

INVESTMENT REVIEW

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Public Pension Oversight Board

November 17, 2020

INVESTMENT REVIEW

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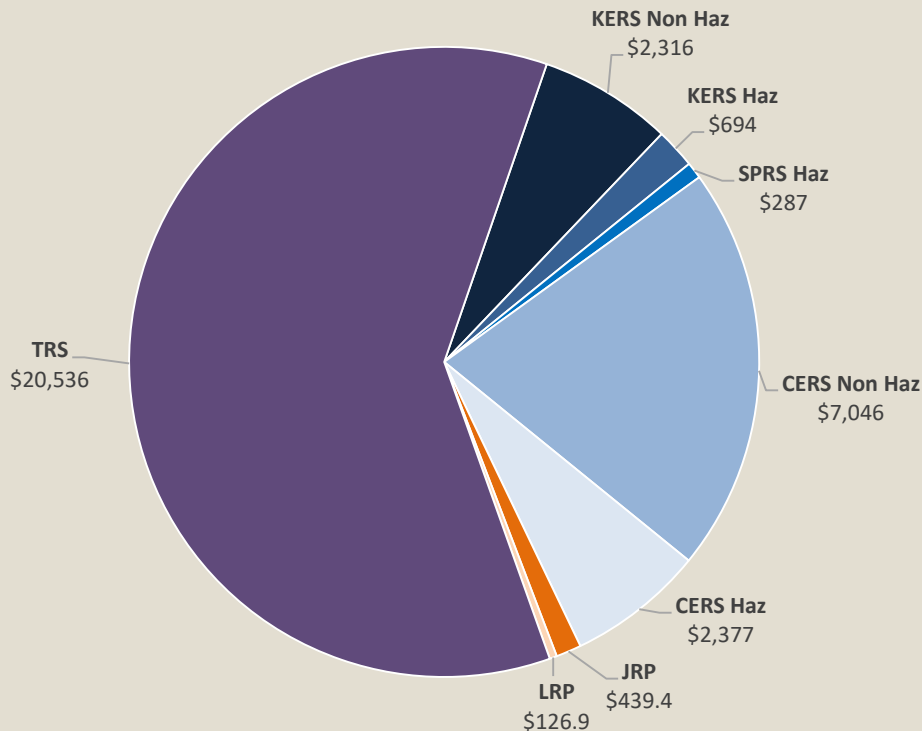
- Review of Total Assets
- Fiscal Year 2020 Market and Index Review
- Performance Review and Peer Comparison
- Allocation Review and Peer Comparison
- Investment Fees and Expenses
- Net Cash Flow Update
- Other Required Review Topics (benchmarks, policies, etc.)

ASSETS UNDER MANAGEMENT → All KY Plans

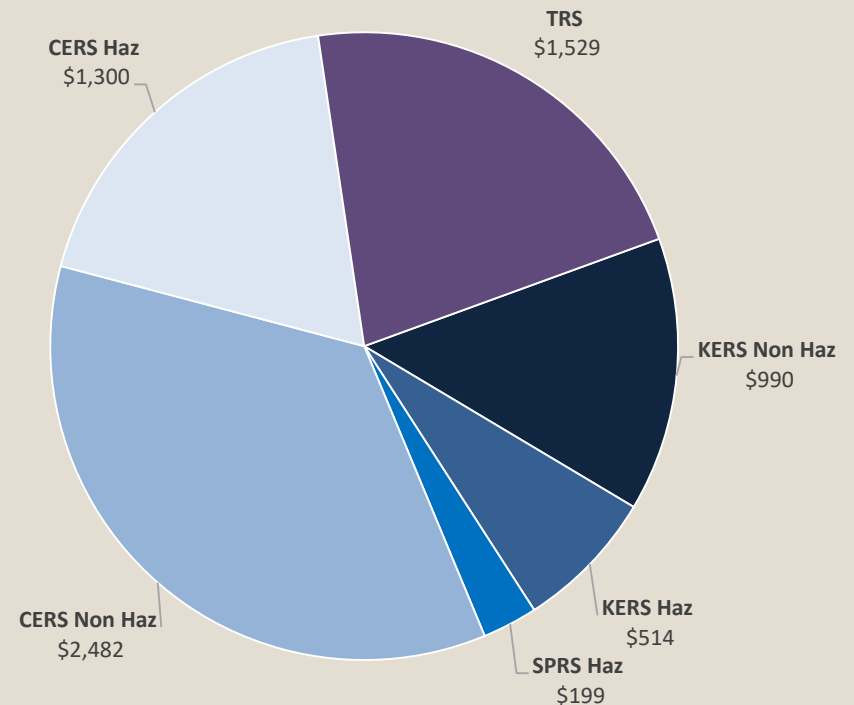
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Total Assets Under Management - \$40.8 Billion By Retirement Plan As of June 30, 2020

Pension – \$33.8B



Insurance - \$7.0B



* Includes both JRP/LRP pension and insurance assets

PERFORMANCE → *Market Review*

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Fiscal Year 2020 Returns	
10.0	US Gov/Credit
7.5	US Large Cap
5.8	Private Equity
2.2	Private Real Estate
1.6	T-Bill
0.9	Non-US Fixed Income
0.1	Absolute Return/FOF
-	US High Yield
(3.4)	Emerging Markets
(4.0)	Non-US Small Cap
(5.1)	Developed Non-US
(6.6)	US Small Cap
(12.3)	Public Real Estate
(17.4)	Commodities

- **Positive Growth for First Half of Year**

- Equity markets continued run – S&P500 ↑ 11%
- Modest Fixed income returns
- Plans on target for AROR type returns

- **COVID quarter, followed by BIG bounce**

- Markets down in March
 - ✦ S&P ↓ 19.4%, Small Cap ↓ 30.6%, High Yield ↓ 12.7%
- Stimulus, Payroll Protection Program resulted in strong 4Q, which has continued into current FY
 - ✦ S&P ↑ 20.5%, Small Cap ↑ 18.9%, High Yield ↑ 10.2%

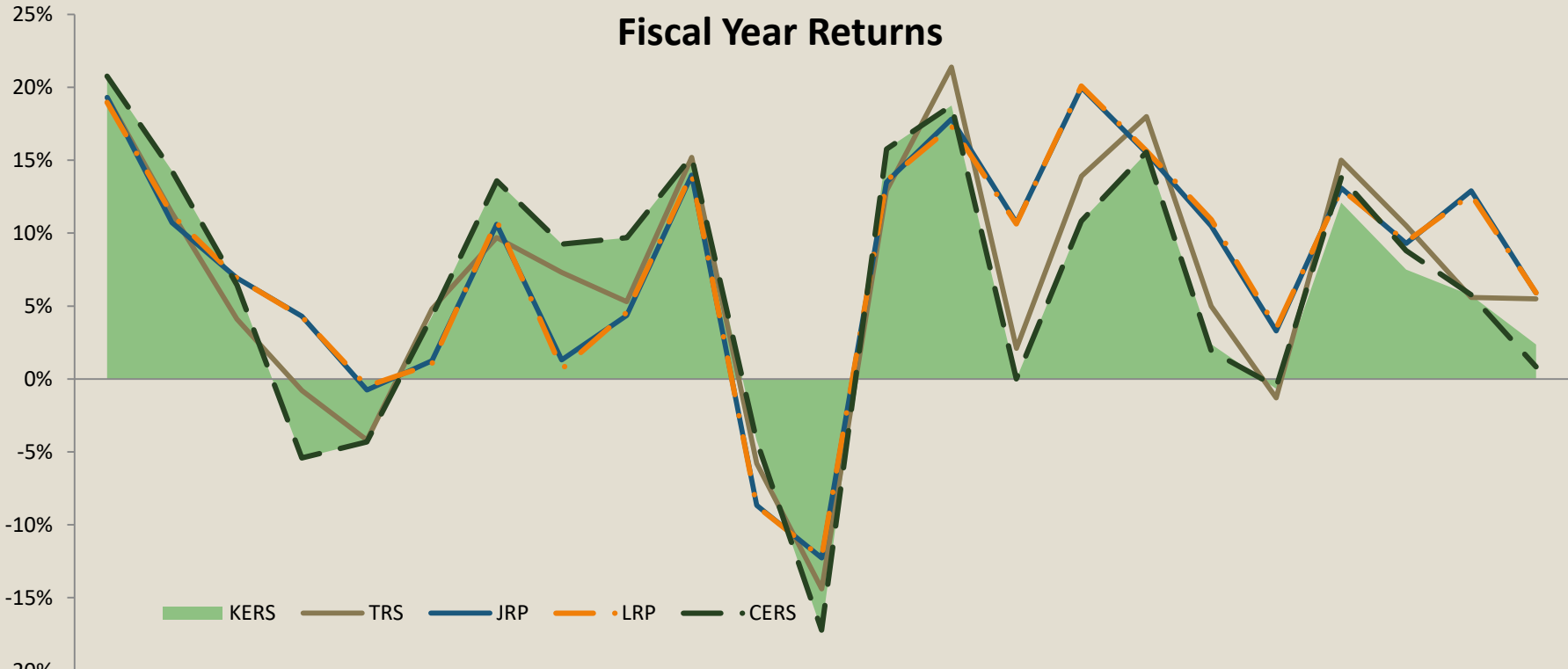
- **Narrow winners for trailing 1-year**

- Large Cap > Small Cap
- Core Fixed Income > Below Investment Grade, Non-US

PERFORMANCE → *FY Returns By System*

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Fiscal Year Returns



	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
KERS	20.8%	14.3%	6.4%	-5.4%	-4.3%	4.3%	13.6%	9.3%	9.7%	15.3%	-4.2%	-17.2%	15.8%	18.8%	0.0%	10.8%	15.5%	2.4%	-0.7%	12.1%	7.5%	5.7%	2.4%
TRS	19.3%	11.4%	4.1%	-0.8%	-4.2%	4.8%	9.7%	7.3%	5.3%	15.2%	-5.8%	-14.4%	12.9%	21.4%	2.1%	13.9%	18.0%	5.0%	-1.3%	15.0%	10.5%	5.6%	5.5%
JRP	19.3%	10.7%	6.9%	4.3%	-0.8%	1.2%	10.6%	1.3%	4.4%	14.0%	-8.7%	-12.3%	13.5%	17.8%	10.7%	20.0%	15.5%	10.5%	3.3%	13.1%	9.3%	12.9%	5.9%
LRP	19.0%	11.3%	6.9%	4.3%	-0.5%	1.0%	10.8%	0.7%	4.6%	14.1%	-8.7%	-12.2%	13.6%	17.3%	10.6%	20.1%	15.7%	10.9%	3.5%	13.0%	9.4%	12.7%	5.9%
CERS	20.8%	14.3%	6.4%	-5.4%	-4.3%	4.3%	13.6%	9.3%	9.7%	15.3%	-4.2%	-17.2%	15.8%	18.8%	0.0%	10.8%	15.6%	1.9%	-0.5%	13.8%	8.8%	5.8%	0.8%

NOTE: Returns beginning in FY2015 are Net of Fee, while returns prior are Gross of Fee.

INVESTMENTS → Pension

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<i>As of June 30, 2020</i>	MV	1 –Year	3-Year	5-Year	10-Year	20-Year	AROR
KERS Pension (N)	\$2.3B	2.4%	5.2%	5.3%	7.3%	5.2%	5.25%
Policy Benchmark		1.1%	4.8%	5.3%	7.5%	5.1%	
KERS-Haz Pension (N)	\$693.8M	1.0%	5.1%	5.6%	7.4%	5.2%	6.25%
Policy Benchmark		0.5%	4.9%	5.4%	7.5%	5.2%	
SPRS Pension (N)	\$286.7M	2.2%	5.2%	5.2%	7.2%	5.1%	5.25%
Policy Benchmark		1.1%	4.8%	5.3%	7.5%	5.1%	
CERS Pension (N)	\$7.0B	0.8%	5.1%	5.6%	7.4%	5.2%	6.25%
Policy Benchmark		0.5%	4.9%	5.4%	7.5%	5.2%	
CERS-Haz Pension (N)	\$2.4B	0.7%	5.0%	5.6%	7.4%	5.2%	6.25%
Policy Benchmark		0.5%	4.9%	5.4%	7.5%	5.2%	
TRS Pension (N)	\$20.5B	5.5%	7.2%	6.9%	9.3%	5.9%	7.50%
Policy Benchmark ¹		4.2%	7.0%	7.2%	9.3%	-	
LRP DB Pension (N*)	\$126.3M	5.9%	9.2%	8.8%	11.6%	7.0%	6.50%
Policy Benchmark		7.4%	8.9%	8.7%	11.6%	5.8%	
JRP DB Pension (N*)	\$437.4M	5.9%	9.3%	8.8%	11.7%	7.0%	6.50%
Policy Benchmark		7.4%	8.9%	8.7%	11.6%	5.8%	

Peer Groups Median Returns

LRC Calculated 49 plans	3.0%	6.1%	6.3%	8.7%	-
Wilshire All Public Plans (<i>Gross of Fee</i>)	3.5%	5.9%	5.9%	8.1%	-
BNY Mellon (<i>Gross of Fee</i>)	2.6%		6.0%	8.3%	-

(N) Net of Fee Return * JFRS 1-, 3-, and 5- year returns are net of fee, longer term are gross

¹ TRS did not benchmark overall performance prior to July 1, 2008

ASSET ALLOCATION → *Drives 90% of Returns*

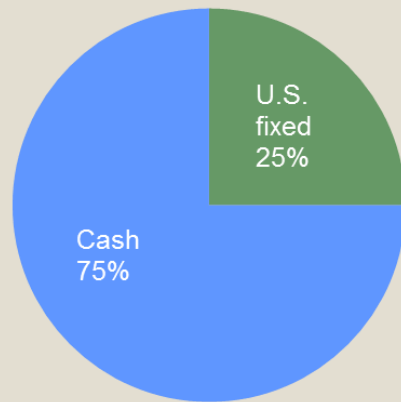
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	Asset Class	Description	Avg Peer %
Traditional Assets	U.S. Equity	Publicly traded stocks listed on U.S. exchange. Includes Large, Middle, and Small Capitalization companies. Very liquid, but tend to have higher volatility.	50%
	Non-U.S. Equity	Public stocks listed outside U.S. in local currency. Includes developed and emerging countries. Liquid, have higher return & risk expectation than U.S.	
	Fixed Income	Bonds and other assets with yield component. Includes investment grade (high quality), sovereign debt (global), and high yield (riskier) assets. Have lower expected return than equity, but less volatility given income component.	25%
Alternative Assets	Real Estate	Includes both private and public real estate investment trusts (REITs). Larger plans tend to invest in more private real estate, which consists of both core & non-core holdings. Illiquid in nature, but has provided stable returns over time.	25%
	Private Equity/Credit	Includes private equity, venture capital, distressed or other private debt strategies. Generally in form of limited partnership agreements. Illiquid in nature and have long investment horizon (7-12 years). Have higher expected return, but also can exhibit higher levels of risk.	
	Real Return	Includes real assets, such as commodities or timber, as well as inflation-linked securities, such as Treasury Inflation Protected Securities (TIPS). Tend to have low correlation to stocks and bonds. Can be less liquid than traditional assets.	
	Absolute Return	Funds that seek positive return regardless of market condition. Can include equity, fixed income, real estate, commodities, or other assets. Can include buying or "shorting" underlying securities. Expected to provide less volatile stream of positive returns over long term.	

ASSET ALLOCATION → *Decisions & Volatility*

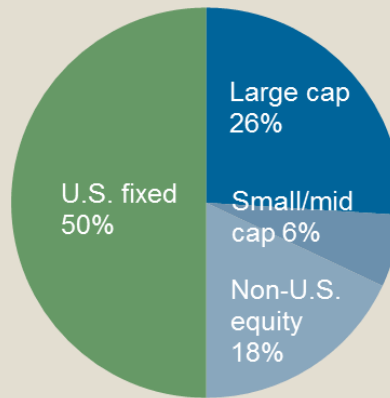
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Increasing Complexity



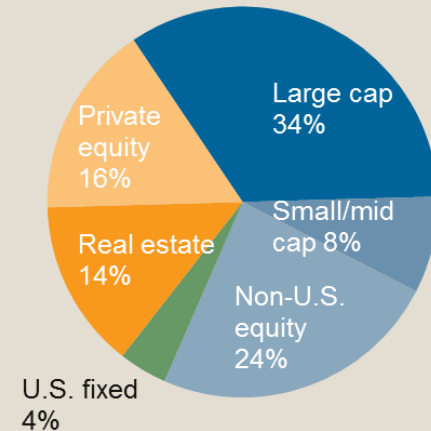
1989

Return: 7.5%
Risk: 3.1%



2004

Return: 7.5%
Risk: 8.9%



2019

Return: 7.5%
Risk: 18.0%

Increasing Risk

In 1989, our expectations for cash and broad U.S. fixed income were 6.80% and 9.35%, respectively
Growth assets were not required to earn a 7.5% expected return

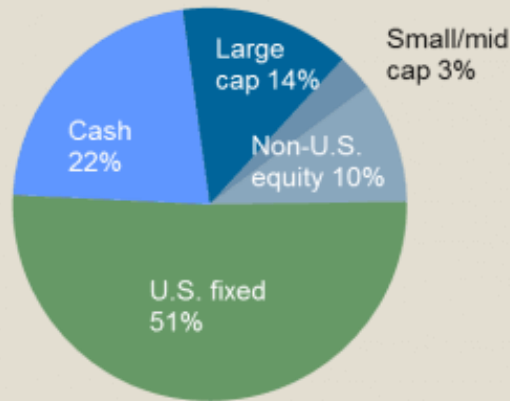
15 years later, an investor would have needed half of the portfolio in public equities to achieve a 7.5% expected return, nearly tripling the portfolio volatility of 1989

Today an investor is required to include 96% in growth assets to earn a 7.5% expected return at almost 6x the volatility compared to 1989

ASSET ALLOCATION → *Adjusted for Inflation*

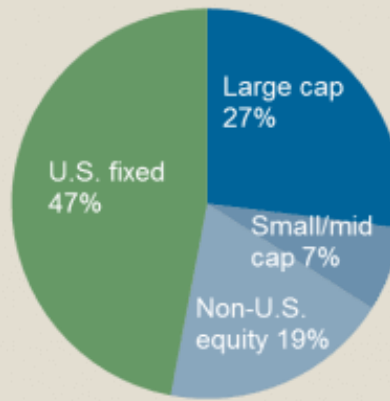
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Increasing Complexity



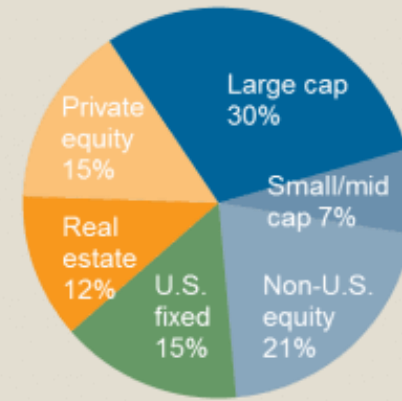
1989

Real Return: 5.0%
Risk: 6.7%



2004

Real Return: 5.0%
Risk: 9.2%



2019

Real Return: 5.0%
Risk: 15.9%

Increasing Risk

Despite a 5.25% inflation projection, an investor could have almost three-quarters of the portfolio in low-risk assets (cash and fixed income) and still earn a 5% expected real return in 1989

15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 5% expected real return despite a much lower inflation expectation (2.6%)

Today an investor must have 85% in growth assets to earn a 5% expected real return (assuming 2.25% inflation) at almost 2.5x the volatility compared to 1989

INVESTMENTS → *Asset Allocation*

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- **Wide Range of results in 2020. Some historical laggards outperformed**
 - Median returns ranged from 1.6% to 7.7%
 - Public Plans (who tend to lag behind) outperforming endowments/foundations over longer term
 - Use of alternatives, more complex investments have not provided risk reward as expected

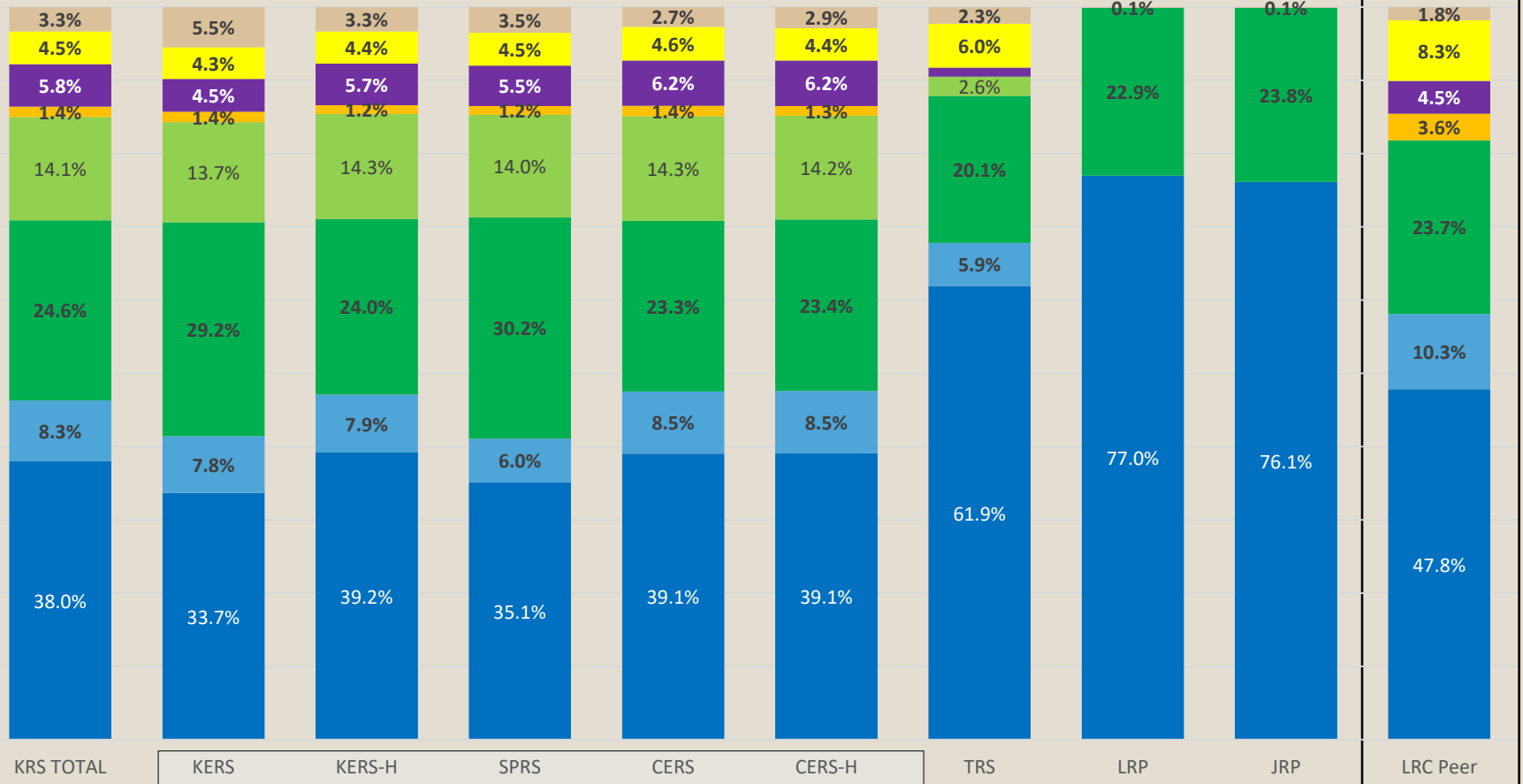
BNY Mellon U.S. Master Trust Universe Median Plan Returns* *Period Ending June 30, 2020*

Universe	# Plans	2Q 2020	1-Year	5-Year	10-Year
Master Trust Total Fund	498	10.7%	4.2%	6.2%	8.2%
Corporate Plans	220	11.0%	7.7%	7.2%	8.9%
Foundations	69	10.3%	1.8%	5.2%	7.4%
Endowments	68	8.8%	1.6%	5.3%	7.5%
Public Plans	88	10.5%	2.6%	6.0%	8.3%
Taft-Hartley Plans	26	11.1%	2.4%	5.5%	7.7%
Health Care Plans	16	10.1%	4.2%	5.8%	-

*All returns are posted gross of fee results.

ASSET CLASSES → *Current Allocations*

As of June 30, 2020

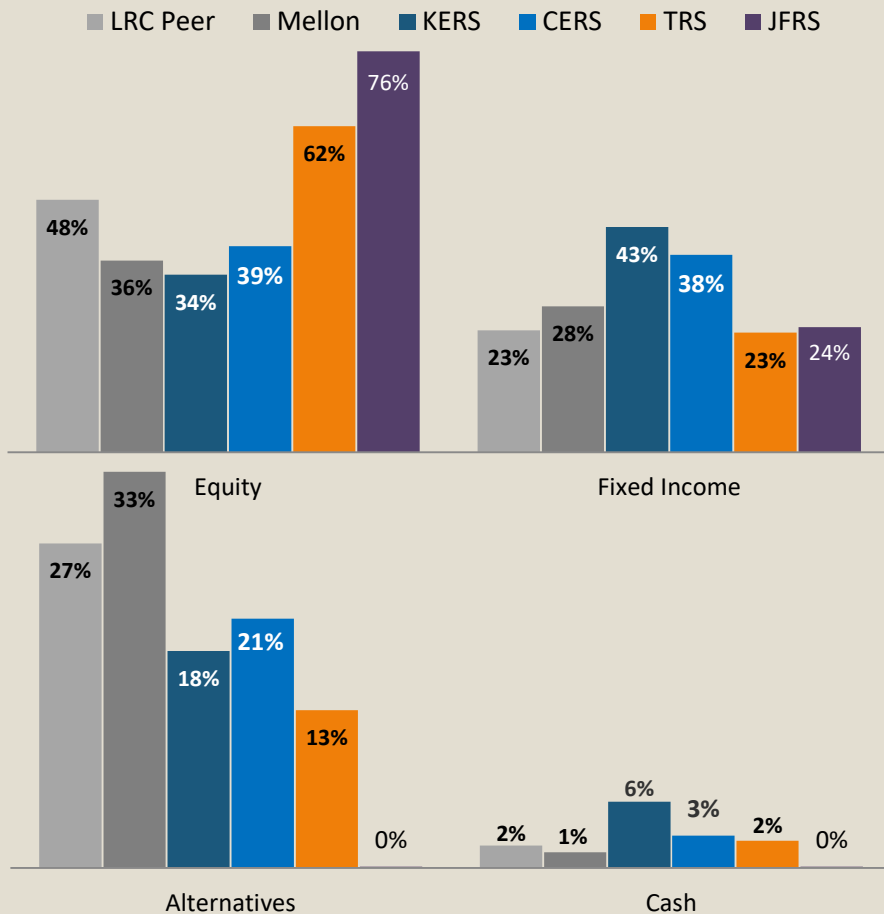


Public Equity Private Equity Public Fixed Private Fixed Absolute Return Real Return Real Estate Cash

ASSET ALLOCATION → KY Pension Comparisons

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Peer Comparison



KERS/CERS

- ↓ Have less Equity, below peer average
- ↑ More Fixed Income, but not all Core FI
- ↓ Alts now below peer group, have reduced exposures over several years

TRS

- ↑ Above average Equity exposure
- ↓ Growing alternatives, but below peers

LRP & JRP

- ↑ Above average equity allocation
- Only US Equity & Fixed Income
- 🚫 No alternative exposure

NOTE: LRC and Mellon Master Trust Peer Groups are averages while KRS, TRS, JFRS are actual as of 6/30/2020

FEES → Kentucky Plans

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Pension Fund Investment Fees and Expenses*

As of June 30, 2020 (In thousands)

	KRS			TRS			JFRS		
	AVG MV ¹	Fees	BPS	AVG MV ¹	Fees	BPS	AVG MV ¹	Mgmt Fees	BPS
Global Equity	\$4,863,631	\$9,378	19.4	\$12,693,030	\$17,744	14.0	\$424,159	\$337	7.9
Private Assets	\$1,175,416	\$7,418	70.5	\$1,260,701	\$19,455	154.3	-	-	-
Real Return	\$923,800	\$5,496	74.1	\$221,547	\$1,604	72.4	-	-	-
Real Estate	\$519,170	\$7,049	123.0	\$1,189,264	\$11,149	93.7	-	-	-
Fixed Income	\$4,610,102	\$17,198	34.9	\$4,454,984	\$9,837	22.1	135,937	104	7.6
Absolute Return	\$198,763	\$806	45.0	\$0	-	-	-	-	-
Cash/Custody/Consultant	\$432,047	\$3,395	-	\$350,516	\$1,100	-	97	20	-
Total Mgmt Fees	\$12,722,929	50,740	39.9	\$20,170,042	\$60,889	30.2	\$560,193	\$461	8.2
Other Fees or Incentives: <i>Includes Carried Interest, Profit Sharing</i>	\$12,722,929	\$2,366	1.9	<i>See Footnote²</i>			<i>N/A – Does not utilize alternatives</i>		
Total PENSION	\$12,722,929	\$53,106	41.7	\$20,170,042	\$60,889	30.2	\$556,396	\$453	8.5

Insurance Fund Investment Fees and Expenses

	AVG MV ¹	Fees	BPS	AVG MV ¹	Fees	BPS	MV	Mgmt Fees	BPS
	Management Fees	\$5,461,163	\$19,791	36.2	\$1,420,794	\$5,395	37.7	<i>N/A - Assets managed along side Pension Funds</i>	
Other Fees or Incentives	\$5,461,163	1,484	2.7	<i>See Footnote²</i>					
Total INSURANCE	\$5,461,163	\$21,275	39.0	\$1,420,794	\$5,359	37.7			
COMBINED PEN/INS	\$18,184,092	\$74,381	40.9	\$21,805,493	\$66,248	30.4	<i>* NOTE: Preliminary and unaudited</i>		

¹ Calculated using Average of Beginning and Ending of Year Plan Asset Values

² TRS has been notified by managers that carried interest information is proprietary and can not be publically reported.

FEES → *Trend of Kentucky Plans*

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- **KRS – Management Fees have continue to decline, incentive fees variable**
 - Incentive fees not tied to market value, but return or performance of asset and include claw backs during periods of negative performance (i.e. 1Q 2020)
 - Most partnerships operate on calendar year fiscal year versus June 30, so
 - Redemptions (private equity) and asset reduction (absolute return) also driver
- **TRS – Remain low, allocation to private markets have led to slight increase over time**
 - Management fees tied to market value, so as fund assets increase = more fee dollars
 - As allocation to private equity and specialty credit (more expensive) has increased, so have fees in terms of BPS
 - Fees reported do not include any profit sharing or carried interest
- **JFRS – Remain on flat fee agreement, increased after FY 2017 renewal**

Year	KRS – PENSION						TRS – PENSION		JFRS - DB	
	Total Fees		Mgmt Fees		Incentive Fees		Dollars	bps ¹	Dollars	bps ¹
	Dollars	bps ¹	Dollars	bps ¹	Dollars	bps ¹				
2016	\$88,779	78.8	\$54,578	48.5	\$34,201	30.4	\$47,792	27.4	\$279	6.4
2017	85,522	75.0	55,828	49.0	29,694	26.0	57,836	32.6	284	6.2
2018	92,597	76.1	53,497	44.0	39,100	32.1	55,500	28.7	408	8.2
2019	79,069	62.4	52,506	41.4	26,563	21.0	61,182	30.6	453	8.5
2020	53,106	47.7	50,740	39.9	2,366	1.9	60,813	30.2	461	8.2

¹ Calculated using Average of Beginning and Ending of Year Plan Asset Values

CASH FLOW → Summary

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- Net Cash Flow = **C**ontributions – **B**enefits - **E**xpenses
- More plans having to manage Negative Net Cash Flow
 - Plans are maturing, retirees and benefit amounts increasing
- Negative CF not necessarily implying trouble
- Measuring negative CF as a percent of assets can serve as warning
 - As funding declines, assets decline
 - Negative CF becomes larger %
- At what level is negative CF okay?
 - No specific standard, depends on plan/actuary
 - Research indicates range of 3-5%, but depends on funding plan, health, and market experience
 - Portfolio income should offset majority, allow asset growth/funding to remain stable



CASH FLOW → *Current by Plan*

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- Mix of negative/positive cash flow, most similar to prior year
 - KERS – Added contributions have led to positive CF. Down slightly from prior year which included general appropriation of \$75M. Had exceeded 3-5% threshold for several years prior to 2019
 - CERS – Negative cash flow has fallen within range of negative 3-5% since 2009, under 3% for 2020
 - TRS – Additional contributions have helped reduce negative cash flow back within range.

<i>As of June 30, 2020</i>	KERS	CERS	SPRS	TRS	JRP	LRP
Net Plan Assets BOY	\$2,286.6	\$7,242.9	\$287.2	\$20,371.9	\$431.2	\$127.2
Cash Flow	21.9	-188.8	1.4	-748.9	-15.7	-5.6
CF as % Assets	1.0%	-2.6%	0.5%	-3.7%	-3.6%	-4.4%
Investment Income ¹	38.70	133.90	5.30	370.79	9.98	3.02
Yield as % of Assets	1.7%	1.8%	1.8%	1.8%	2.3%	2.4%
2019 Cash Flow	\$122.8	(\$237.9)	\$3.9	(\$720.8)	(\$15.9)	(\$5.1)
CF as % Assets	6.0%	(3.3%)	1.4%	(3.6%)	(4.0%)	(4.3%)

¹ Does not include asset gains or losses

STATUTORY REVIEW → *Other Topics*

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- To meet statutory requirements, staff has reviewed the following:
 - Total Fund Objectives
 - ✦ Desire to meet Actuarial Return target of 5.25% (KERS-NH and SPRS), 6.25% (CERS, KERS-H), 6.5% (LRP/JRP), or 7.5% (TRS)
 - ✦ Desire to exceed Policy Benchmarks over market cycle (5 and 10 year periods)
 - Policies and Oversight
 - ✦ KRS –Policies available online
 - ✦ TRS – Investment Policy recorded as Administrative Regulation (102 KAR 1:175). Board Governance manual, which includes several policies, available online
 - ✦ LRP/JRP - Policy available online
 - Securities Litigation and Annual Recoveries
 - ✦ KRS – Filed 42 claims. \$1,743,474 proceeds received
 - ✦ TRS – Filed 29 claims. \$721,170 proceeds received
 - ✦ LRP/JRP – No claims filed. \$30 proceeds received

INVESTMENT REVIEW → *Benchmarks*

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- **Asset Class and Total Fund Benchmarks**

- All plans using recognized and industry known indices
- Alternative indices limited, most plans using a public index + model

TRS	BM%	Benchmark
US Equity	40.0%	87.5% S&P500 +7.5% S&P400 +5.0% S&P600
Non US Equity	22.0%	MSCI ACWI Ex US
Fixed Income	15.0%	Barclays Government/Credit
Real Estate	7.0%	35.7% CPI + 2% +35.7% NCREIF ODCE +28.6% NCREIF
Timberland	1.0%	NCREIF Timberland
Private Equity	6.0%	66.7 % Actual Perf (< 5Yrs) +33.3% S&P500 + 3% (>5+ Yrs)
Additional Categories	7.0%	Merrill Lynch US High Yield II
Cash	2.0%	90 Day T-Bill

JFRS	BM%	Benchmark
US Equity	70%	S&P 500
Fixed Income	30%	Barclays US Gov't/ Credit Interm.

KRS Non-Haz Plans			
Asset Class	KERS BM%	CERS BM%	Benchmark
US Equity	15.75%	18.75%	Russell 3000
Non US Equity	15.75%	18.75%	MSCI ACWI Ex US IMI
Private Equity	7.00%	10.00%	Actual Performance (< 5Yrs) Russell 3000 + 300 bps^ (> 5Yrs)
High Yield/ Specialty Credit	15.00%	15.00%	50% S&P Leverage Loan +50% Barclays Corp US High Yield
Core Fixed	20.50%	13.50%	Bloomberg Barclays US Aggregate
Cash	3.00%	1.00%	Citigroup 3-Mo Treasury Bill
Real Estate	5.00%	5.00%	NCREIF ODCE^
Opportunistic/HF	3.00%	3.00%	HRFI Diversified
Real Return	15.0%	15.0%	Actual Performance (< 5Yrs) US CPI + 3% (> 5Yrs)

[^]1 Quarter in Arrears Index

INVESTMENT REVIEW → Allocation & Targets

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- Current Asset Allocation, Targets, and allowable ranges
 - Additional Categories from TRS primarily high yield credit, non-investment grade fixed income and/or specialty credit
 - KERS/CERS have continued to transition to revised targets
 - JFRS unchanged from prior year, no changes

KRS Non-Hazardous Plans						
	KERS			CERS		
	Actual	Target	Target	Actual	Target	Range
GROWTH	56.8%	53.5%		63.9%	62.5%	
US Equity	17.4%	15.75%	10-25%	19.4%	18.8%	10-25%
Non US Equity	16.3%	15.75%	10-25%	19.7%	18.8%	10-25%
Private Equity	7.8%	7.0%	5-15%	8.5%	10.0%	5-15%
Speciality Credit	15.3%	15.0%	10-25%	16.3%	15.0%	5-20%
LIQUID	33.0%	23.5%		23.8%	14.5%	
Core Fixed	27.6%	20.5%	15-26%	21.2%	13.5%	7-18%
Cash	5.4%	3.0%	0-5%	2.6%	1.0%	0-5%
DIVERSIFYING	10.2%	23.0%		12.3%	23.0%	
Real Estate	4.3%	5.0%	0-10%	4.6%	5.0%	0-10%
Opportunistic/HF	1.4%	3.0%	0-5%	1.5%	3.0%	0-5%
Real Return	4.5%	15.0%	5-20%	6.2%	15.0%	5-20%

TRS			
	Actual	Target	Range
US Equity	39.8%	40.0%	34-48%
Non US Equity	22.1%	22.0%	18-25%
Fixed Income	15.0%	15.0%	12-19%
Real Estate	6.0%	7.0%	4-10%
Alternative Investments ¹	7.1%	7.0%	4-10%
Additional Categories	7.7%	7.0%	4-10%
Cash	2.3%	2.0%	1-3%

¹ Includes PE, Venture Capital, Timber, and Infrastructure Investment

JFRS Plans					
	JRP		LRP		Range
	Actual	Target	Actual	Target	
US Equity	77.0%	70.0%	76.1%	70.0%	60%-80%
Fixed Income	22.9%	30.0%	23.8%	30.0%	20%-40%
Cash	0.1%	0.0%	0.1%	0.0%	

INVESTMENT REVIEW

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Questions?

APPENDIX A

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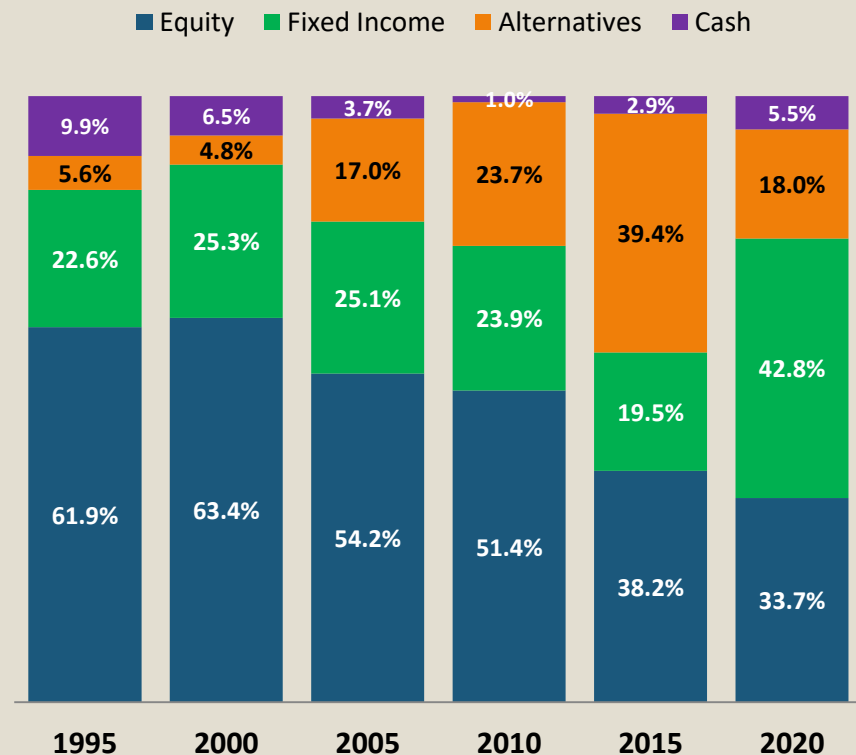
Historical Asset Allocation by Plan

ASSET ALLOCATION TREND → *KERS*

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- **Historic Cash Flow has limited**
 - No new PE investments since 2012
 - Has increased allocation to Fixed
 - Still reducing Absolute Return
 - Reduced Public Equity exposure
- **Alternative Allocation includes**
 - 1.4% Absolute Return/Hedge Funds
 - 7.8% Private Equity
 - 4.3% Real Estate
 - 4.5% Real Return

Kentucky Employees Retirement System
Non-Hazardous
Historical Asset Allocation



ASSET ALLOCATION TREND → CERS

23

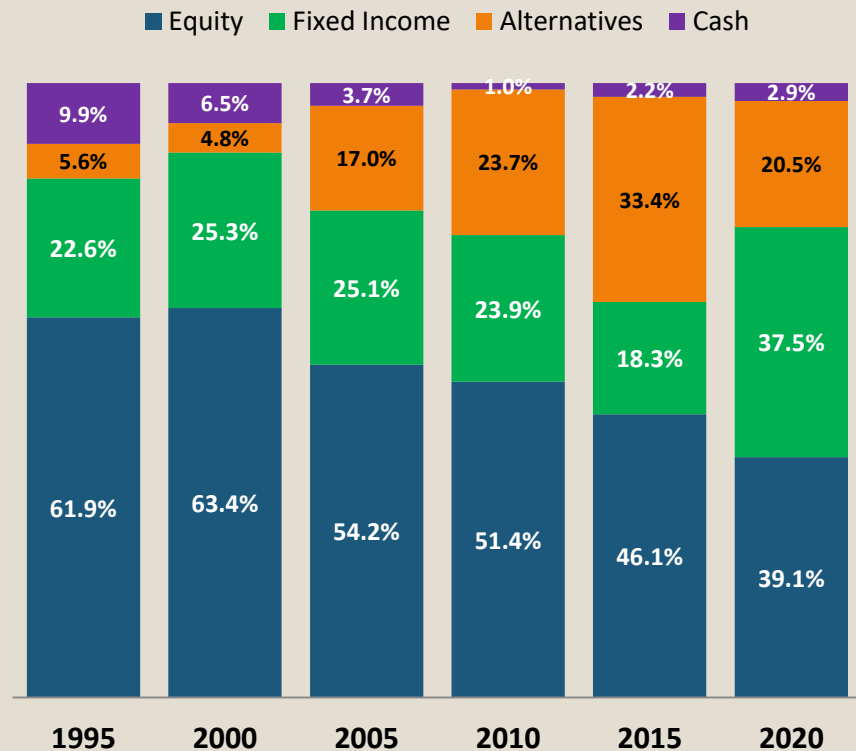
- **CERS more like Peer Group**

- Has reduced Equity more recently
- Added to FI, specialty credit
- Reduced exposure to alternatives, primarily via absolute return

- **Alternative Allocation includes**

- 1.4% Absolute Return/Hedge Funds
- 8.5% Private Equity
- 4.6% Real Estate
- 6.2% Real Return

County Employees Retirement System
Non-Hazardous
Historical Asset Allocation



ASSET ALLOCATION TREND → TRS

24

- **Largely unchanged from prior year**

- Continue to add alternatives slowly
 - Private equity and real estate
- Fixed income has declined, but more diversified
- Consistent, stable equity exposure

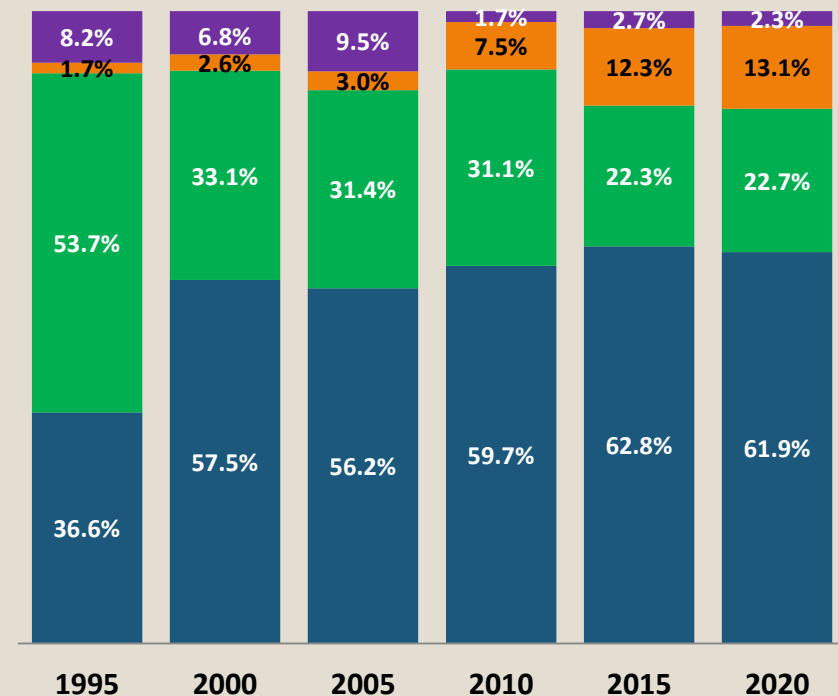
- **Alternative Allocation includes**

- 5.9% Private Equity/Credit
- 6.0% Real Estate
- 1.2% Real Return
- No Absolute Return/Hedge Funds

Teachers' Retirement System

Historic Asset Allocation

■ US Equity ■ Fixed Income ■ Alternatives ■ Cash



ASSET ALLOCATION TREND → JFRS

25

- **Plans allocated in traditional assets**

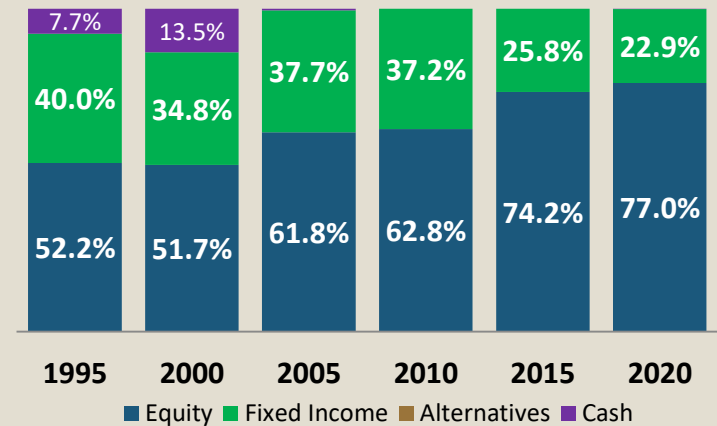
- Only U.S. Equity, primarily Large Cap
- Shorter term bonds, investment grade
- 70/30 Target Allocation

- **Peer Comparison**

- High Equity allocation
- Limited diversification by size, geography
- No alternatives

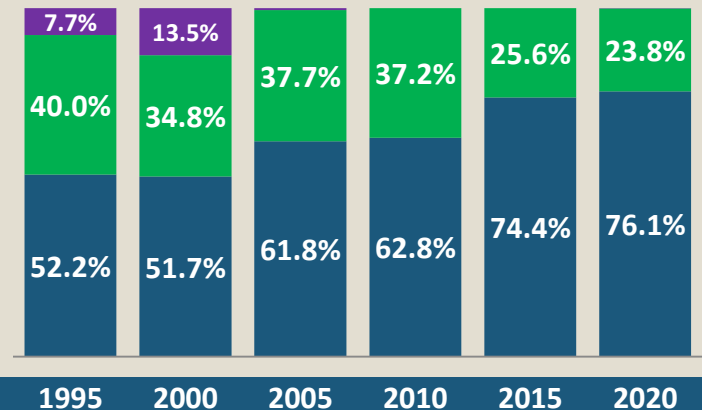
Legislators Retirement

Historic Asset Allocation



Judicial Retirement

Historic Asset Allocation



APPENDIX B

26

Insurance Portfolio Performance

INVESTMENT PERFORMANCE → Insurance

27

<i>As of June 30, 2020</i>	MV	1 –Year	3-Year	5-Year	10-Year	AROR
KERS	\$990.1M	1.0%	4.6%	5.3%	7.2%	6.25%
Policy Benchmark		0.2%	4.8%	5.5%	8.1%	
KERS – H	\$513.9M	0.2%	4.8%	5.5%	7.4%	6.25%
Policy Benchmark		0.2%	4.9%	5.5%	8.1%	
CERS	\$2.48B	0.4%	5.0%	5.7%	7.5%	6.25%
Policy Benchmark		0.2%	4.9%	5.5%	8.1%	
CERS – H	\$1.30B	0.3%	5.1%	5.7%	7.5%	6.25%
Policy Benchmark		0.2%	4.9%	5.5%	8.1%	
SPRS	\$199.0M	0.7%	5.2%	5.8%	7.6%	6.25%
Policy Benchmark		0.2%	4.9%	5.5%	8.1%	
TRS Insurance	\$1.53B	2.3%	5.6%	5.4%	-	8.0%
Policy Benchmark ¹		2.6%	5.8%	6.3%	-	

Net of Fee Returns ¹ TRS did not have target asset allocation prior to June 30, 2014, thus no benchmark return was calculated

APPENDIX C

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LRC Staff Calculated Peer Group

INVESTMENT REVIEW



Questions?