

## MINUTES

### JOINT COMMITTEE ON PENSIONS, INVESTMENTS AND BENEFITS

September 2, 2009  
Room 545-N—Statehouse

#### Members Present

Representative Rob Olson, Chairperson  
Senator Steve Morris, Vice-Chairperson  
Senator Jay Emler  
Senator Anthony Hensley  
Senator Laura Kelly  
Senator Ruth Teichman  
Representative Richard Carlson  
Representative Geraldine Flaharty  
Representative Terrie Huntington  
Representative Margaret Long  
Representative Sharon Schwartz  
Representative Jeff Whitham

#### Staff

Julian Efird, Kansas Legislative Research Department  
Mike Steiner, Kansas Legislative Research Department  
Gordon Self, Office of the Revisor of Statutes  
Kristen Kellems, Office of the Revisor of Statutes  
Gary Deeter, Committee Secretary

#### Conferees

Vince Smith, Chief Investment Officer, Kansas Public Employees Retirement System  
Glenn Deck, Executive Director, Kansas Public Employees Retirement System  
Pat Beckham, KPERS Consulting Actuary, Milliman, Inc.  
Dale Dennis, Deputy Commissioner, Kansas Department of Education

Vince Smith, Chief Investment Officer, Kansas Public Employees Retirement System (KPERS), provided an update on recent investment portfolio experience (Attachment 1). He said that pressures have lessened in the financial markets and that the global economy is beginning to advance; however, he warned that no cohesive recovery can be expected immediately. He reviewed

possible threats to the KPERS portfolio and listed some opportunities, commenting that current market value (August 31, 2009) totaled \$10.8 billion, an increase of 8.9 percent for the fiscal year since July 1, and a 14.9 percent increase for the calendar year 2009 to date. He noted, however, that investment return for FY 2009 was a negative (19.4) percent, although the twenty-five-year average annual cumulative return was above the target of 8.0 percent. Answering questions, Mr. Smith said real estate allocations (6.5 percent of the portfolio) are below the 10.0 percent cap and that excessive debt and oversupply will slow any real estate recovery, especially in commercial real estate. He said that emerging markets, especially high-population countries with a growing number of middle class workers, will provide new markets for the U.S. He noted that the KPERS cash holdings were increased last year in face of the uncertain markets, and have provided adequate reserves for payment of benefits.

Glenn Deck, KPERS Executive Director, reviewed the Sudan Divestment Report (Attachment 2). Noting the legislative directive in 2007 to begin a divestment of KPERS funds from Sudan-linked firms, he said that, except for the statutory exemption regarding commingled funds, KPERS is fully divested from Sudan-linked firms. Answering a question, Mr. Deck replied that the agency pays an outside firm \$10,000 per year to monitor Sudan affiliations in order to detect any new links with firms not previously identified with involvement in Sudan.

Pat Beckham, KPERS Consulting Actuary, Milliman, Inc., outlined the December 31, 2008, actuarial valuation report that estimates future benefit payments and calculates the different employer contribution rates (Attachment 3). She summarized the report by saying that the Unfunded Actuarial Liability (UAL) increased by \$2.7 billion during calendar year 2008, but that the actuarial value is greater than the market value, and the total liability is over \$4.0 billion if a market-based figure is used. She noted that the KPERS School Group is out of actuarial balance, and even with favorable investment experience and increased employer contributions mandated by statute, the group will not be fully funded by 2034 to pay all promised benefits. She stated that the funded ratio for the KPERS School Group dropped from 63.0 percent to 52.0 percent on an actuarial basis of calculation and that the increasing statutory contribution rates would be insufficient to fully fund future retirement benefits, even if investments produce an average target return of 8.0 percent annually. She noted that contributions for all other KPERS groups (State, Local, Kansas Police and Firemen, and Judges) achieve an ARC date (Actuarial Required Contributions) prior to 2034 where assets equal liabilities. Only the School Group does not reach an ARC date in the time period based on current law.

Mr. Deck reported on the KPERS long-term funding issue for all groups, especially the School Group which faces a potentially serious funding shortfall (Attachment 4). He outlined the defined-benefit formula and noted that the employer contribution rate changes annually based on actuarial calculations, but that caps prevent the State, School, and Local annual group rates from increasing more than a limited amount. He also noted that 2007 legislation established a new plan design for KPERS state, school, and local employees hired after June 30, 2009, which established a new tier of membership and requires the employees to bear a greater share of the funding with a 6.0 percent contribution rather than the current 4.0 percent of other public employees under regular KPERS. He concluded by emphasizing that investment returns alone cannot fix the funding shortfall, and that the KPERS staff and Board of Trustees will undertake a comprehensive funding analysis over the next three months in order to provide alternative funding models addressing both short-to-mid-term cash flow and long-term sustainability.

Members discussed with Mr. Deck various options: increase employer contribution rate to be capped at 1.0 and 2.0 percent annually; reduce the multiplier in the benefit formula and create a third tier of defined benefits; and evaluate alternative retirement plans, such as defined contribution and blended defined benefit/defined contribution plans.

Next, Mr. Deck provided a status report on issues regarding working after retirement, noting that Kansas statutes and IRS regulations impinge on an employee's choices in working for a KPERS participating employer after retirement (Attachment 5). Reviewing recent legislation, he said that 2009 Senate Substitute for HB 2072 eliminated for three years the \$20,000 earnings limitation for retirees who return to work for the same school district from which they retired after being off the payroll for at least 60 days. The same bill also included a number of other provisions that addressed licensed school professionals who return to work after retirement, including a requirement that the employing school district or private contractor pay an actuarial assessment to KPERS that is determined each year to partially cover the lost income when a new KPERS contributing teacher or administrator is not hired.

Mr. Deck said that, as of December 31, 2008, there were 2,672 KPERS retirees who had returned to work. For those rehired by a KPERS participating employer, 1,351 were rehired by the same employer (usually a school district) and 1,321 were hired by a different KPERS participating employer, typically a school district, and in 34 cases, private consulting firms that assigned them to school districts as contract employees. This year's data are being collected with the start of the new school term and a comprehensive picture should emerge by December on the effects of the new law on working after retirement.

Dale Dennis, Deputy Commissioner, Kansas Department of Education, responded to questions. He replied that the new law is being well received. He commented that the downturn in the economy has increased registrations for the free-lunch program and that student enrollment has increased even in rural areas, the latter which normally shows a decline. He replied that continuing the exemption of substitute teachers from 2009 Senate Substitute for HB 2072 has not resulted in abuses since substitute teachers are paid about half what a rehired or a contract teacher receives. He commented that the economic downturn has resulted in fewer eligible teachers retiring.

Julian Efird, Kansas Legislative Research Department, alerted the Committee to an impending decision of the State Finance Council (Attachment 6) that was in response to a proposal from the Secretary of Administration to restructure the 2010 annual repayment portion for principal related to the pension obligation bonds. Members questioned the policy of borrowing money to pay for borrowed money.

Prepared by Gary Deeter  
Edited by Julian Efird

Approved by Committee on:

November 17, 2009

(Date)

# JOINT COMMITTEE ON PENSIONS, INVESTMENTS AND BENEFITS

## GUEST LIST

DATE: SEPTEMBER 2, 2009

NAME	REPRESENTING
<del>Robert Vance Smith</del>	KPENS
Faith Loretto	"
Dennis Phillips	KSCFF
Ed Redman	"
Glenn Deck	KPERS
Pat Beckham	Melman
<del>Thomas Ferr</del>	KDA
Stephen Koranda	Kansas Public Radio
TERRY FORSYTH	KNEA
Bill Hayes	KS Coalition Public Retirees
Alice Barney	KsDot
<del>Jeff Aron</del>	DOB
Tom Kube	KASB
DENNIS PEERLADOM	KDAgriculture
PAT LEHMAN	KFSA



# Kansas Public Employees Retirement System

Attachment 1  
Je PIB 9-2-09

## **Investments Update**

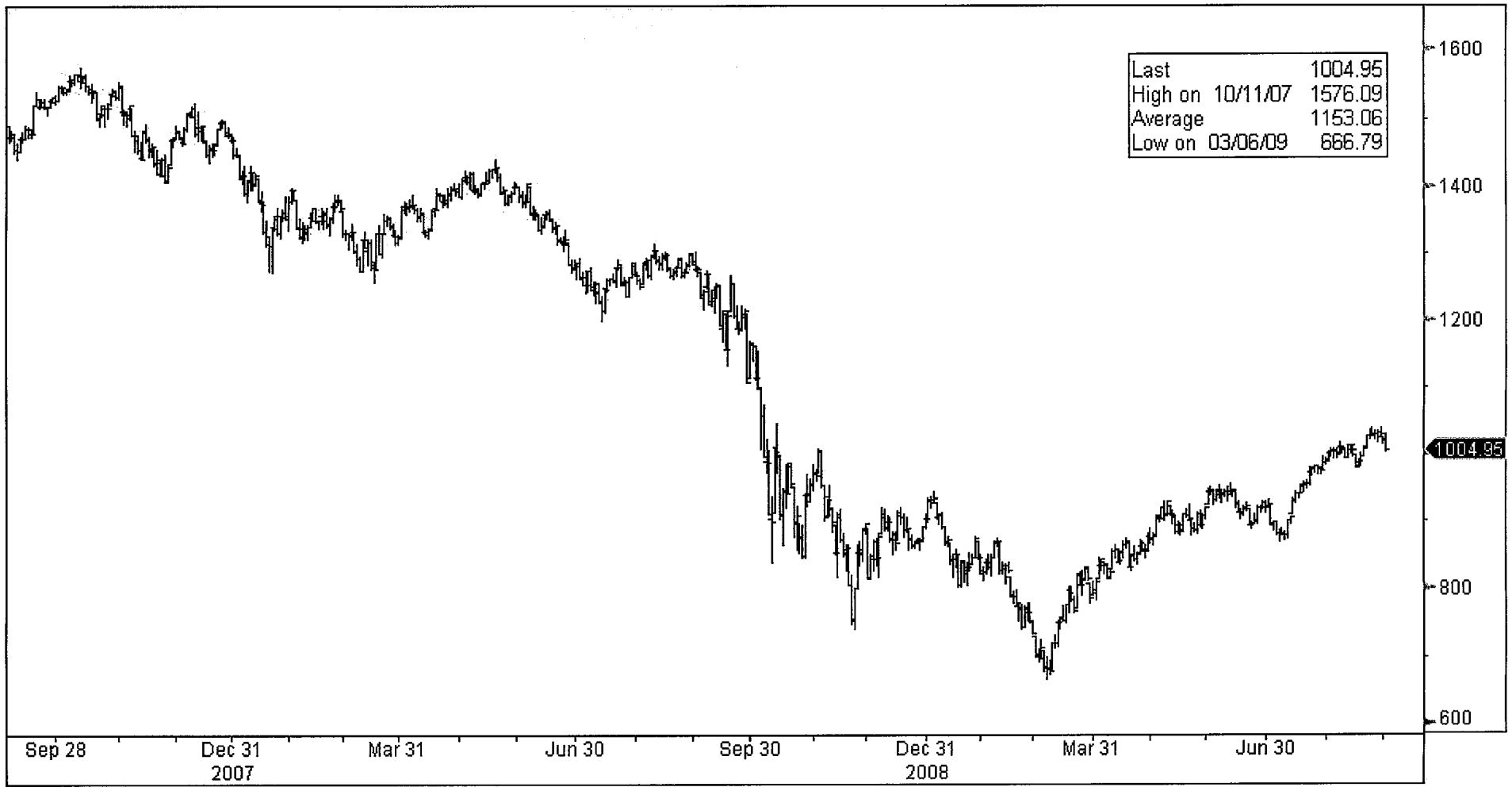
*Joint Committee on Pensions, Investments and Benefits • September 2, 2009*

## Market Environment

- Pressures have eased significantly in the financial markets:
  - Stock markets have recovered to an extent globally
    - The developed markets of the world are up 40-50% from their March 2009 lows;
    - Some emerging markets have recovered to nearly pre-crisis levels.
  - Fixed income markets, specifically the credit markets, have also recovered to an extent.
    - Credit spreads in investment-grade debt have halved from peaks, though continue above normal;
    - High yield debt has recovered significantly, though is still priced for higher default rates.
  - The real estate markets are still difficult, with liquidity poor and “write-downs” continuing to occur.
- The global economy is firming, but is not “out of the woods”:
  - GDP in the developed economies is still recessionary or nearly so;
  - Stimulus programs of historic proportions are still at work, but are in decline;
  - Governments are beginning to “come to terms” with the new environment.

1-3

# S&P 500 -- 2 Year Chart



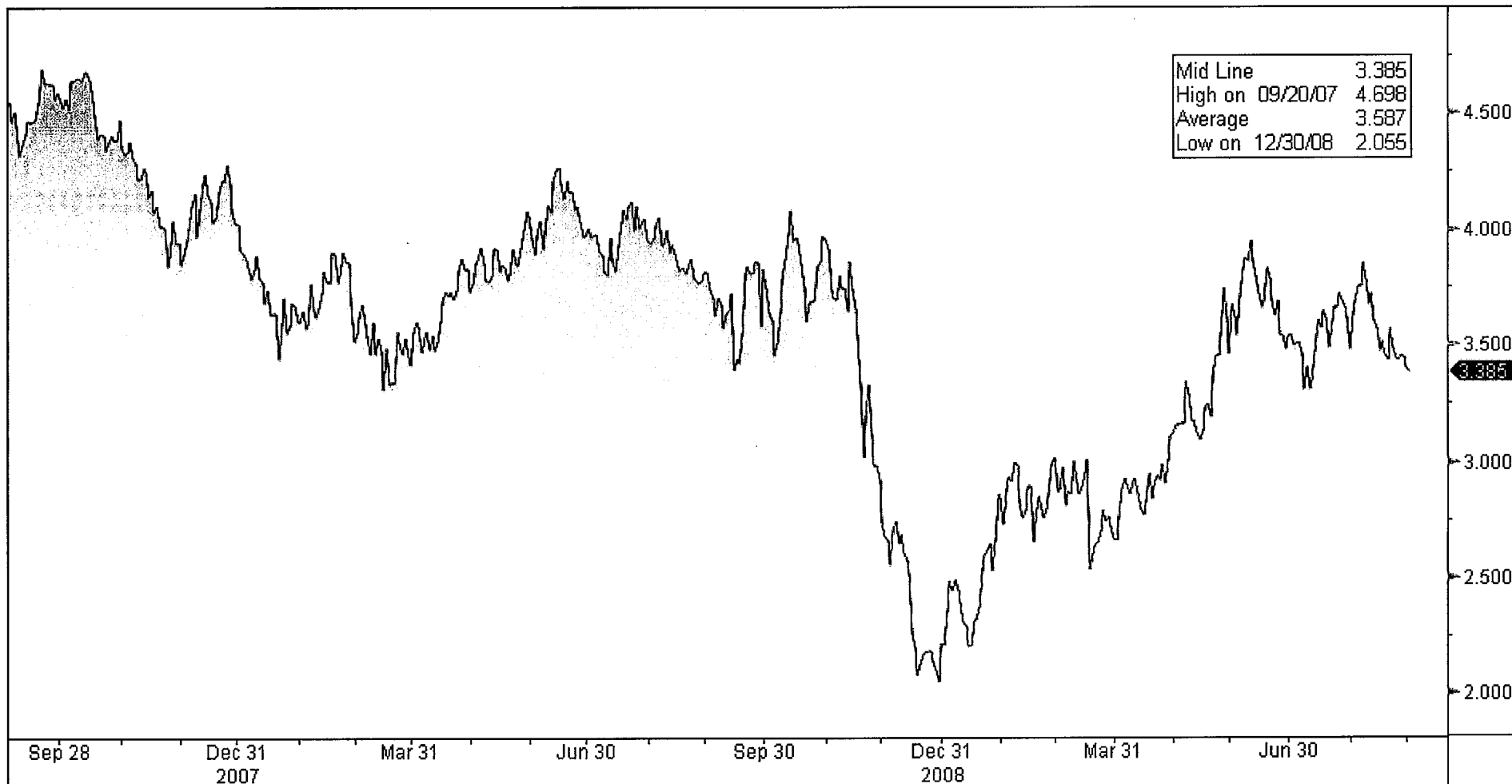
SPX -- S&P 500 INDEX G-1 Daily 9/4/07 to 9/1/09

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# Interest Rates – 10 U.S. Treasury Yields



GENERIC 10Y N/B G-1 Daily 9/3/07 to 9/1/09

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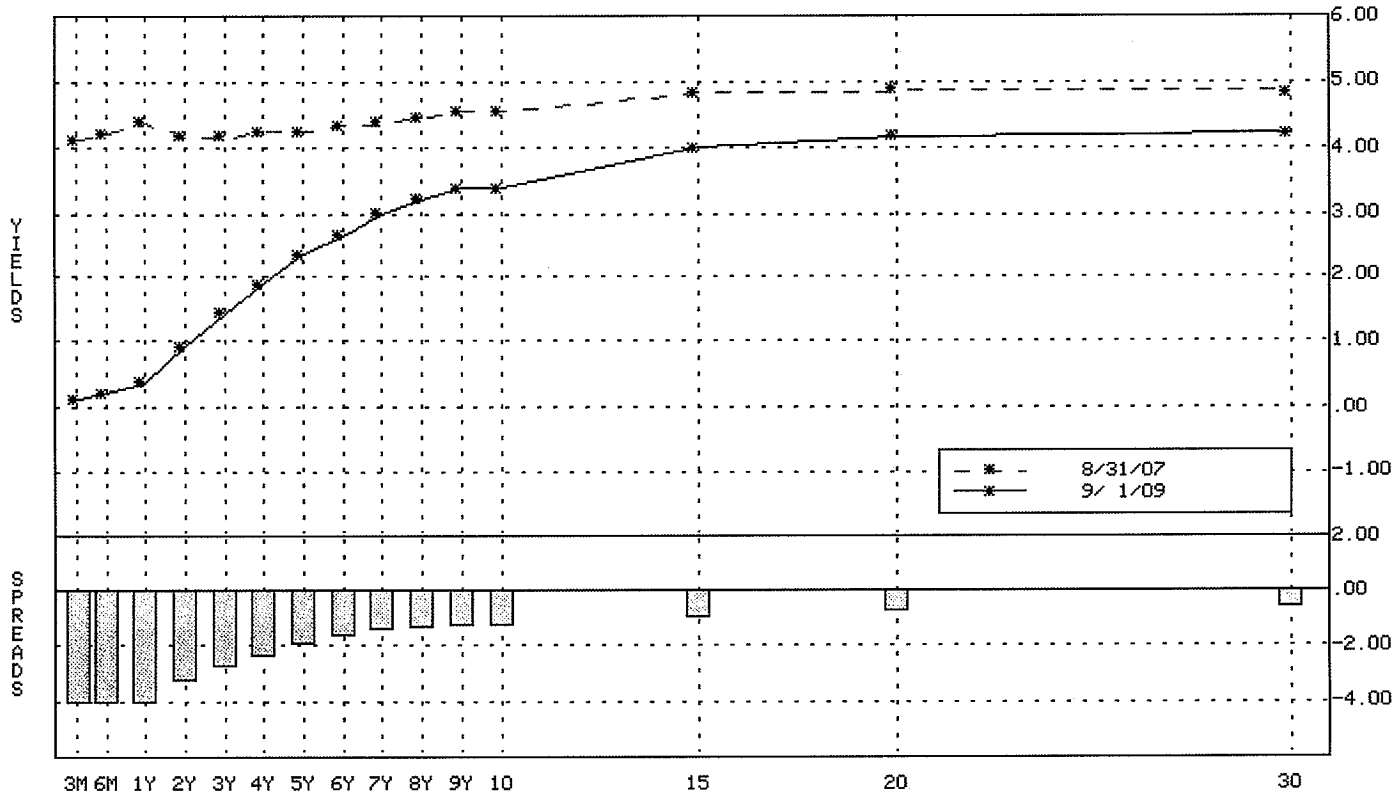
# Interest Rates – Change to the Yield Curve

<HELP> for explanation.  
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**YIELD CHANGES FOR**  
 ON/OFF THE RUN GOVT

Govt **IYC**

Page 1/2  
 3M - 30

9/ 1/09 vs 8/31/07



Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000  
 Copyright 2009 Bloomberg Finance L.P.  
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## External Opportunities and Threats

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### Threats:

- The abrupt changes to markets, households, institutions and government policies are unlikely to be reversed in the next few years;
- Global growth will be subdued and unemployment higher than currently expected for longer than currently expected;
- The core global system of trade, finance and diplomacy will be less cohesive;
- The balance of risks will shift toward higher sovereign risks (de-globalization), growing inflation/stagflation, the shifting balance between the private sector and the public sector (more regulation, higher taxation, government intervention).

### Opportunities:

- The Fixed Income Markets – With liquidity scarce and marginal cash flow directed at debt payments / debt reduction, returns could be above normal for the next 2-5 years;
- Real Assets – Coming inflation, demand/supply imbalance in commodities/energy, global infrastructure needs argue for exposure to real assets on a medium term look.
- Emerging Markets – The shift of global economic power is underway toward the developing countries of the world and shifting with it is investment opportunity.

# Allocations and Fiscal 2009 Returns

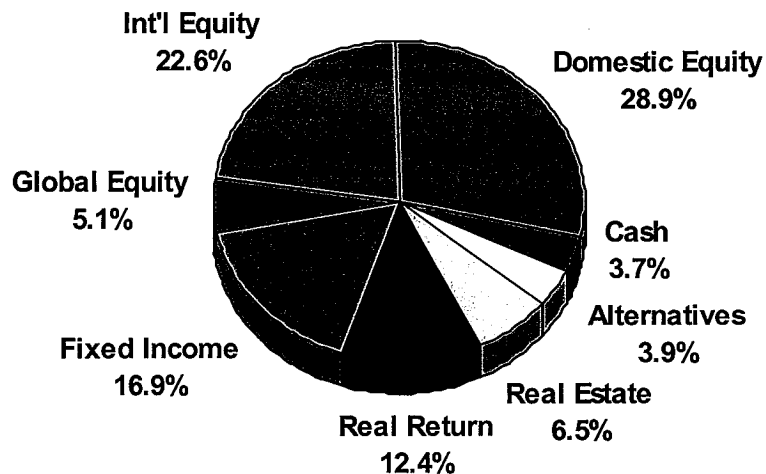
1-7

- Below is the portfolio's current allocation and to the right are investment returns as of June 30, 2009.

## Kansas Public Employees Retirement System Interim Investment Report

ALL NUMBERS REPRESENT PRELIMINARY UNAUDITED ESTIMATES

Unaudited Estimates as of June 30, 2009



Total Assets at Market Value\* \$ 10,174,441,061.27

Total Return Fiscal Year-to-Date -19.4%

Total Return Calendar Year-to-Date 5.5%

Returns by Asset Class:

	Fiscal Year-to-Date	Calendar Year-to-Date
Domestic Equity	-27.1%	4.2%
International Equity	-34.2%	11.6%
Global Equity	-31.2%	9.7%
Fixed Income	3.9%	9.0%
TIPS	-0.7%	6.1%
Real Estate	-35.1%	-20.6%
Alternative Investments	-6.8%	1.5%
Cash	2.2%	0.8%

8-1

## Kansas Public Employees Retirement System Interim Investment Report

ALL NUMBERS REPRESENT PRELIMINARY UNAUDITED ESTIMATES

Unaudited Estimates as of August 31, 2009

**Total Assets at Market Value\***                      **\$ 10,860,418,348.72**

**Total Return Fiscal Year-to-Date**                      **8.9%**

**Total Return Calendar Year-to-Date**                      **14.9%**

Returns by Asset Class:

	Fiscal Year-to Date	Calendar Year-to-Date
Domestic Equity	13.3%	18.1%
International Equity	13.9%	27.2%
Global Equity	11.8%	22.6%
Fixed Income	5.4%	14.8%
TIPS	1.0%	7.2%
Real Estate	6.7%	-15.3%
Alternative Investments	-8.6%	-7.2%
Cash	0.1%	0.9%

Returns for Representative Indexes

S&P 500 Index	11.5%	15.0%
NASDAQ	9.7%	28.3%
MSCI All Country World Index	12.8%	23.6%
Barclays Capital Universal Index	3.1%	6.5%
Morgan Stanley REIT Index	26.2%	10.5%
FTSE EPRA/NAREIT Global REIT Index	24.9%	17.8%
Merrill Lynch US Treas 0-1 Year	0.1%	0.4%

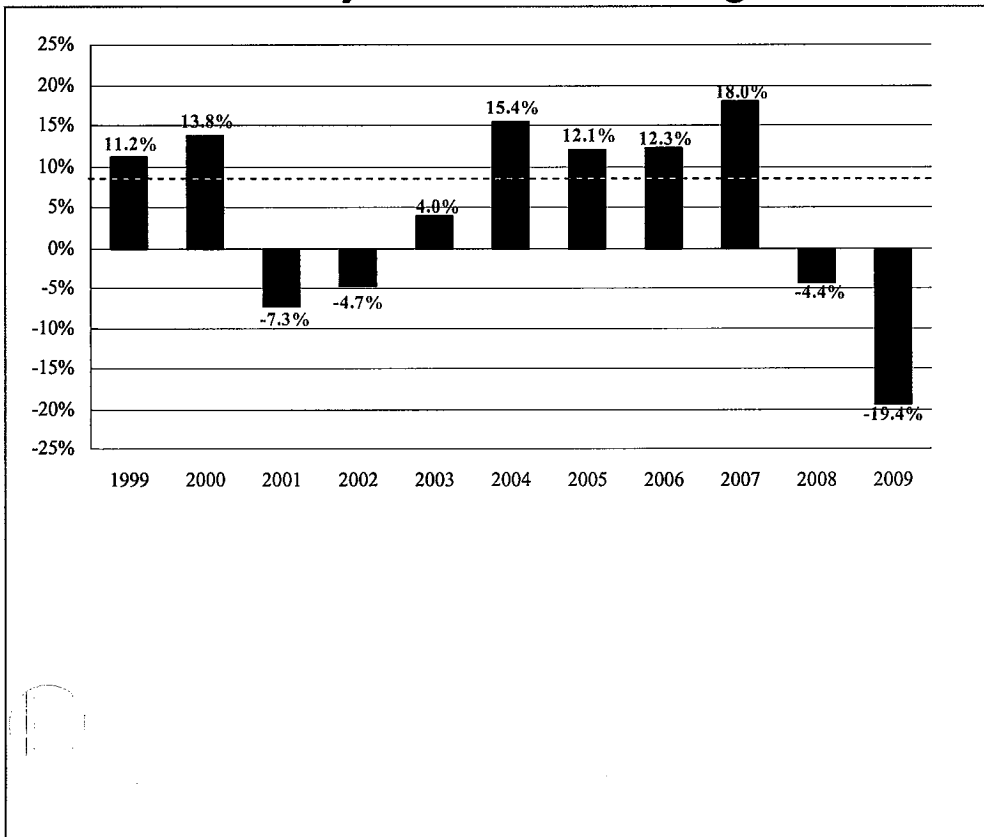
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## Longer-Run Investment Returns

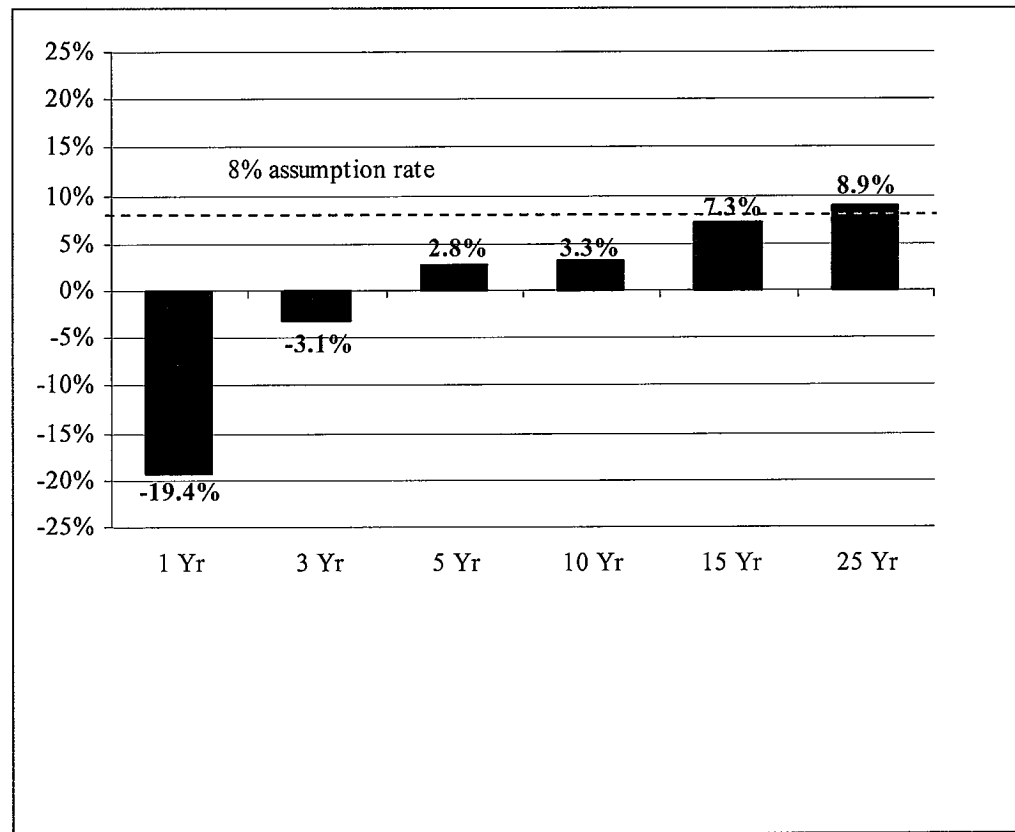
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- Due to these unprecedented market declines, KPERS' investment return for FY 2009 was -19.4%.
- The 25 year average annual return has stayed above the assumed yearly average of 8%.

*Return History FY 1999 through 2009*



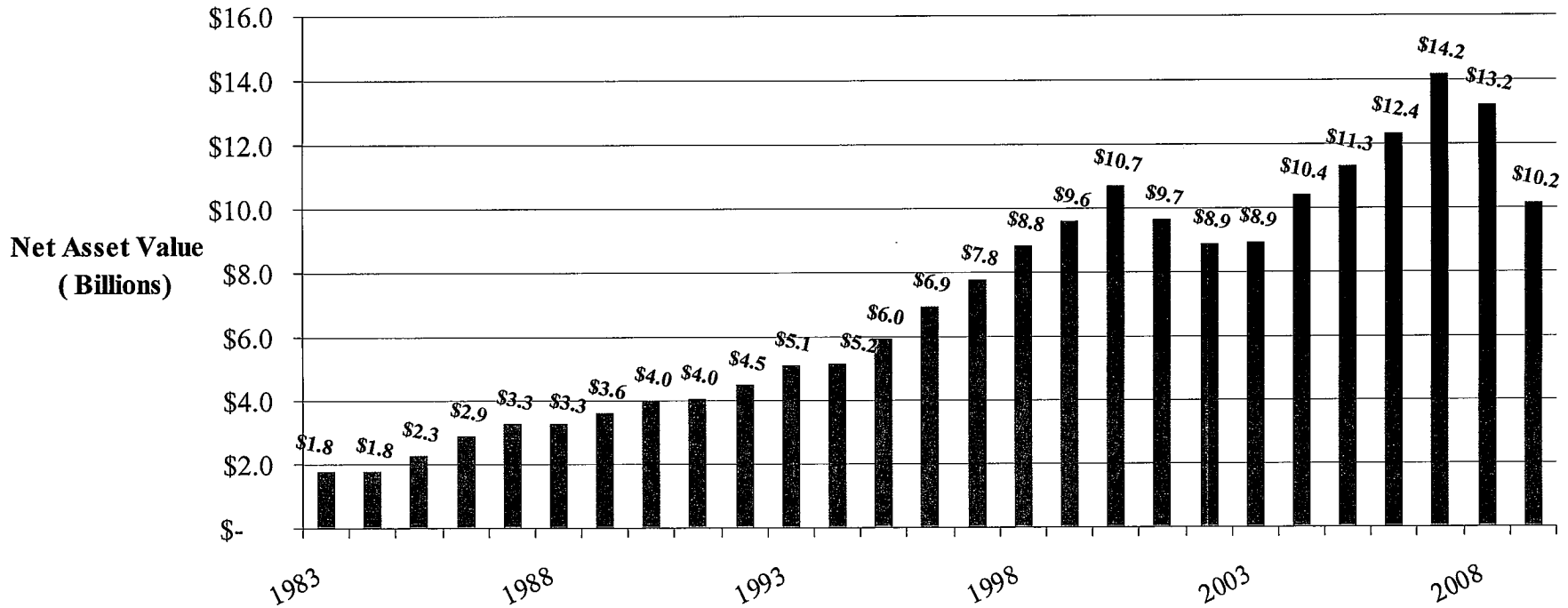
*Average Annual Return through 06/30/09*




# Over Time, the Assets Grow

1-10

### KPERS Net Asset Value FY 1983 -FY2009





11-1

## KPERS continues to closely manage the portfolio mindful of today's realities and focused on the long-term goals and objectives

- KPERS invests with the long term in mind, seeking to grow the portfolio's assets and provide income for benefit payments.
- KPERS portfolio is diversified across several asset classes in order to mitigate the volatility of any one type of asset and to source investment returns from many different areas.
- In the current environment, KPERS is particularly focused on:
  - managing our liquidity;
  - monitoring assets which are showing signs of distress;
  - staying in closer contact with our managers and the markets to be as aware of our environment as possible;
  - staying aware of opportunities that arise as a result of the crisis.

**SUDAN DIVESTMENT REPORT  
TO THE  
JOINT COMMITTEE ON  
PENSIONS, INVESTMENTS AND  
BENEFITS**



June 30, 2009



# KANSAS

## KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM

June 30, 2009

Representative Rob Olson  
Chairman  
Joint Committee on Pensions, Investments and Benefits  
19050 W 161<sup>st</sup> Street  
Olathe KS 66062

Dear Chairman Olson and Members of the Committee:

In accordance with the statutory requirements of K.S.A. 74-4921c, enclosed is a copy of the second annual KPERS Sudan Divestment Report to the Joint Committee on Pensions, Investments and Benefits. This report summarizes the actions KPERS has taken to-date to comply with the Sudan divestment legislation passed in the 2007 Legislative Session.

KPERS has met the statutory requirements of the Sudan divestment legislation required through June 30, 2009. Key highlights to date include:

- The exposure to investments with significant business operations in Sudan declined to \$4.1 million or 0.04% of the total KPERS portfolio.
- The Board has directed no new or additional investment in any companies that are included on the "KPERS Active Business Operations Meeting Divestment Criteria List".
- All separate account investment holdings on the "KPERS Active Business Operations Meeting Divestment Criteria List" were liquidated by June 1, 2009.
- The only commingled fund that the KPERS fund owns currently meets the statutory commingled fund exemption from divestiture.

We look forward to presenting this report to the Joint Committee this interim. If you or Committee members have any questions about the report, please contact me.

Sincerely,



Glenn Deck  
Executive Director

cc: Members of the Joint Committee on Pensions, Investments and Benefits

Enclosure

## **Background and Statutory Requirements**

The 2007 Legislature passed Sudan Divestment legislation as part of Senate Substitute for House Substitute for House Bill 2457 ("HB 2457"). HB 2457 stipulates that the Board of Trustees ("the Board") of the Kansas Public Employees Retirement System ("KPERs") shall not invest KPERs funds in a company with business operations in Sudan which meet the following criteria: 1) the company is engaged in active business operations in Sudan. If that company is not engaged in oil-related activities, that company also lacks significant business operations in the eastern, southern and western regions of Sudan; and 2) either of the following apply: a) the company is engaged in oil-related or power-related activities and the company fails to take substantial action related to the government of Sudan because of the Darfur genocide; or b) the company has demonstrated complicity in the Darfur genocide. Also, HB 2457 directs the Board not to invest KPERs funds in a company that supplies military equipment within the borders of Sudan. Key statutory requirements of HB 2457 are summarized below.

### **Research and Engagement**

The Board may contract with a research firm or firms to determine those companies that have business operations in Sudan. On or before September 30, 2007, such research firms may report any findings to the Board and may submit further findings to the Board if there is a change of circumstances in Sudan. In addition, by September 30, 2007, the Board must take all of the following actions: 1) review publicly available information regarding companies with business operations in Sudan, 2) contact other institutional investors that invest in companies with business operations in Sudan, and 3) send a written notice to a company with business operations in Sudan that the company may be subject to divestiture under HB 2457. Any applicable company has 90 days to respond as to what substantial action they have taken regarding the Darfur genocide or detailing how they have made sufficient progress towards substantial action before the 90-day period expires.

### **Board Investment Actions and Fiduciary Responsibilities**

After 90 days, if no substantial action or if sufficient progress towards substantial action has not been made, then the Board is required to 1) make no additional or new investments in that company and 2) liquidate the investments in that company no later than 18 months after the 90 day response period expires. The statute further provides that the Board is not required to take any divestment actions unless the Board determines the action is consistent with its fiduciary responsibilities.

### **Commingled Fund Exception**

If any investment in a company that meets the criteria established in HB 2457 is held in an externally and actively managed commingled fund, the Board shall contact that fund manager in writing and request that the fund manager remove that company from the KPERs fund. If the fund manager creates a fund devoid of Sudan-related investments, the transfer to the new fund will satisfy the requirements of HB 2457. The Board is not required to divest passively managed commingled funds when the estimated annual costs of divestment exceed 5% of the total value of scrutinized companies with active business operations held in the fund and the ratio holds for at least six months time.

### **Private Equity Investments**

The Board shall make a good faith effort to identify any private equity investments that involve companies with significant business operations in Sudan. If the board determines that a private equity investment involves a company with significant business operations in Sudan, the Board shall consider if those private equity investments shall be subject to creating a separate account devoid of such investments. If the Board does not take this action, it must report the reasons for its decision.

### **Annual Report**

On or before June 30, 2008, and every year thereafter, the Board shall file a report with the Joint Committee on Pensions, Investments and Benefits. The report shall include the following: 1) a list of investments the Board has in companies with business operations in Sudan, 2) a detailed summary of the business operations a company has in Sudan and whether the company meets the criteria for "significant business operations" in Sudan, 3) whether the Board has reduced KPERS fund investments in a company that satisfies the criteria for divestment, 4) if the Board has not completely reduced KPERS fund investments in a company that meets the divestment criteria established, when the Board anticipates that they will reduce all investments in that company or why a sale or transfer of investments is inconsistent with the fiduciary responsibilities of the Board and 5) a detailed summary of investments that were transferred to funds or accounts devoid of companies with business operations in Sudan.

## **KPERS Divestment Actions**

The following sections summarize the actions KPERS has taken to comply with the Sudan Divestment legislation through June 30, 2009.

### **Research and Development of Lists of Affected Companies**

In the early part of 2007, KPERS staff contacted other public pension plans that also had current or pending Sudan divestment legislation. Plans such as California State Teachers Retirement System, Colorado Public Employees Retirement Association and Missouri State Employees Retirement System were contacted to gather information regarding what resources they used to comply with their state laws, how the law was implemented across the plan, and what procedures were created or are being created to ensure compliance with their applicable state law.

Also during the early part of 2007, KPERS staff researched different vendors that could provide a list of companies with significant business operations in Sudan that may be subject to HB 2457. After a thorough review process, KPERS entered into a contract with Institutional Shareholder Services ("ISS") to provide, on a monthly basis, a list of companies that have significant business operations in Sudan. KPERS staff uses this list in conjunction with a list provided by the Sudan Divestment Task Force to create and update the "KPERS Active Business Operations Meeting Divestment Criteria List". The initial list was developed in September 2007 and adopted by the Board. The Board then directed staff to send engagement letters to the companies on the list.

In January 2009, the Board of Trustees authorized KPERS staff to 1) direct the managers to review the additions to the "KPERS Active Business Operations Meeting Divestment Criteria List" and for any applicable security that is held by the manager direct them to a) begin searching for a substitute security to replace those holdings with, and b) if a suitable replacement security is found to replace the holding or if a replacement can not be found to liquidate the holding by no later than June 30, 2009, and 2) notify managers that any security that was deleted from the list is now available for investment. These notices along with the updated "KPERS Active Business Operations Meeting Divestment Criteria List" were sent to the investment managers in late January 2009 after the 90-day engagement waiting period was over on January 22, 2009 for the newly engaged companies.

- **Public Manager Response** - All public managers have acknowledged the restriction placed on any additional or new investment in any company on the "KPERS Active Business Operations Meeting Divestment Criteria List." All separate account investment managers completed liquidations of all applicable holdings on the "KPERS Active Business Operations Meeting Divestment Criteria List by June 1, 2009".
- **Private Equity Manager Response** - Thirty-five letters were sent to private equity managers with a 92% response rate. Follow-up contacts were initiated with the firms not responding. Based on these responses, there does not appear to be any significant Sudan-related exposure in the private equity portfolio.
- **Commingled Fund Exception** - HB 2457 currently allows an exemption from divestiture for commingled funds that currently meet a maximum 5% cost to divest test. Based on 5/31/09 market values, and an estimated annual additional management fee of 0.05% for separate accounts, the Barclay's International Alpha Tilts commingled account currently meets the statutory exemption. (\$320,204 additional management fee/\$4,105,726 in Sudan holdings = 7.8% vs. 5% threshold.)

### Summary of KPERS Sudan Investment Exposure

The table below provides a summary of how KPERS' Sudan exposure has changed since June 30, 2007.

	May 31, 2009		May 31, 2008		June 30, 2007	
	Market Value	% Portfolio	Market Value	% Portfolio	Market Value	% Portfolio
Separate Account	\$0.00	0.00%	\$8,259,623	0.06%	\$9,681,285	0.07%
Commingled Account	\$4,105,726	0.04%	\$5,165,993	0.04%	\$5,524,380	0.04%
Total	\$4,105,726	0.04%	\$13,425,616	0.10%	\$15,205,665	0.11%

In total, KPERS exposure to stocks on the Divestment List amounts to \$4.1 million or 0.04% of the total KPERS portfolio as of May 31, 2009. All of this amount is held in a commingled fund that is currently exempt from divestiture under the law. Both KPERS' absolute and percentage exposure to Sudan have fallen over the past year.

### **Engagement with Companies**

In September 2007, KPERS staff sent letters to 22 companies with business operations in Sudan requesting they take "substantial action" as defined by the legislation in regard to their business operations in Sudan within a 90-day period. The companies were asked to respond by December 31, 2007, confirming receipt of our letter as well as detailing what substantial action the companies will take with a verifiable timeline for measuring progress towards substantial action. Companies that do not respond and do not take substantial action by December 31, 2007, are candidates for divestment subject to the Board's fiduciary responsibility. To date, KPERS has received responses from only 5 of the 22 companies that we sent letters to during the last week of September. Based on these responses, in January 2008 the Board directed that all of these companies remain on the "KPERS Active Business Operations Divestment Criteria List" and that staff take the appropriate next step under the law.

Also, in October 2008, staff sent engagement letters to 4 new companies with business operations in Sudan requesting they take "substantial action" as defined by the legislation in regard to their business operations in Sudan within a 90-day period. Those companies were asked to respond by January 22, 2009, confirming receipt of our letter as well as detailing what substantial action the companies will take with a verifiable timeline for measuring progress towards substantial action. Companies that do not respond and do not take substantial action by January 22, 2009, are candidates for divestment subject to the Board's fiduciary responsibility. KPERS received only 1 response from the 4 companies letters were sent to during the last half of October, 2008. The response was deemed inadequate by KPERS staff based on the standard set by HB 2457. In January 2009, the Board directed that all of these companies remain on the "KPERS Active Business Operations Divestment Criteria List" and that staff take the appropriate next step under the law. This updated list is included as Appendix A attached to this report.

### **Communication with KPERS' Investment Managers**

In February 2008, KPERS staff sent letters to each public equity manager and private equity manager that manage a portfolio for KPERS. Each public manager was asked to review the "KPERS Active Business Operations Meeting Divestment Criteria List" and 1) make no new or additional investment in any company on the list and 2) provide the investment rationale for each company on the list currently owned in the KPERS portfolio. Each private equity manager was asked to review the "KPERS Active Business Operations Meeting Divestment Criteria List" and report any portfolio companies held that 1) have significant business with any of the companies on the list, or 2) that they believe may have a business link with the government or country of Sudan. The public equity and private equity managers were asked to respond by March 31, 2008, to confirm receipt of our letter and to provide the information requested.

In November 2008, the Board of Trustees authorized staff to direct KPERS' separate account investment managers currently holding securities on the "KPERS Active Business Operations Meeting Divestment Criteria List" to 1) search for substitute securities to replace those holdings with and 2) if a suitable replacement security is found to replace the holding or if a replacement cannot be found to liquidate the holdings by no later than June 30, 2009. These notices were sent in December 2008.

Appendix B includes a detailed list of KPERS' equity investment in companies on the "KPERS Active Business Operations Meeting Divestment Criteria List" that KPERS currently owns and the current market value of those investments. Appendix C contains a list of each Sudan-related investment the KPERS fund owns that meet the criteria for significant business operations in Sudan established by HB 2457 along with a detailed summary of their business operations.

### **Conclusion**

KPERS has met the statutory requirements of the Sudan Divestment legislation required through June 30, 2009. Key highlights to date include:

- The exposure to investments with significant business operations in Sudan declined to \$4.1 million or 0.04% of the total KPERS portfolio.
- The Board has directed no new or additional investment in any companies that are included on the "KPERS Active Business Operations Meeting Divestment Criteria List".
- The Board made final decisions relating to divestiture of investments in companies that are subject to divestiture under HB 2457 in November 2008.
- Four new companies were engaged and added to the "KPERS Active Business Operations Meeting Divestment Criteria List" in January 2009.
- All separate account investment holdings on the "KPERS Active Business Operations Meeting Divestment Criteria List" were liquidated by June 1, 2009.
- The only international commingled fund that the KPERS fund currently owns, the Barclays International Alpha Tilts fund, currently meets the statutory commingled fund exemption from divestiture.

**Appendix A**  
**KPERS Active Business Operations**  
**Meeting Divestment Criteria List**

- |   |   |
|---|---|
| 1. <b>China National Petroleum Corp (CNPC)</b><br>Petrochina<br>CNPC Hong Kong  | 12. <b>Alstom</b>   |
| 2. <b>Petroliam Nasional Berhad (Petronas)</b><br>Petronas Gas<br>Petronas Dagangan<br>MISC Berhad  | 13. <b>Wartsila Oyj</b>                                   |
| 3. <b>Oil &amp; Natural Gas Corp</b>  | 14. <b>Bharat Heavy Electricals Ltd.</b>                  |
| 4. <b>China PetroChemical Corp (Sinopec Group)</b><br>China Petroleum & Chemical Corp<br>Sinopec Shanghai Petrochemical<br>Sinopec Kanton | 15. <b>Dongfeng Automobile Co. Ltd.</b>                   |
| 5. <b>Lundin Petroleum</b>  | 16. <b>Indian Oil Corporation Ltd.</b>                    |
| 6. <b>Aref Investment Group</b>   | 17. <b>Scomi Group Berhad</b><br>Scomi Engineering Berhad |
| 7. <b>Muhibbah Engineering Berhad</b>   | 18. <b>PECD Berhad</b>                                    |
| 8. <b>Kencana Petroleum Berhad</b>  | 19. <b>Electricity Generating Public Co. Ltd.</b>         |
| 9. <b>Kejuruteraan Samudra Timur BHD</b>  | 20. <b>Ranhill BHD</b>                                    |
| 10. <b>AviChina Industry &amp; Technology Ltd.</b>  | 21. <b>Al-Kharafi Group</b>                               |
| 11. <b>Harbin Power Equipment Co. Ltd.</b>  | 22. <b>Dietswell Engineering</b>                          |

**Appendix B**  
**KPERS Ownership Interests in Companies on**  
**Active Business Operations List**  
**May 31, 2009**

**Separate Account Managers**

None

**Commingled Account**

<b>Company</b>	<b>BGI Int'l Alpha Tilt</b>
<b>Alstom</b>	\$ 1,038,634
<b>Bharat Heavy Electricals</b>	\$ 199,822
<b>China Petro &amp; Chem</b>	\$ 761,000
<b>CNPC Hong Kong Ltd</b>	\$ 82,922
<b>Harbin Power Equip</b>	\$ 43,141
<b>MISC BHD</b>	\$ 145,569
<b>Oil &amp; Natural Gas Corp</b>	\$ 234,341
<b>Petrochina</b>	\$ 1,439,773
<b>Petronas Dagangan</b>	\$ 31,604
<b>Petronas Gas</b>	\$ 77,591
<b>Sinopec Shanghai Petro</b>	\$ 51,329
<b>Total Market Value</b>	\$ 4,105,726



## **Appendix C**

### **Description of Current Business Operations In Sudan of Companies on Active Business Operations List**

The information provided regarding the current business operations of KPERS investments in companies with significant business operations in Sudan is taken from research supplied by the Sudan Divestment Taskforce ("SDTF").

#### **China National Petroleum Corp**

The Chinese government-owned CNPC is the largest player in Sudan's oil industry. CNPC holds the operating stake in six of the seven Sudanese blocks currently producing oil (block 1, 2, 3, 4, 6, and 7), and in two other blocks (offshore blocks 13 and 15) currently in the exploration phase. Through its various subsidiaries, the company has been instrumental in building critical infrastructure for Sudan's oil industry and in providing oil field services to ongoing exploration and production operations throughout the country. In addition, its involvement in Sudan has facilitated the strengthening of political ties between China and Sudan, and has affected Chinese foreign policy toward the Khartoum regime. The government of Sudan plans to reach a daily output of 600,000 barrels of crude oil by mid-2009, a 100,000 barrels per day (bpd) increase from its current 500,000 bpd output. CNPC likely will play a crucial role achieving this target. CNPC already intends to increase its output on Block 6 from 40,000 to 60,000 bpd in 2008, and there is hope that its exploration on blocks 13 and 15 will lead to production development.

#### **Petroliam Nasional Berhad (Petronas)**

Petronas, Malaysia's state-owned oil company is a major player in the Sudanese oil industry. The company holds stake in nine Sudanese oil blocks and is involved in an ongoing US \$1 billion refinery project in Port Sudan. It pumped 81,600 bpd of oil from Sudan in the year ending March 2006, which was approximately one-fifth of the company's total international oil and gas production. As of April 2007, Petronas had invested approximately US \$1.45 billion in the country. Petronas first entered Sudan in December 1996, when it acquired a 30% stake in the Greater Nile Petroleum Operating Company (GNPOC) through a wholly-owned subsidiary, Petronas Carigali Nile Ltd. In February 1997, the company won a 28.5% stake in Block 5A. Its stake increased to 68.875% when Sweden-based Lundin sold its interest in the block in 2003. Also in 1997, the company signed an Agreement of Cooperation and Technical Assistance with Sudan's Ministry of Energy and Mining, which, according to a press release by the company, "covers the cooperation on upstream and downstream studies, the development of training programmes and the establishment of a training centre and laboratory facilities for the Ministry as well as the enhancement of Sudanese capabilities in managing its petroleum operations." Subsequently, the company acquired a 41% stake in Block 5B in May 2001 and a 70% stake in Block 8 in August 2003. In 2004, the Petrodar consortium, in which Petronas has a 40% stake, signed an agreement with the government of Sudan to develop Blocks 3 and 7. In August 2005, Petronas acquired a 35% stake in the Red Sea Petroleum Operating Company (RSPOC), which has a contract to develop Block 15 in the Red Sea basin. Lundin, Petronas' partner for Block 5B, announced in February 2008 that drilling on the block has begun. The first exploration well was drilled in a dry area of the block, and its gross unrisked recoverable prospective resource is estimated at 176 million barrels of oil. In addition preparations to drill in the swamp area of

Block 5B are progressing. This drilling will take place in the Sudd, a vast wetlands area in which several oil blocks, including Block 5B, are located. Oil and oil-related development in the Sudd already has damaged the delicate ecosystem. Further exploration and production may lead to additional environmental degradation, which in turn harms the local communities that depend on the Sudd for their economic survival. Historically, Petronas has not displayed regard for the social or environmental impact of its oil operations. In addition to its Exploration & Production operations and the other various activities mentioned above, Petronas has been and continues to be involved significantly in infrastructure and downstream oil projects in Sudan. For example, in August 2005, Petronas gained a 50% stake in the new Port Sudan Refinery Project. The refinery is undergoing expansion and will have a 150,000 bpd capacity when it becomes fully operational. Initially scheduled for completion by 2009, it now has been delayed until 2010. Petronas also is involved in retail sale of gasoline in Sudan. In March 2003, the company acquired Mobil International Petroleum Corporation's subsidiary, Mobil Oil Sudan, and began participating in retail and marketing for Petroleum products in the country. In August of that year, Petronas opened its first service station in Khartoum. Its operations since have expanded to encompass 63 retail stations as of 2007. In 2006, Petronas' subsidiary Petronas Marketing Sudan Limited (PMSL) acquired Royal Dutch Shell's aviation refueling business, which involves into-plane service for the Khartoum and El-Obeid airports. It is relevant to note that there is no firewall preventing PMSL from refueling Sudanese military aircraft. Indeed, Shell sold its Sudan aviation business to Petronas under pressure from human rights groups specifically because of this concern. Another wholly-owned subsidiary of Petronas, OGP Technical Services Sdn Bhd, also had extensive operations related to Sudan's oil industry. OGP entered Sudan in 1996, the same year that Petronas first won stake in a Sudan oil block, when it was awarded the management and consultancy contract for Sudan's main export pipeline, which now connects GNPOC's oil-fields to Port Sudan. The pipeline, completed in 1999, enabled the first oil exports from Sudan. It won a second contract from Sudan's Ministry of Energy and Mines soon thereafter, to work on the Fula project. It is unclear whether OGP continues to bid for work in Sudan.

### **Oil & Natural Gas Corp**

Oil and Natural Gas Corporation Limited (ONGC) is involved in Sudan through its foreign exploration arm, ONGC Videsh Limited (OVL). In March 2003, OVL acquired a 25% stake in the Greater Nile Petroleum Operating Company (GNPOC), which operates blocks 1, 2, and 4. OVL purchased its stake from Canada's Talisman Inc. for US \$720 million. Egbert Wesselink, coordinator of the European Coalition on Oil in Sudan, argues that the company purchased its stake at a "war discount", caused by the public outrage over GNPOC's involvement in human rights abuses that prompted Talisman to sell and kept other investors from making a bid on the stake. In May 2004, OVL acquired stakes in two additional oil blocks in Sudan: a 24.125% stake in Block 5A and a 23.5% stake in Block 5B. Both blocks are operated by the White Nile Petroleum Operating Company consortium (WNPOC). OVL purchased both from Austria's OMV Aktiengesellschaft for approximately US \$134.6 million. Wesselink argues that this transaction, too, was a "big war discount", prompted by OMV's decision to withdraw following investigations into human rights abuses at the blocks. OVL also has been awarded several major oil-related contracts in Sudan. In 2004, the company won a contract to build a 741 km pipeline connecting the Khartoum refinery to Sudan's main export terminal in Port Sudan. The pipeline was completed in August 2005 and has an 18,330 bbl/d capacity. In addition, the company reportedly tenders to sell 600,000 barrels of Sudanese Nile Blend each month.

### **China PetroChemical Corp (Sinopec Group)**

Sinopec Group is wholly-owned by the Chinese government and is one of the largest oil companies in China. Comparatively, its presence is far less than that of China National Petroleum Company (CNPC), another major Chinese government-owned oil company operating in Sudan. Sinopec's only equity investment in Sudan's oilfields is its 6% stake in the Petrodar consortium, which operates blocks 3 and 7. However, through its subsidiaries, Sinopec is one of the largest—and may be the largest—oilfield service provider in Sudan. The operations of several of its subsidiaries in Sudan are detailed below. ZPEB Corporation (Sudan), a wholly-owned subsidiary of Sinopec Group's wholly-owned subsidiary Zhongyuan Petroleum Exploration Bureau (ZPEB), supplies several types of oilfield services in Sudan, including seismic data acquisition and processing, wireline logging, oilfield surface construction, and pipeline laying. According to the company's website, it has 1239 employees in Sudan, 656 of whom are Chinese and 583 of whom are listed as "foreign." Its clients include CNPC, GNPOC, and Petrodar. In 2004, ZPEB Corporation (Sudan) was awarded a US \$66 million contract to build a section of the pipeline that runs from blocks 3 and 7 to the Khartoum refinery, which was completed in 2005. ZPEB continues to contract with Sudan's oil consortia. In February 2008, a ZPEB rig was used to drill an exploratory oil well in Block 5B, operated by the WNPOC consortium. In April 2008, ZPEB completed a training course for GNPOC engineers. It appears that this training program was in addition to ongoing contracts it has with GNPOC, which ZPEB lists as a "major client." ZPEB also has ongoing contracts with Petrodar for work on blocks 3 and 7. Unipec, the trading arm of Sinopec Group, is one of China's four state-owned oil trading firms. Also known as China International United Petroleum and Chemicals Co. Ltd., it is Sinopec's sole representative when Sinopec needs to conduct business with Sudan's national oil company, Sudapet. In May 2008, Unipec bid for Sudapet's 1.2 million barrel tender of Dar Blend crude for June loading, it is likely that Sudapet will award Unipec the tender. Sinopec International Petroleum Service Corp (SIPSC), Sinopec's international overseas and engineering company, received a contract in 2003 to build a pipeline in Sudan from blocks 3 and 7 to Port Sudan. Through the oil field services provided by Sinopec's subsidiaries, the company helps enable the operations of Sudan's oil industry. Additionally, it has equity stake in Petrodar, an oil consortium that has been implicated in forced displacement, collusion with the Sudanese military, and environmental destruction. This environmental destruction has been documented by the non-profit European Coalition on Oil in Sudan through on-site visits.

### **Harbin Power Equipment Co.**

Harbin Power's involvement in Sudan began in 2000 when the company was commissioned to build the Garri Power Plant Station. The plant was the first cooperative power project between Sudan and China. Located 70 km north of Khartoum, Garri is the largest power station project in Sudan. It generated 35% of the country's power in 2006, according to a company representative. In 2001, Harbin Power won the Engineering, Procurement, and Construction (EPC) contract from Sudan's Ministry of Energy and Mining and National Electricity Corporation to build the first section of the El Gaili gas-fired power plant, which became operational in August 2004. The 212 MW section cost US \$150 million, US \$130 million of which was financed by China's Exim Bank. The El Jaily plant provides electricity primarily to government controlled areas in and around Khartoum. Each major pipeline in Sudan runs through El Jaily, which suggests that the power plant may have strategic importance for Sudan's oil sector. Harbin also won a contract for US \$149 million project at the Qarre I power station, located 50 km north of

Khartoum. The project was financed by the People's Bank of China, the central bank of China. Harbin Power has been contracted by the government of Sudan to participate in the construction of several of Sudan's most problematic power projects. The power generated by these plants is destined almost exclusively for Khartoum government stronghold areas, often at the expense of Sudan's marginalized populations. Harbin Power is the principle contractor for the Merowe Dam project in northern Sudan. The firm is building seven substations and approximately 1,000 miles of transmission lines. The project is financed partially by a US \$400 million loan from China Exim Bank. Currently, the company is installing high voltage lines between the dam site and Khartoum, Atbara, and Port Sudan. Harbin also is involved in the construction of the Kajbar Dam in northern Sudan. The Merowe Dam project has been criticized by human rights advocates and by local populations who have been violently displaced from lands earmarked for the dam. The Kajbar dam also has been opposed consistently by affected populations. On August 28, 2007, the United Nations Special Rapporteur on adequate housing called for a halt to work on the Merowe Dam and the Kajbar Dam until the human rights impact of the projects can be assessed. He issued a statement saying he had received numerous reports of violations of civil and political rights "including the shooting of unarmed demonstrators, arbitrary arrests and repressive measures against the media." In calling for a halt to work on the Merowe Dam, the Special Rapporteur, in a highly unusual move, specifically cited Harbin, among other companies, and appealed to China to pressure Harbin to discontinue its operations. In October 2007, Harbin issued a response to concerns raised by the Special Rapporteur. Addressing concerns related to flooding and forced relocation around the dam itself, Harbin stated that its own operations are limited to transmission line construction in "lifeless areas" and that their part of the project "will definitely not approach any human rights and environment destruction." However, while Harbin might not operate in specific locations of flooding and forced displacement, the company provides essential components of the dam and has considerable leverage and significant responsibility to ensure that the project is carried out in responsible and sustainable manner. Harbin also is building a second 100 MW section of the El Gaili plant which, like the first section, will be financed by China's Exim Bank.

### Alstom

Alstom is a France-based power company with active operations in Sudan. While its current business in Sudan primarily is related to large-scale power generation, in the past the company has been involved in projects related to Sudan's oil industry. Alstom's wholly-owned subsidiary, Alstom Power Transformers, supplied power transformers to power substations in the Muglad Basin, which contains blocks 1, 2, and 4, in 2001, and to power substations in the Melut Basin, which includes blocks 3 and 7, in 2004. In November 2003, Alstom received a US \$300 million contract from Sudan's National Electricity Corporation for work on the Merowe Dam project. The contract includes the supply of ten hydro turbines and generators to the plant, each with a 125 MW output, as well as engineering, control systems, and commissioning for the project. With a planned capacity of 1,250 megawatts, the dam is predicted to double Sudan's power generating capacity when it is completed. Recent reports suggest that work is approximately 85% completed. It will start producing electricity at partial capacity in November 2008, and will be completed by November 2009. In a December 2007 meeting, Alstom informed SDTF that approximately 70% of its work on the Merowe Dam was complete. Although the company initially planned to complete its work by 2009, Alstom recently reported to SDTF that, due to delays on the dam project, its work would not be finished until 2010. More detail on the Merowe Dam Project can be found in the Reference section of this report. However, it is relevant to note that the dam project will predominately provide power to Khartoum, the immediate areas

surrounding Khartoum, and the government stronghold city of Port Sudan. Upon its completion, the Merowe Dam will be the largest hydroelectric dam in Africa, and will afford the Khartoum government considerable credibility and legitimacy. The project has been criticized extensively by human rights advocates and by local populations who have been violently displaced to make way for its construction. On August 28, 2007, the United Nations Special Rapporteur on adequate housing called for a halt to work on the Merowe Dam and the Kajbar Dam, another controversial project in northern Sudan, until the human rights impact of these projects can be assessed. He issued a statement saying he had received numerous reports of violations of civil and political rights including the shooting of unarmed demonstrators, arbitrary arrests and repressive measures against the media. In calling for a halt to work on the Merowe Dam, the Special Rapporteur, in a highly unusual move, specifically cited Alstom, among other companies, and appealed to France to pressure Alstom to discontinue its operations. In a response to the UN Special Rapporteur's statement, Alstom claimed that it has not done anything directly to promote and protect human rights as the Group is employed by the MDPIU who is ultimately responsible for such issues, and mentioned that Lahmeyer International, as the project's engineering consultant, is Alstom's interface in Sudan.

### **Bharat Heavy Electricals**

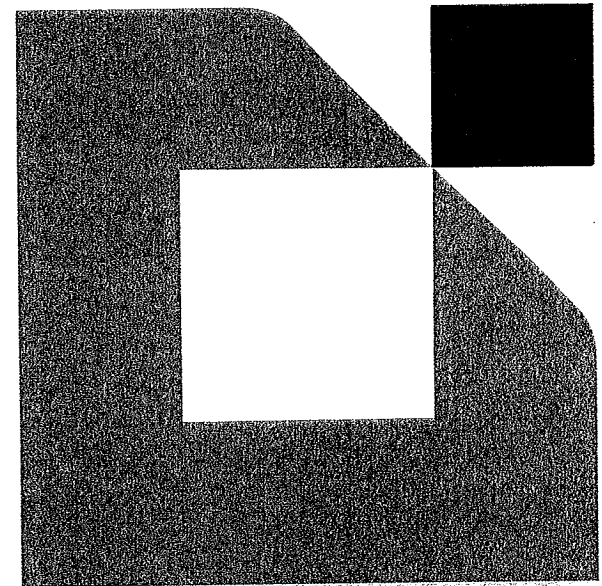
Bharat Heavy Electricals Limited (BHEL) is an India-based power and energy company. It first ventured into Sudan in 2005, when it provided eight mainland locomotives for Sudan Railways. In 2006, it exported locomotive parts to Sudan Railways. The company's subsequent and current operations in Sudan are power-related. BHEL's successful bid in February 2006 to build a power station in Kosti, which lies 350 km south of Khartoum, was, at US \$457 million, one of the largest contracts ever signed between Sudan and India. At the time of the award, the 500 MW thermal plant was BHEL's largest single export order. The plant is being constructed over a forty-four month period, and is scheduled for completion in 2009. The government of Sudan plans to expand the Kosti project to 3,000 MW in the near future, which a Sudanese government official suggested might result in future business for BHEL in the country. In March 2008, BHEL Acting Chairman and Managing Director, K. Ravi Kumar, stated that the company "recently got some contracts from Sudan (Africa) at coal-based plants." This suggests that the company has contracts for Sudan power stations beyond its current work on the Kosti power station. BHEL may have Sudan-related contracts indirectly through a contract it recently signed with Oil and Natural Gas Corporation (ONGC). ONGC is an India-based, state-owned oil firm that, through its foreign exploratory firm, ONGC Videsh Ltd., has invested over one billion dollars in Sudan's oil sector. ONGC recently awarded BHEL a long-term contract to provide several accessories used in oil exploration. This contract effectively renewed a similar long-term contract between ONGC and BHEL which expired in February 2007. Approximately 65% of the orders will be exported. It is possible that the parts will be distributed to ONGC's Sudan projects. However, as the end destination of the parts have not been confirmed, this contract alone would not be enough to warrant scrutiny.

# Presentation of 12/31/08 Valuation Results to the Joint Committee on Pensions, Investments and Benefits

Presented by:

Patrice A. Beckham, F.S.A.  
Principal & Consulting Actuary

September 2, 2009



# *Purpose of Actuarial Valuation*

3rd

- Measurement of Assets and Liabilities
  - Apply cost method to allocate to periods of service
  - Use assumptions to estimate future benefit payments
- Calculate Employer Contribution Rates
  - FY12 for State
  - FY11 for Local
- Disclosures for Financial Reporting
- Baseline for Pricing Legislation

# **12/31/08 Actuarial Valuation**

3-3

- No change in assumptions
- No change in actuarial methods
- No material changes in benefit structure



# Valuation Results

3-4

- UAL increased about \$2.7 Billion
  - Over 85% due to investment experience, even with asset smoothing method
  - Contribution Shortfall + Lag
  - Demographic Experience
  
- Actuarial Value Greater Than Market Value
  - 2008 Return on MVA about - 28.5%
  - Deferred loss is about \$2 billion
  - Significant implications for future years
  
- Contribution Rates
  - Actuarial contribution rates higher
  - Shortfall in contribution rate increased
  - Actuarial rate now greater than statutory rate for State
  - State and Local still in actuarial balance, but not School
  - Difference in actuarial and statutory rates increased as did ARC date/rate

# *Actuarial Value of Assets*

- Market value not used directly in valuation
- Asset valuation method used to smooth the effect of market fluctuations
- Gain/loss as measured on market value spread evenly over 5 years
- Resulting value of actuarial assets must be within corridor of 80-120% of pure market value (corridor applied this year).
- Magnitude of 2008 loss makes the application of the corridor more significant - large increase in contribution rates for KP&F and Judges
- Use of corridor needs further analysis and study

3-6

## Asset Values (\$M)

	<u>MVA</u>	<u>AVA</u>
Value at 12/31/07	\$ 14,168	\$ 13,433
▪ Contributions	683	683
▪ Benefit Payments	(1,017)	(1,017)
▪ Investment Income	(3,978)	407
Preliminary value at 12/31/08	\$ 9,856	\$ 13,506
Application of corridor	N/A	\$ (1,678)
Final value at 12/31/08	\$ 9,856	\$ 11,828
Approximate Return	-28.5%	-9.6%

## ***Market vs. Actuarial Value***

3-7

- Actuarial/Market = 120%
- Deferred recognition of investment experience:  
\$2.0 billion
- Significant deferred loss to be recognized
  - Expect loss on actuarial assets in future years even if 8% expected return met
  - Loss will translate to higher UAL and lower funded ratio absent offsetting favorable experience

## ***Unfunded Actuarial Liability (UAL)***

- Actuarial Liability less Actuarial Assets
- Impacted by:
  - benefit changes
  - experience gains/losses
  - assumption and method changes
  - actual contributions
- Expected to increase:
  - Payment methodology results in increase in UAL
  - Planned difference in contribution rates increases UAL each year
  - Deferred investment losses are significant

# 12/31/08 UAL (\$M)

3-9

	<u>AL</u>	<u>AVA</u>	<u>UAL</u> *
State	\$ 3,555	\$ 2,553	\$ 1,002
School	10,938	5,699	5,239
Local	3,376	1,991	1,385
KP&F	2,098	1,480	619
Judges	<u>140</u>	<u>104</u>	<u>36</u>
Total	\$ 20,107*	\$ 11,828*	\$ 8,279*

\* Amounts may not add due to rounding

## Change in UAL (\$M)

3-10

UAL 12/31/07	\$ 5,552
Cap/Timing/Method	317
Experience	
– Investment *	2,332
– Other	78
Assumption Change	0
Benefit Change	0
UAL 12/31/08	\$ 8,279

\* Application of the 80-120% of market value corridor resulted in recognition of an additional \$1.678 billion of investment loss.

3-11

# ***Funded Ratio (Actuarial Assets/Actuarial Liability)***

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
State	85%	85%	86%	87%	72%
School	63%	61%	61%	63%	52%
Local	67%	67%	69%	70%	59%
KP&F	81%	80%	83%	86%	71%
Judges	80%	85%	87%	89%	75%
Total	70%	69%	69%	71%	59%



# Funded Ratio on Actuarial and Market Value

3-12

	12/31/03	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08
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**Using Actuarial Value of Assets:**

Funded Ratio (AVA/AL)	75%	70%	69%	69%	71%	59%
Unfunded Actuarial Liability (AL-AVA)	\$3,586	\$4,743	\$5,152	\$5,364	\$5,552	\$8,279

**Using Market Value of Assets:**

Funded Ratio (MVA/AL)	71%	71%	72%	76%	75%	49%
Unfunded Actuarial Liability (AL-MVA)	\$4,202	\$4,536	\$4,583	\$4,184	\$4,817	\$10,250

3-13

# Contribution Rates

<u>System</u>	<u>Actuarial</u>		<u>Statutory</u>
	<u>12/31/07</u>	<u>12/31/08</u>	<u>12/31/08</u>
State	7.39%	11.13%	8.77%
School	12.48%	14.96%	8.77%
Local	8.52%	10.42%	6.74%
KP&F	12.86%	17.88%	17.88%
Judges	19.49%	26.38%	26.38%

3-14

# Projected Funded Status-Total System\*

Valuation Date	CY09 Return	UAL* (\$M)	Funded Ratio*	
			AVA	MVA
12/31/08		8,279	59%	49%
12/31/09	16%	7,862	63%	52%
12/31/09	8%	8,775	58%	49%
12/31/09	0%	9,705	54%	45%
12/31/09	-8%	10,634	50%	41%

\* Assumes all demographic actuarial assumptions are met.

# *Funding Projections*

3-13

- Not precise predictions but general estimates
- Based on many assumptions
  - 8% return on market value from 12/31/08 forward
  - All actuarial assumptions met
  - Current plan provisions
  - Current statutory caps and timing lag
  - New entrant profile

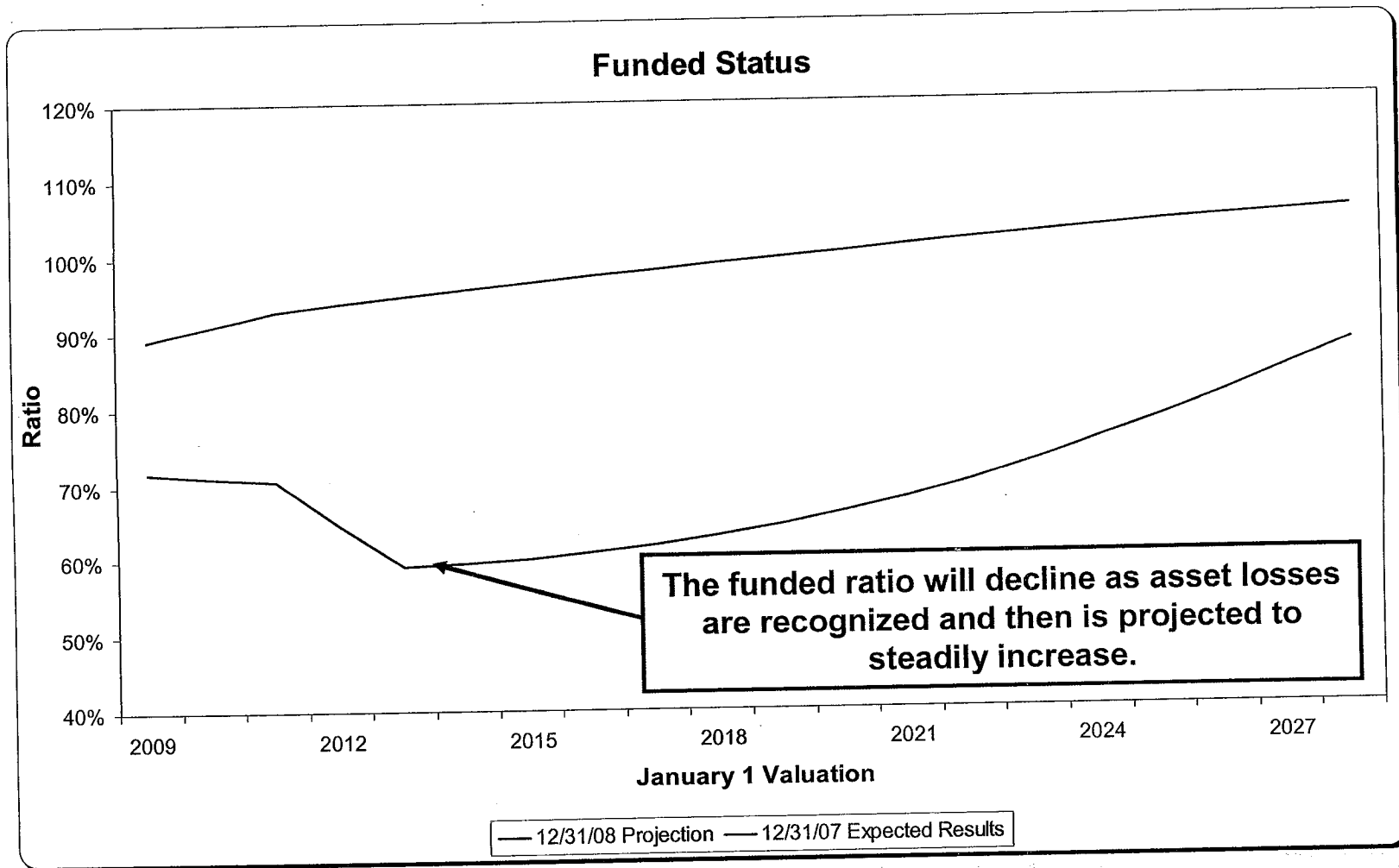
# State Funded Status

3-16

	Valuation Results	
	<u>12/31/07</u>	<u>12/31/08</u>
Funded Ratio	87%	72%
Actuarial Rate	7.39%	11.13%
Statutory Rate	7.39%	8.77%
ARC Date	FY2010	FY2022
ARC Rate	7.34%	14.50%

3-17

# State Projected Funded Ratio



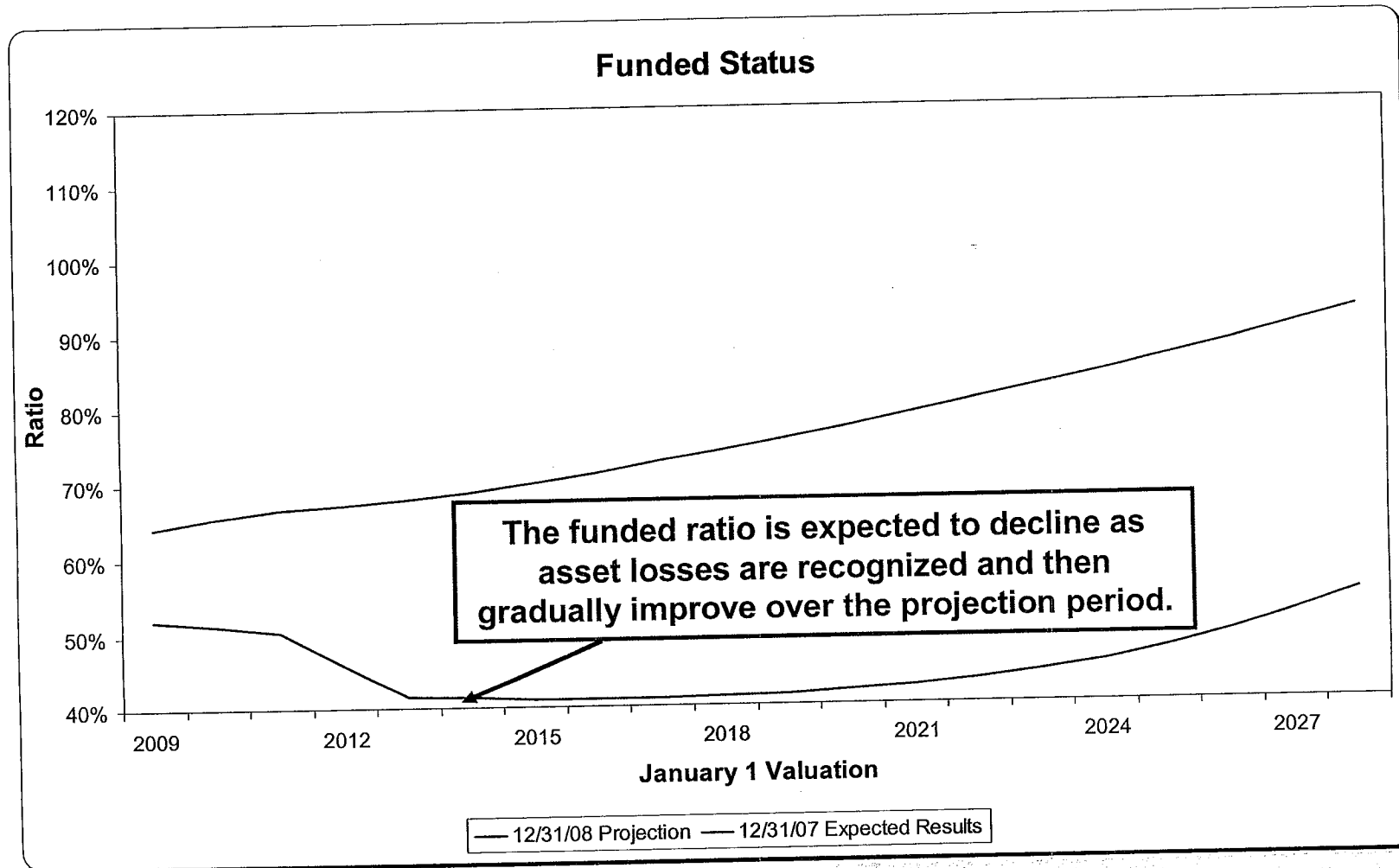
# School Funded Status

3-18

	Valuation Results	
	<u>12/31/07</u>	<u>12/31/08</u>
Funded Ratio	63%	52%
Actuarial Rate	12.48%	14.96%
Statutory Rate	8.17%	8.77%
ARC Date	FY2016	None
ARC Rate	11.13%	N/A

# School Projected Funded Ratio

3-19





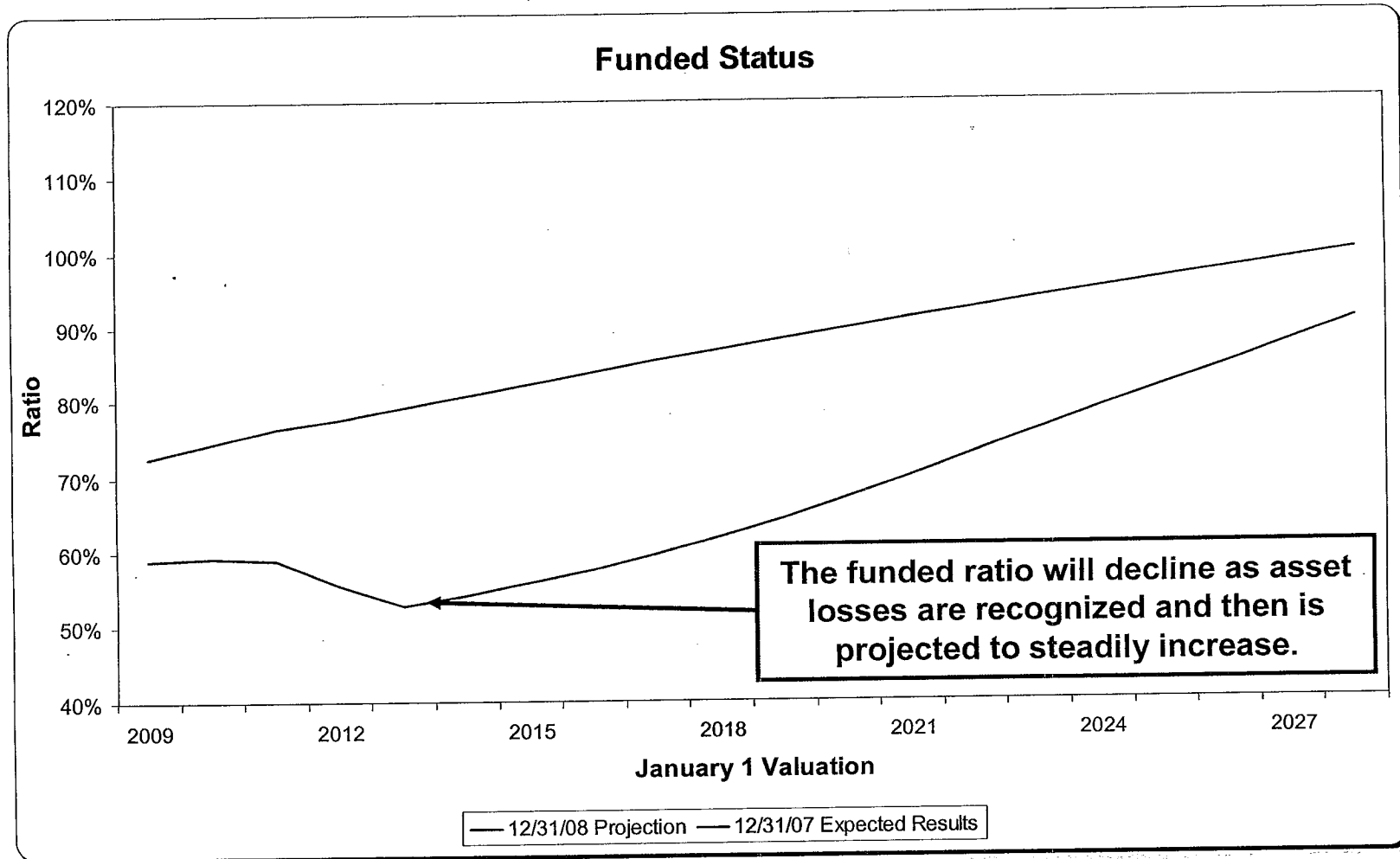
# Local Funded Status

3-20

	Valuation Results	
	<u>12/31/07</u>	<u>12/31/08</u>
Funded Ratio	70%	59%
Actuarial Rate	8.52%	10.42%
Statutory Rate	6.14%	6.74%
ARC Date	FY2015	FY2020
ARC Rate	7.99%	11.90%

# Local Projected Funded Ratio

3-21



## Comments

3-22

- Actuarial value is 20% higher than market value
- School not in actuarial balance and State/Local ARC dates pushed out
- Concern for long-term funding given current funding levels and projected employer contributions.
  - Further study and analysis is needed to evaluate sustainability of System.

**Kansas Public Employees  
Retirement System**



***Valuation Report as of December 31, 2008***



# Kansas Public Employees Retirement System Actuarial Valuation Report

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1120 South 101<sup>st</sup> Street  
Suite 400  
Omaha, NE 68124  
USA

Tel +1 402 393 9400  
Fax +1 402 393 1037

milliman.com

July 9, 2009

Board of Trustees  
Kansas Public Employees Retirement System  
611 S. Kansas Ave., Suite 100  
Topeka, KS 66603

Dear Members of the Board:

At your request, we performed an actuarial valuation of the Kansas Public Employees Retirement System as of December 31, 2008 for purposes of determining contribution rates for fiscal year 2012 for the State and 2011 for Local employers. The major findings of the valuation are contained in this report. This report reflects the benefit provisions in place on December 31, 2008, including any changes passed by the 2009 Legislature. The only change in the benefit provisions since the last valuation is related to working after retirement. Due to the fact that the provision sunsets in three years, it had no impact on the December 31, 2008 valuation. Any effect on retirement experience from the change will be reflected in future valuations. There was no change in the actuarial assumptions or methods from the prior valuation.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We further certify that all costs, liabilities, rates of interest and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations presented in this report under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of GASB Statements No. 25 and 27. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the System and its Trustees and employees (for their use in administering the Fund). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

- (a) The System may provide a copy of Milliman's work, in its entirety to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.
- (b) The System may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We would like to express our appreciation to Glenn Deck, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

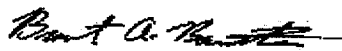
We respectfully submit the following report and look forward to discussing it with you.

MILLIMAN, Inc.

Sincerely,



Patrice A. Beckham, F.S.A.  
Consulting Actuary



Brent A. Banister, F.S.A.  
Consulting Actuary

## SECTION I BOARD SUMMARY

### OVERVIEW

The Kansas Public Employees Retirement System is an umbrella organization which administers the following three statewide pension groups: the Kansas Public Employees Retirement System (KPERs), the Kansas Police and Firemen's Retirement System (KP&F) and the Kansas Retirement System for Judges (Judges). This report presents the results of the December 31, 2008 actuarial valuations for each of the Systems.

The primary purposes of performing actuarial valuations are to:

- determine the employer contribution rates required to fund each System on an actuarial basis,
- determine the statutory employer contribution rates for each System,
- disclose asset and liability measures as of the valuation date,
- determine the experience of the System since the last valuation date, and
- analyze and report on trends in System contributions, assets, and liabilities over the past several years.

The valuation results provide a "snapshot" view of the System's financial condition on December 31, 2008. The unfunded actuarial liability for the System as a whole increased by \$2.7 billion due to various factors of which the asset loss, even with asset smoothing reflected, was over 85% of the increase. A detailed analysis of the change in the unfunded actuarial liability from December 31, 2007 to December 31, 2008 is shown on page 5.

There was no change in the actuarial assumptions or methods used in the valuation since last year and there was only one change in the benefit provisions. This change, related to working after retirement, is scheduled to sunset in three years, so it had no material impact on this valuation. Any effect from the change on retirement experience that is identified will be reflected in future valuations.

In KPERs, State, School and Local employers do not necessarily contribute the full actuarial contribution rate. Based on legislation passed in 1993, the employer contribution rates certified by the Board may not increase by more than the statutory cap. The statutory cap, which has been changed periodically, is currently 0.60% for the State, School and Local groups.

A summary of actuarial and statutory employer contribution rates for the Retirement System (excluding the statutory contribution for the Death and Disability Program) for the last two valuation dates follows:

System	December 31, 2008 Valuation		Difference
	Actuarial	Statutory	
State	11.13%	8.77%	2.36%
School <sup>1</sup>	14.96%	8.77%	6.19%
Local <sup>1</sup>	10.42%	6.74%	3.68%
Police & Fire - Uniform Rates <sup>2</sup>	17.88%	17.88%	0.00%
Judges	26.38%	26.38%	0.00%



System	December 31, 2007 Valuation		Difference
	Actuarial	Statutory	
State	7.39%	8.17% <sup>3</sup>	(0.78%)
School	12.48%	8.17%	4.31%
Local	8.52%	6.14%	2.38%
Police & Fire - Uniform Rates <sup>2</sup>	12.86%	12.86%	0.00%
Judges	19.49%	19.49%	0.00%

<sup>1</sup> By statute, rates are allowed to increase by a maximum of 0.60% plus the cost of any benefit enhancements.

<sup>2</sup> For KP&F, the statutory contribution rate is equal to the "Uniform" rate. The rate shown is for local employers. The rate for State employers is 14.39% this year, which includes a payment of 0.50% for the debt service payment on the bonds issued for the 13<sup>th</sup> check. The uniform rate does not include the payment required to amortize the unfunded past service liability or any 15% excess benefit liability determined separately for each employer. (See Table 13.)

<sup>3</sup> Any difference between the statutory rate and the actuarial contribution rate times actual State payroll is deposited to the School assets.

Over the last ten years, much time and effort has been devoted to improving the long-term funding outlook for KPERS. As a result of legislative changes, Board action and investment performance from 2003 to 2007, the System's long-term funding outlook improved, although the positive results for the System were highly dependent on attaining the 8% assumption. Modeling indicated that investment returns below the 8% assumption could change the long-term funding outlook, particularly for the School group. The unprecedented negative investment experience in 2008 was a significant setback in the System's long-term funding. Despite the 2008 investment loss, the State and Local groups remain in actuarial balance (the statutory contribution rate is projected to converge with the actuarial required contribution (ARC) rate before the end of the amortization period (2033) if all actuarial assumptions are met in future years). For the School group, the statutory and actuarial contribution rates are not projected to converge before 2033 if all assumptions are met in future years. This situation should be closely monitored and further analysis performed in order to determine the appropriate actions to be taken. Plans are in place to perform this analysis later this year. As the deferred investment losses are recognized in the next four years, the actuarial contribution rate is expected to increase significantly. As this occurs, the shortfall between the actuarial and statutory contribution rates will grow and will produce increases in the UAL. As a result, the actuarial contribution rate is expected to increase until the ARC Date (defined as the date at which the actuarial and statutory contribution rates are equal) is reached.

The actuarial value of assets is 20% higher than the pure market value. This is due to the use of an asset smoothing method and the delayed reflection of market experience in the actuarial value of assets. These deferred losses, which are significant, will be reflected in the actuarial value of assets over the next four years. However, the net impact of the deferred experience on the actuarial value of assets in future years will depend on actual investment experience during that period.

## EXPERIENCE - ALL SYSTEMS COMBINED

December 31, 2007 – December 31, 2008

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is December 31, 2008. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and employers in the future to balance the System assets and liabilities.

Changes in the Systems' assets and liabilities impacted the change in the actuarial contribution rates between the December 31, 2007 and December 31, 2008 actuarial valuations. On the following pages each component is examined and quantified.

### MEMBERSHIP

Below is a summary of the changes in active members between the December 31, 2007 and December 31, 2008 actuarial valuations.

	State	School	Local	KP&F	Judges	Total
12/31/2007 (Starting count)	24,024	86,468	35,914	7,137	261	153,804
New actives	2,282	10,601	4,078	453	7	17,421
Nonvested Terminations	629	4,793	1,577	158	0	7,157
Elected Refund	343	1,187	804	90	0	2,424
Vested Terminations	<u>299</u>	<u>938</u>	<u>569</u>	<u>60</u>	<u>0</u>	<u>1,866</u>
Total Withdrawals	1,271	6,918	2,950	308	0	11,447
Deaths	36	54	45	8	0	143
Disabilities	78	85	57	20	0	240
Early Retirements	53	253	64	6	0	376
Unreduced Retirements	<u>482</u>	<u>1,622</u>	<u>497</u>	<u>92</u>	<u>8</u>	<u>2,701</u>
Total Retirements	535	1,875	561	98	8	3,077
Other/Transfer	(12)	(189)	(132)	86	2	(245)
12/31/2008 (Ending count)	24,374	87,948	36,247	7,242	262	156,073

### ASSETS

As of December 31, 2008, the System had total funds when measured on a market value basis, of \$9.9 billion, excluding assets held for the Group Insurance and Optional Life reserves. This was a decrease of \$4.3 billion from the December 31, 2007 figure of \$14.2 billion.

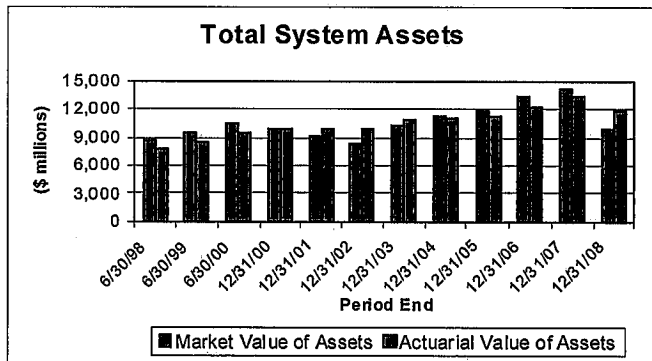
The market value of assets is not used directly in the calculation of contribution rates. An asset valuation method is used to smooth the effect of market fluctuations. The smoothing method calculates the difference between the actual return and the expected return (assumed rate of return) on the market value of assets each year. The difference is recognized equally over a five-year period. The resulting value must be no less than 80% of market and no more than 120% of market. For this valuation, the actuarial value of assets was limited to 120% of market value. See Tables 3A through 3F and 4 for the detailed development of the actuarial value of assets as of December 31, 2008 for each group.

The components of the change in the market value and actuarial value of assets for the Retirement System (in millions) are set forth below.

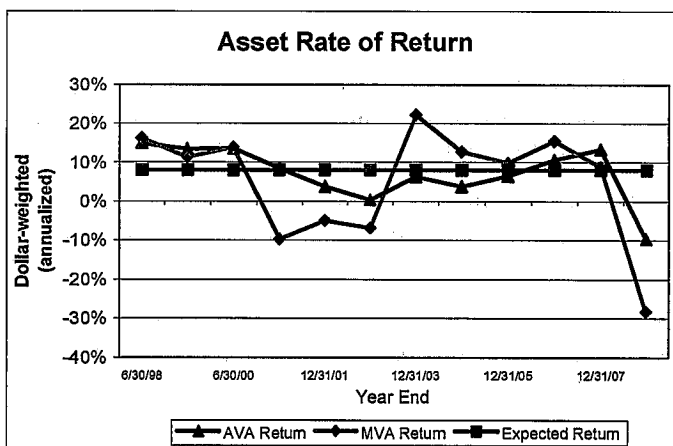
	Market Value \$(millions)	Actuarial Value \$(millions)
Assets, December 31, 2007	\$14,168	\$13,433
• Employer and Member Contributions	683	683
• Benefit Payments and Expenses	(1,017)	(1,017)
• Investment Income	(3,978)	407
Preliminary Asset Value, December 31, 2008	\$9,856	\$13,506
Application of Corridor	N/A	(1,678)
Final Asset Value, December 31, 2008	\$9,856	\$11,828

The actuarial value of assets as of December 31, 2008, was \$11.828 billion. The annualized dollar-weighted rate of return for 2008, measured on the actuarial value of assets, was approximately -9.6% and measured on the market value of assets, as reported by KPERS, was -28.5%, net of investment and administrative expenses.

Due to the use of an asset smoothing method, there is about \$2 billion of net deferred investment loss experience that has not yet been recognized. This deferred investment loss will gradually be reflected in the actuarial value of assets over the next four years, but may be offset by actual investment experience if more favorable than assumed.



The actuarial value of assets has been both above and below the market value during the period, which is to be expected when using an asset smoothing method.



The rate of return on the actuarial (smoothed) value of assets has been less volatile than the market value return. Due to the significant market loss in 2008, rates of return are expected to be below 8% over the next few years as the deferred investment losses are reflected in the actuarial value of assets.

**LIABILITIES**

The actuarial liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and asset values at the same date is referred to as the unfunded actuarial liability (UAL). The unfunded actuarial liability will be reduced if the employer's contributions exceed the employer's normal cost for the year, after allowing for interest earned on the previous balance of the unfunded actuarial liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and methods will also impact the total actuarial liability (AL) and the unfunded portion thereof.

The unfunded actuarial liability (\$ million) by group is summarized below:

	<u>State</u>	<u>School</u>	<u>Local</u>	<u>KP&amp;F</u>	<u>Judges</u>
Actuarial Liability	\$3,555	\$10,938	\$3,376	\$2,098	\$ 140
Actuarial Value of Assets	<u>2,553</u>	<u>5,699</u>	<u>1,991</u>	<u>1,480</u>	<u>104</u>
Unfunded Actuarial Liability	\$1,002	\$ 5,239	\$1,385	\$ 619	\$ 36

See Table 6 for the detailed development of the Actuarial Liability by System. The calculation of the Unfunded Actuarial Liability by System is shown in Table 8.

When the actuarial cost method was changed by the Legislature in 1993, the payment methodology for the unfunded actuarial liability (UAL) for all groups except the Judges System was set in statute as a level percentage of payroll over a 40 year closed period. Payments on the UAL increase four percent each year, the same as the payroll growth assumption. For over half of the amortization period, the payment is less than the interest accruing on the UAL. As a result, the dollar amount of UAL is expected to increase for many years before it begins to decline. In addition, with the planned difference in KPERS' statutory and actuarial contribution rates prior to the ARC Date, the unfunded actuarial liability is expected to increase by an additional amount each year.

Other factors influencing the UAL from year to year include actual experience versus that expected based on the actuarial assumptions (on both assets and liabilities), changes in actuarial assumptions, procedures or methods and changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the prior plan year (calendar year 2008). The School, Local and KP&F all had a net liability loss for the year. The State and Judges had liability gains for the 2008 year. There was a large experience loss from investment return on the actuarial value of assets for all groups.

Between December 31, 2007 and December 31, 2008 the change in the unfunded actuarial liabilities for the System as a whole was as follows (in millions):

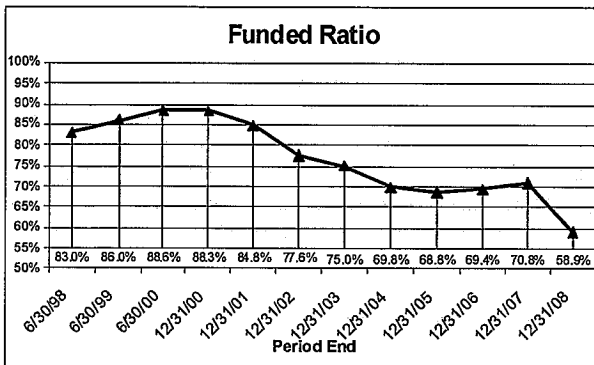
	<u>\$ millions</u>
Unfunded Actuarial Liability, December 31, 2007	\$ 5,552
• effect of contribution cap/time lag	246
• expected increase due to amortization method	71
• loss from investment return	2,332
• demographic experience <sup>1</sup>	110
• all other experience	(32)
• change in actuarial assumptions	0
• change in benefit provisions	0
Unfunded Actuarial Liability, December 31, 2008	\$ 8,279

<sup>1</sup>Liability loss is about 0.54% of total actuarial liability.

A detailed summary of the change in the unfunded actuarial liability by System is shown on page 12.

An evaluation of the unfunded actuarial liability on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the unfunded actuarial liability and the progress made in its funding is to track the funded status, the ratio of the actuarial value of assets to the actuarial liability. There was a change in actuarial assumptions in the 2004 and 2007 valuations, which impacted the UAL and the funded status. The funded status information is shown below (in millions).

	12/31/03	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08
<b>Using Actuarial Value of Assets:</b>						
Funded Ratio (AVA/AL)	75%	70%	69%	69%	71%	59%
Unfunded Actuarial Liability (AL-AVA)	\$3,586	\$4,743	\$5,152	\$5,364	\$5,552	\$8,279
<b>Using Market Value of Assets:</b>						
Funded Ratio (AVA/AL)	71%	71%	72%	76%	75%	49%
Unfunded Actuarial Liability (AL-AVA)	\$4,202	\$4,536	\$4,583	\$4,184	\$4,817	\$10,250



*Due to strong investment returns, the funded status of the System generally improved in the last half of the 1990's. Changes in actuarial assumptions and methods, coupled with investment returns below the assumed rate (particularly in 2008) significantly reduced the funded ratio in the latter part of the period.*

Given the current funded status of the System, the amount of the deferred investment loss, the amortization method, the amortization period, and the scheduled increases in employer contribution rates, the unfunded actuarial liability is expected to continue to grow and the funded ratio is expected to decline for many years.

### CONTRIBUTION RATES

The funding objective of the System is to establish contribution rates that over time will remain relatively level, as a percentage of payroll, and to pay off the unfunded actuarial liability by the 2033 valuation.

Generally, the actuarial contribution rates to the various Systems consist of:

- a "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date,
- an "unfunded actuarial liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

There is also a statutory contribution rate that is used to finance the Death and Disability Program. Contributions for the Death and Disability Program are deposited in a separate trust fund, from which benefits are paid. A separate actuarial analysis and report is prepared for the Death and Disability Program on June 30 of each year. Therefore, the death and disability contribution rate is not reflected in this report.

The contribution rates in the December 31, 2008 valuation will set rates for fiscal year end 2012 for the State and 2011 for Local employers.

In KPERS, State, School and Local employers do not necessarily contribute the full actuarial contribution rate. Based on legislation passed in 1993, the employer contribution rates certified by the Board may not increase by more than the statutory cap. The statutory cap, which has been changed periodically, is currently 0.60% for all groups.

A summary of the actuarial and statutory employer contribution rates for the System is shown below:

System	December 31, 2008 Valuation		Difference
	Actuarial	Statutory	
State	11.13%	8.77%	2.36%
School <sup>1</sup>	14.96%	8.77%	6.19%
Local <sup>1</sup>	10.42%	6.74%	3.68%
Police & Fire - Uniform Rates <sup>2</sup>	17.88%	17.88%	0.00%
Judges	26.38%	26.38%	0.00%

<sup>1</sup> By statute, rates are allowed to increase by a maximum of 0.60% plus the cost of any benefit enhancements.

<sup>2</sup> For KP&F, the statutory contribution rate is equal to the "Uniform" rate. The rate shown is for local employers. The rate for State employers is 14.39% which includes a payment of 0.50% for the debt service payment on the bonds issued for the 13<sup>th</sup> check. The uniform rate does not include the payment required to amortize the unfunded past service liability or any 15% excess benefit liability determined separately for each employer. (See Table 13.)

Separate employer contribution rates are calculated for two subgroups of the State. Two Correctional Employee Groups, one with normal retirement age 55 and the other with normal retirement age 60 have higher contribution rates to finance the earlier normal retirement age. The actuarial contribution rates for the Correctional Employee Groups are shown below:

	<u>Actuarial Rate</u>	<u>Statutory Rate</u>
Retirement Age 55:	12.92%	9.24%
Retirement Age 60:	11.86%	9.10%

The change in the actuarial contribution rate from December 31, 2007 to December 31, 2008 and the primary components thereof are shown in the table on page 13.

Due to statutory caps, the full actuarial contribution rate is not contributed for the School and Local groups. Based on the current valuation, there is a difference (shortfall) between the actuarial and statutory contribution rates of 2.36%, 6.19% and 3.68% respectively for the State, School and Local groups. Assuming an 8% return on the market value of assets for 2009 and beyond, all other actuarial assumptions are met in the future, and the current level of statutory caps, the ARC Date (statutory and actuarial contribution rates are equal) for the State group is 2022 and the Local group is 2020. The actuarial and statutory rates for School are not projected to converge before the end of the amortization period.

The rate of return on the actuarial value of assets was less than the actuarial assumption, so the experience generated an actuarial loss that increased the UAL. As the remainder of the deferred investment experience is recognized in the actuarial value of assets in the next four years, the contribution rate for the UAL payment can be expected to increase significantly, absent favorable experience to offset the previously unrecognized losses.

## COMMENTS

The stock market performance in 2008 was the worst year since 1931 and most retirement plans, both public and private, experienced significant asset losses. The investment return on the market value of assets of KPERS for 2008 was about -28.5%. When compared to the expected return of +8%, the assets were around 37% lower than expected. Such a dramatic drop in the asset value results in a significant increase in the actuarial contribution rate. When the fixed nature of the employee contribution rate is factored into the calculation, the impact on the employer contribution rate is even more significant.

Retirement plans use several mechanisms to provide more stability in the contribution levels. These include an asset smoothing method, which smoothes out the peaks and valleys of investment returns by recognizing gains and losses over a period of years (KPERS uses 5 years). As a result, the rate of return on the actuarial value of assets for the 2008 plan year was about -10% as compared to -28.5% on the pure market value. A significant amount of the investment loss has been deferred (about \$2 billion) and will be recognized in future years.

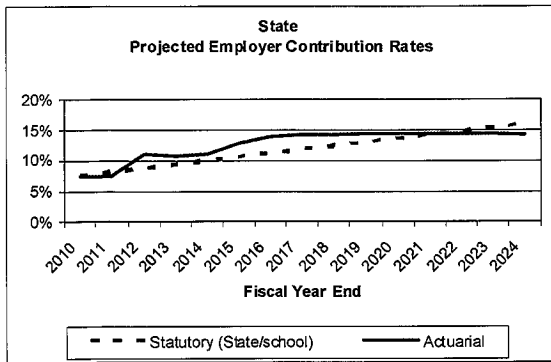
Given the magnitude of the investment loss in 2008, significant increases in the actuarial contribution rate could not be avoided, even with the use of these "stability mechanisms". The normal cost remained relatively stable as a percentage of payroll, but the unfunded actuarial liability increased significantly in the 2008 valuation. The market experience thus far in 2009 has been volatile and year to date returns are below the 8% expected return. Investment losses in 2009, in addition to those from 2008 that are not yet recognized, could significantly reduce the System's funded status and increase the actuarial contribution rate in future valuations. The System should be prepared for significantly higher actuarial contribution rates in the next few years, and perhaps longer depending on future rates of return.

As mentioned above, the System utilizes an asset smoothing method in the valuation process. While this is a common procedure for public retirement systems, it is important to identify the potential impact of the deferred (unrecognized) investment experience. To illustrate the impact of the deferred losses, the key valuation results are shown below for the State/School and KP&F groups using both the actuarial value of assets and the pure market value. The impact would be similar for the other groups.

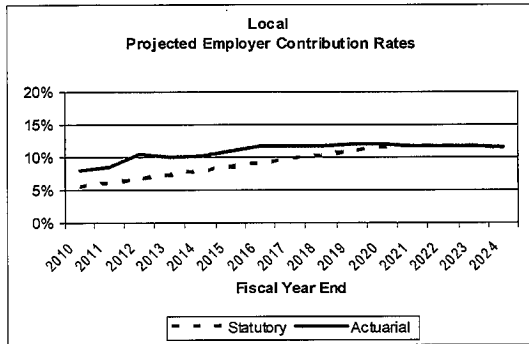
	<u>State/School</u>		<u>KP&amp;F</u>	
	<u>Actuarial</u>	<u>Market</u>	<u>Actuarial</u>	<u>Market</u>
Actuarial Liability	\$14,492	\$14,492	\$2,098	\$2,098
Asset Value	8,252	6,877	1,480	1,233
Unfunded Actuarial Liability	6,240	7,615	618	865
Funded Ratio	57%	47%	71%	59%
Contribution Rate:				
Normal Cost Rate	8.53%	8.53%	14.71%	14.71%
UAL Payment	<u>9.56%</u>	<u>11.62%</u>	<u>9.70%</u>	<u>12.68%</u>
Total	18.09%	20.15%	24.41%	27.39%
Employee Rate	<u>4.00%</u>	<u>4.00%</u>	<u>6.53%</u>	<u>6.53%</u>
Employer Rate	14.09%	16.15%	17.88%	20.86%

The asset smoothing method impacts only the timing of when the actual market experience on the assets will be recognized. Due to the negative return in 2008, the actuarial value of assets after applying the corridor exceeds the pure market value by 20%. If there are not significantly higher returns consistently over the next few years, the \$2 billion of deferred investment experience will be recognized and the ultimate impact on the employer contribution rate can be expected to be similar to the column shown above based on the market value of assets. Also, see the graphs on the following page that show projected contribution rates assuming an 8% rate of return in all future years.

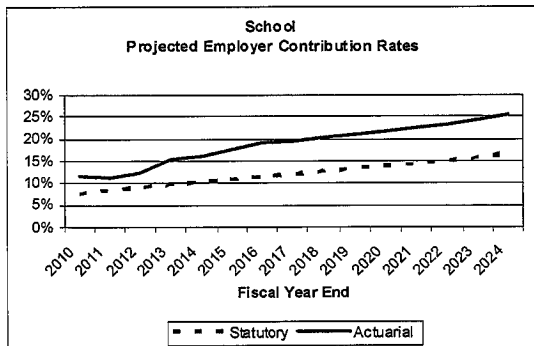
The length and final depth of the market decline is unknown. Historically, markets have recovered and, if this happens, it should help offset some of the current deferred loss. The use of an asset smoothing method defers some of the investment experience from 2008 to later years. Consequently, absent a significant and sustained recovery in the market, part of the unrecognized loss from 2008 will be reflected in the December 31, 2009 and subsequent years' valuations. Actual investment returns over the next few years will determine exactly how the System's funding will be affected and the magnitude of the increase in the unfunded actuarial liability and the actuarial contribution rate. The negative return in 2008 had a substantial impact on the System's long-term funding outlook. While the System has sufficient assets to pay benefits for many years into the future, the long-term actuarial soundness of the System will be impacted if returns do not bounce back, contributions increase, or a combination of both. As a result of the current funded status, the System will face significant funding challenges if investment returns are below the 8% expected return. Further study on the long-term financial health of the System is planned for later this year.



Although the State will be contributing the ARC rate in 2010 through 2012, the actuarial rate is expected to exceed the statutory rate from 2013 until 2022.



The ARC date is projected to occur in approximately 2020, assuming all actuarial assumptions are met in future years. Actual experience in future years will impact the ARC date.

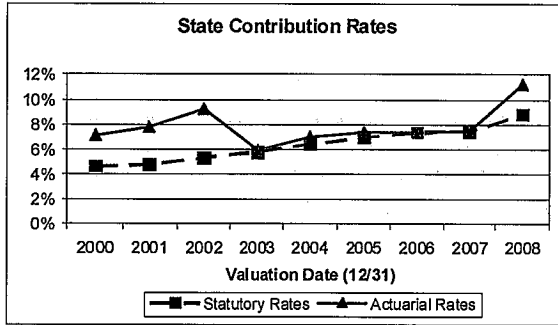


The statutory rate and actuarial contribution rates are not projected to converge before the end of the amortization period. Future experience, especially investment returns, will influence the movement in the ARC Date.

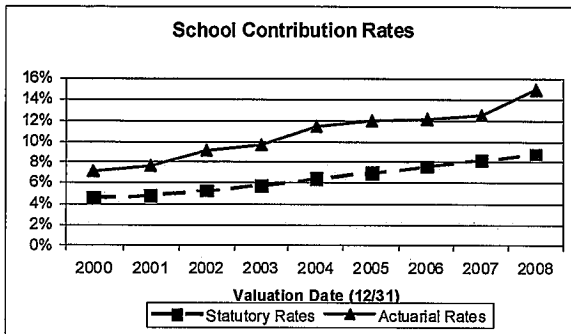
Historical contribution rates for each group are shown on the following pages. Please note that prior to the December 31, 2003 valuation, one contribution rate was developed for the State and School together as one group. Legislation passed in 2004 split the contribution rate calculations into two separate groups, although the statutory contributions are still determined on a combined basis. Significant changes in funding methods as well as a Pension Obligation Bond issue occurred in 2003 and actuarial assumptions were changed in both the 2004 and 2007 valuations. These changes impact the comparability of contribution rates between various valuation dates.

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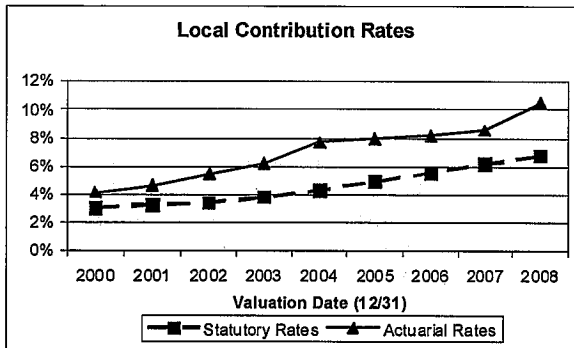




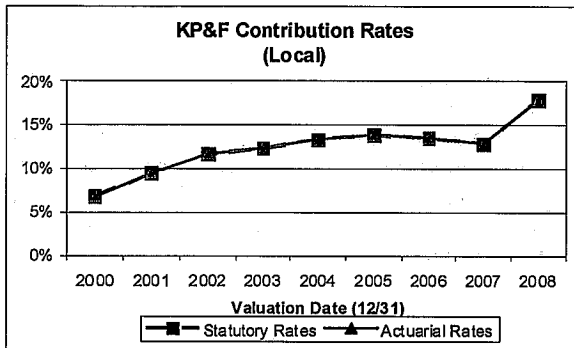
The split of the State group into a separate group with the 2003 valuation, coupled with the bond issue, lowered the actuarial contribution rate. The State's statutory contribution rate in this valuation is less than the actuarial contribution rate due to the impact of the 2008 investment experience.



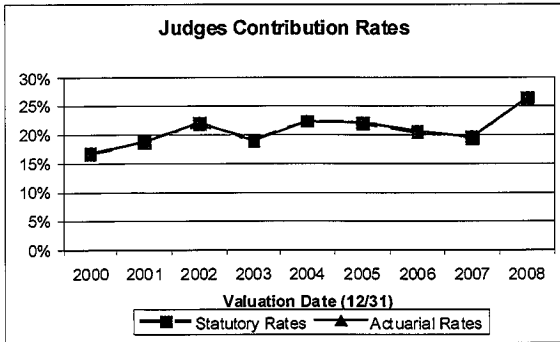
Due to investment experience, changes in actuarial methods and assumptions, and the magnitude of the difference between the actuarial and statutory contribution rates, the funded status of the School group has declined and the actuarial contribution rate has increased.



The Local contribution rate has also been impacted by changes in actuarial assumptions and methods as well as investment performance. As a result, a significant difference still exists between the statutory and actuarial contribution rate. Legislation passed in 2004 provided for increased statutory caps, under which the statutory and actuarial rates are expected to converge if all actuarial assumptions are met in future years.



Investment experience, coupled with a change in actuarial methodology, dramatically increased the contribution rates in the first half of the period. Investment experience in 2008 resulted in a significant increase in the contribution rate in this valuation.



*Significant changes in the actuarial assumptions in the 2004 valuation and investment experience in 2008, resulted in higher contribution rates.*

Over the past few years, the development of a comprehensive plan to address the long-term funding of KPERs has been a high priority. HB2014, which was passed by the 2003 Legislature, increased the statutory cap on the State/School employer contribution rate from 0.20% to 0.40% in FY2006, 0.50% in FY2007 and 0.60% in FY 2008 and beyond. It also authorized the issuance of up to \$500 million in pension obligation bonds (POBs). The POBs were sold and proceeds of \$440.2 million were received on March 10, 2004. The debt service payments on the bonds are paid by the State in addition to the regular KPERs employer contribution rate.

The 2004 Legislature passed SB520, which continued to address issues related to the long term funding of the System. It gave the KPERs Board of Trustees the authority to establish the actuarial cost method and amortization method/period. With this authority, the Board changed both the actuarial cost method and the asset valuation method with the December 31, 2003 actuarial valuation. SB520 also increased the statutory cap for Local employers from 0.15% to 0.40% in FY2006, 0.50% in FY2007 and 0.60% in FY2008 and beyond.

The 2007 Legislature passed SB362 which created a new benefit structure for members first employed on or after July 1, 2009. The change was made partially due to long term funding considerations, but also in response to demographic changes in the membership.

Based on the December 31, 2008 actuarial valuation results and the current statutory caps, the statutory contribution rates for the State and Local groups are projected to converge with the actuarial required contribution (ARC) rate before the end of the amortization period. As a result, those groups are in long-term actuarial balance. However, these projections assume that all actuarial assumptions are met exactly in each future year. To the extent that actual experience deviates from that expected, the ARC Date (date at which the statutory and actuarial rates are expected to converge), as well as the ARC rate, will vary. For the School group, the unfavorable experience in 2008 has created the situation where the statutory contribution rate is not projected to reach the actuarial required contribution (ARC) rate before the end of the amortization period. Future investment experience will be critical to the financial health of all groups, but particularly the School group. Additional analysis with respect to long-term funding is expected to be performed later this year.

**SUMMARY OF CHANGE IN UNFUNDED ACTUARIAL LIABILITY**

**DECEMBER 31, 2008 VALUATION**  
 (\$millions)

	State	School	Local	KP&F	Judges	Total
<b>UAL in 12/31/2007 Valuation Report</b>	\$450.6	\$3,861.6	\$940.5	\$284.3	\$14.8	\$5,551.8 <sup>1</sup>
• Effect of contribution cap/timing	7.5	190.7	50.8	(3.3)	0.1	245.8
• Expected increase due to method	4.7	51.6	12.1	3.2	(0.2)	71.4
• Actual vs. expected experience						
• Investment return	549.8	1,072.4	372.7	315.1	22.3	2,332.3
• Demographic experience	(7.2)	76.9	13.9	26.1	0.5	110.2
• All other experience	(3.7)	(14.6)	(5.4)	(6.7)	(2.0)	(32.4)
• Change in assumptions	0.0	0.0	0.0	0.0	0.0	0.0
• Change in benefit provisions	0.0	0.0	0.0	0.0	0.0	0.0
<b>UAL in 12/31/2008 Valuation Report</b>	\$1,001.7	\$5,238.5	\$1,384.7	\$618.7	\$35.5	\$8,279.2

<sup>1</sup>May not add due to rounding.

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**SUMMARY OF  
CHANGES IN ACTUARIAL CONTRIBUTION RATE  
BY SYSTEM  
AS OF DECEMBER 31, 2008**

Percentage of Payroll	State	School	Local	KP&F <sup>1</sup>	Judges
<b>Actuarial Contribution Rate in 12/31/2007 Valuation</b>	7.39%	12.48%	8.52%	12.86%	19.49%
<b>Change Due to Amortization of UAL</b>					
• effect of contribution cap/time lag	0.05	0.37	0.23	(0.05)	0.03
• amortization method	0.00	0.00	0.00	0.00	(0.20)
• investment experience	3.65	2.07	1.66	4.77	7.32
• liability experience	(0.05)	0.15	0.06	0.40	0.16
• all other experience	0.05	(0.14)	(0.06)	(0.11)	(0.56)
• change in assumptions	0.00	0.00	0.00	0.00	0.00
• change in benefit provisions	0.00	0.00	0.00	0.00	0.00
<b>Change in Normal Cost Rate</b>					
• change in benefit provisions	0.00	0.00	0.00	0.00	0.00
• change in assumptions	0.00	0.00	0.00	0.00	0.00
• all other experience	0.04	0.03	0.01	0.01	0.14 <sup>2</sup>
<b>Actuarial Contribution Rate in 12/31/2008 Valuation</b>	11.13%	14.96%	10.42%	17.88%	26.38%

<sup>1</sup>Contribution rate for Local employers only.

<sup>2</sup>A new benefit structure was established for the Judges' System in July, 1987. The normal cost rate is impacted by the change in membership as members hired before July 1, 1987 leave active employment and are replaced with new entrants, with benefits under the current benefit structure.

**SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL**  
**as of**  
**DECEMBER 31, 2008 VALUATION**

3-40

% (millions)	As Reported on Valuation Date									
	6/30/94	6/30/95	6/30/96	6/30/97	6/30/98	6/30/99	6/30/00	12/31/00	12/31/01	12/31/02
<b>Actual Experience vs. Assumed</b>										
• Investment	\$(102)	\$(143)	\$(280)	\$(323)	\$(413)	\$(360)	\$(441)	\$(23)	\$350	\$644
• Other	320	72	136	157	104	46	99	84	(9)	68
<b>Assumption Changes</b>	0	(96)	0	0	350	0	0	(206)	0	0
<b>Changes in Data/Procedures</b>	244	0	0	0	0	21	71	145**	5	177**
<b>Change in Cost Method</b>	0	0	0	0	0	0	0	0	0	0
<b>Effect of Contribution Cap/Lag</b>	*	95	70	63	54	78	66	60	115	143
<b>Amortization Method</b>	*	47	38	35	32	30	22	12	14	21
<b>Change in Benefit Provisions</b>	75	0	0	0	88	0	19	0	0	37
<b>Bond Issue</b>	0	0	0	0	0	0	0	0	0	(41)
<b>Total</b>	\$537	\$(25)	\$(36)	\$(68)	\$215	\$(194)	\$(164)	\$72	\$475	\$1,048

\*Not calculated for this year.

Unfunded actuarial liability 6/30/93: \$ 968 million

Unfunded actuarial liability 12/31/08: \$ 8,279 million

**SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL**  
**as of**  
**DECEMBER 31, 2008 VALUATION (continued)**

14-41  
3-41

\$(millions)	As Reported on Valuation Date						Total
	12/31/03	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08	
<b>Actual Experience vs. Assumed</b>							
• Investment	\$140	\$456	\$167	\$(293)	\$(626)	\$2,332	\$1,085
• Other	(32)	16	(84)	139	99	78	1,293
<b>Assumption Changes</b>	0	437	(5)	0	384	0	864
<b>Changes in Data/Procedures</b>	(286) <sup>***</sup>	0	0	0	0	0	377
<b>Change in Cost Method</b>	1,147	0	0	0	0	0	1,147
<b>Effect of Contribution Cap/Lag</b>	178	179	247	258	251	246	2,103
<b>Amortization Method</b>	47	68	84	83	78	71	682
<b>Change in Benefit Provisions</b>	3	1	0	24	2	0	249
<b>Bond Issue</b>	(440)	0	0	0	0	0	(481)
<b>Total</b>	<b>\$757</b>	<b>\$1,157</b>	<b>\$409</b>	<b>\$211</b>	<b>\$188</b>	<b>\$2,727</b>	<b>\$8,279</b>

\*\* Reflects the impact of re-establishing the KP&F Supplemental Actuarial Liability at December 31, 2002. The additional unfunded actuarial liability as of December 31, 2000 for the State/School and Local groups not recognized in the prior valuation due to the phase-in of the change in actuarial procedures is included.

\*\*\* Change in asset valuation method.

Unfunded actuarial liability 6/30/93: \$ 968 million  
 Unfunded actuarial liability 12/31/08: \$ 8,279 million

## SUMMARY OF PRINCIPAL RESULTS

### KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM (STATE)

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	24,374	24,024	1.5 %
Retired Members and Beneficiaries	15,621	14,994	4.2
Inactive Members	5,712	6,025	(5.2)
Total Members	45,707	45,043	1.5
Projected Annual Salaries of Active Members	\$ 972,080,168	\$ 954,472,949	1.8
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 178,648,359	\$ 167,939,366	6.4
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 3,554,600,691	\$ 3,422,120,738	3.9
b. Assets for Valuation Purposes	2,552,895,270	2,971,538,701	(14.1)
c. Market Value of Assets	2,127,412,725	3,094,367,129	(31.2)
d. Unfunded Actuarial Liability (a) - (b)	1,001,705,421	450,582,037	122.3
e. Funded Ratio (a) / (b)	71.8%	86.8%	(17.3)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost	4.17%	4.13%	
Amortization of Unfunded Actuarial and Debt Service	<u>6.96%</u>	<u>3.26%</u>	
Actuarial Contribution Rate	11.13%	7.39%	
Statutory Employer Contribution Rate*	<u>8.77%</u>	<u>8.17%</u>	

\* Statutory Employer Contribution Rate may not exceed last year's rate by more than rate increase limit of 0.60%. This rate does not include the contribution rate for the Death and Disability Program. Any excess of the statutory over actuarial contribution rates times actual State payroll is deposited to the School assets.

## SUMMARY OF PRINCIPAL RESULTS

### KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM (SCHOOL)

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	87,948	86,468	1.7 %
Retired Members and Beneficiaries	37,346	35,412	5.5
Inactive Members	24,212	23,653	2.4
Total Members	149,506	145,533	2.7
Projected Annual Salaries of Active Members	\$ 3,345,545,288	\$ 3,172,108,563	5.5
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 477,612,789	\$ 444,027,093	7.6
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 10,937,800,107	\$ 10,316,004,061	6.0
b. Assets for Valuation Purposes	5,699,278,482	6,454,380,538	(11.7)
c. Market Value of Assets	4,749,398,735	6,863,242,512	(30.8)
d. Unfunded Actuarial Liability (a) - (b)	5,238,521,625	3,861,623,523	35.7
e. Funded Ratio (a) / (b)	52.1%	62.6%	(16.7)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost	4.64%	4.61%	
Amortization of Unfunded Actuarial and Debt Service	<u>10.32%</u>	<u>7.87%</u>	
Actuarial Contribution Rate	14.96%	12.48%	
Statutory Employer Contribution Rate*	<u>8.77%</u>	<u>8.17%</u>	
* Statutory Employer Contribution Rate may not exceed last year's rate by more than rate increase limit of 0.60%. This rate does not include the contribution rate for the Death and Disability Program.			



## SUMMARY OF PRINCIPAL RESULTS

### KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM (STATE/SCHOOL)

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	112,322	110,492	1.7 %
Retired Members and Beneficiaries	52,967	50,406	5.1
Inactive Members	29,924	29,678	0.8
Total Members	195,213	190,576	2.4
Projected Annual Salaries of Active Members	\$ 4,317,625,457	\$ 4,126,581,512	4.6
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 656,261,148	\$ 611,966,459	7.2
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 14,492,400,798	\$ 13,738,124,799	5.5
b. Assets for Valuation Purposes	8,252,173,752	9,425,919,239	(12.5)
c. Market Value of Assets	6,876,811,460	\$ 9,957,609,641	(30.9)
d. Unfunded Actuarial Liability (a) - (b)	6,240,227,046	4,312,205,560	44.7
e. Funded Ratio (a) / (b)	56.9%	68.6%	(17.0)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost	4.53%	4.50%	
Amortization of Unfunded Actuarial and Debt Service	<u>9.56%</u>	<u>6.80%</u>	
Actuarial Contribution Rate	14.09%	11.30%	
Statutory Employer Contribution Rate*	<u>8.77%</u>	<u>8.17%</u>	

\* Statutory Employer Contribution Rate may not exceed last year's rate by more than rate increase limit of 0.60%. This rate does not include the contribution rate for the Death and Disability Program.

## SUMMARY OF PRINCIPAL RESULTS

### KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM (LOCAL)

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	36,247	35,914	0.9 %
Retired Members and Beneficiaries	13,501	12,761	5.8
Inactive Members	10,466	10,373	0.9
Total Members	60,214	59,048	2.0
Projected Annual Salaries of Active Members	\$ 1,454,109,452	\$ 1,387,401,497	4.8
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 118,235,853	\$ 108,829,381	8.6
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 3,376,131,873	\$ 3,147,020,449	7.3
b. Assets for Valuation Purposes	1,991,428,225	2,206,473,161	(9.7)
c. Market Value of Assets	1,659,523,521	2,339,695,800	(29.1)
d. Unfunded Actuarial Liability (a) - (b)	1,384,703,648	940,547,288	47.2
e. Funded Ratio (a) / (b)	59.0%	70.1%	(15.9)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost	4.15%	4.14%	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>6.27%</u>	<u>4.38%</u>	
Actuarial Contribution Rate	10.42%	8.52%	
Statutory Employer Contribution Rate*	<u>6.74%</u>	<u>6.14%</u>	

\* Statutory Employer Contribution Rate exceeds last year's rate by the statutory rate increase limit of 0.60%. This rate does not include the contribution rate for the Death and Disability Program.

## SUMMARY OF PRINCIPAL RESULTS

### KANSAS POLICE AND FIREMEN'S RETIREMENT SYSTEM

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	7,242	7,137	1.5 %
Retired Members and Beneficiaries	3,909	3,755	4.1
Inactive Members	1,348	1,318	2.3
Total Members	12,499	12,210	2.4
Projected Annual Salaries of Active Members	\$ 426,955,831	\$ 408,162,049	4.6
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 98,058,811	\$ 92,223,463	6.3
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 2,098,292,549	\$ 1,968,168,480	6.6
b. Assets for Valuation Purposes	1,479,595,175	1,683,915,313	(12.1)
c. Market Value of Assets	1,232,995,979	1,749,740,089	(29.5)
d. Unfunded Actuarial Liability (a) - (b)	618,697,374	284,253,167	117.7
e. Funded Ratio (a) / (b)	70.5%	85.6%	(17.6)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost	8.18%	8.17%	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>9.70%</u>	<u>4.69%</u>	
Actuarial Contribution Rate (Local Employers)	17.88%	12.86%	
Statutory Employer Contribution Rate*	<u>17.88%</u>	<u>12.86%</u>	

\* The Statutory Employer Contribution Rate is equal to the Actuarial Rate. This is referred to as the "Uniform" rate, and varies for State and Local employers. The total contribution is equal to the appropriate uniform rate plus the payment required to amortize any unfunded past service liability or 15% excess benefit liability, determined separately for each employer.

## SUMMARY OF PRINCIPAL RESULTS

### KANSAS RETIREMENT SYSTEM FOR JUDGES

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	262	261	0.4 %
Retired Members and Beneficiaries	190	180	5.6
Inactive Members	11	14	(21.4)
Total Members	463	455	1.8
Projected Annual Salaries of Active Members	\$ 27,835,460	\$ 27,083,186	2.8
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 6,682,870	\$ 6,092,952	9.7
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 139,961,680	\$ 131,601,196	6.4
b. Assets for Valuation Purposes	104,421,422	116,807,301	(10.6)
c. Market Value of Assets	87,017,852	120,840,352	(28.0)
d. Unfunded Actuarial Liability (a) - (b)	35,540,258	14,793,895	140.2
e. Funded Ratio (a) / (b)	74.6%	88.8%	(15.9)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost	14.63%	14.49%	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>11.75%</u>	<u>5.00%</u>	
Actuarial Contribution Rate	26.38%	19.49%	
Statutory Employer Contribution Rate*	<u>26.38%</u>	<u>19.49%</u>	

\* Statutory Employer Contribution Rate is equal to the Actuarial Rate.  
This rate excludes the contribution for the Death and Disability Program.

## SUMMARY OF PRINCIPAL RESULTS

### ALL SYSTEMS COMBINED

	12/31/2008 Valuation	12/31/2007 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	156,073	153,804	1.5 %
Retired Members and Beneficiaries	70,567	67,102	5.2
Inactive Members	41,749	41,383	0.9
Total Members	268,389	262,289	2.3
Projected Annual Salaries of Active Members	\$ 6,226,526,200	\$ 5,949,228,244	4.7
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 879,238,682	\$ 819,112,255	7.3
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 20,106,786,900	\$ 18,984,914,924	5.9
b. Assets for Valuation Purposes	11,827,618,574	13,433,115,014	(12.0)
c. Market Value of Assets	9,856,348,812	14,167,885,882	(30.4)
d. Unfunded Actuarial Liability (a) - (b)	8,279,168,326	5,551,799,910	49.1
e. Funded Ratio (a) / (b)	58.8%	70.8%	(16.9)

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# Kansas Public Employees Retirement System

## **KPERS Long-Term Funding**

*Joint Committee on Pensions, Investments and Benefits*

▪ *September 2, 2009*

Attachment 4  
JCPB 9-2-09

# Defined Benefit Basics

Kansas Legislature enacts KPERS' retirement plan design in State statutes, providing for:

- membership eligibility
- employee and employer contributions
- service credit
- vesting
- benefit formula
- retirement eligibility

## Defined Benefit Formula

- Final Average Salary X Years of Service X Statutory Multiplier = Annual Benefit  
*Example: \$40,000 x 30 years x 1.75% = \$21,000*

## Retirement Funding

- Contributions + Investments - Expenses = Benefits  

Employees = Statutory rate of 4% (Tier I) or 6% (Tier II)  
Employers = Changes annually based on actuarial calculations  
Assumed actuarial rate = 8%

# FY 2009 Retirement Funding

4-3

Contributions* (in millions)		Investments (in millions)		Expenses (in millions)		Benefits (in millions)	
Employer	\$449.24	Net Change in Fair Value	\$(2,828.01)	Investment	\$(23.38)	Pension Benefit	\$(999.94)
Employee	\$271.60	Dividends & Interest	\$283.02	Administrative	\$(11.54)	Death Benefits	\$(9.24)
						Leave System Withdrawals	\$(43.93)
<b>Total</b>	<b>\$720.84</b>	<b>Total</b>	<b>(2,544.99)</b>	<b>Total</b>	<b>\$(34.92)</b>	<b>Total</b>	<b>\$(1,053.11)</b>

\*Retirement benefit contributions only; excludes employer contributions for death and disability Benefits.



# Retirement Funding Background

4-4

- In 2001 and 2002, actuarial projections indicated the KPERS retirement plan was not in actuarial balance.
- Following the 2001 actuarial valuation results, KPERS worked with the Legislature to develop a comprehensive, long-term funding plan to address the shortfall and bring the Plan into actuarial balance.
  - 2003 legislation raised statutory caps on employer contribution rate increases from 0.2% annually to 0.4% in FY 2006; 0.5% in FY 2007; and 0.6% in FY 2008 and subsequent years.
  - State issued \$500 million in pension obligation bonds in 2004.
  - 2007 legislation established a new plan design for employees hired on or after July 1, 2009, which increased retirement eligibility ages and employee contributions.
- These actions, along with strong investment returns in the 2004-2007 period, significantly improved the projected funding status of the system.

# Key 2008 Valuation Results

4-5

The unprecedented investment market declines in 2008 have had a substantial negative impact on the funding status of the System, reversing forward progress on long-term funding.

- The 12/31/08 actuarial valuation report shows:
  - A 12% decline in the System's funded ratio to 59%.
  - A \$2.7 billion increase in the unfunded actuarial liability (UAL) to \$8.3 billion.
- The actuarial value of assets is now significantly greater than their market value.
  - There are about \$2 billion in deferred losses to be averaged in over the next four years.
  - Actual investment returns will determine how much of the deferred losses are offset in subsequent valuations.
  - On a current market value basis, the funded ratio is 49% and the UAL is \$10.3 billion.
- The School Group is out of actuarial balance. The actuarially required contribution (ARC) rates for State and local groups are projected to nearly double their current contribution rates.
- Given the current funding structure, the System does not have enough assets to provide all the benefits already earned by members and to pay off the UAL in the adopted amortization period ending in 2033.

# Impact on Funded Status by Group

4-6

Even assuming an 8% investment return over the next five years:

- The funded ratio of each group will continue to fall.
- Each group's UAL and ARC rate will rise significantly.

	12/31/2007 Valuation		12/31/2008 Valuation	
	Unfunded Actuarial Liability (millions)	Funded Ratio	Unfunded Actuarial Liability (millions)	Funded Ratio
Kansas Public Employees Retirement System (KPERS)				
• <i>State Group</i>	\$451	87%	\$1,002	72%
• <i>School Group</i>	3,862	63%	5,239	52%
• <i>Local Group</i>	941	70%	1,385	59%
Kansas Police and Firemen's Retirement System (KP&F)	284	86%	619	71%
Kansas Retirement System for Judges	15	89%	36	75%
<b>Retirement System Totals</b>	<b>\$5,552</b>	<b>71%</b>	<b>\$8,279</b>	<b>59%</b>

# Employer Contribution Rates

4-7

- The ARC rate increased for all groups, and the year in which the ARC rate is reached (ARC date) increased for KPERS groups.
- Some groups have not reached their ARC rate, and the maximum employer rate increase for KPERS remains capped by statute at 0.6% per year.

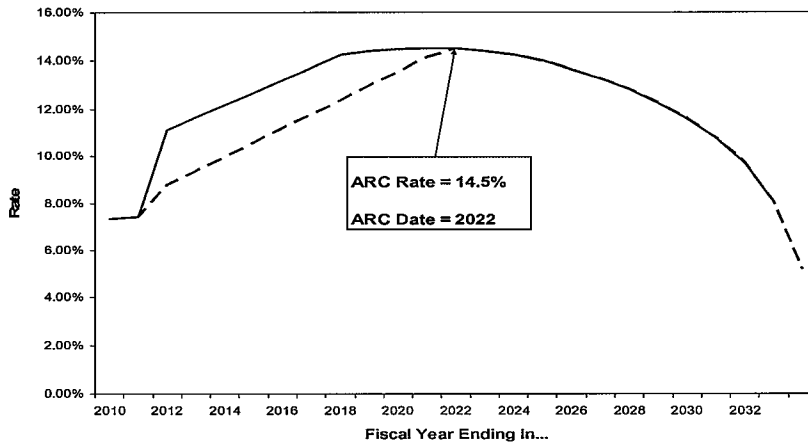
<u>System</u>	<b>Actuarial</b>		<b>Statutory</b>
	<u>12/31/07</u>	<u>12/31/08</u>	<u>12/31/08</u>
State	7.39%	11.13%	8.77%
School	12.48%	14.96%	8.77%
Local	8.52%	10.42%	6.74%
KP&F	12.86%	17.88%	17.88%
Judges	19.49%	26.38%	26.38%

Note: The rates shown above will be effective for FY 2012 (State and School Groups, State KP&F, and Judges) and CY 2011 (Local Group and Local KP&F). The chart assumes the current 0.6% cap on KPERS employer rate increases remains in place.

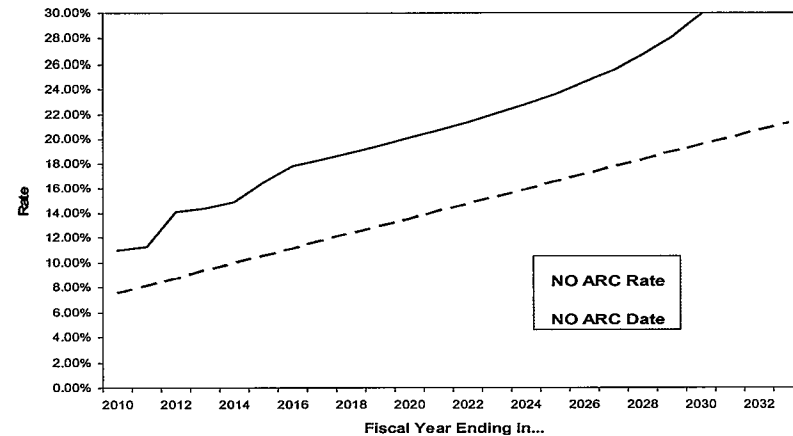
# ARC Projections: Current Rate Increase Cap

4-8

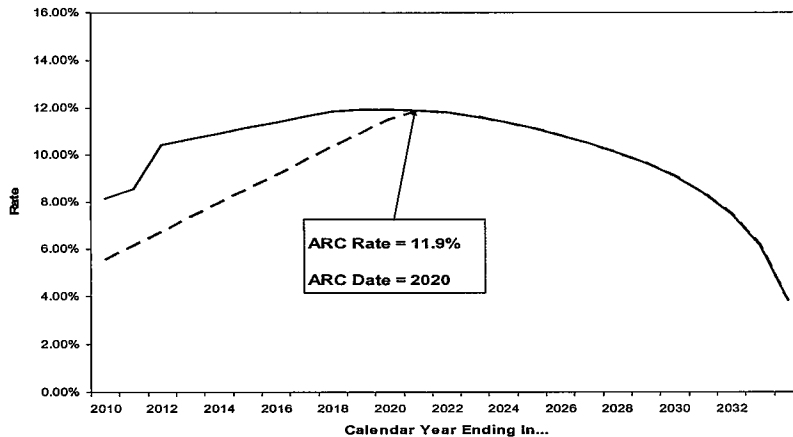
**State Group with Current Cap**



**School Group with Current Cap**



**Local Group with Current Cap**



**Projections based on:**

- **Level 8% annual return**
- **No cap increase**

	FY 2010 Rate	ARC Rate	ARC Date
<b>State</b>	7.57%*	14.50%	2022
<b>School</b>	7.57%*	N/A	N/A
<b>Local</b>	5.54%	11.90%	2020

— Actuarial Employer Rates    - - - Statutory Employer Rates Based on Preliminary Estimates. \* State/School Combined Rate

# KP&F and Judges Employer Contribution Rates

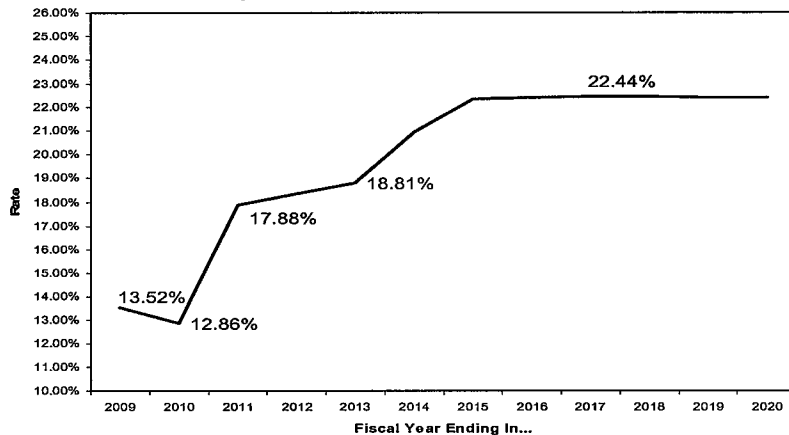
4-9

- There is no statutory cap on increases to KP&F or Judges employer contribution rates. Therefore, the contribution rate is adjusted each year to the ARC rate.
- The effect of market fluctuations is smoothed by spreading market value gains/losses evenly over five years.
- Due to recent investment losses, the ARC rate for employer contributions is expected to significantly increase over a five-year period while the remaining investment losses are averaged in.
- The 2008 losses will be reflected in employer contribution rates beginning in CY 2011 for local KP&F employers and FY 2012 for the Judges System.
  - The KP&F employer contribution rate will increase by 5.02% to 17.88%.
  - The Judges employer contribution rate will increase by 6.89% to 26.38%.
  - Additional increases are projected based on an 8% annual return in future years.

4-10

# Projected KP&F and Judges Rates

**KP&F Group**



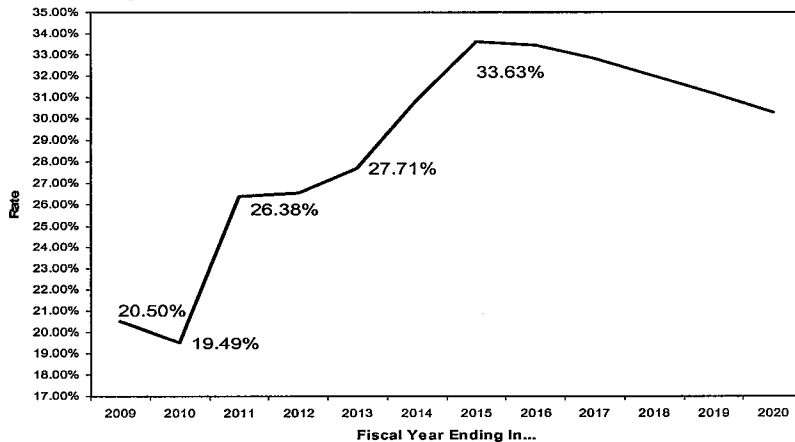
**Projections based on:**

- **Level 8% annual return**

<b>CY 2009</b>	13.52%
<b>CY 2010*</b>	12.86%
<b>CY 2011</b>	17.88%

\*The rate decreases in CY 2010 due to favorable investment experience in 2004-2007.

**Judges Group**



**Projections based on:**

- **Level 8% annual return**

<b>FY 2010</b>	20.50%
<b>FY 2011*</b>	19.49%
<b>FY 2012</b>	26.38%

\*The rate decreases in FY 2011 due to favorable investment experience in 2004-2007.

— Actuarial Employer Rates

Based on Preliminary Estimates.

# KPERS Future Funding Status

4-11

The investment losses stemming from the extraordinary market declines in 2008 have adversely affected KPERS' future funded status and impaired its ability to weather additional market volatility.

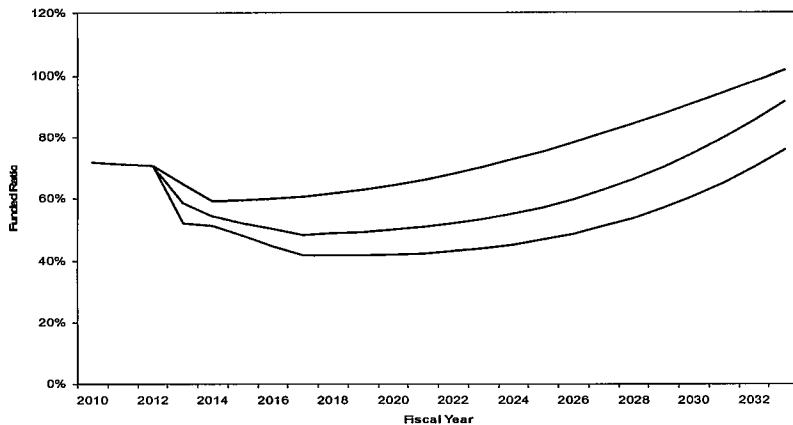
- Even with a consistent 8% return during the remainder of the amortization period, KPERS' funded status will drop to new, prolonged lows.
- These funding levels will leave KPERS highly vulnerable to further market volatility.
  - Charts on the following page show the adverse impact of one more year of investment losses, even with an 8% return in all other years.
    - Scenario 1: -10% return in 2011.
    - Scenario 2: -20% return in 2011.
- With KPERS' funding levels at such low levels for extended periods of time:
  - KPERS' long-term solvency is in jeopardy.
  - Investment returns alone cannot fix KPERS' funding shortfall or return KPERS to a more stable funding status.
- For these reasons, a thorough analysis of KPERS' long-term funding is essential.



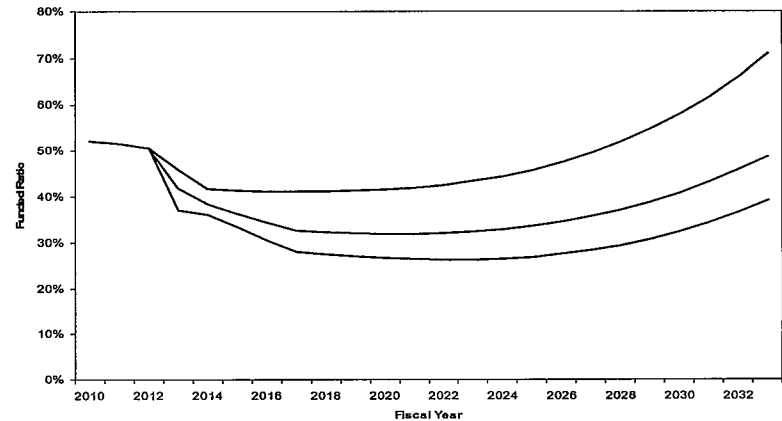
4-12

# Impact of Future Investment Volatility

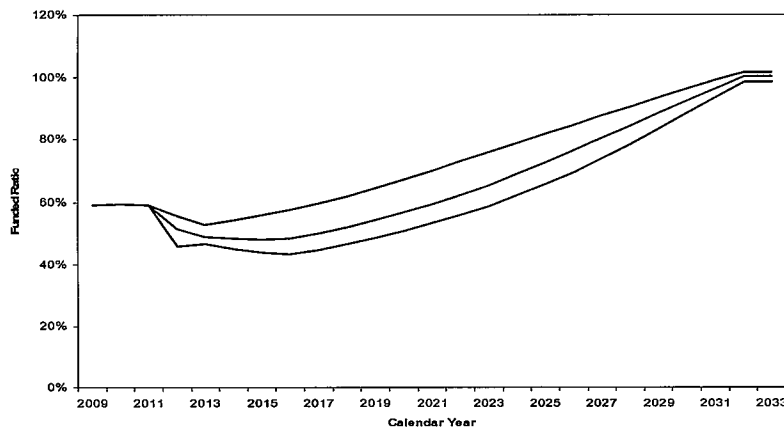
### Projected State Funded Ratios



### Projected School Funded Ratios



### Projected Local Funded Ratios



- **Projections based on 12/31/08 valuation**
- **No cap increase**

**Baseline:** Assumes 8% return in all years

**Scenario 1:** Assumes -10% return in 2011 and 8% in all other years

**Scenario 2:** Assumes -20% return in 2011 and 8% in all other years

— Baseline

— Scenario 1

— Scenario 2

4-13

# A Comprehensive Funding Solution

Over the next few months, KPERS will complete a new, comprehensive funding analysis on how to restore the System to financial health.

Since contributions and investment returns minus expenses must equal benefits, all of these elements will be considered.

The comprehensive funding analysis will include the following steps.

- Identify factors for evaluating a balanced funding solution. Such considerations may include whether the funding solution:
  - Is consistent with legal limitations and actuarial standards.
  - Provides a cooperative, comprehensive solution that is sustainable.
  - Establishes shared responsibility among stakeholders for the funding solution.
  - Provides more stability in employer rates.
  - Supports retirement benefit adequacy.
- Work with actuary to understand and project critical turning points in the System's funding status.
  - Model the System's short to mid-term cash flow and solvency.
  - Model the System's longer-term sustainability.

# A Comprehensive Funding Solution (Continued)

4-14

- Analyze legal limitations associated with plan changes affecting employee contribution rates and benefits.
- Use model to project the effect of funding solution options. Options may include:
  - Employer rate increases.
  - Future benefit changes and contribution increases for employees.
    - Member contribution rates
    - Retirement eligibility criteria
    - Participating service multiplier
  - Actuarial changes, including the smoothing corridor, smoothing period, and amortization period. Options will be considered for mitigating steep increases in KP&F and Judges employer contribution rates due to application of the smoothing corridor in the 12/31/08 valuation.
- As an initial step in analyzing funding solution options, KPERS has begun preliminary modeling of employer rate increases.

# Future Employer Contribution Rate Changes

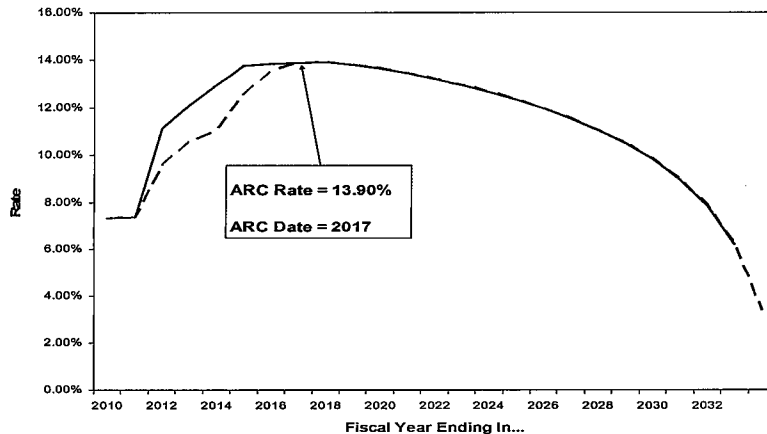
- Options for increasing KPERS' statutory employer contribution cap in future years need to be considered as one step to bring the System back into actuarial balance over the long term.
- The Joint Committee on Pensions, Investments and Benefits considered long-term funding issues during the 2008 Interim. The Committee recommended that the Legislature raise the cap on employer contribution rate increases from 0.6% annually to at least 1.0% annually, effective no later than FY 2012.
- 2009 HB 2400, which was passed by House Select Committee on KPERS, would raise the maximum increase in employer contributions for the State and School groups to 1.0% per year, effective FY 2011.
- The following pages show the impact of a 1.0% cap and a 2.0% cap on:
  - State, School and Local ARC rates and dates.
  - State and School contribution amounts.

4-15

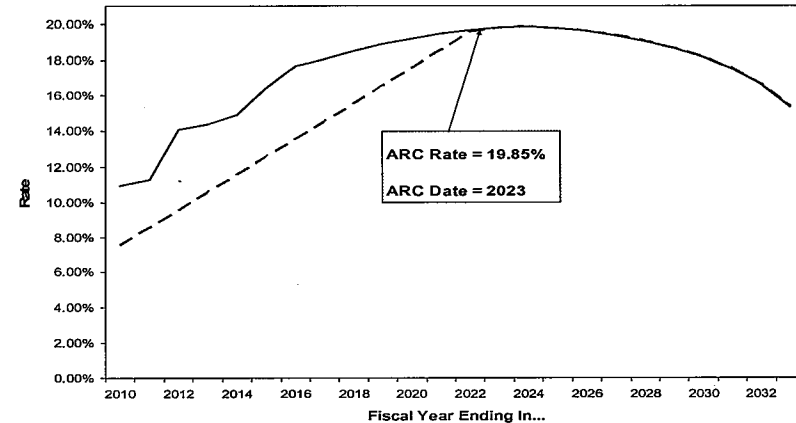
4-16

# ARC Projections: 1% Rate Increase Cap

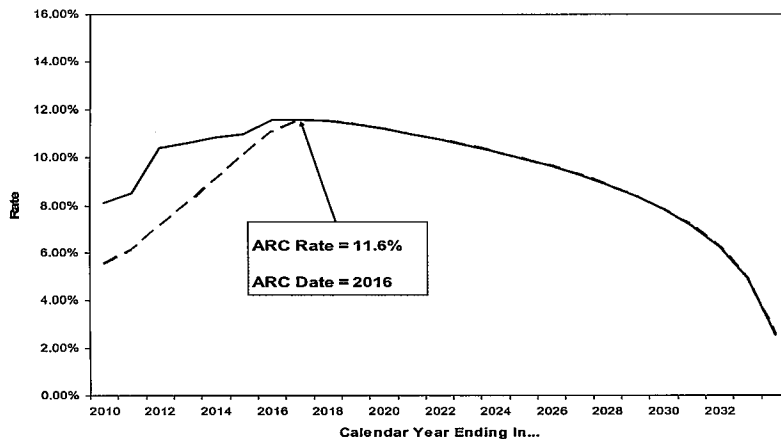
**State Group 1% Increase Cap, Effective FY 2011**



**School Group 1% Increase Cap, Effective FY 2011**



**Local Group with 1% Increase Cap, Effective CY 2011**



**Projections based on:**

- Level 8% annual return
- 1% cap increase

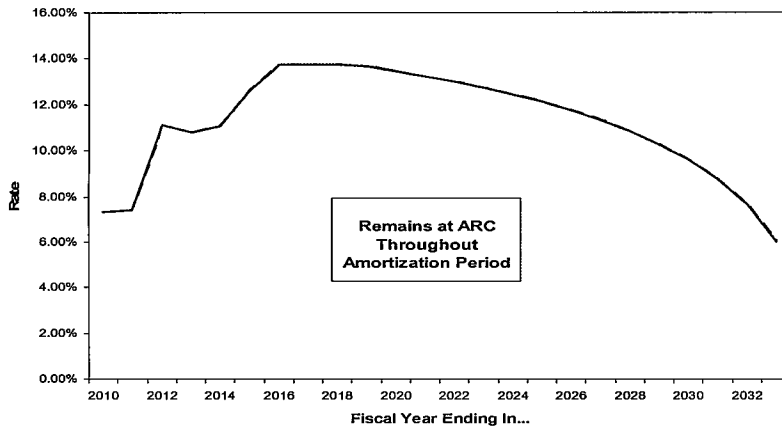
	FY 2010 Rate	ARC Rate	ARC Date
<b>State</b>	7.57%*	13.90%	2017
<b>School</b>	7.57%*	19.85%	2023
<b>Local</b>	5.54%	11.60%	2016

— Actuarial Employer Rates    - - - Statutory Employer Rates    Based on Preliminary Estimates. \* State/School Combined Rate

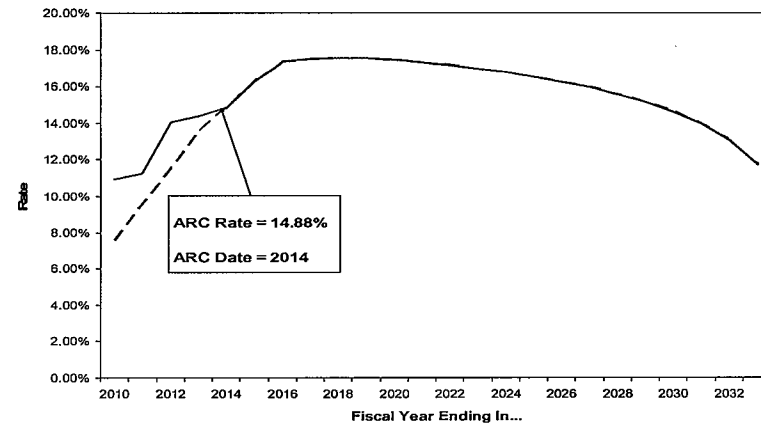
4-17

# ARC Projections: 2% Rate Increase Cap

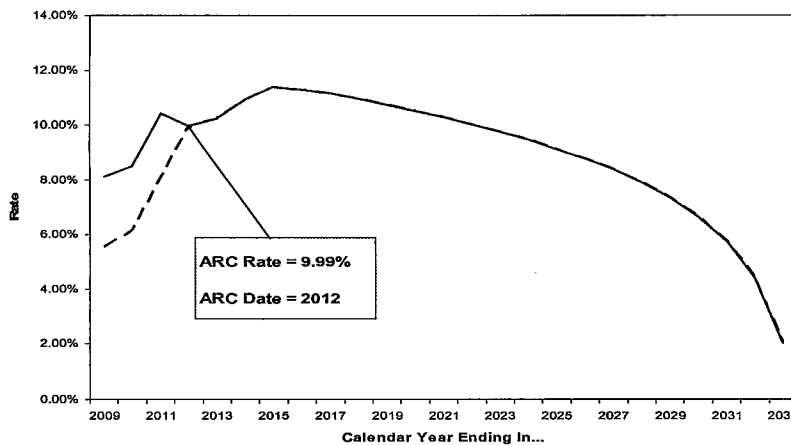
**State Group 2% Increase Cap, Effective FY 2011**



**School Group 2% Increase Cap, Effective FY 2011**



**Local Group with 2% Increase Cap, Effective CY 2011**



**Projections based on:**

- **Level 8% annual return**
- **2% cap increase**

	<b>FY 2010 Rate</b>	<b>ARC Rate</b>	<b>ARC Date</b>
<b>State</b>	7.57%*	N/A	N/A
<b>School</b>	7.57%*	14.88%	2014
<b>Local</b>	5.54%	9.99%	2012

— Actuarial Employer Rates    - - - Statutory Employer Rates    Based on Preliminary Estimates. \* State/School Combined Rate

# Effects of Raising Contribution Cap

4-18

## Estimated Effect of Raising the State and School Employer Contribution Cap to 1% in FY 2011 (in millions)

	<u>0.6% Cap</u>	<u>1% Cap</u>	<u>Additional Contributions</u>
FY 2011 Increase in Employer Contributions	\$39.35	\$57.64	\$18.29
FY 2011 Total Employer Contributions	\$373.57	\$391.86	\$18.29
FY 2015 Increase in Employer Contributions	\$44.80	\$67.48	\$22.68
FY 2015 Total Employer Contributions	\$538.96	\$640.95	\$101.99

## Estimated Effect of Raising the State and School Employer Contribution Cap to 2% in FY 2011 (in millions)

	<u>0.6% Cap</u>	<u>2% Cap</u>	<u>Additional Contributions</u>
FY 2011 Increase in Employer Contributions	\$39.35	\$103.37	\$64.02
FY 2011 Total Employer Contributions	\$373.57	\$437.59	\$64.02
FY 2015 Increase in Employer Contributions	\$44.80	\$92.88	\$48.08
FY 2015 Total Employer Contributions	\$538.96	\$830.61	\$291.65

# Conclusions

4-19

KPERS will build on this preliminary modeling by:

- Identifying factors for evaluating funding solution options
- Modeling funding solution options and analyzing their legal implications
- Projecting critical turning points in KPERS' funding status.

As this analysis progresses, it will be shared with the Board and Joint Committee to obtain feedback regarding potential funding solution options.

- Employer rate increases
- Future benefit changes and contribution increases for employees
- Actuarial and other changes

Based on the analysis and feedback, a package of options will be developed for consideration by the Board and presentation to the Legislature and the Governor later this fall.



Attachment 5  
JCPIB 9-2-09

# Kansas Public Employees Retirement System

## **KPERS Working After Retirement Update**

*Joint Committee on Pensions, Investments and Benefits*

▪ September 2, 2009

# Legislative History

KPERS working after retirement restrictions are provided in Kansas statutes and are subject to IRS regulations because KPERS is a qualified, tax-exempt retirement plan.

Since KPERS' inception in 1962, there have been statutory restrictions on retirees returning to work for KPERS-affiliated employers. The earnings limitation on returning to work for the retiree's previous employer was first adopted in its current form in 1988.

Recent interim studies and statutory changes include:

## **2006 House Sub. for SB 270**

- Raised the earnings limitation for retirees returning to work for their previous employer from \$15,000 to \$20,000.
- Required employers hiring a retiree who did not previously work for that employer to pay KPERS the actuarial employer and employee contribution rate.

## **2008 House Sub. for SB 309**

- Removed the June 30, 2008, sunset provision for the earnings limitation exception for state nurse retirees reemployed by certain SRS institutions.

## Legislative History (Continued)

5-3

- Expanded the exemption to include state nurse retirees reemployed by state juvenile justice institutions.
- Participating employers pay the actuarial employer contribution rate.

### **Interim Studies in 2007 and 2008**

- During the 2007 Interim, the Legislative Educational Planning Committee (LEPC), the 2010 Commission, and the Joint Committee on Pensions, Investments and Benefits received testimony on the teacher shortage problem in Kansas and the impact of the working-after-retirement restrictions on the shortage.
- During the 2008 Interim, the Joint Committee on Pensions, Investments and Benefits studied a number of different proposals for changes to the working-after-retirement restrictions and particularly focused on the issue of third-party contracting arrangements that circumvent the restrictions.
- The Joint Committee introduced SB 196 in the 2009 Session, which would apply the same working-after-retirement provisions to employees returning to work either as individuals or as contracted employees of third-party companies.

D

# 2009 Senate Substitute for HB 2072

5-4

Various versions of working-after-retirement legislation were considered by the Senate Ways and Means Committee, the House Select Committee on KPERS, and two conference committees. The final legislation included the following major provisions:

- **Break in Service.** Extends the minimum break in service from any employment with any KPERS participating employer from 30 days to 60 days for all KPERS retirees.
- **Licensed School Professional Retirement Date.** Amends school law provisions to allow licensed professionals (teachers, administrators, and certain other professionals, such as social workers and dietitians) to retire before June 30 of a calendar year.
- **Earnings Limit for Licensed School Employees.** Lifts the \$20,000 earnings limit for retired licensed professionals returning to work for the same school district from which they retired, for a three-year period (through June 30, 2012), if they retired either:
  - Under a normal retirement option (e.g., with 85 points)
  - Under an early retirement option more than 60 days before the effective date of the bill (March 28, 2009).

# 2009 Senate Substitute for HB 2072 (Continued)

5-5

- **Employer Contribution Rates.** Establishes a special employer contribution rate for public school employers who employ retired licensed professionals, for a three-year period (through June 30, 2012).
  - The rate is the employer actuarial rate plus 8 percent (20.07% in FY 2010).
  - The employer rate applies to:
    - Retirees returning to work for the same or a different school district.
    - All positions for which a license is required, regardless of the number of hours worked.
  - This employer rate does not apply to retirees employed only as substitute teachers.
  - This employer rate does not apply to retirees who were first employed by a different school district before July 1, 2006.
- **Third-Party Contractors.** Applies working-after-retirement restrictions to retirees who provide licensed professional services to a participating employer through a third-party contractor. Contracts that are effective on or after April 1, 2009, are covered by the bill.
  - Each employer contracting with a third party for licensed professional services must include in the contract a provision requiring the third party to report the retiree's compensation, so that the employer can comply with reporting and employer contribution requirements.

D

## 2009 Senate Substitute for HB 2072 (Continued)

9-5

- During the three-year exemption for licensed professionals, retirees returning to work through a third-party contract for the same or a different employer would not have an earnings limitation (if they would otherwise have been eligible for the exemption), but the employer would be required to pay the special employer contribution on the retiree's compensation (20.07% in FY 2010).
- **Report to Joint Committee.** Requires KPERS to report to the Joint Committee on Pensions, Investments and Benefits on the results of the provisions for licensed school professionals when they expire on June 30, 2012.

# Working After Retirement Utilization

6-5

- Employers are required to submit an annual report on a calendar year basis, with data regarding the number of rehired retirees by category.
- As of 12/31/2008, there were 2,672 KPERS retirees who had returned to work – of those, 1,351 were rehired by the same employer and 1,321 by a different employer. See Appendix A for more detail.
- KPERS staff is working with school districts in identifying licensed and non-licensed positions held by retirees who are working after retirement.
  - So far, the school districts have identified 837 retirees in licensed positions requiring the special employer contribution rate.
  - Not all school districts who have hired KPERS retirees for the current year have completed the KPERS Working after Retirement enrollment forms.
  - KPERS staff expects that a substantial number of additional enrollment forms will be completed in September.
- While the total number of retirements in June and July 2009 was comparable to the same period in 2008, the number of retirements doubled from 328 in June 2008 to 660 in June 2009.

# Working After Retirement Utilization (Continued)

8-5

- It is likely that the number of June retirements will grow in future years as school employees shift their retirement dates to June to complete their 60-day break in service before the new school year.
- More comprehensive data about retirees rehired under 2009 Sen. Sub. For HB 2072 will be available after KPERS receives employer reports at the end of the calendar year. KPERS will provide additional information as this data is collected from employers.



b-5

# Appendix A

# KPERS Retirees Returning to Work\*

5-10

	<b>Same Employer</b>	<b>Different Employer Before 07/01/06</b>	<b>Different Employer After 07/01/06</b>	<b>Total</b>
<b>Local</b>	221	61	86	368
<b>Schools</b>	997	361	795	2,153
<b>State</b>	133	11	7	151
	<hr/> 1,351	<hr/> 433	<hr/> 888	<hr/> 2,672

\*Based on enrollment data as of December 31, 2008

AGENDA

STATE FINANCE COUNCIL

September 3, 2009  
1:00 p.m.

Room 143-N  
Statehouse

Approval of State Finance Council minutes of July 6, 2009

Items to be considered:

1. Request of the Secretary of Administration to restructure bonds
2. Request of the Secretary of Commerce to approve an agreement with Siemens Energy Inc. for benefits under the Economic Revitalization and Reinvestment Act
3. Request of the Secretary of Administration for bonding authority for University of Kansas Hospital Authority
4. Request of the Attorney General for approval of a tort claim settlement—*Kerr v. State of Kansas*

Attachment 6  
ICPB 9-2-09

STATE OF KANSAS

State Finance Council Resolution

Dated: September 3, 2009

Resolution No. 09- \_\_\_\_\_

WHEREAS, K.S.A. 74-49,129(a) provides that for the purpose of financing a portion of the unfunded actuarial pension liability of the Kansas public employees retirement system, the Kansas Development Finance Authority is authorized to issue one or more series of revenue bonds, to provide a deposit or deposits in the total amount of Five Hundred Million Dollars (\$500,000,000) to the Kansas Public Employees Retirement System plus the costs of issuance of the bonds, including any credit enhancement, and any required reserves on the bonds;

WHEREAS, pursuant to such authorization, the Kansas Development Finance Authority issued its Kansas Development Finance Authority Revenue Bonds (Kansas Public Employees Retirement System), Series 2004C (Taxable), in the aggregate principal amount of \$500,000,000 (the "Series 2004C Bonds") for the purpose of providing moneys to fund the unfunded actuarial pension liability of the Kansas Public Employees Retirement Program;

WHEREAS, pursuant to K.S.A. 74-8905, as amended, the Kansas Department of Administration has requested the approval of the refunding of the May 1, 2010 principal maturity of the Series 2004C Bonds in a principal amount equal to Ten Million Four Hundred Fifteen Thousand Dollars (\$10,415,000);

WHEREAS, such approval is characterized as a matter of legislative delegation by K.S.A. 74-8905(b) and 74-49,129(e);

WHEREAS, K.S.A. 74-49,129 requires the State Finance Council to approve the principal amount, interest rates, and final maturity of bonds issued to refund the Series 2004C Bonds (the "Refunding Bonds");

WHEREAS, the Refunding Bonds and interest thereon will be payable from moneys appropriated by the State for such purpose and pledged therefore pursuant to a contract between the Department of Administration and the Kansas Development Finance Authority as authorized pursuant to K.S.A. 74-49,129 in the same manner in which the Series 2004C Bonds are payable;

WHEREAS, the Refunding Bonds will not constitute an indebtedness or obligation of the Kansas Public Employees Retirement System or indebtedness or obligation for which the faith and credit or any assets of the system are pledged;

WHEREAS, the need for the requested action is characterized as arising from the unforeseeable effect of a foreseeable occurrence and delay on the requested action would hinder the Kansas Department of Administration;

WHEREAS, the requested action is not one that was rejected by the 2009 Legislature and is not contrary to known legislative policy;

WHEREAS, the action will assist the Kansas Department of Administration in attaining an objective which bears a valid relationship to its powers and functions;

THEREFORE, BE IT RESOLVED, that the State Finance Council, by the Governor and a majority of the legislative members, makes the above findings and approves the issuance by the Kansas Development Finance Authority of the Refunding Bonds in a principal amount not to exceed Ten Million Four Hundred Fifteen Thousand Dollars (\$10,415,000) plus an amount equal to all costs related to the issuance of the Refunding Bonds and any reserves for the payment of interest, that the interest cost of the Refunding Bonds shall not exceed 7%, and that the Refunding Bonds shall have a final maturity of not later than June 30, 2035.

**Current Refunding 2004C May 1, 2010 \$10,415,000 Principal Payment**

20 Year Amortization - NO Capitalized Interest- Current Market Rates

\*\*\* FOR ESTIMATION PURPOSE ONLY - SUBJECT TO CHANGE \*\*\*

**Table of Contents**

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6-4

**Current Refunding 2004C May 1, 2010 \$10,415,000 Principal Payment**

20 Year Amortization - NO Capitalized Interest- Current Market Rates

\*\*\* FOR ESTIMATION PURPOSE ONLY - SUBJECT TO CHANGE \*\*\*

**Sources & Uses**

Dated 03/01/2010 | Delivered 03/01/2010

**Sources Of Funds**

Par Amount of Bonds	\$10,575,000.00
---------------------	-----------------

<b>Total Sources</b>	<b>\$10,575,000.00</b>
----------------------	------------------------

**Uses Of Funds**

Total Underwriter's Discount (0.525%)	55,518.75
---------------------------------------	-----------

Costs of Issuance	100,000.00
-------------------	------------

Deposit to Project Construction Fund	10,415,000.00
--------------------------------------	---------------

Rounding Amount	4,481.25
-----------------	----------

<b>Total Uses</b>	<b>\$10,575,000.00</b>
-------------------	------------------------

## Current Refunding 2004C May 1, 2010 \$10,415,000 Principal Payment

20 Year Amortization - NO Capitalized Interest- Current Market Rates

\*\*\* FOR ESTIMATION PURPOSE ONLY - SUBJECT TO CHANGE \*\*\*

### Net Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Net New D/S
06/30/2010	-	-	-	-	-
06/30/2011	265,000.00	1.800%	627,022.08	892,022.08	892,022.08
06/30/2012	360,000.00	2.450%	532,677.50	892,677.50	892,677.50
06/30/2013	370,000.00	2.850%	523,857.50	893,857.50	893,857.50
06/30/2014	380,000.00	3.450%	513,312.50	893,312.50	893,312.50
06/30/2015	390,000.00	3.800%	500,202.50	890,202.50	890,202.50
06/30/2016	405,000.00	4.150%	485,382.50	890,382.50	890,382.50
06/30/2017	425,000.00	4.400%	468,575.00	893,575.00	893,575.00
06/30/2018	440,000.00	4.650%	449,875.00	889,875.00	889,875.00
06/30/2019	465,000.00	4.800%	429,415.00	894,415.00	894,415.00
06/30/2020	485,000.00	5.000%	407,095.00	892,095.00	892,095.00
06/30/2021	510,000.00	5.200%	382,845.00	892,845.00	892,845.00
06/30/2022	535,000.00	5.500%	356,325.00	891,325.00	891,325.00
06/30/2023	565,000.00	5.500%	326,900.00	891,900.00	891,900.00
06/30/2024	595,000.00	5.500%	295,825.00	890,825.00	890,825.00
06/30/2025	630,000.00	6.000%	263,100.00	893,100.00	893,100.00
06/30/2026	665,000.00	6.000%	225,300.00	890,300.00	890,300.00
06/30/2027	705,000.00	6.000%	185,400.00	890,400.00	890,400.00
06/30/2028	750,000.00	6.000%	143,100.00	893,100.00	893,100.00
06/30/2029	795,000.00	6.000%	98,100.00	893,100.00	893,100.00
06/30/2030	840,000.00	6.000%	50,400.00	890,400.00	890,400.00
<b>Total</b>	<b>\$10,575,000.00</b>	<b>-</b>	<b>\$7,264,709.58</b>	<b>\$17,839,709.58</b>	<b>\$17,839,709.58</b>



**Current Refunding 2004C May 1, 2010 \$10,415,000 Principal Payment**

20 Year Amortization - Capitalized Interest FY 2011 - Current Market Rates

\*\*\* FOR ESTIMATION PURPOSE ONLY - SUBJECT TO CHANGE \*\*\*

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**Current Refunding 2004C May 1, 2010 \$10,415,000 Principal Payment**

20 Year Amortization - Capitalized Interest FY 2011 - Current Market Rates

\*\*\* FOR ESTIMATION PURPOSE ONLY - SUBJECT TO CHANGE \*\*\*

**Sources & Uses**

Dated 03/01/2010 | Delivered 03/01/2010

**Sources Of Funds**

Par Amount of Bonds \$11,255,000.00

**Total Sources** **\$11,255,000.00**

**Uses Of Funds**

Total Underwriter's Discount (0.525%) 59,088.75

Costs of Issuance 100,000.00

Deposit to Capitalized Interest (CIF) Fund 678,559.58

Deposit to Project Construction Fund 10,415,000.00

Rounding Amount 2,351.67

**Total Uses** **\$11,255,000.00**

**Current Refunding 2004C May 1, 2010 \$10,415,000 Principal Payment**

20 Year Amortization - Capitalized Interest FY 2011 - Current Market Rates

\*\*\* FOR ESTIMATION PURPOSE ONLY - SUBJECT TO CHANGE \*\*\*

**Net Debt Service Schedule**

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S
06/30/2010	-	-	-	-	-	-
06/30/2011	-	-	678,559.58	678,559.58	(684,541.14)	(5,981.56)
06/30/2012	390,000.00	2.450%	581,622.50	971,622.50	-	971,622.50
06/30/2013	400,000.00	2.850%	572,067.50	972,067.50	-	972,067.50
06/30/2014	415,000.00	3.450%	560,667.50	975,667.50	-	975,667.50
06/30/2015	430,000.00	3.800%	546,350.00	976,350.00	-	976,350.00
06/30/2016	445,000.00	4.150%	530,010.00	975,010.00	-	975,010.00
06/30/2017	460,000.00	4.400%	511,542.50	971,542.50	-	971,542.50
06/30/2018	485,000.00	4.650%	491,302.50	976,302.50	-	976,302.50
06/30/2019	505,000.00	4.800%	468,750.00	973,750.00	-	973,750.00
06/30/2020	530,000.00	5.000%	444,510.00	974,510.00	-	974,510.00
06/30/2021	555,000.00	5.200%	418,010.00	973,010.00	-	973,010.00
06/30/2022	585,000.00	5.500%	389,150.00	974,150.00	-	974,150.00
06/30/2023	615,000.00	5.500%	356,975.00	971,975.00	-	971,975.00
06/30/2024	650,000.00	5.500%	323,150.00	973,150.00	-	973,150.00
06/30/2025	685,000.00	6.000%	287,400.00	972,400.00	-	972,400.00
06/30/2026	730,000.00	6.000%	246,300.00	976,300.00	-	976,300.00
06/30/2027	770,000.00	6.000%	202,500.00	972,500.00	-	972,500.00
06/30/2028	820,000.00	6.000%	156,300.00	976,300.00	-	976,300.00
06/30/2029	865,000.00	6.000%	107,100.00	972,100.00	-	972,100.00
06/30/2030	920,000.00	6.000%	55,200.00	975,200.00	-	975,200.00
<b>Total</b>	<b>\$11,255,000.00</b>	<b>-</b>	<b>\$7,927,467.08</b>	<b>\$19,182,467.08</b>	<b>(684,541.14)</b>	<b>\$18,497,925.94</b>

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