent. And, in the future, with the installation of a 90-day forecast, hopes to improve it more.¹⁰

Portfolio Composition Guidelines

The treasurer of Colorado can invest surplus funds at his discretion over a period of from 1 day to 5 years. Monies can be placed in certificates of deposit or time deposits in any state or national bank in Colorado.¹¹ Moreover, under Colorado laws the treasurer can also invest in U.S. Government securities, Federal agency securities, repurchase agreements, bankers' acceptances, and prime commercial paper. The prime commercial paper must be rated A-1 or P-1 and from a U.S. corporation worth in excess of \$200 million, with a maximum 180 days maturity, which is no more than 5 percent of such corporation's total outstanding paper nor more than 25 percent of the state's total investment portfolio.¹²

Distribution Formula for Deposits

Long-term investment guidelines were worked out by

the treasurer with the Treasurer's Advisory Committee for interest bearing deposits in order to cause banks to make certain types of loans in their communities—such as housing, agricultural, and business development loans “which will result in the greatest reinvestment of funds in the community and the largest resultant tax revenues to the State.”¹³

Before the recession, Colorado had time deposits in all but five of the state banks. At the present time in the aftermath of the recession TD's are now allocated to only 140 banks (less than half), which still fulfills to some degree the basic goal of investment in the local economy. Under the present treasurer, about one-third of all surplus funds are deposited in time accounts with the remainder in short-term treasuries.¹⁴

Interest Rates

Interest rates on time deposits are pegged to be 95 percent of the current New York CD rates, or as may be renegotiated by the treasurer. All other interest rates on investments are the result of purchases made at the going market bid rate on the date of purchase.¹⁵

Collateral

Colorado has had major revisions in its collateral requirements with the passage of the Public Deposit Protection Act of 1975. This law expanded collateral requirements to include as eligible security:

1. U.S. Government securities.
2. Federal agency securities.
3. Partially guaranteed U.S. Government and Federal agency securities.
4. Obligations of the State of Colorado including anticipation warrants, obligations of any county, city, municipality, school district, or national bank whose principle office is in the state of Colorado and whose interests are insured by the Federal Deposit Insurance Corporation (FDIC).

Eligible collateral backed by the FDIC (1, 2, 4 above) with a market value equal to 50 percent of the average daily amount of such state fund deposits, or those which not fully backed by the FDIC (3 above) with a market value equal to 100 percent of the average daily deposits can be put in the custody of the Federal reserve branch bank in Denver, put in some other eligible public depository bank, or segregated from the depository banks other assets in its own trust department.

This act further provides, as in Maryland, for the free substitution of collateral by the depository bank. The Public Deposit Protection Act of 1975 thus loosens up the liquidity of the state depository banks by freeing them of 50 percent of the old collateral requirements while main-

taining a level of security the state finds acceptable since such deposits are backed by the FDIC.

STATE OF GEORGIA

Liquidity

In 1971, the Governor of Georgia, Jimmy Carter, activated the long dormant State Depository Board. The Board, taking the initiative given, looked into the “greater investment of state idle fund dollars.” The Board (composed of governor, comptroller general, state auditor, commissioner of banking and finance, state revenue commissioner, and the director of the fiscal division of the Department of Administration) contracted with IBM Corporation to run a “cash availability study” to find the maximum possible amount of state funds that could draw interest.

The daily level of liquidity necessary, as a result of the changes that came from the above initiatives, is determined on the following variables:

1. The governor's fiscal year recommendations.
2. The supplemental appropriations bills over the balance of the year.
3. A computer-developed rolling three-month forecast.
4. Weekly and 10-day forecasts.

In 1969 only \$40 million was drawing interest while \$71 million of surplus funds were in checking accounts (only 37 percent invested). By 1973 it had changed to \$373 million in time deposits and \$17 million in DD's (95.5 percent invested).¹⁶ Now, in Fiscal Year 1976, the amount in demand deposits has decreased to where 97 percent is invested. Demand deposits, which had been held in an extremely large number of banks, have been reduced to only five, which are paid for by compensatory balances.¹⁷

Portfolio Composition Guidelines

In accordance with Title 100, section 100-115, of the State Codes, which was produced in its present form by amendments in 1971, 1972, and 1973, the State Depository Board “shall exercise an absolute discretion in performing its duties . . .” The Board can, according to section 100-101, deposit in any bank, trust company, savings and loan association, or building and loan association in the state provided they are insured by FDIC or FSLIC. The Board is charged, under section 100-101.1, that:

compatible with the desirability of placing all State funds on deposit among state depositories and the necessity to maximize the protection of state funds on deposit, the policy to be followed by the board shall be that there will accrue to the State an advantageous yield of interest on its funds in excess of those required for current operating expenses, in accordance with sound business management.

The laws of Georgia, in section 100-105 of the State Codes, further provide that the State Depository Board shall determine:

1. The maximum amount of money to go to each depository.
2. The maximum and minimum proportion to go to each.
3. The length of each deposit.

The Board, under the directorship of the director of the finance division of the Department of Administration, has established accordingly the following guidelines for investment. The state shall deposit its surplus funds in state bank time CD's and RA's. The repurchase agreements, which account for over 10 percent of the surplus cash funds, are to be purchased with 5-15 day maturity only, in order to gain higher interest and to encourage and facilitate better investment planning. CD's which make up over 85 percent of state surplus funds, are to be used for longer periods of time up to 1 year.¹⁸

Distribution Formula for Deposits

The surplus state funds are to be deposited in state banks on a "bid" system. The state notifies all eligible banks of available depository money. The resulting bids are sorted by size of bid and state funds are matched bank for bank down the bids and by amounts requested until the total depository money available is placed. In conjunction with its "keep the money at home" philosophy and the need for security, the Board instituted an additional rule that no bank could have state deposits in excess of 10 percent of its total deposits. This has meant, as a practical outcome, that Georgia has deposits in 150 banks (of 450) around the state.¹⁹

Interest Rates

The interest rates for CD's are based on a competitive rate bid system and reflect the competitive local demand on money. Repurchase agreements are bought at the best market rate at the time of acquisition.²⁰

Collateral

Under section 100-102 of the Annotated Code of Georgia, depository banks must be, first, protected by FDIC or FSLIC. Second, they must post a surety bond in an amount set by the Board. In lieu of such a surety bond, the depositories may deposit with the director of the fiscal division any of the following:

1. U.S. Government securities.
2. Federal agency securities.
3. State, county, and municipal bonds, bills, and certificates.
4. State agency, revenue, industrial, or development bonds.

The State Depository Board has set the collateral rate at 110 percent of face value of the state deposits, with the exception of Federal notes on student loans which are acceptable at 80 percent of their own face value.²¹ (Note: to obtain \$100 in deposits using normal collateral would require \$110 worth of securities. To use student loan notes would require \$137.50 worth to gain \$100 worth of deposits. . . $110\% \times 100 = 110$, $[110/X = 80/100] = 137.5$.)

STATE OF ILLINOIS

Liquidity

Illinois, which has developed a comprehensive investment program called the Illinois Plan, asserts that it has no money in demand deposits (100 percent invested). Its level of necessary liquidity is obtained by the daily maturation of investments to meet daily cash needs.²²

Portfolio Composition Guidelines

Under authority of chapter 130 of the Illinois Revised Statutes (1969), a highly sophisticated investment portfolio has been developed in Illinois. From a fundamental investment philosophy which allows for consideration for "the increases in tax receipts resulting from time deposits of idle state moneys in banks being lent to finance ventures in Illinois (multiplier effect revenues), and the consideration of subjective factors," which the treasurer of Illinois estimates as approximately two-and-one-half percent over a full year, Illinois has developed an investment package which has as a primary objective stimulation of the local economy.²³

State laws provide the treasurer with the authority and discretion to invest in U.S. Government securities, Federal agency securities, State of Illinois and local obligations, repurchase agreements, and time deposits as long as he does not invest in any instrument with more than a one-year maturity nor any instrument at a price above par value.²⁴

Distribution Formula for Deposits

The Illinois Plan has four investment programs that currently maintain time deposits in 962 of the state's 1,150 banks. These deposits are, in the majority of cases, allocated twice a year by a bid system. The basic concept behind the investment programs is that of "linked-deposits." This translates as the providing of time deposits to banks on the condition that a specific lending action be taken by each bank in response to a state request.

The four programs are:

1. *The Specific Opportunity Program*, which encourages state banks to participate in the financing of a *particular* project of importance to the welfare of the state. In exchange for these investments, the state allocates interest-

bearing time deposits to the banks. Time deposits under this program are allotted when funds are available.

2. *The Community Services Program*, which rewards banks for their past history of involvement in community service oriented loans. Proposals are taken from all interested banks each year. The treasurer determines a minimum rate above which banks must bid. Banks are evaluated on the basis of a questionnaire on thirteen outstanding loan categories. A computerized system based on a mathematical proration formula is used to determine which banks get these TD's.

3. *The Basic Deposit Program*, acknowledges the right of all Illinois communities to share in the use of public funds. Removing the major Chicago banks, because they are really not local in character and invest many of their loans outside of Illinois, is believed to prevent loss of the large potential multiplier effect revenues. A minimum rate is established by the treasurer using a mathematically prorated computer allocation between funds available for deposit and the relationship of a bank's weighted loans (outstanding total loans to the total outstanding loans of all qualified banks applying). Those banks which bid above the minimum are awarded deposits—the larger the bid and the better the ratio the higher the awarded deposits.

4. *Limited Term Investments*, are used to maintain liquidity. The treasurer has the authority to invest in overnight repurchase agreements and other very short-term Federal securities but these are avoided because they are regarded as "sterile" instruments that do not contribute to the in-state multiplier effect. The treasurer places staggered 30, 60, and 90 day time deposits to provide for daily maturing instruments to cover cash needs. These instruments are purposefully spread geographically around the state.²⁵

Interest Rates

For the Specific Opportunity Program, the treasurer sets an amenable minimum interest rate for the bids of the targeted banks (from which the state is specifically seeking a reciprocative local investment). For the Community Services Program and the Basic Deposit Program, TD interest is determined by competitive bids from all eligible banks over a pre-set minimum acceptable bid set by the treasurer. The short-term TD investments are made equal to the prevailing Chicago rate.²⁶ Interest rates on Federal securities purchased for short-term are, of course, determined by the prevailing market rate at time of purchase.

Collateral

Acceptable collateral for deposits of state funds under section 30, chapter 130, of the Illinois Revised Statutes (1969) are U.S. Government securities, Federal agency

securities, and state, county, town, city, municipal, and school bonds. Such collateral must be equal to 110 percent of market value for the Federal securities and 115 percent for state and local bonds.²⁷

STATE OF INDIANA

Liquidity

The level of liquidity in Indiana is determined at the total discretion of the treasurer on a day-to-day basis. Extrapolating from the previous day's evening closing balance determined from the deposits in the treasury and the three state banks serving as authorized depositories for CD's, a comparison is made against the days incoming warrants (the bulk of which are usually received in the early morning) and information from the various state agencies about future warrants. From this the treasurer sets the level of liquidity to be maintained until the following day.

Indiana, to remedy the lack of long-range planning, conducted a cash flow management study, the results of which will be instituted soon to provide better investment planning. However, even using the day-to-day planning still operative, the treasurer has maintained an investment rate of 96.13 percent.²⁸

Portfolio Composition Guidelines

The statutory enactments of Indiana limit investment activity to a 1-180 day maturity time frame. Within those limitations the treasurer may only invest in certificates of deposit and U.S. Government securities (RA's overnight). The CD's are deposited on a "keep the money at home" basis, but with the stipulation that no bank can have more state deposits than an amount equal to 60 percent of its capital surplus and undivided profits.²⁹

Distribution Formula for Deposits

The state invests the great majority of its funds in CD's in 425 banks across the state. Only 10 banks have not taken state certificates of deposit, even though any bank of the state which wants them can have them. The remainder of Indiana's investments are made in overnight repurchase agreements of U.S. Government securities. As a practical matter, the treasurer refrains from investing money in increments less than \$100,000 to obtain higher interest rates. On a total investment of \$1.015 billion, the state's yield was \$70.7 million (\$39.2 million for the General Fund.)³⁰

Interest Rates

Interest rates are set at the discretion of the State Board of Finance (which is composed of the governor, auditor,

and treasurer) in conjunction with fluctuations in the market. At present, interest rates are 4½ percent on 90-day instruments and 5 percent for 180 days.³¹

Collateral

Indiana has perhaps one of the most unusual adaptations to meet the need for security of state deposits. It does not use collateral. It has instead set up the Public Deposit Insurance Fund (PDIF) which is patterned after the Federal Deposit Insurance Corporation (FDIC). Indiana requires that each bank acting as a depository pay one-fourth of one percent of each month's state depository balance into the PDIF. In turn, the PDIF funds are reinvested in \$100,000 increments (as it is collected) in CD's and U.S. Government securities. The fund, which is cumulative, has grown to \$40 million since its inception. It is now providing, and will continue to provide, security for the state's deposits while freeing up the state banks' individual liquidity positions.³²

STATE OF LOUISIANA

Liquidity

By the use of repurchase agreements on Federal securities for from 1 to 29 days and with a planned staggered investment system, Louisiana has reduced the amount uninvested surplus money to where they can claim to have "no idle cash funds." Having reduced its numerous demand deposits and checking accounts to a single checking account in a central bank to handle daily liquidity needs, the state has progressed from a negative ratio in 1969 (more DD money than TD money), through a 99.2 percent investment ratio in 1973 to a 100 percent investment level.⁶⁹ It meets daily cash needs with maturing investment instruments. Those maturing instruments in excess of daily cash needs are immediately reinvested.³³

Portfolio Composition Guidelines

Under the impetus of three acts of the state Legislature, passed from 1968 through 1972, a dramatic change was obtained in the investment and cash management policies of Louisiana.

State law R.S. 39:131.A. reads:

All licenses, fees, taxes, operating receipts, federal funds, private grants, and collections of all kinds by all state boards, commissions, agencies, and departments, hereinafter referred to as state agencies, whether or not the collections are dedicated to the use of the collection agency or otherwise shall be paid into the state treasury immediately upon receipt in such a manner as shall be prescribed by the commissioner of administration.

In conjunction with this authorization, state law R.S. 39:372 set up a state task force charged with implementing

the above directed central cash management collection of the treasury except for those agencies whose programs would be jeopardized.

As a third corollary to the new centralized investment program, R.S. 39:462 of the state laws declares:

The state treasurer is hereby authorized and directed to invest moneys on deposit in the state treasury belonging to the General Fund of the state and funds in the treasury to the credit of state agencies, departments, boards, and commissions and any other funds under the control of the state treasurer which he, in his discretion, may determine to be available for investment in time certificates of deposit of state banks organized under laws of Louisiana and national banks having their principal office in the State of Louisiana; provided that if funds are determined to be available for investment for a period of time less than thirty days the state treasurer is authorized to invest such funds in direct US Treasury obligations that mature not more than 29 days after date of purchase.

and

Time certificates of deposits in which investments are made under authority of this section shall mature not more than 12 months after the date of their purchase.

Thus, the laws which set up a centralized cash management investment system under broad discretionary power for the treasurer, provide the ability to invest in CD's and U.S. Government obligations within a range of from one day to one year.

Distribution Formula for Deposits

With this new discretionary authority for investment of mandatorily pooled state funds the treasurer has sought to make operative a state investment program that reflected Louisiana's strong commitment to the precepts of the "keep the money at home" argument to promote local economic development. Accordingly, the treasurer now keeps \$800 million in 214 of the state's 288 banks to achieve the theoretical "multiplier effect" of such investment activities.³⁴ An additional statutory requirement states that:

No amount in excess of the capital stock, declared surplus and undivided profits of any bank shall be deposited in any one bank by one depository authority. (R.S. 39:1220 (2))

The liberality of this edict can best be understood in relation to the 20 percent requirement of New Mexico or the 10 percent of Georgia.

Interest Rates

Banks issuing certificates of deposit . . . shall pay interest equal to the rate determined by the U.S. Treasury to have been the average interest rate on the last previous sale of Treasury bills with the same length of maturity. (R.S. 39:1220 (2))

This is to be the effective rate unless it exceeds the Regulation Q rate established by FDIC, at which time it would be equated to that rate. Within the parameters of the new investment laws the state of Louisiana has seen significant change, even allowing for inflation. Interest income on invested surplus state funds has grown as shown here:

1969-70	\$ 1.3 million (before first law)
1970-71	5.8 million
1971-72	9.0 million
1972-73	14.0 million
1973-74	34.0 million
1974-75	48.0 million
1975-76	52.0 million (estimated)

This improved position of state finances through the new program of surplus funds investment has been asserted by the treasury to be responsible for the corresponding improvement in the state bond rating to AAA.³⁵

Collateral

The required instruments of collateral for Louisiana are detailed in R.S. 39.1221 (1) through (5) of the State statutes as:

1. U.S. Government securities.
2. Federal agency securities.
3. State, any subdivision thereof, public corporations of the state, parish, municipalities, levee board, road district, school board, or school district bonds.
4. Certificates of indebtedness including paying certificates of any subdivision of the state.
5. Promissory notes of any authority listed in (1), (2), or (3) above or evidence of participation in such promissory notes.
6. Notes representing loans to students guaranteed by the Louisiana Higher Education Assistance Commission.

Such securities by statute "shall be accepted as security at their face or par value," in an amount equal to 100 percent of the amount of state funds on deposit. All such collateral must be deposited with the treasury or with an affiliated bank or trust company of the state.³⁶

STATE OF MARYLAND

Liquidity

Maryland holds a single demand deposit in each of three banks totalling \$4.2 million (\$1.1 million in one, \$2.1 million in the second, and \$1 million in the third) serving the dual purpose of liquidity to meet cash needs and to compensate those banks for their services. These compensatory balances, computer determined, are fluctuating averages not firm figures like New Mexico. When the daily

demand balance is greater than the authorized compensatory balance, each of these three banks automatically invest the excess in overnight repurchase agreements, with the interest paid to the state. A significant aspect of Maryland's investment situation is that it normally runs in the red since it uses a checking system. As such, it is "technically" invested at 110 percent.³⁷

Portfolio Composition Guidelines

Under section 22 of article 95 of the Annotated Code of Maryland, the treasurer has the discretionary power to invest in any of the following:

1. U.S. Government securities.
2. Federal agency securities.
3. Time CD's in any bank, savings and loan association, building and loan association.
4. Savings accounts in any state banking institution.
5. Overnight repurchase agreements.

Distribution Formula for Deposits

Maryland distributes CD's to state banks on a "purely competitive" basis. It announces to state banks that it will not accept less than a certain amount on a new issue of CD's. Those banks which bid highest receive the state deposits. Last year, Maryland had 110 of its 123 banks holding CD's at 7.5 percent interest, but because of the current economic situation, only 20 banks now hold CD's. The Treasurer of Maryland does not like to put out CD's at less than \$100,000 increments and will make exceptions only in the case of the smallest banks. Ninety-eight percent of investments are in RA's (1-160 days).³⁸

Interest Rates

Maryland's interest rates, which are set on a competitive bid system, reflect the current economic down-turn. They are only 5 percent on certificate's of deposit. Other investments are at the prevailing market rate.³⁹

Collateral Requirements

Under section 21A, article 95 of the Annotated Code of Maryland, collateral for deposits of state funds must be 100 percent of market value of any of the following securities:

1. U.S. Government securities.
2. Federal agency securities.
3. Bonds and obligations of the World Bank and the Inter-American Development Bank.
4. Notes on student loans.
5. FDIC, FSLIC, or Maryland Savings-Share Insurance Corporation insurances.

Maryland has some unusual collateral allowances. First, it allows a bank to place its collateral securities in another

bank, even outside the state, so long as it is not disapproved by the comptroller of the currency and that bank has assets of at least 200 percent of the deposited collateral. Second, it allows free substitution of collateral instruments delivered to a custodian at any time the depository bank chooses.⁴⁰ As a final note, although it is authorized, Maryland does not accept notes on student loans as collateral because of high risk.⁴¹

STATE OF NEW MEXICO

Liquidity

Under the laws of the state of New Mexico, the treasurer must maintain a minimum of \$2.615 million as an average daily demand deposit balance with its fiscal agents. At present the state contracts with a single bank. The mandatory balance serves the dual purpose of a liquid asset for the state and a compensatory balance for the services of the bank. Since the \$2.615 million is a fixed amount, the level of investment of state funds has increased to a level of 97.5 percent (\$85 million) from the 1973 level of 86 percent investment.⁴²

Portfolio Composition Guidelines

New Mexico's surplus fund investment portfolio consists of time certificates of deposit and U.S. Government securities (purchased as RA's overnight).

Distribution Formula for Deposits

Each bank in New Mexico, irrespective of any other factor, will receive an amount of state money equal to a percentage of its deposits in CD's, if it so desires and can meet required security pledges.

Maximum allocation is set by the rule that no bank will receive an amount of state money equal to more than 20 percent of its total deposits.⁴³ The treasurer distributes the total surplus funds between these allocation parameters on a discretionary basis using the following factors:

1. Loan-to-deposit ratio.
2. Total capital accounts.
3. Areas of current or anticipated economic change.
4. Community service of the banks.
5. Equity among banks within the same community.⁴⁴

Interest Rates

Interest rates for CD's are set by the State Board of Finance, which is composed of the governor, lieutenant governor, and three citizens appointed by the governor. The normal method of determining the interest rate is to set it corresponding Treasury bill rate.⁴⁵

Collateral Requirements

New Mexico requires full collateralization of the first \$100,000 of state deposits and 50 percent collateralization of sums in excess of \$100,000. The purpose of such a formulation is to reduce the need of each of the bank's required collateral to provide them with more liquid assets. These collateral requirements, however, must only be in prime U.S. Government securities, Federal agency securities, or bonds, obligations and notes of the state of New Mexico itself.⁴⁶

STATE OF WASHINGTON

Liquidity

The treasurer, under the authority of chapter 123, sec. 2, of the Washington Laws of 1973:

shall limit surplus funds held as demand deposits to an amount necessary for current operating expenses including direct warrant redemption payments, investments and revenue collection. The state treasurer may hold such additional funds as demand deposits as he deems necessary to insure efficient treasury management.

Under this broad discretionary grant the treasurer has reduced the number of depositories to 2 banks holding \$6.7 million in demand deposits (DD's) which results in a 98.2 percent investment rate of surplus funds. The choice of the depositories was determined by bank size, FDIC coverage, and geographical location.⁴⁷

Portfolio Composition Guidelines

Surplus funds of the state are invested in two ways under the authority of RCW 43.84.150. The State Finance Committee may invest "such funds or balances as the treasurer deems expedient" in any of the following long-term investments (more than one year):

1. U.S. Government securities.
2. Federal agency securities.
3. State, county, municipal, school district, taxing district bonds.
4. State motor-vehicle fund warrants.

Short-term investments are handled by the treasury. Since 1972 the state has been able to invest in time certificates of deposit (CD's) based on a Supreme Court ruling.⁴⁸ As a result, the treasurer is no longer limited to Repurchase Agreements (RA's) for short-term investments.

This has provided the Treasurer of Washington with the ability to invest funds under a two-way strategy with the guarantee of gaining quick liquidity. That strategy is:

1. To allocate funds to all commercial banks to serve as

compensatory balances for services provided to the state (handling warrants, etc.).

2. To provide for investment of public funds in their communities of origin.

Further, the deposit of money in mutual savings banks and in savings and loan associations was permitted in 1974 at a statutory maximum rate of \$100,000 per institution. The total time CD investment has reached \$94 million on 180-day issues.⁴⁹ This accessibility to CD investments has permitted the treasurer to reduce overnight RA's to a very small level (he uses them only when he has to).⁵⁰

Distribution Formula for Deposits

Under section 3 of chapter 123 of the Washington Laws of 1973:

the formula so devised shall be a matter of public record giving consideration to, but not limited to, deposits, assets, loans, capital structure, investments or some combination of these factors.

And, under section 5 of the same law, which specifies that "the state treasurer shall devise the necessary formulae and methodology to implement the provisions of this chapter," the treasurer created the following formula for the distribution of time CD's:

1. No bank will receive deposits in excess of its total capital accounts.
2. Banks are grouped into 4 categories according to their total capital assets, (a) over \$100 million, (b) \$20-100 million, (c) \$10-20 million, and (d) under \$10 million.
3. Those banks under \$10 million are precluded from bidding because of their limited resources.
4. Minimum allocations of \$100,000 are to be used to obtain higher CD interest rates and retain FDIC coverage.
5. Deposits will mature in 180 days.

Bids were accepted only from banks with \$10 million or more. Allocations of deposits were made according to those bids. The remaining funds were then offered to the smallest non-bidding banks based on the average rate of all bids received. One hundred forty-five banks received deposits.⁵¹

Interest Rates

The bidding for time CD's resulted in a November, 1975 rate ranging from 6.44 to 6.64 percent on \$94.7 million in time CD's with only eight banks refusing to accept deposits.

Collateral Requirements for Deposits

Under the 1969 Washington Public Deposit Protection Act, the state adopted a concept of "mutuality of responsibility" for security of state deposits. That means

that in the event of a default of a single bank, all state banks will "collectively" assure no loss in state funds. Each depository bank, under the law, places securities in escrow in an amount equal to 5 percent of the total state deposits it holds. The Public Deposit Protection Commission, charged with responsibility for the system, establishes the amount of public funds lost, if there is a loss or default, and assesses each bank a proportionate share based on a ratio of its share of state deposits to total state deposits.⁵² This has had the most impact on the state banks who serve as depositories. It has enabled them to reduce collateral from the old standard of 110 percent to 5 percent, thereby freeing each bank's assets and providing a higher level of liquidity with which to invest in their local economic area.

STATE OF WISCONSIN

Liquidity

Wisconsin has centralized its banking services into a single checking account in a large Milwaukee bank. The only funds left in this bank on a daily basis are for clearing checks going through on a daily basis and to provide a small compensatory balance for services.

The level of the compensatory balance is "fluid" in that it can fluctuate daily as determined by the banking services criteria applied and the bank's expressed desire of what it needs. But, because by statute the state can write checks on outstanding balances (float) for investment purposes as a counterweight to the above practices, surplus funds are essentially invested at a rate of 100 percent.

Each day the treasurer notifies the State of Wisconsin Investment Board (SWIB) by phone whether the state has "long" or "short" funds and in what amount. The SWIB, which is charged with investment of the state's pooled assets invests or liquidates assets accordingly to maintain daily liquidity needs.⁵³

Portfolio Composition Guidelines

The Investment Board, an autonomous state agency, is empowered to invest the assets of the state through three basic programs, and some smaller subsidiary ones. The first of these large programs, for long-term investments, is the *Fixed Retirement Investment Fund*, which can be invested in U.S. Government securities, Federal agency securities, prime commercial paper (the top three ratings of the Moody Investment Services or Standard and Poor's), preferred and common stock, or loans secured by mortgage on real property in the U.S. and Canada. At present, 27 percent of its assets are in common stock. The second major Fund, the *Variable Retirement Investment Fund* "shall be invested primarily in equity securities which shall include common stocks, real estate or other recognized forms of equities..."⁵⁴ At the present time, 98 percent

of this Fund is invested in common and preferred stock.

The third major investment area under the control of the SWIB is the regular *Investment Fund* of the state which comprises: (a) Benevolent Fund, (b) Conservation Fund, (c) Death Benefit Fund, (d) Deposit Fund, (e) Emergency Disaster Fund, (f) *General Fund*, (g) Highway Fund, (h) Injuries and Indemnities Fund, (i) Insurance Securities Fund, (j) Public Employees Trust Fund, (k) Reforestation Fund, (l) School Fund income, (m) The Unemployment Administration Fund, and other funds of the state or its departments. It may invest these moneys in direct obligations of the U.S. maturing in less than 10 years, Federal agency securities, unsecured notes of financial and industrial users, or in certificates of deposit in any U.S. bank with over \$50 million in assets. These assets are, in actuality, most often invested in Federal notes and bills with an average maturity of 45 days, with some money invested in prime commercial paper and certificates of deposits. The present policy is a reflection of the current investment market and the desire of the state to stay as close to total liquidity as possible in anticipation of a future market upswing.

In addition to the above three major investment pools, the State Investment Board also handles the investment of the State Insurance Fund, State Life Fund, Capital Improvement Fund, Bond Security and Redemption Fund, State Building Trust Fund, and the State Trust Funds for the Historical Society. It does not handle the Public Land Funds or trust funds of the University of Wisconsin.

Under initiative from the Governor's office, the state legislature recently enacted a law which sets up a pooled investment trust fund for local units of government under

state control and allows the state to hold parts of payments made to counties and municipalities (it opens a special account with interest accruing for the local unit of government whose funds it holds) enabling the state to avoid financial crisis during periods of extremely large expenditures.⁵⁵

Distribution Formula for Deposits

The state does not hold time deposits or certificates of deposit in any state bank. It invests in CD's in between seven and ten major U.S. banks as approved by the trustees of the SWIB.⁵⁶

Interest Rates

The interest rates on certificates of deposits are negotiated between SWIB and the banks in which it desires to place funds. All other investments of the state are made at the competitive market rate on the day of purchase of such instruments.

Collateral

The state, with an annual portfolio of \$3.4 billion and a daily cash flow of \$500-800 million which it has pooled for investment under the SWIB, feels that it can take some "risks" because of the size and fluidity of such pooling. It has diversified accordingly in instruments from repurchase agreements (both term and open) to commercial paper and common stocks. It has no time deposits and its certificates of deposit are in major national banks. As such, it has no collateral requirements.⁵⁷

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APPENDIX D

ANNUAL INTEREST EARNINGS IN COMPARISON WITH ANNUAL REVENUES 1960-1975

The interest earnings of the state, displayed in Table IV-2, show a tremendous increase over a 20-year period. Annual dollar earnings for the period 1960-1975 rose from \$1.7 million in 1960 to \$77.1 million in 1975. This \$75 million increase seems astounding until these figures are standardized by comparing them to annual total revenues collected. By calculating the annual interest earned as a function of the annual total state revenues, we find a tenfold increase in real earnings over a 15-year period.

The interest figures are based on annual auditor reports;

the revenue figures are the total net receipts (Funds in Treasury) from annual comptroller reports. The following equation was used:

$$\frac{\text{actual earned interest}}{\text{total state revenue}} \times \frac{x}{100}$$

where "x" equals the percentage of state revenue derived through investment of general operating funds.

Fiscal Year	Actual Earned Interest (millions)	Total State Revenues (millions)	Comparison of Interest to Total State Revenue
1960	\$ 1.74	\$1,922.12	.090%
1961	1.58	1,871.33	.084%
1962	1.59	2,207.78	.072%
1963	2.99	2,358.43	.127%
1964	5.49	2,482.54	.221%
1965	5.99	2,643.76	.226%
1966	8.71	2,831.01	.307%
1967	10.99	2,960.49	.371%
1968	11.53	3,403.24	.338%
1969	12.53	3,890.02	.322%
1970	14.82	4,507.82	.329%
1971	15.18	5,144.93	.295%
1972	16.57	5,871.37	.282%
1973	25.56	6,409.59	.399%
1974	51.67	7,445.26	.694%
1975	77.10	8,120.00	.949%

APPENDIX E

COMPUTER COMPUTATION OF POTENTIAL INTEREST EARNINGS AT DIFFERENT LEVELS OF INVESTMENT, FY1975

The purpose of this computer program was to gain a series of estimates of lost interest income resulting from present Texas surplus investment policies. Fiscal year 1975 was used for this analysis since it was the most recent period in which time and demand deposit data were available.

The data base consisted of the day-end balances of the total state time deposits and the day-end balances of the total state demand deposits for the period September 1, 1974 through August 31, 1975.

Two sets of variables were used. The first set was investment levels. During FY 75, the Treasury maintained an average of 22% of surplus state funds in demand deposits daily, investing the remaining 78% in time deposits. In studies of other states it was found that most states, whether using warrant or check systems, invested in excess of 90%. Many reached levels exceeding 95%. The most successful states were investing at levels of 97%, 98%, or even over 99%. The first set of variables was chosen accordingly:

- 90% - a vast improvement over the present 78% level
- 95% - a highly successful, and possible, level
- 97% - an idealized level, but one which is practical if cash flow forecasting and expenditure-revenue scheduling were employed

The second variable set was interest rates on investment. During FY 75 the Treasury obtained 7% on time deposits greater than \$100,000, and 6% on time deposits under \$100,000. Some disparity exists between the Comptroller's figures on the actual investment rate and the treasurer's figures. Thus two of the variables of this set measure what additional interest income would have been generated if the daily surplus had been invested in time deposits alone according to each estimated rate. The treasurer's: 6.92%. The comptroller's: 6.83%. The third variable of this set was meant to measure what interest income could have been generated if the treasurer had invested at the various levels using exclusively Treasury bills. The 91-day Treasury bill

rate, based on an equivalent average rate on a bank discount basis, was obtained from Table PDO-3 of the U.S. Treasury Department's *Treasury Bulletin* for December, 1975.

These two sets of variables and the basic data were applied in the mathematical formula represented below:

- TD = time deposit day-end balance
- DD = demand deposit day-end balance
- L = investment level (97%, 95%, 90%)
- IR = interest rate (Treasury bill, Comptroller's estimate, and Treasurer's stated rate)
- M = money not earned from surplus fund investment for each day.
- M = $(L(TD + DD) - TD) \cdot (IR/365)$ for the whole year.
n = 365
- M = $\sum_{i=1} [(L(TD + DD) - TD)] \cdot (IR/365)$

The computer was directed to print the data in a nine-column format, by day, month, and as a yearly total. The most significant results were the yearly summation figures of lost interest income because of present investment policies. It is to be noted that with the most disadvantageous combination of variables used the estimated lost money exceeded \$11 million. Had a sound cash management policy been pursued, the Treasury could have realized up to \$19 million in additional interest income with these public funds. The computer read-out showed these yearly summations:

TB1 (Treasury bill rate x 97% invest.)	=	\$17,886,321
TB2 (Treasury bill rate x 95% invest.)	=	16,030,717
TB3 (Treasury bill rate x 90% invest.)	=	11,391,708
TD1 (Comptroller's rate x 97% invest.)	=	18,858,034
TD2 (Comptroller's rate x 95% invest.)	=	16,879,373
TD3 (Comptroller's rate x 90% invest.)	=	11,932,722
TD4 (Treasurer's rate x 97% invest.)	=	19,106,529
TD5 (Treasurer's rate x 95% invest.)	=	17,101,795
TD6 (Treasurer's rate x 90% invest.)	=	12,089,961

GLOSSARY OF TERMS

IN CASH MANAGEMENT AND INVESTMENT

ACTUAL YIELD: The rate derived by dividing the interest earned from time deposits by the total amount of time and demand deposits. This is to account for the effect of non-interest bearing deposits on the total surplus funds.

ACCRUED INTEREST: The interest accumulated on a bond since issue date or the last coupon payment. The buyer of the bond pays the market price and accrued interest, which is payable to the seller.

ADVANCE REFUNDING: A Treasury operation offering owners of outstanding Federal obligations the opportunity to exchange issues for longer term issued, which may bear a higher coupon rate and give a moderately higher yield to maturity.

AGENT: An agent is a broker who executes orders for others and may charge a fee for commission (Also see: Broker).

AMORTIZATION: A straight-line reduction of debt by means of periodic payments sufficient to meet current interest and liquidate the debt at maturity.

AMORTIZATION OF PREMIUM: The periodic charges made against the interest received on bonds in order to offset any premium paid for the bonds above their par value or call price.

ANTICIPATION NOTES: For large government agencies not permitted to adopt budgets allowing end-of-the budget year working capital reserves, *tax anticipation notes* are issued on projected *property tax revenues* to provide such working capital. *Revenue* anticipation notes are issued on *sales tax receipts, local income tax receipts, motor vehicle in lieu tax receipts* and the like. Both types of anticipation notes are issued in three months to one year maturities.

AVERAGING UP OR DOWN: The practice of purchasing the same security at various price levels, thereby arriving at a higher or a lower average cost.

AVERAGE DAILY BALANCE (ADB): The average of all state demand and time deposits made at the end of each day.

BANKERS ACCEPTANCES: An investment instrument in minimum denominations of \$100,000, issued in bearer form and guaranteed by the accepting bank, which are used to finance international and intranational trade. Acceptances are promissory notes from a buyer of goods that the seller will receive payments for those goods on a date certain with a usual life of 30 to 270 days. They are not eligible for Federal Reserve advances and discounts if over 90-day maturity. Banker acceptances are purchased on a discount basis using actual days to maturity divided by a 360-day interest year.

BASIS PRICE: Price expressed in yield to maturity or the annual rate of return on the investment.

BEARER BOND: A bond which does not have the owner's name registered on the books of the issuer and whose proceeds (principal and/or interest) are payable to the holder.

BOND: A written, interest-bearing certificate of debt with the promise to pay on a specific date, generally paying interest semi-annually.

BOND RESOLUTION: A legal order or contract by the appropriate body of a governmental unit authorizing a bond issue. The rights of the bond-holders and the obligations of the issuer are carefully detailed in this formal document.

BOOK VALUE: The amount at which an asset is carried on the books of the owner. The book value of assets does not necessarily have a significant relationship to market value.

BROKER: A middleman who brings buyers and sellers together and handles their orders, generally charging a commission for his services. In contrast to a principal or a dealer, the broker does not own or take a position in the security.

BROKERS OR DEALER LOANS: Loans made to securities brokers and dealers, mainly by money-center banks. These are usually call loans made on a day-to-day basis to finance stock inventories and underwriting and brokers' credit.

CASH SALE: A transaction calling for the delivery and payment of the securities on the same day that the transaction takes place. Such a trade is also known as a cash transaction.

CERTIFICATE OF DEPOSIT: A negotiable certificate of deposit is a receipt given by a bank for the deposit of funds. The bank promises to return the amount deposited plus interest to the bearer of the certificate of deposit on the date specified on the certificate. Maturity dates are negotiable above a minimum of 30 days. The fact that the bank agrees to pay the amount of the deposit plus interest to the bearer of the certificate allows the certificate to be negotiable and traded prior to the actual maturity date.

CLEARING HOUSE FUNDS: Clearing house funds are monies within the banking system transferable from bank to bank through the Federal Reserve System. Federal Funds are available on a same day basis, while clearing house funds require one to three days for settlement.

COLLATERAL: Securities, evidence of deposit, or other property which a borrower pledges to secure repayment of a loan. Also refers to securities pledged by a bank to secure deposits of public monies.

COLLATERAL NOTE: A promissory note which specifically mentions the collateral deposited by the borrower as security for the repayment of the loan.

COMMERCIAL PAPER: Investment instruments issued and guaranteed by private corporations, usually in denominations of \$100,000 for round lots and in bearer form, with a maturity range of 3 to 270 days, and having interest discounted on a basis of actual numbers of days until maturity divided by a 360-day interest year. Certain (prime) commercial paper is eligible for Federal Reserve advances and discounts. They are subject to local, state, and Federal income tax.

COMMISSION: The broker's fee for purchasing or selling securities for a client.

COMPENSATING BALANCES: An amount of money in excess of the daily liquidity needs of a depositing authority held in a demand deposit to provide the bank handling the account an average daily excess which it may use to reinvest for interest as a payment for services the bank provides the depositing authority (such as free checking or warrant handling, securities storage, setting up bond sales and the like). Such balances can be determined by statute, negotiation, bid, or by informal agreement.

CONVERTIBLE: A feature of certain bonds, debentures, or preferred stocks which allows them to be exchanged by the owner for another class of securities, in accordance with the terms of the issue.

CORRESPONDENT: A bank, securities firm, or other financial organization which regularly performs services for another in a market to which the other does not have direct access.

COVERAGE: This term is usually connected with revenue and corporate bonds. It indicates the margin of safety for payment of debt service, reflecting the number of times by which earnings for a period of time exceed debt service payable in such period.

CREDIT ANALYSIS: A critical review and appraisal of the economic and financial condition of a state or political subdivision. It is an evaluation of the issuer's ability to meet its debt obligations, and the suitability of such obligations for underwriting or investment.

DAY LOAN: A one-day loan which facilitates the purchase of securities. The delivered securities are pledged as collateral to secure a regular call loan; this allows financing the purchased securities for a few hours of the business day.

DAY ORDER: An order placed to buy or sell securities on a specific day and which, if not executed, expires at the end of that trading session.

DEALER: An individual or firm which ordinarily acts as a principal in security transactions. Typically, a dealer buys for his own account and sells to a customer from his inventory. His profit or loss is determined by the difference between the price he pays and the price he receives for the same security.

DEBENTURE: An obligation secured by the general credit of the issuer rather than being backed by a specific lien on property.

DEBT LIMIT (or ceiling): The maximum amount of debt that can legally be created under the debt-incurring power of a state or municipality.

DEBT SERVICE: Interest requirements plus the stipulated payment of principal on outstanding debt, usually reported on an annual basis.

DEFAULT: Failure to pay principal or interest promptly when due. If caused by a minor omission which is remedied promptly, it is known as a technical default.

DEMAND DEPOSIT: Completely liquid non-earning assets held in open bank accounts (payable upon demand) to

- meet the daily liquidity needs of the depositing authority or as a compensating balance for services provided to the depositing authority.
- DEMAND LOAN:** A loan that has no fixed maturity date, but which is payable upon demand of the one making the loan.
- DISCOUNT:** The difference between the cost price of a security and its value at maturity when quoted at lower than face value. A security selling below original offering price shortly after sale also is considered to be at a discount.
- FACE VALUE:** The par value of a bond that appears on the face. This is the amount that the issuer promises to pay at maturity, and also the amount on which interest is computed.
- FAIL:** The failure of a seller to deliver securities to the purchaser or to a specified place of delivery as contracted.
- FEDERAL AGENCY SECURITIES:** Federal agencies issue interest-bearing obligations. Some of these issues are guaranteed by the full-faith-and-credit of the U.S. Government. This group includes (1) Export-Import Bank Debentures and Participation Certificates, (2) Farmers Home Administration Insured Notes, (3) Government National Mortgage Association-Home Loan Mortgage Corporation (GNMA) Bonds, (4) Federal National Mortgage Association (FMNA) Bonds, (5) GNMA Participation Certificates. Another group of issues provide no guarantee that the interest or principal will be paid by the U.S. Government. Found in this group are: (1) Banks for Cooperatives Bonds, (2) Federal Home Loan Bank Bond, (3) Federal Home Loan Bank Consolidated Notes, (4) Federal Intermediate Credit Bank Bonds, (5) Federal Land Bank Bonds, (6) FNMA Capital Debentures, (7) FNMA Debentures, (8) FNMA Discount Notes, (9) Student Loan Marketing Association Notes, (10) Tennessee Valley Authority Bonds, (11) TVA Discount Notes, and (12) Washington Metropolitan Transit Authority Bonds.
- FIDUCIARY:** An individual, corporation, or association, such as a bank or trust company, to whom certain property is given to hold in trust, according to the trust agreement under which this property is held.
- "FIRM":** A term designating a bid, offer, or order made for a security that is not subject to change in price for a specified period of time. It is sometimes accompanied by a recall within a specified time, such as five or ten minutes.
- FIRMING OF THE MARKET:** A period when security prices tend to rise from a depressed condition or to stabilize at current levels.
- FLAT:** The price at which a bond is traded, including consideration for all unpaid accruals of interest. Bonds which are in default of interest or principal are traded flat. Income bonds, which pay interest only to the extent earned, are usually traded flat. All other bonds are usually dealt in "and interest," which means that the buyer pays to the seller the market price plus interest accrued since the last coupon or interest payment date.
- FLOAT:** The time required for a check or warrant to clear to the account of the issuer. Banks paying out cash for checks and warrants experience temporary decreases in their accounts until reimbursed from the bank deposit of the issuer; this creates a cost equivalent to the foregone interest.
- FLOATING SUPPLY:** The overall amount of securities believed to be available for immediate purchase, in the hands of dealers and other investors who wish to sell.
- FREE AND OPEN MARKET:** A market which allows supply and demand to be expressed in terms of price.
- FREE (VS. RECEIPT):** Delivery of securities against a signed receipt rather than against money payment. Payment is received by debiting or crediting accounts, or by check, wire transfer, or other means.
- "GOVERNMENTS":** As used in the United States, all types of securities issues of the Federal Government (U.S. Treasury obligations).
- GROSS YIELD:** The percentage return on a security which is determined by dividing the dollar price into the annual interest payment and calculating the return to maturity.
- HEDGING:** A device used by traders to prevent loss due to market price fluctuations. This is done by counterbalancing a present sale of purchase by the purchase or sale of a similar or different security, usually for delivery at some future date. The desired result is that the profit or loss on a current sale or purchase will be offset by the loss or profit on the future purchase or sale.
- IDLE FUNDS:** The amount of surplus funds in demand deposits that are not invested in interest bearing instruments. The cost of to the state is the equivalent of the interest foregone.
- IMMEDIATE OR CANCEL ORDER:** A market or limited price order which is to be executed in whole or in part as soon as received, with the portion not so executed to be treated as canceled.

- IN-AND-OUT:** The purchase and sale of the same security within a short period of time to take advantage of price fluctuations.
- INTEREST RATE:** The interest payable each year, expressed as a percentage of the principal.
- INVESTMENT BANKING:** Also known as underwriting. It is the business of financing corporations or governmental units by marketing their new securities. (Also see: Underwriter, Syndicate).
- ISSUER:** Any corporation or governmental unit which borrows money through the sale of securities.
- LEGAL LIST (legals):** A list of securities, selected by various states, in which certain institutions and fiduciaries, such as insurances companies and banks, may invest. Legal lists are restricted to high-quality securities meeting certain specifications. (Also see: Prudent Man Rule).
- LIQUIDITY:** The ability to convert a security into cash promptly with minimum risk of principal.
- LISTED SECURITIES:** Bonds or stocks which have been admitted for trading on a recognized securities exchange.
- LONG:** Signifies the ownership of securities as against short, or sale without ownership. (Also see: Short Sale).
- MARGIN:** The difference between the market value of collateral pledged to secure a loan and the face value of the loan itself. The control over margin requirements on stocks by the Federal Reserve Board over the past 20 years has ranged from 40 to 100 percent of the purchase price. Margin on bonds is less formalized and usually more liberal than on stocks.
- MARKETABILITY:** A measure of the ease with which a security can be sold in the secondary market.
- MATURITY:** The date upon which the principal or stated value of a bond becomes due and payable.
- MORTGAGE BOND:** A bond secured by a mortgage on property whose value usually exceeds that of the so-called mortgage bond issued against it.
- MUNICIPALS:** A term used to apply to the bonds issued by a whole range of domestic public agencies and authorities below the level of the U.S. Government (states, counties, cities, towns, schools, and various special purpose districts or agencies).
- NEGOTIABLE:** A term used to designate a security the title to which is transferable by delivery.
- NEGOTIATED SALE:** The private arrangement between two or more parties to finance the sale of securities by an issuer without competitive public bidding.
- NET DEBT:** The gross debt of a state or political subdivision less sinking fund accumulations and all self-supporting debt.
- NEW ISSUE:** The first offering of an issued security. The proceeds may be used to retire outstanding debt or for new capital applications.
- NEW ISSUE MARKET:** The market for new issues of securities as opposed to the secondary market on securities already issued.
- NON-LEGALS:** Securities that do not conform to the requirements of the statutes, in certain states, concerning lawful investments for savings banks and for trust funds.
- ODD-LOT DEALER:** A broker or dealer who stands ready to buy or sell securities in quantities less than the normal trading unit. (Also see: Round Lot).
- OFFER:** The price at which a person is willing to sell.
- OFFSET:** The buying or selling of a security in an exact amount to counterbalance a similar sale or purchase. Upon completion of an offset transaction, the initiator's position remains unchanged.
- OPEN ORDER:** An order to buy or sell a security at a designated price, usually limited as to time.
- OVERBOUGHT (OVERSOLD):** Refers to the price level of a security or market which has had a sharp rise (fall) due to vigorous buying (selling), indicating that such buying (selling) may have left prices too high (low) or that the security is overbought (oversold).
- OVER THE COUNTER:** A securities market which is conducted by dealers throughout the country through negotiation rather than through the use of an auction system as represented by an organized exchange.
- PAPER GAIN OR LOSS:** An expression for unrealized capital gains or losses on securities in a portfolio, based on a comparison of current market quotations and the original costs.
- PAR:** The value of a security as expressed on its face without consideration to any premium or discount. It also signifies the dollar value on which bond interest is figured.
- PAR VALUE:** The stated or face value of a bond; the amount of money due at maturity.
- PLEGGED ASSETS:** Securities owned by a bank which are pledged as collateral for funds deposited by the U.S., state, or municipal governments. These pledged assets are generally U.S. Government or municipal obligations and other types specified by law.

- PREMIUM:** The amount by which price exceeds par amount or maturity value of a bond. Also the amount payable to the holder of a callable bond by the issuer, if and when the bond is called.
- PRIMARY MARKET:** The market for new issues of securities (as opposed to secondary market). (Also see: New Issue Market.)
- PRIME RATE:** Interest rate charged by banks for loans to their prime or most creditworthy customers.
- PRINCIPAL:** The face or par value of an instrument, exclusive of accrued interest.
- PRO FORMA:** The term for a statement of facts adjusted as of one date to reflect some past circumstances or proposed change in capitalization or operating conditions.
- PROSPECTUS:** A detailed statement issued by a company prior to the sale of new or additional securities, giving a full description of facts and information as required by the Securities and Exchange Commission or other authority.
- PRUDENT MAN RULE:** An investment standard. In some states the law requires that a fiduciary, such as a trustee, may invest money only in a list of securities selected by the state—the so-called legal list. In other states the trustee may invest in a security if it is one which would be bought by a prudent man of discretion and intelligence who is seeking a reasonable income and preservation of capital.
- PUBLIC DEBT:** A term that sometimes is restricted to the total outstanding debt of the Federal Government and at other times represents Federal Government debt plus the debt of states, municipalities, and other political subdivisions.
- QUOTATION—(QUOTE):** The highest bid to buy and the lowest offer to sell a security in a given market at a given time.
- RALLY:** A brisk rise or recovery in the price of a security or the general market after a period of decreasing price levels.
- RATE OF RETURN:** The yield obtainable on a security based on its purchase price or its current market price. This may be the amortized yield to maturity on a bond or the current income return.
- RATING:** The designation used by investors' services to give relative indications of quality. Moody's ratings range from the highest Aaa, down through Aa, A, Baa, Ba, B, etc., while Standard and Poor's ratings range from the highest, AAA, down through AA, A, BBB, BB, B, etc.
- REFINANCING:** Retiring existing securities by the sale of new issues. The object may be to save interest costs or to extend the maturity of the loan.
- REGISTERED BOND:** A bond whose principal and/or interest is payable only to the owner who is registered with the issuer or his agents. It can be transferred only when endorsed by the registered owner.
- REPURCHASE AGREEMENT:** An agreement to purchase, to hold for a specified time, and then to sell back an interest bearing security. This procedure allows the buyer to make a short-term investment and the seller to obtain cash without sacrificing portfolio holdings.
- RICH:** An expression applied to security prices when the current market quotation appears to be high (or income return low) in comparison with either the past price record of the individual security or the current prices of comparable securities.
- RIGHTS:** The privilege extended by an issuer to existing security holders to subscribe to new or additional securities.
- ROLL OVER:** Reinvestment of funds received from a maturing security in a new issue of the same or like security.
- ROUND LOT:** A transaction that constitutes the acceptable minimum unit of trading for a particular issue or type of security.
- SECONDARY MARKET:** A market made for the purchase and sale of outstanding issues following the initial distribution. (Also see: New Issue Market).
- SECURED DEPOSITS:** Bank deposits of state or local government funds which under the laws of certain jurisdictions must be secured by the pledge of acceptable securities.
- SECURED LOAN:** A loan secured by marketable securities.
- SECURITY DEALER:** A dealer buying and selling securities for his own account and acting as principal. (Also see: Dealer).
- SENIOR SECURITIES:** These are securities having a prior claim on assets and earnings.
- SERIAL BOND:** A bond of an issue which has maturities scheduled annually or semi-annually over a period of years.
- SHORT:** Signifies the sale of a security without ownership.
- SHORT COVERING:** Buying back securities previously sold to make delivery on a short sale.
- SHORT SALE:** The practice of selling first and buying back

later. The seller sells a security not owned on the expectation that the market price will fall and that he will be able to buy back the security at a price lower than that at which he sold. To make the short sale effective, the seller must borrow the security to deliver to the buyer.

SINKING FUND: A reserve fund accumulated over a period of time to liquidate or retire a known obligation on the date of its maturity or call date.

SPECIAL DEMAND DEPOSITS: Essentially a legally sanctioned bookkeeping device to "borrow" money from other state funds. Monies from dedicated states funds are held in demand deposit accounts by banks as collateral against "hot" general revenue warrants until the General Revenue Fund is replenished with enough tax revenues to pay for the warrants. Special demand deposits do not earn interest.

SPREAD: Term indicating the difference between two different figures or percentages. It also represents the difference between the bid and asked prices of a quote.

STATE AND LOCAL BONDS: State and local governments issue interest-bearing obligations. Since these bonds are tax free, the rate of interest is lower than on taxable securities. There are five types of state and local bonds; (1) general obligations bonds, (2) tax anticipation notes, (3) revenue anticipation notes, (4) revenue bonds. (5) warrants.

STOP OUT: The low dollar price at which the Treasury stopped selling Treasury bills for a particular auction.

SURPLUS FUNDS: Funds in demand deposits in excess of warrant obligations.

SYNDICATE (Underwriting): Headed by a manager who had made a successful bid for the wholesale purchase of the securities as a lot. The syndicate members agree to distribute a specified amount of the securities. The manager may allot the securities to them on a pro rata or other agreed basis. Upon final distribution of all securities, the syndicate is closed and the obligation of all members is terminated.

TAX AND LOAN ACCOUNT (TT & L or T & L): A Treasury account of tax monies and other revenues on deposit with banks. Banks are sometimes allowed to pay for securities by crediting this account rather than having to pay actual money. The Treasury intermittently calls money from these accounts on a percentage basis.

TAX-EXEMPT BONDS: A term applied to municipal bonds of state and local governments or agencies. The interest on municipal securities is exempt from Federal income taxes.

TIME DEPOSITS: Funds held in interest-bearing accounts with maturities or required notices of withdrawal 30 days or longer. Security of the deposit is based ultimately on the credit and stability of the commercial bank accepting it. Liquidity is limited by the required notice before withdrawal and by a yield penalty.

TIME WARRANT: A negotiable obligation of a governmental unit having a term shorter than bonds, and frequently tendered to individuals and firms in exchange for contractual services, capital acquisitions, or equipment purchases.

TRUSTEE: A bank designated as the custodian of funds and official representative of bondholders to enforce their contract with the issuer.

TRUST INDENTURE: An instrument in writing which contains a description of all property originally placed in the trust, plus the agreement as to the rights of the trustee in administering the property, the rights of all beneficiaries named along with their proportionate share in the trust, the duration of trusteeship, the distribution of income from the trust principal to the life-tenants, and the distribution of the trust property to the remaindermen at the termination of the trust. The term also is applied to the contract between bond issuer and bondholder.

UNDERWRITER: A bank, dealer, or other financial institution which purchases new issues of securities for resale. (Also see: Syndicate).

UNLISTED SECURITIES: Securities not listed on a recognized exchange. Unlisted securities are traded in the over-the-counter markets.

U.S. TREASURY BILLS: Treasury bills currently are issued in minimum denominations of \$10,000. The issues are in bearer form. Bills are discounted, and their basis of discount is the number of days until maturity divided by 360 and multiplied by the interest rate times the face value of the bills. The resultant amount is subtracted from the par value of the bills to arrive at the price of the bill. The issue life of treasury bills range from three months to one year.

U.S. TREASURY BONDS: The minimum denominations of treasury bonds run from \$500 on older issues to \$10,000 on recent issues. These instruments are issued either in registered or bearer form. Interest is paid on bonds semi-annually, and is based on the actual number of days divided by the number of days in the coupon period. The life of bonds run from five to forty years.

U.S. TREASURY NOTES: Treasury notes have recently

been issued in minimum denominations of \$1,000 and \$10,000. They are issued in registered or bearer form. The life of note issues is usually from twelve months to five years.

WARRANT: An order drawn by the legislative body or an officer of a governmental unit upon its treasurer, directing the latter to pay a specified amount to the person named, or to the bearer. It may be payable upon demand, in which case it usually circulates the same as a bank check; or it may be payable only out of certain

revenues when and if received, in which case it does not circulate as freely.

YIELD: The rate of annual income return on an investment, expressed as a percentage. (1) **INCOME YIELD** is obtained by dividing the current dollar income by the current market price for the security. (2) **NET YIELD** or **YIELD to MATURITY** is the current income yield minus any premium above par or plus any discount from par in purchase price, with the adjustment spread over the period from the date of purchase to the date of maturity of the bond.

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