

# TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

COMPREHENSIVE ANNUAL REPORT FISCAL YEAR ENDED JUNE 30, 1988

# TEACHERS' RETIREMENT SYSTEM of the State of Kentucky

# 48th Component Unit Financial Report

Fiscal Year Ended June 30, 1988

Kentucky Teachers' Retirement System

479 Versailles Road Frankfort, Kentucky 40601-3868

Pat N. Miller Executive Secretary

Kentucky Teachers' Retirement System	
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# **Table of Contents**

	ra
Introductory Section	,
Letter of Transmittal	ک ۱۰۰۰،۰۰۰،۰۰۰،۰۰۰،۰۰۰،۰۰۰،۰۰۰،۰۰۰،۰۰۰،۰۰
Chairperson's Letter	
Board of Trustees	
Administrative Staff and Professional Consultants	
Organizational Chart	
System riigniights	/
Financial Section	
Independent Auditor's Report	14
Balance Sheets	
Statement of Revenues, Expenses, and Changes in Fund Balances	
Statement of Cash Flows	
Reconciliation of Net Operating Income to Net Cash Provided by Operating Activities	
Notes to Financial Statements	
Analysis of Funding Progress	
Revenues by Source and Expenses by Type	
Supporting Schedules	
5 of the state of	
Actuarial Section	
Actuary's Certification Letter	38
Summary of Principal Results	
Membership Data	
Assets	
Comments on Valuation	42
Contributions Payable Under the System	
Comments on Level of Funding	
Schedule A	44
Schedule B	45
Schedule C	
Solvency Test	
Schedule of Active Member Valuation Data	
Schedule of Retirants, Beneficiaries, and Survivors Added to and Removed from Rolls	49
Statistical Section	
Growth in Annuitants	
Growth in Service Retirements	
Average Benefit Payments (by type of recipient)	
Average Benefit Payments (all recipients)	
Summary of Revenue by Source	
Summary of Expenses by Type	
Geographical Distribution of All Recipients	
Geographical Distribution of Annual Retirement Payments	
Summary of State Budget Appropriation	
Summary of State Appropriations for Match and Overmatch of Member Contributions	
Summary of Retiree Sick Leave Payments	
School Districts Electing to Pay for Sick Leave	60
Investment Section	
Investments	61
Distribution of Investments	
Investment Portfolio Growth	
Net Indicated Yield on Fixed Dollar Assets	
Investment Income Growth	
Analysis of Investments Held as of June 30, 1988	69

	Page
Investment Section	
Short Term Investments	. 70
U.S. Government Obligations	. 70
Corporate Bonds	
Other Fixed Income Investments	. 77
Real Estate Equity	. 78
Common Stocks	. 79

# INTRODUCTORY SECTION

Kentucky Teachers' Retirement System

# Letter of Transmittal

**BOARD OF TRUSTEES** 

W. D. BRUCE, JR. CHAIRPERSON, LOUISVILLE

ARLENE ROMINE
VICE CHAIRPERSON, MT. WASHINGTON

MARTHA BAKER, PADUCAH ROBERT M. CONLEY, PAINTSVILLE FRANCES MILLER, RUSSELL VIRGINIA MURRELL, SOMERSET EARLE V. POWELL, FRANKFORT

EX OFFICIO

JOHN BROCK Supt. of Public Instruction

> ROBERT MEAD CPA State Treasurer



PAT N. MILLER EXECUTIVE SECRETARY (502) 564-3266

COMMONWEALTH OF KENTUCKY

TEACHERS' RETIREMENT SYSTEM
479 VERSAILLES ROAD

479 VERSAILLES ROAD FRANKFORT, KENTUCKY 40601-3868

December 1, 1988

Honorable Wallace Wilkinson, Governor Commonwealth of Kentucky Capitol Building Frankfort, Kentucky 40601

Dear Governor Wilkinson:

The 48th Annual Report of the Teachers' Retirement System of the State of Kentucky (the System) for the fiscal year ended June 30, 1988, is hereby submitted. The legal requirement for publication of this report is contained in Section 320 of Chapter 161 of the Kentucky Revised Statutes (KRS). In addition, KRS 161.370(2) requires an annual audit of the System. The auditor's opinion letter is in the Financial Section of this report.

The annual report consists of five sections: the Introductory Section containing this Letter of Transmittal and the identification of the trustees, staff, and consultants of the System; the Financial Section containing the auditor's opinion letter, the financial statements, and supporting schedules; the Actuarial Section containing the independent consulting actuary's opinion and results of their most recent actuarial valuation; the Statistical Section consisting of significant data pertaining to the System; and the Investment Section containing a detailed list of investments and charts reporting the investment performance and allocation.

Your support and assistance as well as that of the General Assembly is certainly appreciated in providing the financial assistance to insure the operation of the System in an actuarially sound manner.

Respectfully submitted,

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Pat N. Miller

Executive Secretary

# Chairperson's Letter

**BOARD OF TRUSTEES** 

W. D. BRUCE, JR. CHAIRPERSON, LOUISVILLE

ARLENE ROMINE
VICE CHAIRPERSON, MT. WASHINGTON

MARTHA BAKER, PADUCAH ROBERT M. CONLEY, PAINTSVILLE FRANCES MILLER, RUSSELL VIRGINIA MURRELL, SOMERSET EARLE V. POWELL, FRANKFORT

**EX OFFICIO** 

JOHN BROCK Supt. of Public Instruction

> ROBERT MEAD CPA State Treasurer



PAT N. MILLER EXECUTIVE SECRETARY (502) 564-3266

COMMONWEALTH OF KENTUCKY

### TEACHERS' RETIREMENT SYSTEM

479 VERSAILLES ROAD FRANKFORT, KENTUCKY 40601-3868

December 1, 1988

Honorable Wallace Wilkinson, Governor Commonwealth of Kentucky Capitol Building Frankfort, Kentucky 40601

Dear Governor Wilkinson:

This 48th Annual Report of the Teachers' Retirement System of the State of Kentucky emphasizes the importance of a fiscally sound retirement system.

Local school districts, the Department of Education, state universities, and other participating employers are keenly aware of the importance of a growing, sound retirement system, particularly in attracting and retaining competent employees. The employees recognize the importance of their contributions and the Commonwealth's matching and overmatching of their contributions in providing a sound retirement system. In this manner, each member's future benefits are being protected and guaranteed.

The Board of Trustees is aware of the cooperation you and the members of the General Assembly have provided the System in maintaining its fiscal soundness. The retirement system is certainly grateful for this support in the past, and we look forward to the future confident that it will continue as members retire and new active members begin their careers.

On behalf of the Board of Trustees, I want to express our appreciation to you and the members of the General Assembly. We ask for your continued support so that through all of our combined efforts, the System may continue to provide a financially secure retirement future for its participants.

Sincerely,

W. D. Bruce, Jr.

Chairperson

Board of Trustees

# **Board of Trustees**



Mr. W. D. Bruce, Jr. Chairperson Louisville



Mrs. Arlene Romine Vice-Chairperson Mt. Washington Teacher Trustee



Mrs. Martha Baker Paducah Teacher Trustee



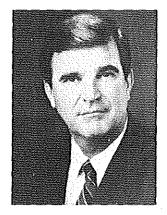
Mrs. Frances Miller Russell Teacher Trustee



Ms. Virginia Murrell Somerset Retired Teacher Trustee



Mr. Earle V. Powell Frankfort Lay Trustee



Dr. John Brock Superintendent of Public Instruction Ex-Officio Trustee



Mr. Robert Mead C.P.A. State Treasurer Ex-Officio Trustee

# **Administrative Staff**

# Teachers' Retirement System 479 Versailles Road

Pat N. Miller Executive Secretary (502) 564-3266

Billy F. Hunt
Deputy Executive Secretary for Administration
(502) 564-3266

Stuart A. Reagan, CFA
Deputy Executive Secretary for Investments
(502) 564-2057

# **Professional Consultants**

# **Investment Advisors**

Fixed Income and Equity Manager

Todd Investment Advisors, Inc. 3160 First National Tower Louisville, Kentucky 40202

Fixed Income Manager

First Kentucky Company First National Tower Louisville, Kentucky 40233

# **Equity Manager**

Invesco Capital Management, Inc. 1315 Peachtree Street, N.E., Suite 300 Atlanta, Georgia 30309

# Investment Custodian

Farmers Bank and Capital Trust Company
Farmers Bank Plaza
Frankfort, Kentucky 40601

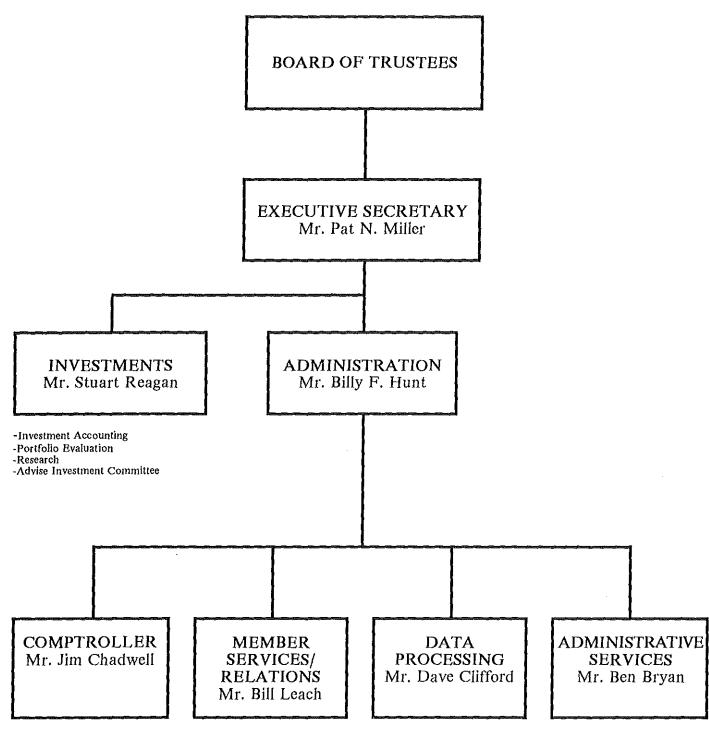
# Actuary

George B. Buck Consulting Actuaries, Inc. 200 Galleria Parkway, N. W., Suite 1060 Atlanta, Georgia 30339

# Auditor

Charles T. Mitchell and Company
Box 698
Frankfort, Kentucky 40602

# **Organizational Chart**



- -General Ledger -Budget Development
- -Escrow & Voluntary
- -Tax Information
- -Employer Annual Reports
- -Member & Group Counseling
- -Retiree Health Insurance
- -Survivor & Death Benefits
- -Disability & Service Retirements
- -New Members
- -Refunds and Personal Payments
- -Record Maintenance

- -Programming
  -Data Bank Development
  -Data Control Systems Analysis
- -Special Reports
- -Expense Fund Budget
- -Purchasing, Printing, & Messenger Services
- -Facilities Management

# System Highlights

### Accounting System and Reports

The report has been prepared to conform with the principles of governmental accounting and reporting as established by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants. The report was prepared by KTRS. Responsibility for both the accuracy of the presented data and the completeness and fairness of the presentation, including all disclosures, rests with KTRS. KTRS believes the data, as presented, is accurate in all material aspects; that it is presented in a manner designed to fairly set forth the financial position and results of operations of KTRS as measured by the financial activity of its various funds; and that all disclosures necessary to enable the reader to gain the maximum understanding of KTRS's financial affairs have been included.

The accrual basis of accounting is used to record the assets, liabilities, revenues, and expenses of the System. Revenues of the System are taken into account when earned without regard to the date of collection, and expenses are recorded when the corresponding liabilities are incurred, regardless of when payment was made.

In developing and evaluating KTRS's accounting system, consideration is given to the adequacy of internal accounting controls. Internal accounting controls are designed to provide reasonable, but not absolute, assurance regarding: (1) the safeguarding of assets against loss from unauthorized use or disposition; and (2) the reliability of financial records for preparing financial statements and maintaining accountability for assets. The concept of reasonable assurance recognizes that: (1) the cost of a control should not exceed the benefits likely to be derived; and (2) the evaluation of costs and benefits requires estimates and judgements by management.

All internal control evaluations occur within the above framework. We believe that KTRS's internal accounting controls adequately safeguard assets and provide reasonable assurance of proper recording of financial transactions.

#### Revenues

The reserves needed to finance retirement and other member benefits are accumulated through the collection of member and employer or state contributions and through income derived from investment of reserve funds. Contributions and investment income for the fiscal year 1988 totaled \$557,463,570. This represents an increase of 3.9% over fiscal year 1987 revenue. The rate of increase for member and employer contributions over fiscal year 1987 was 10.3% and 14.9% respectively. KTRS's overall revenue growth for the 1988 fiscal year was affected by reduced investment income (see Investments below).

#### Expenses

The primary purpose of a retirement system relates to the purpose for which it was created, the payment of benefits. These payments, along with refunds of contributions to terminated employees, insurance premiums for retired teachers, and the cost of administering the System, comprise the total expense. Expenses by type for 1988 and 1987 are shown for comparative purposes.

	1988	1987	Increase/(I	Decrease)
Expenses	(Millions)	(Millions)	(Millions)	%
Retiree Benefits	\$155.7	\$144.2	\$11.5	7.97
Disabilities	8.0	7.5	.5	6.67
Survivor/Death Benefits	6.2	5.8	.4	6.90
Refunds	5.9	6.7	(.8)	(11.94)
Medical Insurance	20.6	17.6	3.0	17.04
Administration	2.6	2.4	.2	8.33
•	\$199.0	\$184.2	\$14.8	8.03

The increase in medical insurance cost of 17.04 percent, while large, is comparable to increases other medical insurance plans have incurred. KTRS is reviewing the medical insurance plan to determine if any changes need to be made to the plan.

The decrease in the refund of member contributions of 11.94 percent is due primarily to the recent addition of a ten (10) percent federal excise tax on refunds of member contributions and an increasing member awareness of the value of their retirement benefits.

#### Investments

The investment portfolio is a substantial contributor to the System. It is estimated that income from investments will provide more than one-half of the funds that are paid to the average retired member. The investment portfolio experienced significant growth during the year. The par value of the portfolio increased from \$2,838,586,725 to \$3,157,418,379 during fiscal year 1987-88. The growth of the portfolio is due to higher teachers' salaries and the corresponding effect on contributions, as well as investment income. While investment income realized by the System for 1987-88 certainly was impressive at \$251.7 million, it was not as large as the preceding year's total of \$266.1 million. The major reason for this difference was gains from security sales. Due to the general weakness of the securities markets, the System did not have the same opportunities to sell securities at a profit as it did in the prior fiscal year.

The total investment income earned by the System can be attributed to three separate activities. The largest component, \$250,702,072, results from investment income to the System's investment portfolio. Another \$990,082 is earned through the maintenance of a medical insurance stabilization fund which is held by an insurer. The third item affecting investment income is a special maintenance reserve account that is dedicated to a specific real estate holding in the investment portfolio. This amount totals \$10,292 for 1987-88.

According to KRS 161.430 the KTRS Board of Trustees has the authority to invest the assets of the System. The Board of Trustees, generally, delegates investment authority to an Investment Committee that is comprised of two Trustees and the System's Executive Secretary. The Investment Committee works closely with experienced investment counselors who are contracted by the Board of Trustees to provide investment advice.

### **Funding**

The bottom line for a retirement system is the level of funding it receives. The better the level of funding, the larger the ratio of assets accumulated and the greater the level of investment income potential. Also, a better level of funding gives the participants a higher degree of assurance that their pension benefits are secure. The advantage of a well-funded plan is that the participants can look at assets that are irrevocably committed to the payment of benefits.

KRS 161.550(1) establishes the state's funding level at an amount equal to that contributed by all members. In addition to the matching requirement, the state is required to provide an overmatch of 3.25% of total members' salaries. In the event annual appropriations are not sufficient to meet these statutory requirements, the statute requires the state to make up the deficit in the next biennial budget.

The last actuarial valuation was conducted at June 30, 1987. The actuarial accrued liability of the System was \$3.799 billion. The reserve balance from participant contributions from employers, employees, and investment income was \$2.562 billion. The amount by which the accrued liability exceeds the reserves, or the unfunded liability, totaled \$1.237 billion on June 30, 1987.

### Current and Future Developments

The 1988 General Assembly reduced significantly its appropriation to KTRS for the 1988-90 biennium. The 3.25% overmatch required by KRS 161.550(1) for the fiscal years ending June 30, 1989 and June 30, 1990 was repealed. A benefit increase for retirees raising the minimum value for each year of service from \$180 to \$200 was also enacted. The actuarial cost of this improvement was \$17.3 million. Usually benefit increases are funded over a twelve year period. The General Assembly replaced the 3.25% overmatch and partially funded the minimum value benefit increase with fixed annual appropriations of \$17,600,000 for the fiscal year ending June 30, 1989 and \$22,300,000 for the fiscal year ending June 30, 1990. The effect of this change will be to reduce the state's level of funding by approximately \$50,060,000 for the 1988-90 biennium.

In addition, Cost-of-Living Adjustments (COLAs) granted by the 1986 General Assembly were not fully funded.

The total amount not appropriated to KTRS in the 1988-90 biennium will be approximately \$56,060,000. Any amounts not currently funded will have to be funded in the future if the System is going to pay benefits which have already been earned. Future payments for amounts not presently funded will cost the Commonwealth more money since these shortages will be accruing interest at an actuarially assumed rate of 7.5% per year.

In addition, the 1988 General Assembly enacted legislation (effective July 1, 1988) which allows KTRS members to retire with full benefits after twenty-seven (27) years of Kentucky service. Member contribution rates were increased to fund this provision. Members will be required to contribute 9.855% of their salaries to the System. University members will have to contribute 6.16% of their salaries. The increase in the employees contribution rate (.255%) was actuarially determined so that the additional employee and employer contributions would be sufficient to pay for the increased cost associated with the twenty-seven year provision.

On June 26, 1988, the KTRS office building located at 479 Versailles Road in Frankfort, Kentucky was officially dedicated. Construction bids on the building were taken in December of 1986, ground was broken in February of 1987, and the building was occupied in April of 1988.

#### Professional Services

Professional consultants are appointed by the Board of Trustees to perform professional services that are essential to the effective and efficient operation of the Kentucky Teachers' Retirement System (KTRS). A certification from the certified public accountant and actuary are enclosed in this report. All of the consultants appointed by the Board are listed on page 5 of this report.

#### In Memorium

During the 1987-88 fiscal year, two members of the KTRS Board of Trustees passed away. Mr. T. K. Stone, a member of the KTRS Board of Trustees since 1973, died at his home in Elizabethtown on December 21, 1987. Mr. Stone had dedicated his life to education in Kentucky. Mr. Denver C. Knuckles, a member of the KTRS Board since 1983, passed away on May 1, 1988. Mr. Knuckles was a lay trustee of the System who spent his life working in the insurance field. These trustees will always be remembered for their leadership and commitment to education.

On January 30, 1988, Ms. Virginia Murrell was appointed by the Board as the retired member representative of the Board. Ms. Murrell will be serving the balance of Mr. Stone's term on the Board which will expire on June 30, 1989. At its September 1988 meeting, the KTRS board appointed Mr. Robert M. Conley to serve the balance of Mr. Knuckles's term on the Board which will expire on June 30, 1991.

# Acknowledgements

The preparation of this report reflects the combined efforts of the KTRS staff under the leadership of the Board of Trustees. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a method for determining responsible stewardship for the assets contributed by the members and their employers.

This report is being mailed to all employer members of the System. They form the link between KTRS and its membership. Their cooperation continues to contribute significantly to the success of KTRS. Hopefully, the employers and their employees will find this report both informative and helpful.



# FINANCIAL SECTION

Kentucky Teachers' Retirement System

# **Independent Auditor's Report**

Charles T. Mitchell Company

Certified Public Accountants

201 WEST MAIN
P.O. BOX 698
FRANKFORT, KENTUCKY 40602
(502) 227-7395

CPA TM

CHARLES T. MITCHELL, C.P.A.
DON C. GILES, C.P.A.
WILLIAM G. JOHNSON, JR., C.P.A.
GARY L. HARBIN, C.P.A.
LARRY T. WILLIAMS, C.P.A.

Board of Trustees
Teachers' Retirement System
of the State of Kentucky
Frankfort, Kentucky

#### Independent Auditor's Report

We have audited the accompanying balance sheets of the Teachers' Retirement System of the State of Kentucky as of June 30, 1988 and 1987, and the related statements of revenues, expenses, and changes in fund balances, and cash flows for the years then ended. These financial statements are the responsibility of the Teachers' Retirement System's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly in all material respects, the financial position of the Teachers' Retirement System of the State of Kentucky at June 30, 1988 and 1987, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

Our examinations were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary information included in the Supporting Schedules is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examinations of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements.

Charles T. Mitchell Company

Charles of Mutchell Co.

September 30, 1988

# Balance Sheets June 30, 1988 and June 30, 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
ASSETS	Samuel Anna Carlo	<u> Agricus anno agus agricus agus agus agus agus agus agus agus ag</u>
Cash Deposit with Insurance Carrier (See Note 4) Prepaid Expenses	\$ 2,591,496 3,209,394 111,284	\$ 1,089,772 4,649,228 93,218
Receivables: Contributions State of Kentucky Investment Income	11,348,295 19,257,991 38,845,701	10,770,300 7,901,823 30,106,529
Total Receivables	69,451,987	48,778,652
Investments, at Cost (See Note 2):  Short Term Investments (Market Value \$431,460,000 in 1988 and \$603,090,000 in 1987)  Bonds and Mortgages (Market Value \$1,792,643,649 in 1988 and \$1,346,813,483 in 1987)  Common Stock (Market Value \$574,873,769 in 1988 and \$668,741,605 in 1987)  Real Estate (Market Value \$41,328,660 in 1988 and \$37,013,483 in 1987)	431,460,000 1,829,496,205 581,237,317 37,531,374	603,090,000 1,360,044,217 542,799,785 36,126,758
Total Investments	2,879,724,896	2,542,060,760
Fixed Assets (Net of Accumulated Depreciation of \$201,069 in 1988 and \$177,435 in 1987)	434,652	310,964
Total Assets	\$2,955,523,709	\$2,596,982,594
LIABILITIES AND FUND BALANCE		
Liabilities Accounts Payable Treasurer's Unredeemed Checks	\$ 473,846 1,176	\$ 320,135 23,753
Total Liabilities	475,022	343,888
Unfunded Pension Benefit Obligation (See Note 5)		
Fund Balance Member Reserve Employer Reserve Benefit Reserve Survivor, Death, Medical Reserve 403(b) Program Reserve Unallocated Reserve Administrative Expense Reserve	906,405,608 931,361,850 81,715,074 37,829,757 10,597,034 986,773,602 365,762	805,407,264 826,796,030 81,272,693 33,012,462 9,350,178 840,610,940 189,139
Total Fund Balance	2,955,048,687	2,596,638,706
Total Liabilities and Fund Balance	\$2,955,523,709	\$2,596,982,594

The accompanying notes are an integral part of these financial statements.

# Statement of Revenues, Expenses, Years Ended June 30,

# RESERVES

	Member	Employer	Benefit	Survivor, Death, Medical
Operating Revenues  Member Contributions  Employer Contributions  Investment Income	\$104,857,999	\$ 63,740 108,792,502	\$	\$12,796,517 11,092,586
Total Operating Revenues	104,857,999	108,856,242		23,889,103
Operating Expenses Benefits Refunds Insurance Premium (See Note 4) Administrative Expenses	5,329,467	520	163,602,149	6,237,090 770 20,588,869
Total Operating Expenses	5,329,467	520	163,602,149	26,826,729
Net Operating Income (Expense)	99,528,532	108,855,722	(163,602,149)	(2,937,626)
Reserve Transfers Retirements by Members Reimbursements Members Who Left System	(22,020,060)	(23,014,914)	43,426,451 119,621,741 (298,689)	1,608,523 3,616,082 (65,724)
Interest Allocations Administrative Expenses Other Reclassifications	23,381,002 108,870	23,971,743 551,339	1,606,249 (311,222)	2,335,775 260,265
Total Reserve Transfers	1,469,812	(4,289,902)	164,044,530	7,754,921
Net Fund Balance Additions (Reductions)	100,998,344	104,565,820	442,381	4,817,295
Beginning Fund Balance	805,407,264	826,796,030	81,272,693	33,012,462
Change in Unfunded Pension Benefit Obligation (See Note 5)				
Ending Fund Balance	\$906,405,608	\$931,361,850	\$81,715,074	\$37,829,757

The accompanying notes are an integral part of these financial statements.

# and Changes in Fund Balances 1988 and June 30, 1987

403(b) Program	Unallocated	Administrative Expense	1987-88 <u>Total</u>	1986-87 Total
\$ 1,240,295	\$ 66,918,340 251,701,591	\$	\$ 118,958,551 186,803,428 251,701,591	\$ 107,820,175 162,585,387 266,136,794
1,240,295	318,619,931		557,463,570	536,542,356
113,444 615,065	626,729	1,939,486	169,952,683 5,945,822 20,588,869 2,566,215	157,464,414 6,711,487 17,559,850 2,427,235
728,509	626,729	1,939,486	199,053,589	184,162,986
511,786	317,993,202	(1,939,486)	358,409,981	352,379,370
48,000	(123,285,823) 6,162,483			
689,556 (2,486)	(51,984,325) (2,116,109) (606,766)	2,116,109		
735,070	(171,830,540)	2,116,109	······································	
1,246,856	146,162,662	176,623	358,409,981	352,379,370
9,350,178	840,610,940	189,139	2,596,638,706	2,244,259,336
\$10,597,034	\$986,773,602	\$ 365,762	\$2,955,048,687	\$2,596,638,706

# Statement of Cash Flows Year Ended June 30, 1988

Cash Flows from Operating Activities: Cash Received due to Member Contributions Cash Received due to Employer Contributions Cash Received due to Interest, Dividend and Rental Income Cash Paid for Benefits Cash Paid for Refund of Member Accounts Cash Paid for Insurance Premiums Cash Paid for Administrative Expenses	\$118,380,556 175,447,260 185,663,340 (169,958,785) (5,945,822) (19,154,211) (2,292,185)
Net Cash Provided by Operating Activities	282,140,153
Cash Flows from Investing Activities: Sale of Investments Purchase of Investments Purchase of Equipment	7,509,128,456 (7,789,493,513) (210,738)
Net Cash Used by Investing Activities	(280,575,795)
Cash Flows from Financing Activities: Principal Payments Under Capital Lease Obligations	(62,634)
Noncash Transactions Affecting Financial Position: Borrowing Under Capital Lease Acquisition of Equipment Through Capital Lease	23,400 (23,400)
Net Increase in Cash	1,501,724
Beginning Cash Balance	1,089,772
Ending Cash Balance	\$2,591,496

# Reconciliation of Net Operating Income to Net Cash Provided by Operating Activities Year Ended June 30, 1988

Net Operating Income	\$358,409,981
Adjustments to Reconcile Net Operating Income to Net	
Cash Provided by Operating Activities:	
Depreciation	87,050
Decrease in Deposit with Insurance Carrier	1,439,834
Increase in Accounts Payable	153,711
Principal Payments Under Capital Lease Obligations	62,634
Increase in State of Kentucky Receivable	(11,356,168)
Increase in Investment Income Receivable	(8,739,172)
Increase in Prepaid Expenses	(18,066)
Decrease in Treasurer's Unredeemed Checks	(22,577)
Increase in Contributions Receivable	(\$77,995)
Net Amortization of Fixed Income Investments	(8,109,161)
Net Gain on Sale of Investments	(49,189,918)
Total Adjustments	(76,269,828)
Net Cash Provided by Operating Activities	\$282,140,153
The accompanying notes are an integral part of these financial statements.	

# Notes to Financial Statements Years Ended June 30, 1988 and 1987

# Note 1: Description of Plan

The Teachers' Retirement System of the State of Kentucky (KTRS) was created by the 1938 General Assembly. KTRS is governed by Chapter 161 Section 220 through Chapter 161 Section 990 of the Kentucky Revised Statutes (KRS).

- 1. Reporting Entity. KTRS is a multiple-employer public employee retirement system established and administered by the Commonwealth of Kentucky to provide benefit pension plan coverage for local school districts and other public educational agencies within the state. The System is a component unit of the Commonwealth of Kentucky and is included in the Commonwealth of Kentucky's financial statements as a pension trust fund. KTRS is considered a component unit of the Commonwealth of Kentucky for the reasons of financial interdependency, ability to significantly influence operations, and accountability for fiscal matters.
- 2. Employers. Chapter 161 Section 220 of the Kentucky Revised Statutes stipulates who may become a member of the Teachers' Retirement System. Generally, eligible persons are employed by local boards of education, the state Department of Education, some state universities, and some nonstate-supported organizations. The following illustrates the participating employers at June 30, 1988 and 1987.

	1988	1987
Local School Districts	178	178
State Universities	5	5
Department of Education/Other Organizations	18	18
	201	201

The covered payroll of all participating employers totaled \$1,217,746,805 for the year ended June 30, 1988 and \$1,104,968,563 for the year ended June 30, 1987.

3. Participants. According to KRS 161.220 "...Any regular or special teacher, or professional employee occupying a position requiring certification by the state department of education or graduation from a four (4) year college or university..." is eligible to participate in the System. The following illustrates the participants at June 30, 1988 and 1987.

	1988	1987
Retirees and beneficiaries of deceased retirees		
currently receiving benefits:  Local School Districts	15,284	15,173
Universities	860	806
Department of Education/Other Organizations	730	685
	16,874	16,664
Disabilities currently receiving benefits:		
Local School Districts	900	889
Universities	23	23
Department of Education/Other Organizations	59	60
	982	972
Survivors currently receiving benefits:	/0/	, 1 F
Local School Districts	636	615
Universities	35	33
Department of Education/Other Organizations		72
	743	720

# Note 1: Description of Plan (continued)

	1988	1987
Terminated employees entitled to benefits but not yet receiving them (no current contributions in the last fiscal year):	Material State of the State of	Parine Associated and Associated
Local School Districts Universities Department of Education/Other Organizations	1,842 171 134	1,792 161 127
	2,147	2,080
Current employees: Vested:		
Local School Districts Universities Department of Education/Other Organizations	31,025 1,865 1,659	31,085 1,871 1,670
Non-Vested:		
Local School Districts Universities Department of Education/Other Organizations	8,864 998 743	8,250 951 729
	45,154	44,556

- 4. Benefit Provisions: Employees are entitled to an annual retirement benefit, payable monthly for life, if they either attain the age of fifty-five (55) and complete five (5) years of Kentucky service or complete thirty (30) years of Kentucky service. Non-university employees receive monthly payments equal to two (2) percent (service prior to January 1, 1984) and two and one half (2 1/2) percent (service after January 1, 1984) of their final average salaries for each year of credited service. University employees receive monthly benefits equal to two (2) percent of their final average salary for each year of credited service. The final average salary is the average of the employee's five (5) highest annual salaries. Employees with less than thirty (30) years of service may retire and receive reduced retirement benefits. Members' retirement benefits become vested when they complete five (5) years of credited service.
- 5. Contributions. Members are required by statute to contribute 9.6% of their salaries to the System. University members are required to contribute 5.905% of their salaries. The state of Kentucky contributes the remaining amounts necessary to finance the participation of employees in the System. Employer contributions are determined as a level percentage of payroll. If an employee leaves covered employment before accumulating five (5) years of credited service, accumulated employee contributions plus interest earned are refunded to the employee upon his or her request.

# Note 2: Summary of Significant Accounting Policies

- A. Basis of Accounting. The financial statements are prepared on the accrual basis of accounting.
- B. Investments. Investments in United States Government obligations, corporate bonds, and other fixed income investments are reported at amortized cost subject to adjustment for market declines judged to be other than temporary. Investments in stocks, repurchase agreements, and real estate are reported at cost subject to adjustment for market declines judged to be other than temporary. Gains and losses on sales and exchanges of investments are recognized on the transaction date. Discounts on zero-coupon bonds and notes are amortized using the effective interest rate method. Premiums and discounts for all other bonds and notes are amortized using the straight-line method. Any unamortized premium or discount is recognized at the time of sale for bonds or notes sold prior to maturity.

# Note 2: Summary of Significant Accounting Policies (continued)

The following represents the book values of the investments of the Kentucky Teachers' Retirement System at June 30, 1988 and June 30, 1987.

	June 30, 1988	June 30, 1987
Short Term Investments	Employment Mangarden of Superment Conference of Superment	Dispersion of the Company of the Com
Repurchase Agreements	\$ 431,460,000	\$ 603,090,000
Bonds and Mortgages		
U.S. Government Obligations		
Treasury Notes and Bonds	794,883,448	508,572,793
Agencies	65,136,894	73,786,160
Ship Bonds (Title XI)	53,214,503	66,686,061
GNMA (Single Family)	86,432,972	113,468,044
Other Miscellaneous	196,679,909	136,010,050
Total U.S. Government Obligations	1,196,347,726	898,523,108
Corporate Bonds		
Îndustrials	148,713,143	111,579,751
Finance	175,632,667	105,280,384
Utility Bonds (Except Telephone)	52,902,709	43,020,450
Telephone Bonds	102,668,939	61,997,225
Railroad Obligations	14,692,026	16,140,503
Other Corporate Bonds	37,315,916	20,858,534
Total Corporate Bonds	531,925,400	358,876,847
Other Fixed Income Investments		
FHA and VA Single Family Mortgages	13,035,488	15,268,701
Project Mortgages (FHA & GNMA)	88,187,591	87,372,228
State and Local Government Obligations		3,333
Total Other Investments	101,223,079	102,644,262
Total Bonds and Mortgages	1,829,496,205	1,360,044,217
Stocks	581,237,317	542,799,785
Real Estate	37,531,374	36,126,758
Total Investments	\$2,879,724,896	\$2,542,060,760

The System operates a securities lending program whereby for a fee the System lends U.S. Government bonds to a primary U.S. Government bond dealer. In return, the System receives similar U.S. Government bonds that serve as collateral. The exchanges of securities are temporary, and the value of collateral exceeds the value of the lent bonds.

On June 30, 1988 and June 30, 1987, the following values of U.S. Government Bonds were on loan. They are included among the investments and assets of the System.

Securities Loaned	1988	1987
Can be a state of the state of	house from a many through the property of the same and the same and the same and	and the control of the second of the control of the
Book Value	\$122,758,535	\$56,344,088
Market Value	126,194,395	57,599,689

C., Furniture, Fixtures, and Equipment. Furniture, fixtures, and equipment are reported on the balance sheet at historical cost, net of accumulated depreciation. These assets are depreciated on a straight-line basis over an average useful life of five (5) to ten (10) years with ten (10) percent of cost as a salvage value.

### Note 2: Summary of Significant Accounting Policies (continued)

D. Land and Building. The KTRS office building and land are included in the real estate investments of the System at cost. The total cost of the project as of June 30, 1988 is \$2,648,590. Once the project is completed, the land and building will be included in the fixed assets in KTRS's financial statements. The building will be depreciated on a straight-line basis over a useful life of forty (40) years.

### Note 3: Description of Funds

MEMBER RESERVE: This fund was established by KRS 161.420 as the Teacher Savings Fund and consists of contributions paid by university and nonuniversity members. The fund also includes interest authorized by the Board of Trustees from Unallocated Reserves. The accumulated contributions of members that are returned upon withdrawal or paid to the estate or designated beneficiary in the event of death are paid from this fund. Upon retirement, the member's contributions and the matching state contributions are transferred from this fund to Benefit Reserves, the fund from which retirement benefits are paid.

EMPLOYER RESERVE: This fund was established by KRS 161.420 as the State Accumulation Fund and receives state appropriations to the Retirement System. The state contributes an amount equal to members' contributions. In addition, the state provides an annual overmatch of 3.25% to discharge the System's unfunded obligations. Actual state appropriations for the fiscal year 1987-88 were based on estimates of members' salaries. For the fiscal year ended June 30, 1988, actual appropriations fell short of required appropriations by \$11,356,168. This increased the amount due from the state to \$19,257,991. On July 1, 1988, KTRS received \$7,901,823 of this total state under-appropriation.

BENEFIT RESERVE: This fund was established by KRS 161.420 as the Allowance Reserve Fund, the source for retirement and disability benefits paid to members of the System. These benefits are paid from the retired members' contributions until they are exhausted, at which time state matching contributions are used to pay the benefits. After an individual member's contributions and the state matching contributions have been exhausted, retirement benefits are paid from monies transferred from Unallocated Reserves.

UNALLOCATED RESERVE: This fund was established by KRS 161.420 as the Guarantee Fund to collect income from investments, state matching contributions of members withdrawn from the System, and state overmatching contributions. In addition, it receives money whose disposition is not otherwise provided for. This fund provides interest to the other funds, benefits in excess of both members' and state matching contributions, monies for administrative expenses of the System, and deficiencies not covered by the other funds.

403(b) PROGRAM RESERVE: This fund was established as the Voluntary Contribution Fund, operating under the rules and regulations of Section 403(b) of the Internal Revenue Code. The primary purpose of the program is to enable members to defer payment of taxes on income until after retirement. KRS 161.705 allows members to voluntarily contribute part of their annual compensation to separate member accounts. Upon retirement, these accounts may be used to increase monthly benefits, or they may be refunded to the members. Active voluntary accounts earn interest at rates approved by the Board of Trustees.

SURVIVOR, DEATH, MEDICAL RESERVE: This fund was established by KRS 161.420 as the Survivor, Death, and Medical Insurance Fund. It consists of members' contributions and state matching contributions and provides survivor benefits, death benefits of \$2,000 for active members and \$2,500 for retired members, and health insurance premiums for retired members and eligible spouses. At June 30, 1988, the fund's balance was \$37,829,757. Of this amount, \$2,380,845 was restricted for survivor benefits.

ADMINISTRATIVE EXPENSE RESERVE: This fund was established by KRS 161.420 as the Expense Fund. Monies transferred to this fund from Unallocated Reserves are used to pay the administrative expenses of the System. The Board of Trustees annually adopts a budget that, according to KRS 161.420(1), cannot be greater than four (4) percent of the receipts of Employer Reserve.

# Note 4: Premium Stabilization and Reserve Account, Aetna Life Insurance Company

The Aetna Life Insurance Company is the administrator of the health insurance plan provided to retired members. During the year, estimated premiums are paid to Aetna to maintain a premium stabilization and reserve account covering fluctuations in medical claims paid. Aetna annually compares estimated premiums to actual claims incurred

# Note 4: Premium Stabilization and Reserve Account, Aetna Life Insurance Company (continued)

with the resulting difference either increasing or decreasing the premium stabilization and reserve account. The following schedule reflects insurance premiums for 1987-88 and 1986-87.

	Year Ended June 30, 1988	Year Ended June 30, 1987
Estimated Premiums Paid Less: Experience Increase (Decrease)	\$18,829,926 (1,758,943)	\$16,983,844 (576,006)
Actual Premiums Incurred	\$20,588,869	\$17,559,850

The premium stabilization and reserve account was affected in the following manner.

	Year Ended June 30, 1988	Year Ended June 30, 1987
Beginning Balance	\$4,649,228	\$4,282,771
Plus: Experience Increase (Decrease)	(1,758,943)	(576,006)
Plus: Interest Earned	990,082	942,463
Less: Withdrawals	(670,973)	
Ending Balance	\$3,209,394	\$4,649,228

# Note 5: Funding Status of KTRS

The pension benefit obligation presented herein is the actuarial valuation prepared for the fiscal year ended June 30, 1987; it does not include the actuarial effects of legislation enacted by the 1988 Kentucky General Assembly (see Note 9). The actuarial effects of this legislation on the KTRS's unfunded pension benefit obligation are being reviewed by the Sytem's actuary and will be included in the System's actuarial valuation for fiscal year ended June 30, 1988. This legislation will have a significant impact on the System's unfunded pension benefit obligation.

The amount shown below as "pension benefit obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date. The measure is the actuarial present value of credited projected benefits and is intended to help users assess KTRS funding status on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among public employee retirement sytems.

Significant actuarial assumptions used in the June 30, 1987 actuarial valuation include a) a rate of return on the investment of present and future assets of 7.5% per year compounded annually, and b) future annual salary increases of 5%.

At June 30, 1987, the unfunded pension benefit obligation was \$1,236,950,000 as follows:

Pension Benefit Obligation:	
Retirees and beneficiaries currently receiving benefits and terminated employees entitled	
to benefits but not yet receiving them	\$1,429,978,000
Current employees:	
Accumulated employee contributions including allocated investment income	805,407,000
Employer-financed vested	779,652,000
Employer-financed nonvested	784,253,000
Total pension benefit obligation	3,799,290,000
Net assets available for benefits, at cost	
per Note 2 (market value \$2,674,437,354)	2,562,340,000 *
Unfunded pension benefit obligation	\$1,236,950,000

Ten-year historical trend information designed to provide information about the progress made in accumulating sufficient assets to pay benefits when due is presented on pages 25 and 26.

# Note 5: Funding Status of KTRS (continued)

\*In order to compute the net assets available for benefits, the actuary took the KTRS fund balance at June 30, 1987 of \$2,596,638,706 and made the following adjustments.

June 30, 1987 KTRS Fund Balance	\$2,596,638,706
Less portion of Survivor, Death, Medical Reserves Not Available for Benefits	24,759,389
Less 403(b) Program Reserves	9,350,178
Less Administrative Expense Reserves	189,139
Net Assets Available for Benefits	\$2,562,340,000

# Note 6: State Contributions Required and State Contributions Made

According to KRS 161.550, the Commonwealth of Kentucky is required to contribute annually to KTRS an amount equal to that contributed by all members. In addition, the state shall contribute an annual overmatch of 3.25% of total members' salaries. This overmatch is necessary to amortize the unfunded pension benefit obligation, which at June 30, 1987 was \$1,236,950,000. At this rate of funding, it will take 29 years to eliminate the unfunded pension benefit obligation. The contribution requirements are, therefore, set by law and are not actuarially determined. Below is a schedule of state contributions made and the required contributions for the last three fiscal years.

Fiscal Year	State Budget Appropriations	Actual Budget Requirements	Over/(Under) Appropriation
1986	\$136,089,200	\$138,180,758	\$( 2,091,558)
1987	151,000,056	156,810,321	(5,810,265)
1988	169,101,300	180,457,468	(11,356,168)
Total State	Under-Appropriation at June 3	0, 1988	\$(19,257,991)

On July 1, 1988, KTRS received \$7,901,823 for the under-appropriations for fiscal years ended 1986 and 1987. KTRS expects to receive the under-appropriation for fiscal year ended 1988 during the fiscal year 1990-91.

#### Note 7: Compensated Accrued Absences

Expenses for accumulated vacation and compensatory time earned by the System's employees are recorded when paid or taken by the employees, not when earned. KTRS maintains records that document the cost of annual, sick, and compensatory leave earned by its employees. Annual leave is accumulated at amounts ranging from 7.5 to 13.13 hours per month (determined by length of service) with maximum accumulations ranging from 30 to 60 days. Compensatory leave is granted to authorized employees on an hour-for-hour basis. Generally, since sick leave (earned one day per month with unlimited accumulation) is paid only when an employee is absent due to illness, injury, or death in the family, there was no liability for sick leave at June 30, 1988. For retiring employees who qualify, a maximum of six (6) months of their accumulated sick leave balances (expressed in months) shall be added to their service credit for the purpose of determining their annual retirement allowances. The accumulated vacation and compensatory leave payable as of June 30, 1988 follows:

	Balance	Earned	Used or Paid	Balance
	July 1, 1987	1987-1988	1987-1988	June 30, 1988
Vacation and Compensatory Leave	\$182,082	\$148,267	\$69,768	\$260,581

# Note 8: Deposits With Financial Institutions and Investments (including Repurchase Agreements)

The following disclosures are meant to help the users of KTRS's financial statements assess the risks KTRS takes in investing public funds. The types of investments that KTRS may invest in are enumerated in KRS 161.430. That statute sets the following asset allocation parameters.

# Note 8: Deposits With Financial Institutions and Investments (including Repurchase Agreements) (continued)

- Not more than 25% of any one issue may be purchased as an investment and not more than 7% of the invested funds of the System may be invested in the securities of any issuer except in the case of obligations of the United States government.
- There shall be no limit on investments guaranteed by the United States government.
- Except for investments guaranteed by the United States government, no more than 75% of the assets of the System may be invested in fixed debt obligations. Such obligations must be rated at the time of purchase within the three highest classifications established by one or more major rating services.
- No more than 40% of the assets of the System may be invested in common stocks, preferred stocks, and stock index funds.
- No more than 10% of the assets of the System may be invested in real estate.

At June 30, 1988, the amount of cash deposited in the State's General Depository Account was \$2,591,496. This account is under the control of the Kentucky State Treasurer.

The following chart categorizes KTRS's investments, which gives an indication of the level of risk assumed by KTRS at June 30, 1988. Category 1 includes investments that are insured or registered or for which the securities are held by KTRS's custodial agent in KTRS's name. Category 2 includes uninsured and unregistered investments for which the securities are held by the counterparty or by its trust department or agent, in KTRS's name. Category 3 includes uninsured and unregistered investments for which the securities are held by the counterparty or by its trust department or agent, but not in KTRS's name. KTRS does not have any Category 2 or Category 3 investments.

		Category			
		2	3	Carrying Amount	Market Value
Repurchase Agreements	\$ 431,460,000	\$	\$	\$ 431,460,000	\$ 431,460,000
U.S. Government Securities	1,196,347,726			1,196,347,726	1,178,124,686
Corporate Bonds	531,925,400			531,925,400	505,781,250
Other Fixed Income Investments	101,223,079			101,223,079	108,737,713
Real Estate	37,531,374			37,531,374	41,328,660
Common Stocks	581,237,317			581,237,317	574,873,769
Total Investments	\$2,879,724,896	\$	\$	\$2,879,724,896	\$2,840,306,078

Included in Category 1 are individual repurchase agreements which are ordered by KTRS under the terms of master repurchase agreements with various qualified brokers. The terms of these master agreements are dictated by KTRS. The repurchase agreements and their supporting collateral are held by the custodial agent's correspondent bank in an account identified by the custodian's name and KTRS's nominee name. This account is unique to KTRS. The master repurchase agreements require that the supporting collateral have a market value of at least 100% of the value of the repurchase agreements.

#### Note 9: Subsequent Events

#### **Funding**

The 1988 General Assembly repealed the 3.25% overmatch required by KRS 161.550 for the fiscal years ending June 30, 1989 and June 30, 1990. A benefit increase for retirees raising the minimum value for each year of service from \$180 to \$200 was also enacted. The actuarial cost of this improvement was \$17.3 million. Usually benefit increases are funded over a twelve year period. The General Assembly replaced the 3.25% overmatch and partially funded the minimum value benefit increase with fixed annual appropriations of \$17,600,000 for the fiscal year ending June 30, 1989 and \$22,300,000 for the fiscal year ending June 30, 1990. The effect of this change will be to reduce the state's level of funding by approximately \$50,060,000 for the 1988-90 biennium.

# Note 9: Subsequent Events (continued)

In addition, Cost-of-Living Adjustments (COLAs) granted by the 1986 General Assembly were not fully funded. The funding shortage for the 1988-90 biennium amounted to \$6,000,000.

The approximate amounts not funded by the 1988 General Assembly consist of:

	1988-89	1989-90
Repeal of Overmatch/Minimum Value Adjustment	\$25,380,000	\$24,680,000
1986-88 COLAs	3,000,000	3,000,000
Total Not Funded	\$28,380,000	\$27.680.000

The total amount not appropriated to KTRS in the 1988-90 biennium will be approximately \$56,060,000. Any amounts not currently funded will have to be funded in the future if the System is going to pay benefits which have already been earned. Future payments for amounts not presently funded will cost the Commonwealth more money since these shortages will be accruing interest at an actuarially assumed rate of 7.5% per year.

#### 27 Year Retirement

The General Assembly enacted legislation (effective July 1, 1988) which allows KTRS members to retire with full benefits after twenty-seven (27) years of Kentucky service instead of thirty (30) years of Kentucky service. Member contribution rates were increased to fund the twenty-seven year retirement provision. Members are now required to contribute 9.855% of their salaries to the System. University members are required to contribute 6.16% of their salaries. The amount of the increase in the contribution rates was actuarially determined so that the additional employee and matching employer contributions would be sufficient to pay for the twenty-seven year retirement provision.

# Required Supplementary Information Analysis of Funding Progress (in millions of dollars)

Fiscal Year	(1)  Net Assets Available for Benefits (at cost)	(2) Pension Benefit Obligation	(3) Percentage Funded (1)÷(2)	(4) Unfunded Pension Benefit Obligation (2)-(1)	(5) Annual Covered Payroll	(6) Unfunded Pension Benefit Obligation as a Percentage of Covered Payroll (4)÷(5)
1980	\$ 872.5	\$1,902.8	45.85%	\$1,030.3	\$ 704.1	146,33%
1982	1,163.7	2,440.7	47.68	1,277.0	807.2	158.20
1984	1,569.1	2,907.8	53.96	1,338.7	916.6	146.05
1986	2,214.2	3,356.2	65.97	1,142.0	1,006.7	113.44
1987	2,562.3	3,799.3	67.44	1,237.0	1,105.0	111.95

Analysis of the dollar amounts of net assets available for benefits, pension benefit obligation, and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of KTRS's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the system is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the retirement system. Trends in unfunded pension benefit obligation and annual covered payroll are both affected by inflation. Expressing the unfunded pension benefit obligation as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of KTRS's progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the retirement system.

Actuarial valuations performed prior to 1980 are not presented since the valuations were conducted using a different actuarial method. As a result, comparison of data derived from actuarial valuations conducted in earlier years is not meaningful. As stated before, actuarial information for June 30, 1988 is not available.

# Required Supplementary Information Revenues by Source and Expenses by Type (in millions of dollars)

# Revenues by Source

E	mployer Contribut		
		Percentage	
•	Annual Covered	of Annual	Investment
ns	Pavroll	Covered Payroll	Income

Fiscal Year	Employee Contributions	Employer Contributions	Annual Covered Payroll	of Annual Covered Payroll	Investment Income	Total
1979	\$ 52.7	\$ 71.1	\$ 633.5	11.2%	\$ 51.0	\$174.8
1980	57.6	79.5	704.1	11.3	66.0	203.1
1981	61.1	92.7	761.0	12.2	81.7	235.5
1982	63.6	94.5	807.2	11.7	104.3	262.4
1983	66.2	105.9	849.8	12.5	161,8	333.9
1984	83.1	122.0	916.6	13.3	147.7	352.8
1985	94.1	136.5	950.1	14.4	180.4	411.0
1986	0.001	143.7	1,006.7	14.3	331.1	574.8
1987	107.8	162.6	1,105.0	14.7	266.1	536.5
1988	119.0	186.8	1,217.7	15.3	251.7	557.5

# Expenses by Type

Fiscal Year	Benefits	Refunds	Insurance Premium	Administrative Expenses	Total
1979	\$ 69.7	\$5.4	\$ 5.3	\$ .9	\$ 81.3
1980	76.1	6.2	6.9	1.0	90.2
1981	87.3	6.5	7.9	1.1	102.8
1982	98.9	8.9	9.3	1.3	118.4
1983	111.4	6.2	11.7	1.4	130.7
1984	123.1	5.9	15.2	1.6	145.8
1985	133.0	6.7	12.4	1.7	153.8
1986	143.3	7.4	14.5	1.9	167.1
1987	157.5	6.7	17.6	2.4	184.2
1988	169.9	5.9	20.6	2.6	199.0

# SUPPORTING SCHEDULES

Kentucky Teachers' Retirement System

# Investment Year Ended

# (Beginning of Year)

Type of Investment	Book Value	Market Value	Purchases	Amortization
Bonds and Mortgages: Government Bonds/Mortgages Corporate Bonds	\$1,001,164,036 358,880,181	\$1,008,042,832 338,770,651	\$ 541,580,806 250,107,412	\$6,907,825 1,201,336
Total Bonds and Mortgages	1,360,044,217	1,346,813,483	791,688,218	8,109,161
Equity: Common Stock Real Estate	542,799,785 36,126,758	668,741,605 37,013,483	170,330,679 1,404,616	
Total Equity	578,926,543	705,755,088	171,735,295	
Short Term Investments: Repurchase Agreements	603,090,000	603,090,000	6,826,070,000	
Total	\$2,542,060,760	\$2,655,658,571	\$7,789,493,513	\$8,109,161

# Summary June 30, 1988

# (End of Year)

Sales and Redemptions	Book Value	Market Value	% Market Value	% Yield at Market	
\$ 252,081,862 78,263,529	\$1,297,570,805 531,925,400	\$1,286,862,399 505,781,250	45.31 17.81	8.81 8.88	
330,345,391	1,829,496,205	1,792,643,649	63.12	8.83	
131,893,147	581,237,317 37,531,374	574,873,769 41,328,660	20.24 1.45	3.81 6.29	
131,893,147	618,768,691	616,202,429	21.69	3.98	
6,997,700,000	431,460,000	431,460,000	15.19	7.45	
\$7,459,938,538	\$2,879,724,896	\$2,840,306,078	100.00	7.57	

# Member Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues Member Contributions Reinstated Accounts Personal Check Contributions Other Revenues	\$102,547,797 422,465 1,886,868 869	\$ 92,731,036 327,823 1,749,359
Total Operating Revenues	104,857,999	94,808,218
Operating Expenses Refund of Member Contributions Other Expenses	5,329,467	6,097,824 10,691
Total Operating Expenses	5,329,467	6,108,515
Net Operating Income (Expense)	99,528,532	88,699,703
Reserve Transfers  Transfer from Benefit Reserves Disability Recoveries Transfer from Unallocated Reserves Interest Credited to Member Accounts Balance Member Reserves and Employer Reserves Prior Year Reclassification Inactive Accounts Transfer to Benefit Reserves Retirements Transfer to Survivor, Death, Medical Reserves Survivor Benefits	32,200 23,381,002 42,123 34,547 (21,238,974) (781,086)	6,668 20,704,132 5,754 (22,452,097) (679,256)
Transfer to Unailocated Reserves Inactive Accounts		(11,586)
Total Reserve Transfers	1,469,812	(2,426,385)
Net Fund Balance Additions (Reductions)	100,998,344	86,273,318
Beginning Fund Balance	805,407,264	719,133,946
Ending Fund Balance	\$906,405,608	\$805,407,264

# Employer Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues SAF Penalties State Contributions - Matching State Contributions - University Personnel Employer Paid Matching Employer Sick Leave Payments	\$ 63,740 100,985,393 2,058,406 5,505,078 243,625	\$ 217,020 91,460,315 1,933,878 4,952,413 229,494
Total Operating Revenues	108,856,242	98,793,120
Operating Expenses Other Expenses Net Operating Income (Expense)	520 108,855,722	98,791,536
Reserve Transfers Transfer from Unallocated Reserves Match Interest Credited to Member Accounts Reinstated Accounts Prior Year Reclassification Balance Member Reserves and Employer Reserves Inactive Accounts Transfer from Benefit Reserves	23,971,743 422,464 42,124 20,005 34,546	21,200,182 327,810
Disability Recoveries Transfer to Benefit Reserves	32,200	6,668
Retirements	(22,187,477)	(23,512,944)
Transfer to Survivor, Death, Medical Reserves Survivor Benefits Transfer to Unallocated Reserves Refund of Member Contributions	(827,437) (5,798,070)	(715,449) (6,674,412)
Inactive Accounts	(4.000.000)	(4,077,307)
Total Reserve Transfers	(4,289,902)	(13,445,452)
Net Fund Balance Additions (Reductions)	104,565,820	85,346,084
Beginning Fund Balance	826,796,030	741,449,946
Ending Fund Balance	\$931,361,850	\$826,796,030

## Benefit Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues None		
Operating Expenses Benefits for Service Retirements Benefits for Disability Retirements Other Expenses	\$155,576,557 8,025,592	\$144,083,327 7,473,805 .36,468
Total Operating Expenses	163,602,149	151,593,600
Net Operating Income (Expense)	(163,602,149)	(151,593,600)
Reserve Transfers Transfer from Member Reserves Retirements Transfer from Employer Reserves Retirements Transfer from Unallocated Reserves	21,238,974 22,187,477	22,452,097 23,512,944
Benefits Paid in Excess of Member Contributions and Employer Matching Interest on Fund Balance Prior Year Reclassification Transfer to Unallocated Reserves	119,621,741 1,606,249 11,361	107,943,797 1,917,836
Refund of Member Contributions	(298,689)	(3,185,479)
Transfer to Member Reserves Disability Recoveries	(32,200)	(6,668)
Transfer to Employer Reserves Disability Recoveries	(32,200)	(6,668)
Transfer to Survivor, Death, Medical Reserves Survivors of Disability Retirements	(258,183)	(217,182)
Total Reserve Transfers	164,044,530	152,410,677
Net Fund Balance Additions (Reductions)	442,381	817,077
Beginning Fund Balance	81,272,693	80,455,616
Ending Fund Balance	\$ 81,715,074	\$ 81,272,693

# Survivor, Death, Medical Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues  Member Contributions Insurance Premiums Paid by Members State Contributions - Matching Employer Paid Matching Other Revenues	\$11,092,605 1,702,170 10,517,403 575,183 1,742	\$10,063,632 1,703,220 9,545,193 517,916 1,442
Total Operating Revenues	23,889,103	21,831,403
Operating Expenses Survivor Benefits Death Benefits Comprehensive Medical Insurance Premiums Other Expenses	4,799,224 1,437,866 20,588,869 770	4,462,253 1,287,603 17,559,850 2,954
Total Operating Expenses	26,826,729	23,312,660
Net Operating Income (Expense)	(2,937,626)	(1,481,257)
Reserve Transfers  Transfer from Member Reserves Survivor Benefits Transfer from Employer Reserves Survivor Benefits Transfer from Benefit Reserves Survivors of Disability Retirements Transfer from Unallocated Reserves Benefits Paid in Excess of Member Contributions and Employer Matching Interest on Fund Balance Balance Member Reserves and Employer Reserves Transfer to Unallocated Reserves	781,086 827,437 258,183 3,616,082 2,335,775 2,082	679,256 715,449 217,182 3,463,174 1,855,232 599
Refund of Member Contributions	(65,724)	(442,046)
Total Reserve Transfers	7,754,921	6,488,846
Net Fund Balance Additions (Reductions)	4,817,295	5,007,589
Beginning Fund Balance	33,012,462	28,004,873
Ending Fund Balance	\$37,829,757	\$33,012,462

# 403(b) Program Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues Voluntary Contributions by Members	\$ 1,240,295	\$1,026,643
Operating Expenses  Benefits Increased by Voluntary Contributions  Benefits Continued after Voluntary Contributions Expired  Refund of Member Contributions	65,444 48,000 615,065	74,946 43,058 601,388
Total Operating Expenses	728,509	719,392
Net Operating Income (Expense)	511,786	307,251
Reserve Transfers Transfer from Unallocated Reserves Benefits Continued after Voluntary Contributions Expired Interest Credited to Member Accounts Transfer to Unallocated Reserves	48,000 689,556	43,057 758,611
Penalty on Early Withdrawal of 403(b) Accounts	(2,486)	(1,342)
Total Reserve Transfers	735,070	800,326
Net Fund Balance Additions (Reductions)	1,246,856	1,107,577
Beginning Fund Balance	9,350,178	8,242,601
Ending Fund Balance	\$10,597,034	\$9,350,178

# Unallocated Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues		
Interest Earned on Investments	\$ 178,336,058	\$ 145,988,562
Dividend Income	21,312,601	22,935,418
Rental Income	2,130,261	2,082,068
Gain on Sale of Investments	49,189,918	94,776,484
Leased Security Income	722,461	344,712
Maintenance Reserve - Rental Property	10,292	9,550
State Contributions - Sick Leave	6,068,503	2,444,613
State Contributions - Benefit Improvement	20,376,578	14,765,900
State Contributions - Overmatch	40,306,185	36,520,422
State Contributions - Handicapped Children	145,000	140,000
Escrow Late Remittance Penalty	18,583	27,840
Other Revenues	3,491	47,403
Total Operating Revenues	318,619,931	320,082,972
Operating Expenses		
Actuarial Services	38,729	30,000
Investment Counsel Fees	516,000	455,000
Investment Processing Fees	72,000	66,000
Total Operating Expenses	626,729	551,000
Net Operating Income (Expense)	317,993,202	319,531,972
Reserve Transfers		
Transfer from Various Funds		
Refund of Member Contributions	6,162,483	10,301,937
Inactive Accounts		4,088,893
Penalty on Early Withdrawal of 403(b) Accounts	2,486	1,342
Transfer to Various Funds		
Benefits Paid in Excess of Member		
Contributions and Employer Matching	(123,285,823)	(111,450,028)
Interest	(51,984,325)	(46,435,993)
Balance Member Reserves and Employer Reserves	(22,087)	(6,353)
Reinstated Accounts	(422,464)	(327,810)
Prior Year Reclassification	(95,608)	
Inactive Accounts	(69,093)	
Administrative Expense Allotment	(2,116,109)	(1,921,049)
Total Reserve Transfers	(171,830,540)	(145,749,061)
Net Fund Balance Additions (Reductions)	146,162,662	173,782,911
Beginning Fund Balance	840,610,940	666,828,029
Ending Fund Balance	\$ 986,773,602	\$ 840,610,940

# Administrative Expense Reserves Schedule of Revenues, Expenses, and Changes in Fund Balances Years Ended June 30, 1988 and 1987

	Year Ended June 30, 1988	Year Ended June 30, 1987
Operating Revenues None		
Operating Expenses		
Salaries, Wages, and Fringe Benefits	\$ 1,223,081	\$ 1,179,360
Other Personnel Costs	6,860	5,495
Professional Contracts	68,631	43,994
Interest	19,652	10,839
Utilities and Heating Fuels	27,074	18,029
Rentals	53,252	60,806
Maintenance and Repairs	52,421	. 34,968
Postage and Related Services	109,491	94,723
Printing	43,993	64,019
Insurance	67,982	71,127
Miscellaneous Services	1,148	265
Telecommunications	22,218	18,437
Computer Services	32,705	51,633
Supplies	35,204	42,559
Depreciation	87,050	65,278
Travel	21,711	31,255
Dues and Subscriptions	18,799	7,697
Miscellaneous Commodities	25,667	12,293
Furniture, Fixtures, and Equipment Not Capitalized	22,547	63,458
Total Operating Expenses	1,939,486	1,876,235
Net Operating Income (Expense)	(1,939,486)	(1,876,235)
Reserve Transfers Transfer from Unallocated Reserves	<del></del>	
Allotment	2,116,109	1,921,049
Net Fund Balance Additions (Reductions)	176,623	44,814
Beginning Fund Balance	189,139	144,325
Ending Fund Balance	\$ 365,762	\$ 189,139

# **ACTUARIAL SECTION**

Kentucky Teachers' Retirement System

### Actuary's Certification Letter

BUCS CONSULTANTS

200 Galleria Parkway, N. W. Suite 1060 Atlanta, Georgia 30339 404 | 955-2488

August 29, 1988

Board of Trustees Teachers' Retirement System of the State of Kentucky 216 West Main Street Frankfort, Kentucky 40601

Ladies and Gentlemen:

Section 161.400 of the law governing the operation of the Teachers' Retirement System of the State of Kentucky provides that at least once in each two-year period the actuary shall make an actuarial valuation of the System. We have submitted the results of the actuarial valuation prepared as of June 30, 1987. The valuation indicates that combined member and State contributions at the rate of 18.15% of university members' salaries and of 21.11% of non-university members' salaries are sufficient to support the benefits of the System. In preparing the valuation, the actuary relied on data provided by the System. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

The financing objective of the System is that contribution rates will remain relatively level over time as a percentage of payroll. Contribution rates are developed using the unit credit actuarial cost method with projected benefits. Book value of plan assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 5% annually. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System.

In our opinion the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

Sincerely,

(Signed) DONALD M. OVERHOLSER

Donald M. Overholser Consulting Actuary

Buck Consultants, Inc.

George B. Buck Consulting Actuaries, Inc. | Buck Pension Fund Services, Inc. | Buck Research Corporation | GBB Associates, Ltd.

# Report of Actuary on the Valuation Prepared as of June 30, 1987

#### SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below (all dollar amounts are \$1,000's):

Valuation Date	June 30, 1987		June 30, 1986		
Number of active members Annual salaries	45,267 \$1,101,668		44,375 \$1,003,886		
Number of annuitants and beneficiaries Annual allowances		18,360 \$ 155,559		18,330 14,233	
Assets for valuation purposes	\$2,56	\$2,562,340		\$2,214,226	
Unfunded actuarial accrued liability	\$1,236,950		\$1,141,960		
Statutory contribution rates:	Univ.	Non-Univ.	Univ.	Non-Univ.	
Member State matching State overmatch	7.45% 7.45 3.25	8.93% 8.93 3.25	7.45% 7.45 3.25	8.93% 8.93 3.25	
Total	18.15%	21.11%	18.15%	21.11%	
Actuarially determined contribution rates: Normal Accrued liability (balancing item)	12.69% 5.46	15.66% 5.45	12.69% 5.46	15.46% 5.65	
Total	18.15%	21.11%	18.15%	21.11%	
Accrued liability funding period	29 years		28 years		

- 2. The valuation indicates that combined member and State contributions at the current rate of 18.15% of salaries for university members and at 21.11% for non-university members are just sufficient to support the benefits of the System. Comments on the valuation results as of June 30, 1987 are given in Section IV and further discussion of the contribution levels is set out in Sections V and VI.
- 3. Schedule C of this report outlines the full set of actuarial assumptions and methods employed in the current valuation.
- 4. The valuation takes into account the effect of amendments to the System enacted through the 1987 Session of the Legislature and effective on the valuation date. The annual 1% increases for retired members and beneficiaries have been reflected. Provisions of the System which were taken into account in the current valuation are summarized in Schedule D (not shown in this annual report).

### **SECTION II - MEMBERSHIP DATA**

1. Data regarding the membership of the System for use as a basis of the valuations were furnished by the Retirement System office. The following table shows the number of active members and their annual salaries as of June 30, 1987 on the basis of which the valuation was prepared.

GROUP	NUMBER	ANNUAL SALARIES (\$1,000's)
Men Women	14,213 31,054	\$ 396,942 704,726
Total	45,267	\$1,101,668

The table reflects the active membership for whom complete valuation data was submitted. The results of the valuation were adjusted to take account of inactive members and members for whom incomplete data was submitted.

2. The following table shows the number and annual retirement allowances payable to annuitants and beneficiaries on the roll of the Retirement System as of the valuation date. The allowance amounts do not include any post-retirement supplements granted after June 30, 1987.

### THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF ANNUITANTS AND BENEFICIARIES ON THE ROLL AS OF JUNE 30, 1987

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES (\$1,000's)
Service Retirements	15,892	\$140,422
Disability Retirements	972	7,947
Beneficiaries of Deceased Members	1,217	6,068
Total	18,081	\$154,437

In addition, there are 279 beneficiaries entitled to term-certain only annuities totaling \$1,121,569 annually.

3. Tables 1 and 2 of Schedule E (not shown in this annual report) give the distribution by age and by years of service of the number and annual salaries of active members included in the valuation, while Tables 3, 4, and 5 give the number and annual retirement allowances of annuitants and beneficiaries included in the valuation, distributed by age.

#### SECTION III - ASSETS

- 1. The retirement law provides for the maintenance of seven funds for the purpose of recording the financial transactions of the system, namely, the Teachers' Savings Fund, the State Accumulation Fund, the Allowance Reserve Fund, the Guarantee Fund, the Survivor, Death and Medical Insurance Fund, the Expense Fund, and the Voluntary Contribution Fund.
  - (a) Teachers' Savings Fund

The Teachers' Savings Fund is the fund to which are credited all contributions made by members together with regular interest thereon. When a member retires by reason of service or disability, the amount of the member's accumulated contributions are transferred from the Teachers' Savings Fund to the Allowance Reserve Fund. If a survivor's benefit becomes payable, the member's accumulated contributions are transferred from the Teachers' Savings Fund to the Survivor, Death and Medical Insurance Fund. Refunds of accumulated member contributions upon withdrawal or death are also made from this fund. The assets credited to the Teachers' Savings Fund on June 30, 1987 amounted to \$805,407,264.

(b) State Accumulation Fund

The State Accumulation Fund consists of funds appropriated by the State for the purpose of providing annuities. When a member retires by reason of service or disability, the amount, which

together with the amount transferred from the Teachers' Savings Fund will provide the member's annuity, is transferred from the State Accumulation Fund to the Allowance Reserve Fund. Transfers are also made from this Fund to the Survivor, Death and Medical Insurance Fund when the death of a member results in an obligation on that Fund. The assets credited to the State Accumulation Fund on June 30, 1987 amounted to \$826,796,030.

#### (c) Allowance Reserve Fund

The Allowance Reserve Fund is the Fund from which all retirement allowances are paid. When a member retires, his accumulated contributions are transferred from the Teachers' Savings Fund to the Allowance Reserve Fund. The balance of the amount necessary to provide the allowance is transferred from the State Accumulation Fund to the Allowance Reserve Fund. Transfers are also made from this Fund to the Survivor, Death and Medical Insurance Fund when the death of a member results in an obligation on that Fund. The assets credited to the Allowance Reserve Fund as of June 30, 1987 amounted to \$81,272,693.

#### (d) Guarantee Fund

The Guarantee Fund is the Fund to which all investment earnings are credited and from which interest is paid to the other Funds as allowed by the Board of Trustees. The Guarantee Fund also serves to meet special requirements of the other Funds. On June 30, 1987 the assets credited to this Fund amounted to \$840,610,940.

#### (e) Survivor, Death and Medical Insurance Fund

Death and medical benefits are payable from this Fund, which is supported by the joint contributions of members and the State. Amounts held for a member in the Teachers' Savings Fund, State Accumulation Fund and Allowance Reserve Fund are transferred to the Survivor, Death and Medical Insurance Fund when the death of a member results in an obligation on the Fund. The assets credited to this Fund as of June 30, 1987 amounted to \$33,012,462. On the basis of past experience, it is assumed that 25 per cent of this amount, or \$8,253,115 is on account of survivor and death benefits and applicable for valuation purposes.

### (f) Expense Fund

The assets credited to this Fund as of June 30, 1987 amounted to \$189,139. This amount was not included in the assets used for valuation purposes.

#### (g) Voluntary Contribution Fund

The assets credited to this Fund as of June 30, 1987 amounted to \$9,350,178. This amount was not included in the assets used for valuation purposes.

2. As of June 30, 1987 the total assets held by the System amounted to \$2,596,638,706. Of this amount, \$2,562,340,042 was used for valuation purposes, as shown in the following table.

### ASSETS AS OF JUNE 30, 1987

FUND	ASSETS FOR VALUATION PURPOSES	OTHER ASSETS	TOTAL ASSETS
Teachers' Savings State Accumulation Allowance Reserve Guarantee Survivor, Death and Medical Insurance Expense Voluntary Member Contribution	\$ 805,407,264 826,796,030 81,272,693 840,610,940 8,253,115	\$24,759,347 189,139 9,350,178	\$ 805,407,264 826,796,030 81,272,693 840,610,940 33,012,462 189,139 9,350,178
Total	\$2,562,340,042	\$34,298,664	\$2,596,638,706

<sup>3.</sup> Schedule B shows the receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the asset balances.

#### SECTION IV - COMMENTS ON VALUATION

- Schedule A of this report outlines the results of the actuarial valuation (amounts are \$1,000's). The valuation was
  prepared in accordance with the actuarial assumptions and the actuarial cost method which are described in Schedule
  C.
- 2. The valuation shows that the System has an actuarial accrued liability of \$2,369,312 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of benefits payable to annuitants and beneficiaries amounts to \$1,383,200 after adjustment for special appropriations remaining to be made toward funding the 1980 and 1982 ad hoc increases, and the liability for benefits expected to be paid to inactive members and to members entitled to deferred vested benefits is \$46,778. The total actuarial accrued liability of the System amounts to \$3,799,290. Against these liabilities, the System has present assets for valuation purposes of \$2,562,340. When this amount is deducted from the actuarial accrued liability of \$3,799,290, there remains \$1,236,950 as the unfunded actuarial accrued liability.
- 3. The normal contribution rate is equal to the actuarial present value of benefits accruing during the current year divided by the annual active members' payroll. The normal contribution rate is determined to be 12.69% of payroll for university members and 15.66% for non-university members.

#### SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

- 1. Section 161.540 of the retirement law provides that each university member will contribute 8.12% of his annual salary to the System and each non-university member will contribute 9.60% of salary. Of this amount, 0.67% is paid to the Survivor, Death and Medical Insurance Fund for medical benefits leaving 7.45% for university members and 8.93% for non-university members applicable for the retirement and death benefits taken into account in the valuation.
- 2. Section 161.550 provides that the State will match the member contributions and contribute an overmatch of 3.25% of members' salaries.
- 3. The total net statutory contribution rate is 18.15% of active university members' salaries and 21.11% for active non-university members.

#### **NET STATUTORY CONTRIBUTION RATES**

SOURCE	UNIVERSITY	NON-UNIVERSITY
Member State matching State overmatch	7.45% 7.45 3.25	8.93% 8.93 3.25
Total	18.15%	21.11%

4. The valuation indicates that normal contributions at the rate of 12.69% of active university members' salaries are required to meet the cost of benefits currently accruing. The rate for non-university members is 15.66%. The difference between the total contribution rate and the normal rate remains to be applied toward the liquidation of the unfunded actuarial accrued liability. This accrued liability rate is 5.46% for university members and 5.45% for non-university members. These rates are shown in the following table.

### ACTUARIALLY DETERMINED CONTRIBUTION RATES

RATE	PERCENTAGE OF ACTIVE MEMBERS' SALARIES		
KAIE	UNIVERSITY	NON-UNIVERSITY	
Normal Accrued liability	12.69%	15.66%	
(balancing)	5.46	5.45	
Total	18.15%	21.11%	

5. The unfunded actuarial accrued liability amounts to \$1,236,950,000 as of the valuation date. Accrued liability contributions at the rate of 5.46% of active university members' payroll and 5.45% of non-university members' payroll are sufficient to amortize the unfunded actuarial accrued liability over the 29 year period commencing June 30, 1987, based on the assumption that the payroll will increase by 5% annually.

#### SECTION VI - COMMENTS ON LEVEL OF FUNDING

- 1. The benefit percentage for non-university members is 2% for service accrued through January 1, 1984 and 2½% for service accrued after that date. The total net contribution rate is 21.11% of payroll for these members. For university members the benefit percentage is 2% for all service and the contribution rate is 18.15%. Our calculations indicate that these contribution rates will be sufficient to cover the basic benefits of the System and the annual 1% increases in the allowances of retired members and beneficiaries. Special appropriations are being made toward the ad hoc increases granted in 1980 and 1982.
- 2. The valuation indicates that the present statutory contribution rates are sufficient to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a reasonable period of time. The effect of the System experience has produced an increase in the funding period for the unfunded actuarial accrued liability from 28 to 29 years.
- 3. Although the valuation shows that the System is operating on an actuarially sound basis, there are no excess assets or contributions available to provide additional benefits. Any further benefit improvements, including the ad hoc increases previously noted, should be accompanied by the additional contributions necessary to support the benefits.

### **SCHEDULE A**

### RESULTS OF THE VALUATION PREPARED AS OF JUNE 30, 1987 (\$1,000's)

1	100	DIADIAI ACCIDIIED IIADII EUX	<u>ar ann an 1800 - Tha ann an 1800 an Aireann an 1800 ann an 18</u>	
1.	AC.	TUARIAL ACCRUED LIABILITY		
		ent value of prospective benefits able in respect of:		
	(a)	Present active members:		
		<ul> <li>Service retirement benefits</li> <li>Disability retirement benefits</li> <li>Death and survivor benefits</li> <li>Refunds of member contributions</li> </ul>	\$ 2,076,362 139,947 72,244 80,759	
		Total		\$ 2,369,312
	(b)	Present inactive members and members entitled to deferred vested benefits:		46,778
	(c)	Present annuitants and beneficiaries:		
		<ul> <li>Service retirement benefits</li> <li>Disability retirement benefits</li> <li>Death and survivor benefits</li> </ul>	\$ 1,246,719 58,781 77,700	
		Total	<del></del>	1,383,200
	(d)	Total actuarial accrued liability		\$ 3,799,290
2.	PRE	SENT ASSETS FOR VALUATION PURPOSES		2,562,340
3.	UNF	FUNDED ACTUARIAL ACCRUED LIABILITY [(1) minus (2)]		\$ 1,236,950
4.	NOF	RMAL CONTRIBUTION RATE		
			UNIVERSITY	NON- UNIVERSITY
	(a)	Actuarial present value of benefits accruing annually	\$ 10,958	\$ 158,901
	(b)	Annual payroll of active members under age 70	86,334	1,014,805
	(c)	Normal contribution rate [4(a) divided by 4(b)]	12.69%	15.66%

### SCHEDULE B SUMMARY OF RECEIPTS AND DISBURSEMENTS

	For the Year Ending		
	June 30, 1987	June 30, 1986	
Receipts for the Year			
Contributions: Members Employers	\$ 107,601,713 162,727,164	\$ 99,846,084 143,860,023	
Total	\$ 270,328,877	\$ 243,706,107	
Net Investment Income	266,127,244	331,088,699	
Miscellaneous, including expense appropriations	86,235	64,501	
TOTAL	\$ 536,542,356	\$ 574,859,307	
Disbursements for the Year			
Benefit Payments	\$ 157,424,992	\$ 143,326,926	
Refunds to Members	6,699,212	7,378,353	
Medical Insurance Premium	17,559,850	14,515,566	
Miscellaneous, including expenses	2,478,932	1,917,603	
TOTAL	\$ 184,162,986	\$ 167,138,448	
Excess of Receipts Over Disbursements	\$ 352,379,370	\$ 407,720,859	
Reconciliation of Asset Balances			
Asset Balance as of the Beginning of the Year	\$2,244,259,336	\$1,836,538,477	
Excess of Receipts Over Disbursements	352,379,370	407,720,859	
Asset Balance as of the End of the Year	\$2,596,638,706	\$2,244,259,336 *	

<sup>\*</sup> Due to a revision, the June 30, 1986 Asset Balance as of the end of the year increased \$30,388 from the amount reported the prior year.

# SCHEDULE C OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 7.5% per annum, compounded annually.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows:

Age	Annual Rate		
20	9.30%		
25	. 8.40		
30	7.40		
35	6.70		
40	6.20		
45	5.90		
50	5.70		
55	5.50		
60	5.40		
65	5.20		

**SEPARATIONS FROM SERVICE**: Representative values of the assumed annual rates of death, disability, withdrawal and service retirement are as follows:

Men
Annual Rate of

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Age	Death	Disability	Withdrawal	Service Retirement*	Early Retirement
20	.008%	.01%	9.00%		
25	.023	.01	8.00		
30	.038	.01	6.75		
35	.076	.05	5.50		
40	.113	.07	4.25		
45	.151	.10	3.20		
50	.249	.29	2.30		
55	.514	1.20		9.30%	2.00%
60	.892	.05		12.00	
62	1.043	.03		16.50	
65	1.346			47.30	
70				100.00	

<sup>\*</sup>It is also assumed that an additional 20% of men will retire in their first year of eligibility if before age 60.

# Women Annual Rate of

Age	Death	Disability	Withdrawal	Service Retirement*	Early Retirement
20	.007%	.01%	8.50%	. Mendin dang terming dan kemenjan di Kanada menjantan se	agencia de contra a como como como personal de como son esta en esta en esta en esta en esta en esta en esta e
25	.014	.01	8.00		
30	.036	.01	7.40		
35	.058	.04	6.40		
40	.094	.09	4.60		
45	.109	.18	2.80		
50	.130	.29	1.80		
55	.167	.60		9.20%	2.50%
60	.239	.25		15.00	
62	.268	.06		20.00	
65	.312			51.00	
70				100.00	

<sup>\*</sup>It is also assumed that an additional 25% of women will retire in their first year of eligibility if before age 60.

**DEATHS AFTER RETIREMENT:** Representative values of the assumed annual rates of death after service and disability retirement are as follows:

Annual Rate of Death After

		Retirement	Disability Retiremen		
Age	Men	Women	Men	Women	
40	.1%	.1%	5.1%	4.5%	
50	.4	.2	5.1	4.5	
55	.6	.2	5.1	4.5	
60	1.1	.4	5.1	4.5	
65	1.9	.7	5.1	4.5	
70	3.1	1.4	5.1	4.5	
75	4.6	2.6	5.1	4.5	
80	7.0	4.4	7.8	5.5	
85	11.0	7.5	12.3	9.4	
90	16.8	12.8	19.1	15.9	
95	23.2	21.1	29.2	26.2	

ACTUARIAL METHOD: Unit Credit Actuarial Cost Method with projected benefits.

ASSETS: Book value, as reported by the System.

# Solvency Test (in millions of dollars)

	Aggregat (1) Active	e Accrued Lia (2) Retirants	(3) Active Members		Portion of Accrued Liabilities Covered By Assets		
Fiscal Year	Member Contributions	and Beneficiaries	(Employer Financed Portion)	Assets	(1)	(2)	(3)
1980	\$368.3	\$ 788.7	\$ 745.8	\$ 872.4	100 %	64 %	0%
1982	467.6	941.8	1,031.3	1,163.7	100	74	0
1984	580.8	1,101.2	1,225.8	1,569.1	100	90	0
1986	719.1	1,320.2	1,316.9	2,214.2	100	100	13
1987	805.4	1,430.0	1,563.9	2,562.3	100	100	21

The solvency test is one means of checking a system's progress under its funding program. In a solvency test, the plan's present assets are compared with (1) the active member contributions, (2) the amount necessary to cover the present value of benefits payable to current retirces and beneficiaries, and (3) the amount necessary to cover the present value of benefits owed to active members for service already rendered. The total of (1), (2), and (3) is the total actuarial accrued liability of the plan.

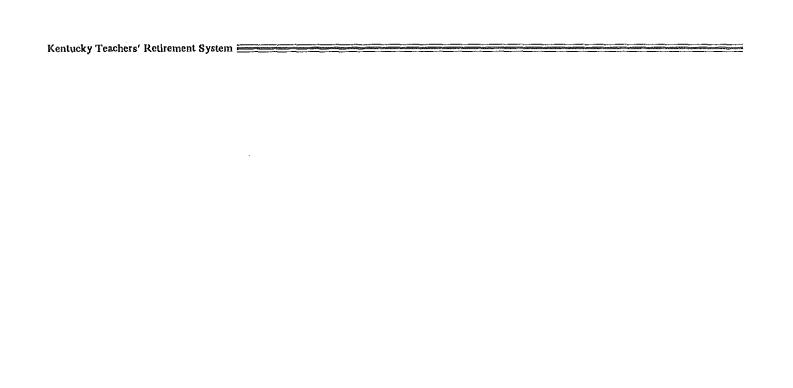
In a system that has been following the discipline of level percent of payroll financing, such as KTRS, the liabilities in columns (1) and (2) should be fully covered by assets and the portion of the liability in column 3 covered by assets should increase over time.

### Schedule of Active Member Valuation Data

Fiscal Year	(1) Number of Active Members	(2) Total Annual Payroll	(3) Average Annual Pay (2)÷(1)	(4) % Increase (Decrease) in Average Pay
1979	44,194	\$ 633,540,022	\$14,335	12.8%
1980	44,470	704,091,059	15,833	10.5
1981	44,233	760,999,554	17,204	8.7
1982	43,426	807,159,764	18,587	8.0
1983	42,570	849,839,088	19,963	7.4
1984	41,438	916,650,063	22,121	10.8
1985	43,375	950,093,444	21,904	(1.0)
1986	44,366	1,006,751,275	22,692	3.6
1987	44,556	1,104,968,563	24,800	9.3
1988	45,154	1,217,746,805	26,969	8.7

## Schedule of Retirants, Beneficiaries and Survivors Added to And Removed from Rolls

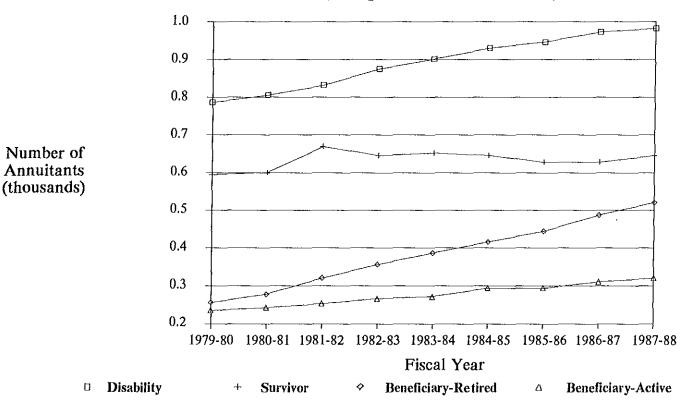
	Added	Added to Rolls		moved from Rolls Rolls-End of Year				
Year Ended	Number	Annual Allowances (Millions)	Number	Annual Allowances (Millions)	Number		% Increase in Annual Allowances	Average Annual Allowances
1979	938	\$ 8.3	437	\$1.9	13,583	\$ 68.5	10.3%	\$5,044
1980	1,044	8.5	484	2.2	14,143	74.8	9,2	5,287
1981	1,184	13.6	483	2.6	14,844	85.8	14.7	5,778
1982	1,287	14.4	496	2.7	15,635	97.5	13.6	6,236
1983	1,234	15.3	590	3.2	16,279	109.6	12.4	6,733
1984	1,082	15.4	574	3.4	16,787	121,6	10.9	7,243
1985	1,209	13.5	630	4.1	17,366	131.0	7.7	7,545
1986	1,213	14.7	647	4.1	17,932	141.6	8.1	7,896
1987	1,119	18.7	695	4.9	18,356	155.4	9.7	8,464
1988	189	17.8	738	5.6	18,599	167.6	7.8	9,012



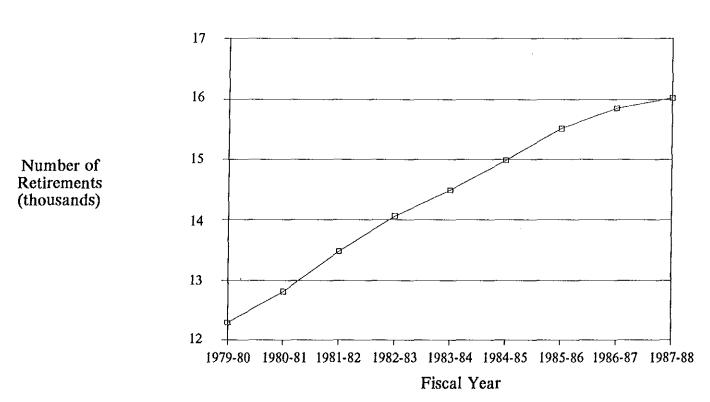
# STATISTICAL SECTION

Kentucky Teachers' Retirement System

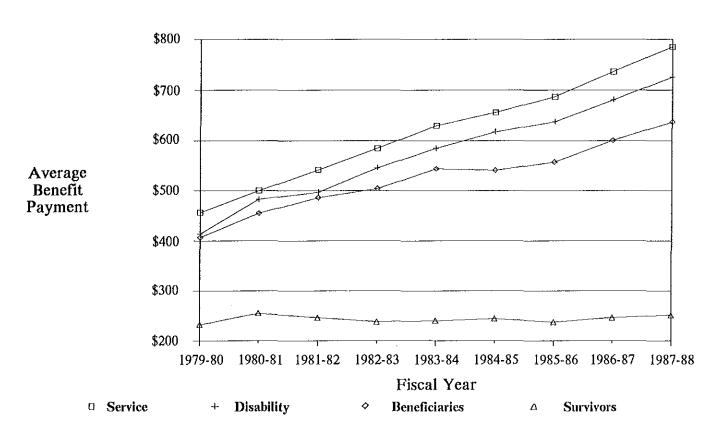
# Growth In Annuitants (except service retirements)

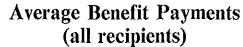


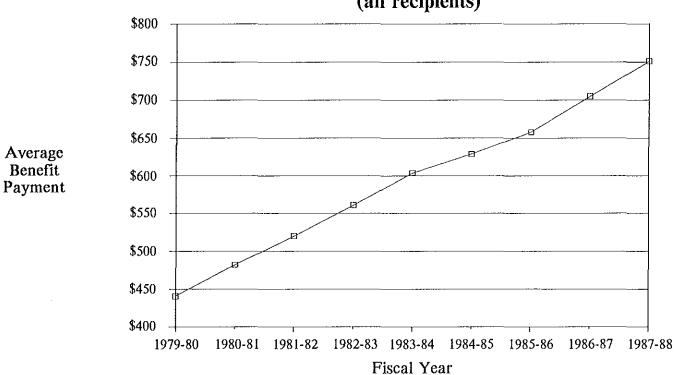
### **Growth In Service Retirements**



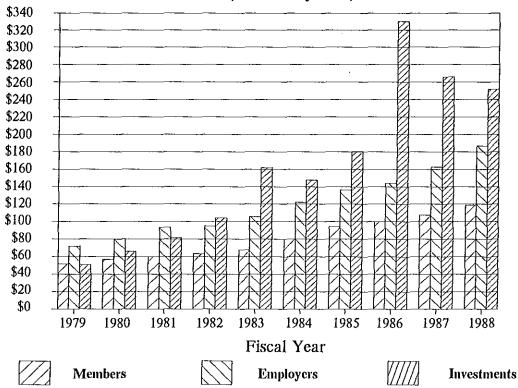
### **Average Benefit Payments**





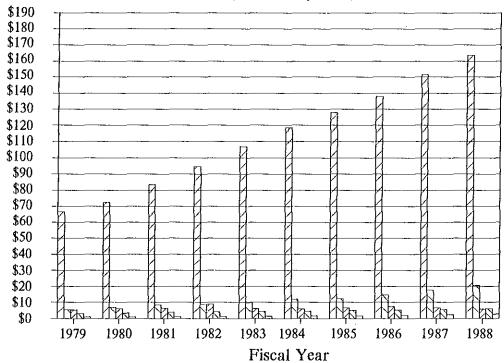


### Summary of Revenue by Source (last ten years)



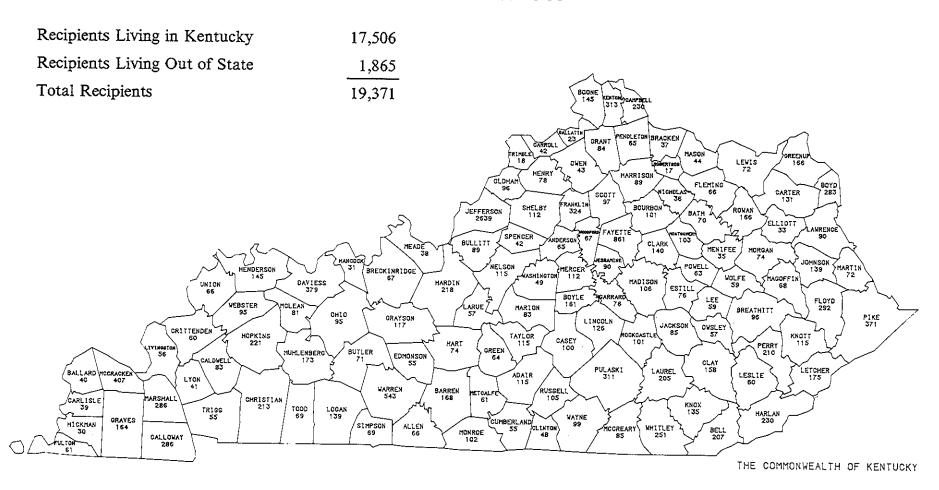
Millions of **Dollars** 

### Summary of Expenses by Type (last ten years)



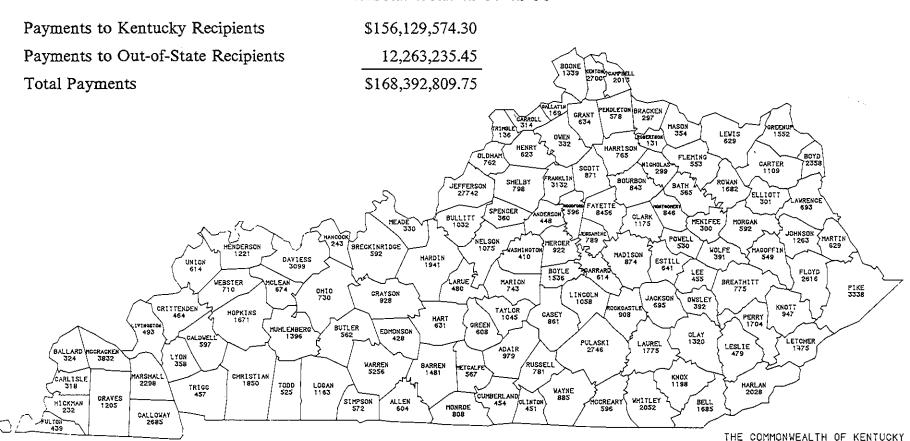
Millions of **Dollars** 

### Geographical Distribution of All Recipients Fiscal Year 1987-1988



# Geographical Distribution of Annual Retirement Payments (in thousands)

Fiscal Year 1987-1988



# Summary of State Budget Appropriation to Teachers' Retirement System for 1987 - 1988

Expense Item	1987-88 State Budget Appropriation	1987-88 State Actual Budget Requirement
Match of Member Contributions	\$110,775,937	\$117,486,779
Overmatch	37,961,682	40,306,186
Federal Payments	(5,818,847)	(5,983,982)
Higher Education Contribution Reduction	2,030,950	2,058,405
Sick Leave (KRS 161.550)	3,630,000	6,068,502
Retiree Cost of Living Adjustment	17,927,561	17,927,561
Prior Service Increase	640,000	640,000
\$75 Minimum Benefit	25,000	25,000
Handicapped Child Benefit	145,000	145,000
Minimum Benefit Adjustment	1,784,017	1,784,017
TOTALS	\$169,101,300	\$180,457,468
State Under-appropriation for 1987-88	\$11,356,168	

KRS 161.550 requires that in the event an annual appropriation is less than the amount of the statutory requirements, the state shall make up the deficit in the next biennial budget appropriation to the Retirement System.

### Summary of State Appropriations for Match and Overmatch of Member Contributions to Teachers' Retirement System

Date	Total Member Contributions	Federal Payments	Required State Match Contribution	Required State Overmatch	State Appropriation	(Deficit)Surplus State Funding	Running Total (Deficit)Surplus State Funding
1940-44	\$ 2,063,716.64	\$	\$ 2,063,716.64	\$	\$ 2,063,636.92	\$ (79.72)	\$ (79.72)
1944-48	3,184,177.52		3,184,177.52		3,039,017.44	(145,160.08)	(145,239.80)
1948-52	4,951,457.55		4,951,457.55		5,090,847.83	139,390.28	(5,849.52)
1952-56	7,267,163.31		7,267,163.31		6,494,101.79	(773,061.52)	(778,911.04)
1956-60	14,970,960.84		14,970,960.84		14,963,272.06	(7,688.78)	(786,599.82)
1960-64	25,945,897.28		25,945,897.28		25,938,763.39	(7,133.89)	(793,733.71)
1964-68	49,957,298.50	2,042,013.63	47,915,284.87		45,317,694.37	(2,597,590.50)	(3,391,324.21)
1968-72	82,922,869.43	6,044,864.81	76,878,004.62		80,091,950.94	3,213,946.32	(177,377.89)
1972-76	120,349,349.69	8,019,215.64	112,330,134.05		111,665,685.06	(664,448.99)	(841,826.88)
1976-80	189,072,371.12	12,044,186.00	177,028,185.12	75,010,028.00	256,784,030.00	4,745,816.88	3,903,990.00
1980-81	60,087,342.00	4,109,090.00	55,978,252.00	24,908,848.00	83,449,550.00	2,562,450.00	6,466,440.00
1981-82	63,859,388.30	4,012,766.76	59,846,621.54	26,472,322.96	89,301,425.00	2,982,480.50	-0-
1982-83	68,077,792.47	3,902,923.29	64,174,869.18	28,221,023.67	95,601,936.00	3,206,043.15	-0-
1983-84	80,720,250.13	4,310,157.00	76,410,093.13	30,019,915.87	110,314,100.00	3,884,091.00	206,370.00
1984-85	90,156,759.21	5,024,318.99	85,132,440.22	31,233,173.87	112,896,000.00	(3,469,614.09)	(3,263,244.09)
1985-86	95,894,952.10	5,039,581.99	90,855,370.11	33,218,459.68	115,962,300.00	(8,111,529.79)	(11,374,773.88)
1986-87	108,335,520.70	5,369,721.33	102,965,799.37	36,494,008.27	132,794,156.00	(6,665,651.64)	(8,757,209.86)
1987-88	119,545,183.88	5,983,981.75	113,561,202.13	40,306,185.40	144,949,722.00	(8,917,665.53)	(17,674,875.39)

The state under-appropriation at June 30, 1988 is \$19,257,990.56. The state funding deficit of \$17,674,875.39 was reduced by the 1986-87 surplus in sick leave liability appropriation of \$855,386.64 and increased by the 1987-88 deficit in sick leave liability appropriation of \$2,438,501.81. The state underappropriation of \$19,257,990.56 includes the state funding deficit remaining in 1985-86 of \$2,091,558.22 and the state funding deficit remaining in 1986-87 of \$5,810,265.00. KRS 161.550 requires that in the event an annual appropriation is less than the amount of the statutory requirements, the state shall make up the deficit in the next biennial budget appropriation to the Retirement System. The 1988 General Assembly appropriated \$2,091,558.22 to fund the 1985-86 deficit and \$5,810,265.00 to fund the 1986-87 deficit. KTRS received the \$7,901,823.22 on July 1, 1988.

# Summary of July 1, 1988 Retiree Sick Leave Payments

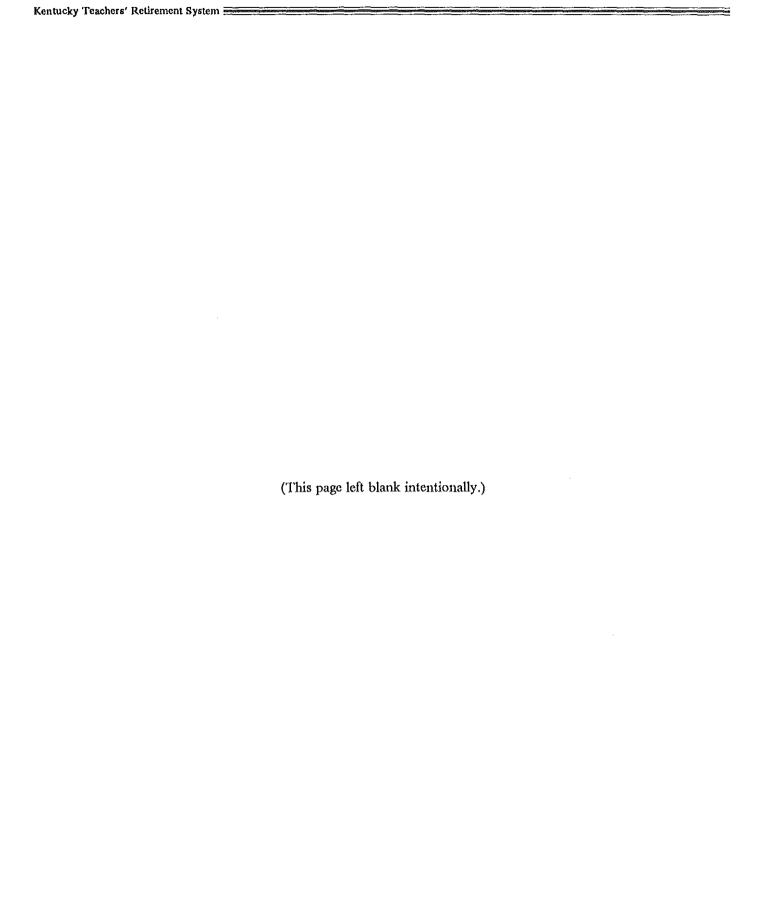
Average payment l increase in fina Average increase l service credit o	it per retiree I average salary in FASB f 775 retirees	base (FAS	B)			
Average Yearly Increase	Service Credit		Retirement Factor		Average Yearly Annuity	
\$972.37 \$972.37 \$972.37	X 24.79 X 1.00 X 4.00	X X X	2% 2.25% 2.50%	===	\$482.10 \$21.88 \$97.24	
Average yearly a Average monthly	nnuity annuity (\$60			•••••		\$601.22 \$50.10
Average Monthly Annuity		esent Value Based o verage Age	n	N	umber of Members with Sick Leave Payments	
\$50.10	х —	178.08	X		775	
Anticipated lifeting	me payout of a	iditional an	nuity	•••••		
	1 Payout					
ing of Additiona						****
Member Contrib			767,932.88 = 767,932.88 =			
Member Contrib tate Contribution		5% X \$3,				484,179.38
Member Contribution Total Memb	ons 12.8	5% X \$3,				484,179.38
Member Contribution Total Member t	ons 12.8 per-State Contri	5% X \$3, butions				484,179.38 \$845,900.94 \$6,914,402.75
ing of Additional Member Contribution Total Member  Anticipated addit  ess total Members Subtotal unfless current year	ons 12.8 per-State Contri ional payout er and State con unded debt	5% X \$3, butions				\$361,721.56 484,179.38 \$845,900.94 \$6,914,402.75 845,900.94 \$6,068,501.81 3,630,000.00

(1) This amount has been included in the 1987-88 shortfall.

# School Districts That Have Elected to Pay for Sick Leave Under KRS 161.155(5) Fiscal Year 1988

School District	Number of Members	Total Additional Compensation	School District	Number of Members	Total Additional Compensation
Adair	2	\$ 4,125.00	Johnson	7	\$ 25,504.99
Allen	$\overline{1}$	4,800.73	Kenton	3	19,027.30
Anderson	4	12,278.54	Knott	4	18,547.82
Barren	4	11,503.24	Knox	2	4,541.04
Bath	4	11,935.32	Larue	5	32,383.54
Bell	4	15,326.56	Laurel	11	42,748.46
Boone	12	90,425.72	Leslie	îî	39,646.05
Bourbon	3	25,352.19	Letcher	7	17,251.66
Boyd	4	8,681.87	Lewis	10	57,990.54
Boyle	3	11,715.00	Lincoln	6	17,683.95
Bracken	1	3,941.15	Livingston	i	5,176.67
Breathitt	10	47,749.81	Logan	2	8,852.50
Breckinridge	5	20,138.02	Lyon	1	7,495.94
Bullitt	6	17,648.95	Madison	11	73,128.02
Butler	4	9,030.84	Magoffin	4	11,216.14
Caldwell	4	23,571.98	Marshali	5	37,083.14
Calloway	3	8,684.48	Mason	1	606.04
Campbell	4	12,531.67	McCracken	5	21,401.15
Carroll	1	818.23	Meade	3	22,074.90
Carter	5	26,234.80	Mercer	$\overline{2}$	5,309.89
Casey	1	2,126.25	Metcalfe	2	1,053.64
Christian	11	53,870.10	Monroe	$\overline{4}$	18,304.37
Clark	8	51,794.80	Montgomery	2	3,898.34
Clay	7	20,210.63	Morgan	$\overline{2}$	5,807.91
Clinton	3	10,484.48	Muhlenberg	$\overline{3}$	27,296.67
Cumberland	1	8,156.98	Nelson	3	25,304.69
Daviess	11	69,910.22	Nicholas	1	5,286.04
Edmonson	4	11,045.74	Ohio	7	27,402.92
Elliott	2	6,586.57	Oldham	i	3,115.42
Estill	5	22,111.56	Owen	3	15,844.27
Fayette	35	227,525.00	Pendleton	2	4,504.80
Fleming	4	18,135.21	Perry	17	71,082.51
Floyd	ż	29,931.36	Pike	22	76,001.67
Franklin	10	49,863.76	Powell	1	5,968.02
Fulton	1	3,437.81	Pulaski	5	22,486.04
Garrard	3	18,767.92	Rockcastle	4	7,013.23
Grant	Ī	5,837.40	Rowan	8	27,931.15
Graves	6	29,114.59	Russell	4	3,892.20
Grayson	7	27,624.06	Scott	4	14,771.45
Green	4	25,973.75	Shelby	7	38,146.47
Greenup	6	38,015.93	Simpson	5	14,457.08
Hardin <sup>*</sup>	11	62,036.14	Taylor	2	2,369.58
Harlan	6	29,265.63	Todd	2	9,222.40
Harrison	11	58,516.98	Trigg	1	10,356.15
Hart	4	11,582.71	Union	2	8,401.35
Henderson	8	66,623.23	Warren	7	41,066.76
Henry	1	2,030.00	Washington	2	6,393.65
Hickman	1	5,956.35	Wayne	3	20,172.71
Hopkins	$\overline{2}$	10,321.14	Webster	2	9,977.70
Jackson	1	3,618.65	Whitley	11	40,508.74
Jefferson	159	883,137.00	Wolfe	1	2,576.88
Jessamine	2	10,140.83	Woodford	6	33,872.18

School District	Number of Members	Total Additional Compensation
Ashland	11	\$ 46,865.75
Barbourville	Î	3,198.23
Bardstown	3	14,065.83
Bowling Green	10	54,446.88
Campbellsville		9,701.35
Corbin	$\overline{2}$	4,180.62
Covington	2 2 5 2	11,420.84
Danville	2	11,774.59
East Bernstadt	1	6,994.38
Elizabethtown	4	31,240.73
Erlanger	4	13,622.62
Fairview	ĺ	3,407.40
Frankfort		10,130.21
Glasgow	2 2 1 2	8,413.65
Harlan	1	2,187.92
Harrodsburg	2	6,072.09
Hazard	1	2,158.02
Ludlow	1	8,165.21
Mayfield	4	29,595.21
Middlesboro		3,800.94
Monticello	5	30,968.02
Newport	3	8,138.65
Owensboro	7	28,870.84
Paducah	5	370.00
Paintsville	2 5 3 7 5 2 2 3	5,606.77
Paris	2	14,227.29
Pikeville	3	12,225.84
Providence	1	1,929.27
Richmond	1	6,619.58
Russell	2	11,159.59
Russellville	1 2 2	370.21
Science Hill	1	18,121.77
Somerset	4	23,252.51
Williamsburg	ĺ	4,540.00
Williamstown	1	7,686.46
Total	775	\$3,767,932.88



# INVESTMENT SECTION

Kentucky Teachers' Retirement System

### **Investments**

The Board of Trustees of the Teachers' Retirement System annually appoints an Investment Committee consisting of two Board members and the Executive Secretary. This Committee acts on behalf of the Board, subject to its approval, in all matters concerning investments. In compliance with the Kentucky Revised Statutes, the Board of Trustees has adopted an "Investment Policy" which it reviews periodically. The investment objectives of the Board of Trustees are as follows:

- 1. Investment of the funds of the Teachers' Retirement System of the State of Kentucky shall be made solely in the interest of its members and their beneficiaries. Investment income shall be used for the exclusive purpose of providing benefits to the members and their beneficiaries and making payment of reasonable expenses in administering the Plan and its Trust Funds.
- 2. The specific objective of the investment program shall be the investment of the Fund's assets in securities which shall provide a reasonable rate of total return with major emphasis being placed upon the protection of the invested assets. When investments are acquired, current income together with prospects for capital appreciation shall be weighed in regard to the long range needs of providing benefits to members and their beneficiaries. Short term fluctuations in the market value of the Fund's assets shall be considered as secondary to the long term objectives and needs of the System.

During the 1980 session of the Kentucky General Assembly, the Board of Trustees worked with the General Assembly and modernized the section of the Teachers' Retirement Law that governs the investment process. The law is now patterned after the "Prudent Man" concept with a limited number of restrictions regarding asset allocation and permissible types of investments.

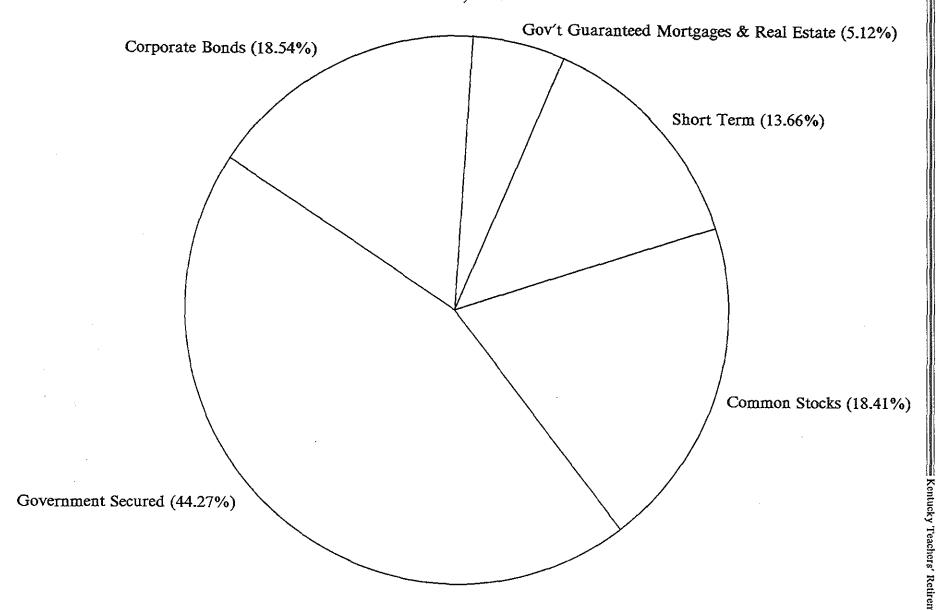
The Kentucky Revised Statutes require the Board of Trustees to employ an experienced investment counselor to advise it on investment related matters. Todd Investment Advisors of Louisville was retained during 1987-88 as the principal investment counselor. The First Kentucky Company and Invesco Capital Management also were employed to provide investment counseling services during the fiscal year. The First Kentucky Company assisted in the management of approximately \$280 million in bonds, while Invesco Capital Management was involved with managing approximately \$130 million in equity investments. All of the investment firms are required to work within the same set of portfolio objectives, portfolio constraints, and administrative guidelines. Three investment counselors provide the Board of Trustees with a diversification of management that is appropriate for a 2.9 billion dollar fund. The Farmers Bank & Capital Trust Company, located in Frankfort, Kentucky, was retained in 1987-88 as the Custodian of Securities.

The investment portfolio experienced considerable growth in both par and book values during the year. The par value of the portfolio increased \$319 million, or 11.2%, to a total of \$3.2 billion at year-end. The book value of the fund correspondingly increased 13.3% during the year. The System collected \$242 million of investment income during 1987-88. The income resulted from interest, dividends, rental income, lending income, and gains. Despite earning a large amount of income, the System realized less than in the preceding year when it collected \$261.5 million. (Investment income amounts do not include monies earned but not received by the end of the fiscal year.) The decline was due to the general weakness of the securities markets, which prevented the System from having the same opportunities to sell securities at a profit as it did in the preceding fiscal year. A continuing source of growth to the portfolio is higher teachers' salaries and the corresponding effect this has on retirement contributions. At the year-end, the "net indicated yield" on fixed income investments at par value was 7.5%. The "indicated dividend yield" on common stocks was 3.77%.

The asset allocation of investments at par value was similar at the beginning of the fiscal year to what it was on June 30, 1988. During the 1987-88 fiscal year, the most significant change was in the cash position which decreased from 21.3% of assets to 13.7%. This decrease was due to the investment counselors' recommendations to be more fully invested in what they consider to be an undervalued securities market. The portion of the portfolio in government funds increased from 39.2% to 44.3%. The stock position decreased during the year by going from 19.1% to 18.4% of assets. The real estate equity position is a relatively small portion of the System's portfolio at approximately 1%. It should benefit the fund, particularly during inflationary periods.

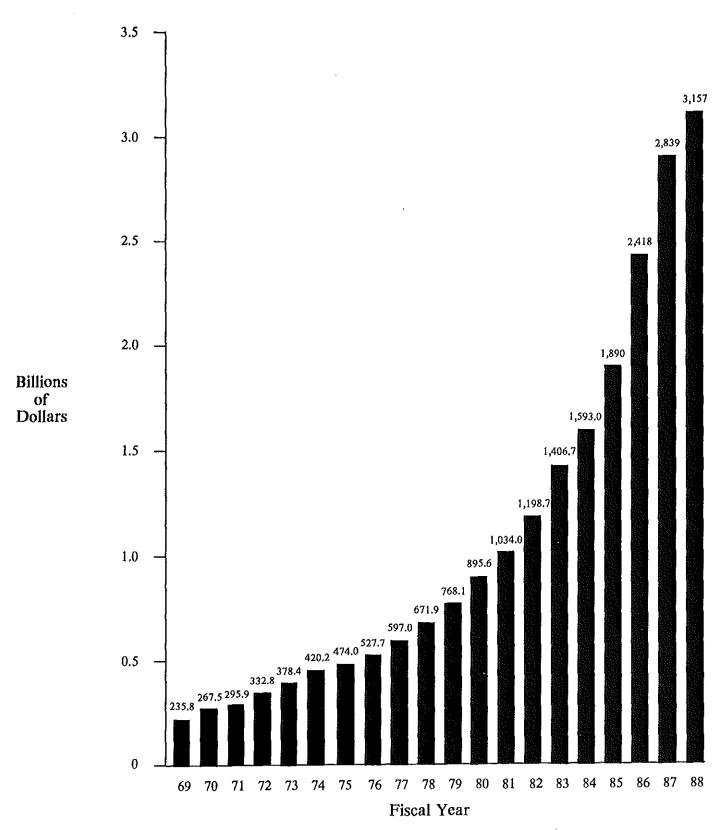
The charts on the following pages display graphically the growth that is discussed in the preceding paragraphs and also depict the growth of the System over the last twenty years. Following the charts is a summary description of investments held at June 30, 1988. The pages thereafter provide a detailed listing of all investments held on June 30, 1988.

## Distribution of Investments June 30, 1988



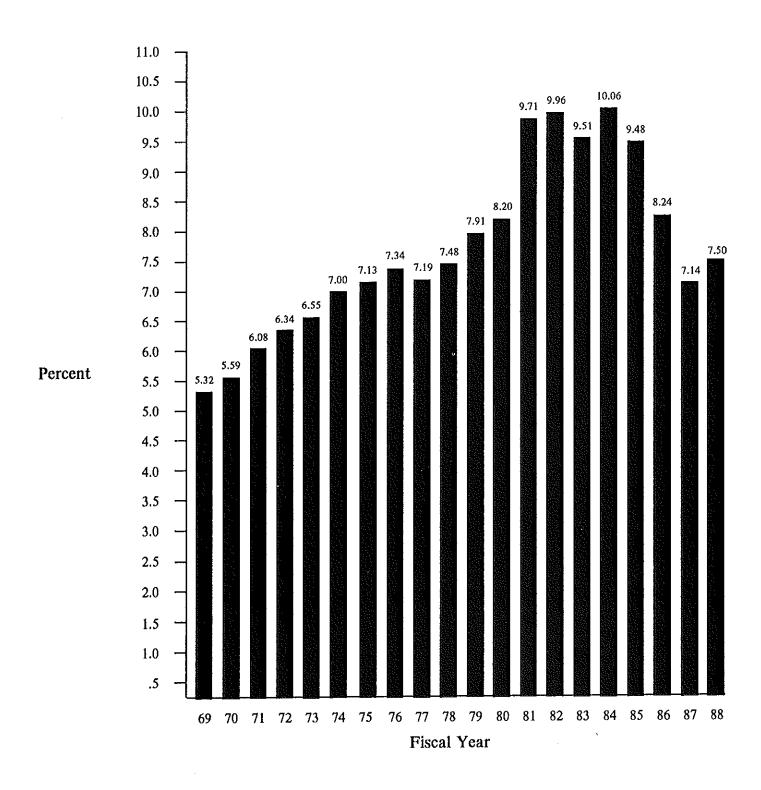
### **Investment Portfolio Growth**

Fixed Income at Par Value Equities at Cost



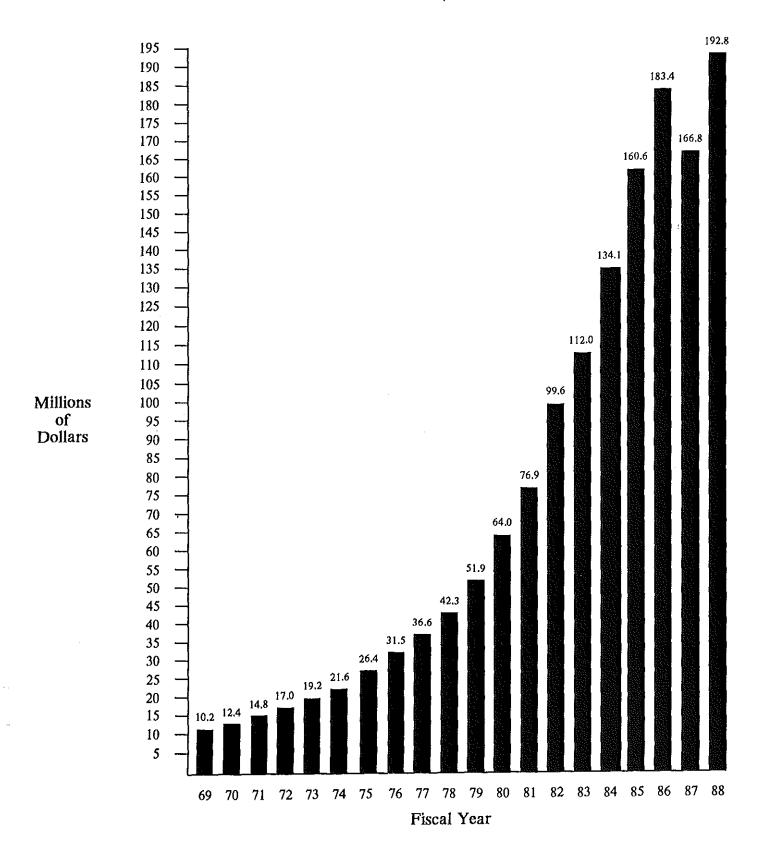
## Net Indicated Yield on Fixed Dollar Assets

(Par Value)



#### **Investment Income Growth**

(Includes Amortization Excludes Net Gain)



# Analysis of Investments Held as of June 30, 1988

		Percentage of Total	;	Par Value*	Net Annual Interest/Indicated Dividend Income	Annual Yield
Repurchase Agree	ments	13.66%	\$	431,460,000.00	\$ 32,149,165.00	7.45%
Total Short Term		13.66%	\$	431,460,000.00	\$ 32,149,165.00	7.45%
Treasury Notes an	d Bonds	24.59%		776,483,000.00	65,516,595.63	8.44%
Agencies		2.03%		64,039,943.00	6,266,803.82	9.79%
Ship Bonds (Title	XI)	1.69%		53,360,297.06	4,893,050.62	9.17%
GNMA (Single Fa	mily)	2.78%		87,834,023.10	7,949,572.13	9.05%
Other Miscellaneou	us	13.18%		416,217,412.34	17,541,919.17	4.21%
Total U. S. Govern	ment Obligations	44.27%	\$	1,397,934,675.50	\$102,167,941.37	7.31%
Industrials		5.58%		176,097,270.04	13,521,594.56	7.68%
Finance		6.28%		198,194,164.09	14,296,730.68	7.21%
Utility Bonds (Exc	ept Telephone)	1.69%		53,331,000.00	4,421,544.28	8.29%
Telephone Bonds	-F Function	3.32%		104,740,000.00	8,534,643.86	8.15%
Railroad Obligation	ns	0.46%		14,552,000.00	1,109,241.70	7.62%
Corporate Bonds N		1.21%		38,314,422.21	3,021,141.04	7.89%
Total Corporate Bo	onds	18.54%	\$	585,228,856.34	\$ 44,904,896.12	7.67%
FHA & VA Single	Family Mortgages	0.41%		13,045,434.99	853,850.75	6.55%
Project Mortgages		3.52%		110,980,721.22	10,329,108.51	9.31%
Total Other Fixed	Income Investments	3.93%	\$	124,026,156.21	\$ 11,182,959.26	9.02%
Subtotal (Fix	ed Income)	80.40%	\$2	2,538,649,688.05	\$190,404,961.75	7.50%
Real Estate Equity		1.19%		37,531,374.18	2,598,025.40	6.92%
Total Real Estate I	Equity	1.19%	\$	37,531,374.18	\$ 2,598,025.40	6.92%
Common Stocks	11,576,198.0434 Shares	18.41%		581,237,316.27	21,903,689.99	3.77%
Total Stocks	11,576,198.0434 Shares	18.41%	\$	581,237,316.27	\$ 21,903,689.99	3.77%
Subtotal (Equ	uity)	19.60%	\$	618,768,690.45	\$ 24,501,715.39	3.96%
TOTAL INVESTMENTS, INCOME AND YIELD		100.00%	<u>\$3</u>	,157,418,378.50	\$214,906,677.14	6.81%

<sup>\*</sup>These figures represent the par value for the fixed income investments and the cost of stocks. The total book value and market value of KTRS investments are understandably different from the par value. The book value of fixed income investments as of 6-30-88 was \$2,260,956,205; the market value was \$2,224,103,649. The par and book values of stocks, which are the same, were \$581,237,316 for 6-30-88; the market value of stocks was \$574,873,769. Market value can be a highly volatile measure that changes daily and is particularly important when trading securities. Detailed information concerning the book values and market values of KTRS securities is available on request.

#### **Short Term Investments**

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Repurchase Agreements:	Section Sectio		
Repurchase Agreement	7.300	07/88	\$ 35,000,000.00
Repurchase Agreement	7.300	07/88	30,750,000.00
Repurchase Agreement	7.300	07/88	31,780,000.00
Repurchase Agreement	7.320	07/88	32,250,000.00
Repurchase Agreement	7.330	07/88	<b>5,000,000.00</b> .
Repurchase Agreement	7.340	07/88	29,370,000.00
Repurchase Agreement	7.370	07/88	25,000,000.00
Repurchase Agreement	7.480	07/88	37,160,000.00
Repurchase Agreement	7.510	07/88	26,164,500.00
Repurchase Agreement	7.510	07/88	21,980,000.00
Repurchase Agreement	7.510	07/88	21,245,500.00
Repurchase Agreement	7.520	07/88	27,340,000.00
Repurchase Agreement	7.530	07/88	26,600,000.00
Repurchase Agreement	7.610	07/88	10,000,000.00
Repurchase Agreement	7.630	07/88	962,000.00
Repurchase Agreement	7.630	07/88	32,038,000.00
Repurchase Agreement	7.660	07/88	20,820,000.00
Repurchase Agreement	7.670	07/88	10,000,000.00
Repurchase Agreement	7.670	07/88	3,525,500.00
Repurchase Agreement	7.670	07/88	4,229,900.00
Repurchase Agreement	7.670	07/88	244,600.00
Total Short Term Investments			\$431,460,000.00

# U. S. Government Obligations

Treasury Bonds & Notes:			
U S Treasury Bonds	7.875	02/00	\$ 5,000,000.00
U S Treasury Bonds	8.750	11/08	3,000,000.00
U S Treasury Bonds	8.875	08/17	10,000,000.00
U S Treasury Bonds	8.875	08/17	10,000,000.00
U S Treasury Bonds	8.875	08/17	10,000,000.00
U S Treasury Bonds	8.875	08/17	10,000,000.00
U S Treasury Bonds	9.125	05/09	15,000,000.00
U S Treasury Bonds	10.750	08/05	1,625,000.00
U S Treasury Bonds	12.375	05/04	9,223,000.00
U S Treasury Bonds	13.125	05/01	8,000,000.00
U S Treasury Bonds	13.250	05/14	2,100,000.00
U S Treasury Bonds	14.250	02/02	6,735,000.00
U S Treasury Notes	6.250	12/88	29,600,000.00
U S Treasury Notes	7.000	04/94	10,000,000.00
U S Treasury Notes	7.125	04/89	46,500,000.00
U S Treasury Notes	7.375	05/96	11,400,000.00
U S Treasury Notes	7.375	05/96	25,000,000.00
U S Treasury Notes	7.375	05/96	22,600,000.00
U S Treasury Notes	7.375	04/93	65,000,000.00
U S Treasury Notes	7.500	08/91	10,000,000.00
U S Treasury Notes	7.750	08/89	10,000,000.00
U S Treasury Notes	7.750	11/89	20,000,000.00

# U. S. Government Obligations (continued)

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Treasury Bonds & Notes:	enterprise de proceso de proceso de proceso de la constitución de la c		
U S Treasury Notes	7.875	08/90	\$ 10,000,000.00
U S Treasury Notes	7.875	08/90	15,000,000.00
U S Treasury Notes	7.875	05/90	7,000,000.00
U S Treasury Notes	8.375	11/92	25,000,000.00
U.S Treasury Notes	8.375	11/92	10,000,000.00
U S Treasury Notes	8.375	11/92	15,000,000.00
U S Treasury Notes	8.500	05/97	8,000,000.00
U S Treasury Notes	8.625	08/97	20,000,000.00
U S Treasury Notes	8.875	11/97	2,500,000.00
U S Treasury Notes	8.875	11/97	1,000,000.00
U S Treasury Notes	9.000	05/98	2,000,000.00
U S Treasury Notes	9.000	05/98	25,000,000.00
U S Treasury Notes	9.000	05/98	25,000,000.00
U S Treasury Notes	9.000	05/98	2,000,000.00
U S Treasury Notes	9.125	02/91	66,000,000.00
U S Treasury Notes	9.125	09/91	25,000,000.00
U S Treasury Notes	9.500	10/94	25,000,000.00
U S Treasury Notes	9.500	11/95	5,000,000.00
U S Treasury Notes	9.500	10/94	25,000,000.00
U S Treasury Notes	10.500	04/90	5,000,000.00
U S Treasury Notes	10.750	07/90	5,000,000.00
U S Treasury Notes	10.875	02/93	5,000,000.00
U S Treasury Notes	11.750	11/93	7,000,000.00
U S Treasury Notes	11.750	11/93	1,250,000.00
U S Treasury Notes	11.750	11/93	11,450,000.00
U S Treasury Notes	11.875	10/89	17,000,000.00
U S Treasury Notes	12.375	04/91	3,000,000.00
U S Treasury Notes	12.750	11/89	56,000,000.00
U S Treasury Notes	13.000	11/90	10,000,000.00
U S Treasury Notes	13.750	05/92	1,500,000.00
			\$776,483,000.00
Federal Agencies:			
Federal Farm Credit Banks	7.750	09/89	\$ 5,000,000.00
Federal Farm Credit Banks	11.500	01/92	10,000,000.00
Federal Farm Credit Banks	11.500	01/92	5,000,000.00
Federal Farm Credit Banks	13.650	12/91	10,000,000.00
Federal Farm Credit Banks	14.700	07/91	10,000,000.00
FHLMC Freddie Mac Group 14-0527	8.000	10/08	12,039,943.00
Sallie Mae (SLMA) MTN	7.050	03/91	8,000,000.00
Sallie Mae (SLMA) MTN	7.050	03/91	2,000,000.00
Tennessee Valley Auth Pr Ser B	7.350	05/97	2,000,000.00
			\$ 64,039,943.00
Ship Bonds (Title XI):			
American Commercial Lines Ser F	10.950	07/04	\$ 7,210,000.00
Atlas Marine American Hertge	7.700	12/96	2,652,000.00
	71		

# U. S. Government Obligations (continued)

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Ship Bonds (Title XI):			
Cntrl Gulf Lns Lash Lighters	8.250	01/95	\$ 1,337,181.39
Crowley Maritime	8.125	09/99	3,158,563.19
Diamond M Drilling New Era	7.750	09/89	781,085.73
Dravo Mechling Corp SF	8.000	01/02	2,906,437.60
Farrell Lines Inc Freedom	7.300	07/97	991,000.00
Farrell Lines Inc SF Ser I	7.950	06/04	3,155,000.00
Flowers Transportation SF	8.400	05/00	1,271,941.71
Goodyear Steamship SF	11.550	05/06	11,355,294.69
Marine Ship Leasing A Antarctic	7.875	09/95	895,845.37
Marine Vessel Leasing Ind Ocean	7.875	10/95	738,467.05
Patriot Steamship	8.100	12/04	1,600,000.00
Shipco 668 Series A SF	8.500	05/02	4,365,000.00
Stuyvesant Issue	7.950	09/97	7,291,480.33
Zapata Marine US Inc SF	7.700	09/94	3,651,000.00
			\$53,360,297.06
GNMA Single Family Mortgages:	vario	alte.	\$87,834,023.10
135 Mortgage Pools	vanc	ius	ψυ 7,0,51,025,10
Other - Miscellaneous:	0.000	02/91	\$30,000,000.00
B/E TINT (Treasury Securities)	0.000	11/06	2,520,000.00
Call Treasury Receipts CATS (Treasury Securities) A	0.000	11/04	1,500,000.00
CATS (Treasury Securities) A CATS (Treasury Securities) G	0.000	05/03	1,800,000.00
CATS (Treasury Securities) K	0.000	11/03	3,300,000.00
CATS (Treasury Securities) M	0.000	05/02	2,500,000.00
CATS (Treasury Securities) N	0.000	05/04	2,800,000.00
CATS (Treasury Securities) Q	0.000	05/03	6,100,000.00
CATS (Treasury Securities) Q	0.000	05/02	1,200,000.00
CATS (Treasury Securities) R	0.000	02/03	1,200,000.00
CATS (Treasury Securities) R	0.000	02/02	9,650,000.00
CATS (Treasury Securities) RU	0.000	02/04	4,600,000.00
CATS (Treasury Securities) T	0.000	11/06	25,000,000.00
CATS (Treasury Securities) U	0.000	02/03	5,000,000.00
CATS (Treasury Securities) U	0.000	08/02	5,500,000.00
CATS (Treasury Securities) U	0.000	02/02	10,800,000.00 1,100,000.00
CATS (Treasury Securities) U	0.000	02/01 02/02	3,300,000.00
CATS (Treasury Securities) UR	0.000 0.000	11/03	10,600,000.00
CATS (Treasury Securities) VGLQT	0.000	05/03	5,000,000.00
CATS (Treasury Securities) Z	8.900	03/18	15,000,000.00
CMO American SW Finl Ser 61E CMO Coll Mtg Sec Corp Ser 88-4 CLB	8.750	04/19	20,000,000.00
CMO Coll Mig Sec Corp Ser 80-4 CLB CMO E F H Trust I Ser 87 CL E	9.750	07/17	10,000,000.00
CMO E P H Trust 1 Ser 87 CL E CMO Ryland Accept Corp Ser 54 CLS4B	9.850	11/03	1,922,510.95
CMO Ryland IV 62D Ser 62	7.500	02/11	1,250,000.00
CMO Trust II 4C Bonds	9.650	07/06	5,000,000.00
CMO Trust 43 Ser Y	8.200	05/04	9,000,000.00
CMO 15-A F/R	8.125	03/18	9,005,519.69
	-A		

## U. S. Government Obligations (continued)

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Other - Miscellaneous:		ggapasania masa amada masa amada ang ang ang ang ang ang ang ang ang an	
CMO-Lomas Nettleton Mtg II 2 CMO-Mortgage Bankers Fin 87A CMO-United Saving Assoc TX 3B Coupon Treasury Receipts Coupon Treasury Receipts Coupon Treasury Receipts FHA Certificate of Claim FHA Certificate of Claim GNMA Mtg Pool 02333 (Mtg in KY) Principal CATS Series R Principal CATS U Principal Treasury Receipts Principal Treasury Receipts Principal Treasury Receipts TIGR'S (Treasury Securities) 1 TIGR'S (Treasury Securities) 18 Treasury Receipts Treasury Receipts Treasury Receipts Treasury Receipts U S Treasury Strip Bonds	9.000 7.200 8.950 0.000 0.000 0.000 3.000 3.000 8.200 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	12/08 07/00 12/05 08/06 02/06 11/93 10/11 08/04 08/04 08/04 08/04 05/03 11/05 02/02 05/04 02/03 05/94 11/11 05/04 05/01 05/92 08/90	\$ 5,000,000.00 7,092,606.71 3,240,000.00 10,020,000.00 10,020,000.00 1,662,500.00 4,516.76 32,887.02 1,787,074.96 45,000,000.00 22,800,000.00 5,004,000.00 10,000,000.00 20,785,000.00 2,500,000.00 2,170,080.00 4,063,016.25 8,125,700.00 15,000,000.00 15,000,000.00 4,000,000.00 5,000,000.00 4,000,000.00 5,000,000.00 4,000,000.00 5,000,000.00 8,250,000.00
Total U. S. Government Obligations			\$1,397,934,675.50
Corpo Industrials:	rate Bonds		
Ariel Properties Inc Mtg Nt Borden Inc SF Debs BP America Inc Chevron London 1st Prfd Ship Mtg Chevron Stations Inc Note Conoco Inc Conoco Pipe Line Guaranteed Nts Corning Glass Works Debs Cummins Engine Co Inc Notes Dayton-Hudson Corp SF Debs Dow Chemical Debs Dow Chemical Notes Dupont (E I) deNemours Debs Dupont (E I) deNemours Debs Exxon Shipping Co Fahrney Paul L 1st Prfd Ship Mtg	7.000 8.375 9.250 7.700 5.100 5.875 7.500 8.875 5.000 9.500 8.625 5.000 6.000 6.000 0.000 7.700	07/98 04/16 04/16 04/16 09/97 04/91 12/89 05/94 03/16 07/90 10/16 02/08 04/91 12/01 12/01 09/12 09/97	\$ 368,310.61 20,000,000.00 3,000,000.00 657,179.72 37,000.00 113,000.00 90,000.00 5,000,000.00 45,000.00 1,000,000.00 2,200,000.00 383,600.00 8,000,000.00 25,000,000.00 25,000,000.00 657,179.71

## **Corporate Bonds (continued)**

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Industrials:			
Federated Dept Stores	9.375	11/92	\$ 3,000,000.00
Ford Motor Co Nts	8.875	04/06	3,045,000.00
General Motors Corp Debs	8.125	04/16	3,500,000,00
ITT Corp Variable Duration Nts	10.450	09/95	6,448,000.00
Johnson & Johnson Notes	8.875	10/90	9,500,000.00
Kimberly Clark Corp MTN	8.350	12/91	8,000,000.00
Kimberly Clark Corp MTN	8.550	12/92	15,000,000.00
Leased Tankers Secured Notes A	7.450	12/92	1,538,000.00
Loews Corp Nts	8.875	04/11	4,900,000.00
Marriott Corp Ser G Sr Nts	8.375	02/94	2,000,000.00
May Department Stores Debs	9.125	12/16	3,000,000.00 1,500,000.00
Mobil Corp Debs	14.400	06/04	515,000.00
Pitney Bowes Inc SF Debs	9.000	10/95	3,000,000.00
Quaker Oats Co Med Term Nts	7.850	03/96	2,000,000.00
Quaker Oats SF Debs	7.700	06/01 02/01	1,000,000.00
RJR Nabisco Inc	7.375 9.250	05/95	20,000,000.00
RJR Nabisco Inc Nts	8.625	03/17	1,600,000.00
RJR Nabisco SF Debs	8.800	07/93	5,000,000.00
Ryder System Inc Med Term Nts Time Inc SF Debs	8.750	04/17	5,000,000.00
United Tech Corp SF Debs	8.875	12/16	1,000,000.00
Westvaco Corp SF Debs	12.300	01/15	1,000,000.00
Westvaco Corp or Deos	12.000	V = / - V	
			\$176,097,270.04
Finance:			
	7.750	03/97	\$ 10,000,000.00
American Express Cr Co Sr Nts	8.750	03/97	5,000,000.00
American Express Cr Corp Nts	8.750 8.750	02/95	5,000,000.00
American Express Cr Corp Nts	4.500	03/92	495,000.00
Beneficial Finance Debs	5.000	11/90	1,675,000.00
Beneficial Finance Debs	4.600	03/89	2,625,000.00
Beneficial Finance Sr Nts C I T Group Hldg Inc Nts	8.900	04/93	2,500,000.00
Capital Cities ABC Fin Inc Gtd Debs	8.750	03/16	20,000,000.00
Citicorp Sub Cap Nts	9.000	04/99	2,000,000.00
Ford Motor Credit Co	8.700	11/90	5,000,000.00
Ford Motor Credit Notes	7.875	01/97	4,000,000.00
Ford Motor Credit Notes	6.875	03/90	10,000,000.00
Ford Motor Credit Notes	7.500	03/94	10,000,000.00
G E Capital Corp Remarketed Resetnt	8.750	12/07	15,000,000.00
G E Capital Corp Remarketed Resetnt	8.750	12/07	1,000,000.00
G E Credit Corp Extennts	9.375	10/07	8,000,000.00
General Motors Accept Corp Debs	7.750	10/94	4,877,000.00
General Motors Accept Corp Debs	8.000	01/02	3,500,000.00
GMAC Deb Deferred Interest	0.000	12/12	25,000,000.00
GMAC MTN	9.000	11/90	2,500,000.00
GMAC Notes	8.625	07/92	10,000,000.00
Hartford Natl Corp Sub Cap Nts	9.850	06/99	1,000,000.00
Household Finance Corp Debs	4.750	01/89	3,500,000.00
IBM Credit	8.000	08/90	10,000,000.00

# **Corporate Bonds (continued)**

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Finance:			
Metropolitan Federal Bk MTN Morgan Guaranty Tr Co NY C/D Nt Morgan Guaranty Tr Depository Nt Penney J C Financial Corp Debs Roxbury Properties Corp Secrd Nt Sovran Financial Corp Sub Cap Nts	8.450 7.550 8.000 7.875 4.750 9.750	03/93 05/89 09/89 09/91 01/89 06/99	\$ 4,500,000.00 20,000,000.00 1,750,000.00 2,000,000.00 22,820.55 1,000,000.00
United California Bk Cap Notes Villiers Realty Corp Secrd Nts Westinghouse Credit MTN Sr Nts	4.500 4.750 8.500	01/90 10/89 12/89	200,000.00 49,343.54 6,000,000.00 \$198,194,164.09
Utility Bonds (Except Telephone):			
Arkla Inc Cajun Elec Pr Coop Inc Columbus & Southern Power 1st Mtg Con Edison 1st Ref Mtg EE Con Edison 1st Ref Mtg FF Con Edison 1st Ref Mtg R Con Edison 1st Ref Mtg S Con Edison 1st Ref Mtg V Elizabethtown Water Co Debs NJ Florida Power & Light Florida Power Corp 1st Mtg Florida Power Light 1st Mtg	6.500 9.520 8.625 6.250 6.850 4.750 5.000 4.375 4.875 12.875 7.375 4.625	12/89 03/19 02/96 08/97 10/98 06/90 12/90 06/92 02/92 09/13 06/02 03/95	\$ 1,277,000.00 10,000,000.00 2,000,000.00 500,000.00 250,000.00 575,000.00 700,000.00 1,150,000.00 818,000.00 3,740,000.00 2,000,000.00
Florida Power Light 1st Mtg Florida Power Light 1st Mtg Houston Lighting Power 1st Mtg Kentucky Utilities 1st Mtg I Kentucky Utilities 1st Mtg J Louisville Gas Electric 1st Mtg Otter Tail Power 1st Mtg Pacific Gas Elec 1st Ref Mtg QQ Pacific Gas Elec 1st Ref Mtg XX Pacific Gas Elec 1st Ref Mtg 86F	5.000 9.000 9.000 8.750 7.625 8.250 4.875 6.625 7.500 9.125	12/95 10/16 03/17 04/00 09/01 08/01 02/91 06/00 12/03 10/19	700,000.00 1,000,000.00 207,000.00 300,000.00 2,000,000.00 2,000,000.00 500,000.00 1,000,000.00 1,300,000.00 1,000,000.00
Pacific Power Light 1st Mtg Pennsylvania Electric Debs Pub Ser Elec Gas Debs Pub Ser Elec Gas 1st Ref Mtg U Virginia Elec Power 1st Ref Mtg Wisconsin Electric Power 1st Mtg	4.500 7.000 6.000 7.500 9.250 8.500	12/92 11/92 07/98 04/96 03/06 12/16	1,361,000.00 98,000.00 255,000.00 10,000,000.00 1,000,000.00 7,500,000.00 \$ 53,331,000.00
Telephone Bonds:			
American Tel Tel Credit Corp MTN American Tel Tel Debs American Tel Tel Debs American Tel Tel Debs	8.800 5.125 5.500 6.000	01/95 04/01 01/97 08/00	\$ 3,500,000.00 4,000,000.00 2,100,000.00 1,000,000.00

# **Corporate Bonds (continued)**

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Telephone Bonds:			
Bell South Capital Funding MTN	7.820	04/91	\$ 5,000,000.00
Bell South Capital Funding MTN	7.820	03/91	5,000,000.00
Chesapeake Potomac Tel Va Debs	9.500	04/19	4,300,000.00
Chesapeake Potomac Tel W Va Debs	9.250	07/19	2,000,000.00
Gen Telephone Midwest 1st Mtg F	7.500	02/01	200,000.00
GTE Florida Inc	8,000	03/01	250,000.00
Hawaiian Telephone 1st Mtg S	6.750	04/98	100,000.00
Hawaiian Telephone 1st Mtg T	8.750	09/00	200,000.00
Illinois Bell Tel Debs	8.000	12/04	5,000,000.00
Michigan Bell Tel Co MTN	9.500	10/90	10,000,000.00
Michigan Bell Tel Debs	7.000	11/12	2,000,000.00
New York Telephone Co Debs	8.625	05/24	3,750,000.00
New York Telephone Co Debs	8.750	04/23	20,000,000.00
New York Telephone Co Debs	8.750 8.750	04/23 04/23	3,000,000.00 2,000,000.00
New York Telephone Co Debs Pacific Tel Tel Debs	7.800	03/07	250,000.00
Pacific Tel Tel Debs	8.375	03/07	2,500,000.00
South Central Bell Tel Debs	8.250	08/13	4,000,000.00
Southwestern Bell Capital Corp MTN	7.950	04/90	20,000,000.00
Southwestern Bell Tel Debs	4.625	08/95	1,590,000.00
Southwestern Bell Tel Debs	6.750	06/08	1,000,000.00
Southwestern Bell Tel Debs	7.750	09/09	2,000,000.00
	.,,	227	\$104,740,000.00
Railroad Obligations:			
Chesapeake Ohio Ry Gen Mtg	4.500	03/92	\$ 656,000.00
CSX Corp Nts	9.000	08/06	10,000,000.00
Louisville Nashville RR Col Tr	7.375	12/93	300,000.00
Sou Railway Memphis Div 1st Mtg	5.000	07/96	539,000.00
Southern Railway 1st Con Mtg	5.000	07/94	2,950,000.00
Virginia Southwestern Ry 1st Mtg	5.000	01/03	107,000.00
, ,		·	\$ 14,552,000.00
			ψ 1 1,002,000100
Corporate Bonds NOC:			
CFC-2 Grantor Tr Asset B/CT	8.550	11/92	\$ 2,556,873.87
College & Univ Fac Loan Tr 2 Ser A	4.000	06/96	3,700,000.00
College & Univ Fac Loan Tr 2 Ser A	4.000	06/96	3,500,000.00
GMAC Grantor 1986-G	6.850	12/91	2,711,509.67
GMAC Grantor 1986-G	6.850	12/91	10,846,038.67
Marine Midland 1988-1 Cars Tr	8.500	06/93	15,000,000.00
			\$ 38,314,422.21
Total Corporate Bonds			\$585,228,856.34

#### Other Fixed Income Investments

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Single Family Mortgages:	-		
FHA VA	vari vari	ous ous	\$ 6,658,853.15 6,386,581.84
			\$13,045,434.99
Project Mortgages (FHA & GNMA):			
Americana Apts KY 221D4	7.500	10/18	\$ 4,465,059.93
Bedford Commons KY 221D4	8.000	11/23	1,267,841.30
Bedford House KY 221D4	7.500	01/20	1,239,474.20
Beech Creek Apts KY 221D4	7.500	08/21	2,079,823.16
Belleville Mnr Apts KY 221D4	7.500	11/19	637,813.44
Berrytown Apts KY 221D4	8.000	02/24	1,377,137.60
CA Guidance Care Center 232	8.500	02/92	216,269.20
Cambridge Sq Apts KY 221D4	7.500	11/19	1,191,820.34
Carnaby Sq Apts KY 221D4	7.500	06/19	1,226,470.45
Carroliton Vig Apts KY 221D4	7.500	09/20	1,962,242.76
Carter Court Apts KY 221D4	7.500	09/20	1,295,388.16
Coolavin Apts KY 221D4	7.500	04/22	3,172,914.73
Cottage Bell Apts CA 221D4	7.500	11/10	698,525.29
Cottage Bell Apts II CA 221D4	8.500	11/11	425,461.19
Denver Ed Sr Citzns 231	5,250	11/03	734,154.26
Dixie Apts KY 221D4	7.500	05/18	1,128,550.17
Ferndale Apts KY 221D4	7.500	08/23	3,743,946.91
Gainesway Vlg Apts KY 221D4	7.500	02/19	1,627,391.26
Glenbrook Park KY 221D4	7.500	12/21	2,503,735.45
Grand Central Apts Ky 221D4	7.500	03/25	2,298,453.50
Greater Corbin Mnr KY 221D4	7.500	03/21	3,539,424.18
Jackson Vly Apts KY 221D4	7.500	08/20	1,975,349.18
Jamestown Manor Ltd KY 221D4	7.500	02/22	1,591,807.67
Lakeview Estates KY 221D4	7.500	01/20	1,115,082.29
Lebanon Apts KY 221D4	7.500	02/20	1,195,293,24
Lin Meadows Homes KY 221D4	7.500	11/22	271,044.86
Locust Ridge KY 221D4	7.500	10/21	1,895,207.65
Madison Ave Apts KY 221D4	7.500	09/20	1,948,743.25
Manchester Hts Apts KY 221D4	7.500	06/19	1,223,942.22
Middletown Apts KY 221D4	7.500	02/18	1,045,493.91
Montgomery Sq Apts KY 221D4	7.500	05/19	1,222,995.14
Mt Lebanon Cedars KY 221D3	7.500	03/23	2,643,712.76
Oak Tree Villa Apts Ky 221D4	7.500	05/23	3,487,788.60
Pine Ridge Apts KY 221D4	7.500	09/18	831,439.91
Pinecreek Apts KY 221D4	7.500	10/17	570,994.72
Regency Park Apts KY 221D4	7.500	05/18	964,539.95
Regency Pk Apts BG KY 221D4	7.500	02/23	3,750,180.53
Ridgeway Apts KY 221D4	7.500	02/19	1,043,141.64
Rucker Vlg Apts KY 221D4	7.500	03/20	1,085,488.27
Salem Vlg I 232 ILL	7.750	03/16	1,003,566.34
Salem Vig II 231 ILL	7.750	10/16	3,430,102.53
Sandefur Mnr KY 221D4	7.500	01/20	943,293.13
Shepherdsvle Vlg Apt KY 221D4 Shively Apts KY 221D4	7.500 7.500	05/20 10/21	1,369,678.30 2,422,371.36

## Other Fixed Income Investments (continued)

Security	Coupon	Maturity	Par Value or Remaining Principal Balance
Project Mortgages (FHA & GNMA):			
Southside Mnr KY 221D4	7.500	02/19	\$ 1,417,802.93
Town Branch Apts KY 221D4	7.500	11/23	754,031.86
Tree Top Apts KY 221D4	7.500	11/20	1,133,419.09
Vernon Manor Ltd KY 221D4	7.500	11/22	911,340.64
Walnut Hill Apts KY 221D4	7.500	05/19	1,645,533.43
Wesley Manor KY 232	8.000	12/11	952,557.40
Wessington Hse Apts TN 221D4	7.500	02/22	1,877,472.24
Westchester Circle KY 221D4	7.500	04/19	4,217,407.86
Westwood Apts KY 221D4	7.500	10/23	1,205,759.51
Wilderness Trail Mnr KY 221D4	7.500	03/23	5,706,070.87
Wildwood Apts KY 221D4	7.500	08/20	1,889,529.08
Willow Creek Apts KY 221D4	7.500	08/23	1,393,338.85
Woodsview Apts KY 221D4	7.500	01/19	1,426,172.19
Panorama West KY 236	8.500	12/12	450,417.39
Hallmark Plaza KY 223F	8.500	06/11	1,130,806.12
Christ Hosp GNMA 21191PL	8.000	09/06	3,518,201.97
Cortland Hosp GNMA 13089PL	8.750	10/04	1,361,179.01
Bethany Cir Kings Daughters IN	8.375	03/02	1,634,095.79
Congregational Home KAN 231	5.250	07/04	1,292,074.81
Ephraim McDowell Hosp KY	9.000	01/01	2,740,060.07
Longmont Christian Hsg 231	5.250	03/03	460,295.18
			\$ 110,980,721.22
Total Other Fixed Income Investments			\$ 124,026,156.21
TOTAL FIXED INCOME INVESTMENTS			\$2,538,649,688.05

## Real Estate Equity

Security	Par Value or Remaining Principal Balance
Real Estate Equity:	
F. I. A. Profile Fund I - 1,500 Units	\$ 15,000,000.00
K Mart Store Winchester KY	2,711,917.53
Kroger Georgetown KY L-357	2,186,000.00
Kroger Richmond KY L-308	2,305,000.00
Kroger Super-X Bowling Green KY	2,792,467.00
Kroger Super-X Owensboro KY	2,232,400.00
Office Bldg Frankfort KY	2,648,589.65
Wal-Mart Store Hardinsburg KY	965,000.00
Wal-Mart Store Paducah KY	2,800,000.00
Wal-Mart Store Paris KY	1,200,000.00

## Real Estate Equity (continued)

Security	Par Value or Remaining Principal Balance
Real Estate Equity:  Wal-Mart Store Shelbyville KY Wal-Mart Store Williamstown KY	\$ 1,600,000.00 1,090,000.00
	\$37,531,374.18
Total Real Estate Equity	\$37,531,374.18

#### **Common Stocks**

	No. of Shares	Cost
Abbott Laboratories	61,000.0000	\$ 2,995,440.00
Aetna Life & Casualty Co	120,000.0000	7,224,000.00
American General Corp	85,000.0000	3,147,662.50
American Home Products	30,000.0000	2,126,962.50
American Information Technologies	262,500.0000	24,319,063.69
Amoco Corp	265,000.0000	18,085,612.50
Armstrong World Industries Inc	250,000.0000	7,646,968.75
Atlantic Richfield Co	225,000.0000	16,860,032.81
Baltimore Gas & Electric	100,000.0000	3,614,182.15
Bankers Trust N Y Corp	163,775.6594	7,747,409.09
Bell Atlantic Corp	100,000.0000	7,704,325.00
Boeing Co	225,000.0000	12,130,643.75
Bristol Myers Co	60,000.0000	2,006,750.00
Capital Holding Corporation	150,000.0000	3,103,799.71
Chevron Corp	300,000.0000	14,146,317.43
Commonwealth Edison Co	96,393.6580	3,140,544.10
Consolidated Edison Co N Y	150,000.0000	6,476,829.55
Delta Air Lines Inc	150,000.0000	7,307,037.50
Deluxe Corp	110,000.0000	3,252,950.00
Digital Equipment Corp	225,000.0000	30,857,648.62
Dover Corp	48,000.0000	2,152,944.83
Dow Chemical Co	100,000.0000	8,383,850.00
Dow Jones & Co Inc	80,000.0000	2,749,650.00
DuPont (EI) De Nemours	150,000.0000	14,629,040.62
Duke Power Co	150,000.0000	6,685,500.00
Dun & Bradstreet Corp	50,000.0000	2,464,537.50
E G & G Inc	80,000.0000	2,910,575.00
Exxon Corp	195,000.0000	7,085,750.00
First Interstate Bancorp	40,000.0000	2,286,000.00
First Wachovia Corp	190,522.0000	6,900,316.79
Fort Howard Corp	225,000.0000	10,431,375.00
General Electric Co	510,000.0000	22,777,775.00
General Motors Corp	40,000.0000	3,100,025.00
General Signal Corp	45,000.0000	2,163,325.00
Grainger (WW) Inc	35,000.0000	1,749,262.50
Halliburton Co	40,000.0000	869,785.71

# Common Stocks (continued)

	No. of Shares	Cost
Heinz (H J) Co	250,000,0000	\$ 10,419,775.00
Hewlett Packard Co	45,000.0000	1,973,771.59
International Business Machines	100,000.0000	14,024,147.56
International Minerals & Chem	50,000.0000	1,594,025.00
K Mart Corp	375,000.0000	12,310,468.75
Kraft Inc	100,000.0000	5,614,481.45
Marsh & McLennan Companies Inc	210,000.0000	11,289,813.64
	225,000.0000	9,316,226.25
May Dept Stores Co McDonalds Corp	49,500.0000	1,918,075.00
Melville Corp	40,000.0000	2,482,150.00
Merck & Co Inc	150,000.0000	8,291,587.50
Minnesota Mining & Manufacturing	346,000.0000	20,502,125.00
Morgan (JP) & Co	50,000.0000	1,656,287.50
Nalco Chemical Co	80,000.0000	2,318,895.00
	120,000.0000	2,463,125.00
NCNB Corp	101,000.0000	2,916,712.50
Norfolk Southern Corp	200,000.0000	6,121,895.83
Pepsico Inc PHH Group Inc	70,000.0000	2,379,112.50
Philip Morris Cos Inc	250,000.0000	22,311,434.91
Pioneer Hi-Bred International Inc	100,000.0000	3,652,562.50
Pitney Bowes Inc	64,000.0000	2,008,475.00
· ·	180,000.0000	5,258,587.50
Primerica Corp	231,000.0000	18,330,075.00
Procter & Gamble Co	135,000.0000	9,529,618.75
Raytheon Co	250,000.0000	14,324,289.07
RJR Nabisco Inc	90,000.0000	3,140,375.00
Roadway Services Inc	175,000.0000	7,461,712.50
Salomon Inc Smithkline Beckman	35,000.0000	1,879,250.00
	70,000.0000	2,457,500.00
Sovran Financial Co	100,000.0000	8,923,250.00
Squibb Corp	33,000.0000	1,973,150.00
Sundstrand Corp	110,000.0000	2,860,800.00
Super Valu Stores Texas Utilities Co	100,000.0000	3,105,937.50
Torchmark Corp	85,000.0000	2,372,412.50
-	75,000.0000	3,676,059.37
Transco Energy Co Travelers Corp	233,787.0000	11,164,790.03
TRW Inc	46,000.0000	2,226,675.00
	451,200.0000	14,000,888.68
Union Camp Corp Union Carbide	370,519.7260	9,417,924.96
Union Pacific Corp	100,000.0000	8,362,800.00
United Technologies Corp	187,000.0000	7,940,841.34
US West Inc	55,000.0000	2,718,300.00
	80,000.0000	2,456,185.00
V F Corp Whirlpool Corp	100,000.0000	3,073,337.50
Woolworth (FW) Co	201,000.0000	7,783,516.49
WOOIWOITH (FW) CO		
Total Common Stocks	11,576,198.0434	\$581,237,316.27
TOTAL EQUITY INVESTMENTS		\$618,768,690.45

Par Value or Remaining Principal Balance/ Cost

TOTAL INVESTMENTS

\$3,157,418,378.50



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