



Los Angeles County Employees Retirement Association

Investments Division

OPEB TRUST

**PERFORMANCE
REPORT**

For the quarter ended
September 30, 2023

review

An aerial photograph of Los Angeles at sunset. The city skyline is visible in the background, with the sun setting behind the mountains, creating a warm, orange and pink glow in the sky. The foreground shows residential buildings, palm trees, and a river or canal winding through the city.

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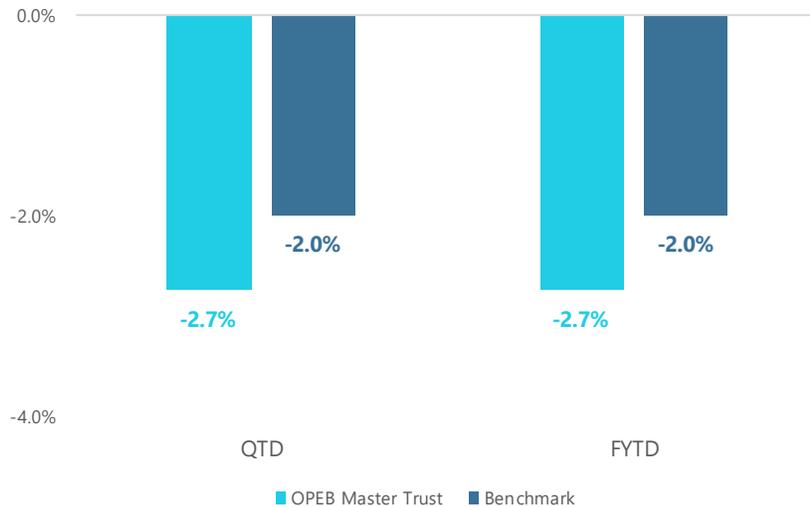
03 APPENDIX

opeb trust

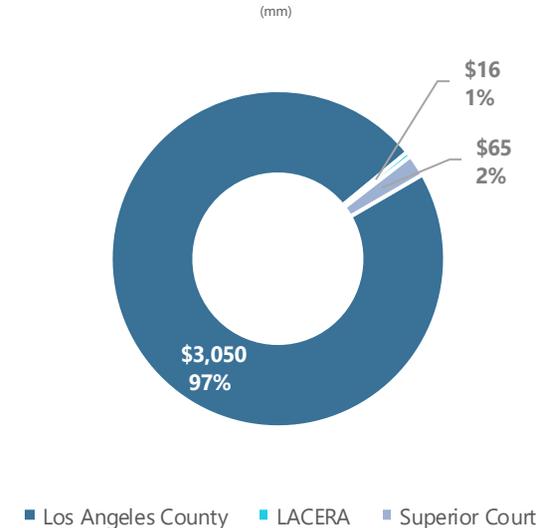
Quarterly Snapshot

for the quarter ended September 30, 2023

Performance (net)



Sub-Trust Ownership



Ending Market Value

3,130

↑ 1%
from prior quarter

Sharpe Ratio¹

0.3

↓ -46%
from prior quarter

Batting Average²

39%

↓ -4%
from prior quarter

Standard Deviation¹

12.4

—
from prior quarter

Tracking Error¹

1.5

↑ 7%
from prior quarter

¹ 3-year annualized.

² Percentage of managers that outperformed the benchmark for the quarter.

Summary

for the quarter ended September 30, 2023



Los Angeles County Employees Retirement Association

Performance (net)



	QTD	FYTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD
OPEB Master Trust	-2.7%	-2.7%	5.2%	11.9%	4.7%	4.6%	6.2%	5.8%
Benchmark	-2.0%	-2.0%	5.0%	11.0%	4.7%	4.4%	5.3%	5.0%
Excess	-0.7%	-0.7%	0.1%	0.9%	0.0%	0.2%	0.9%	0.8%
Sub-Trusts								
Los Angeles County	-2.7%	-2.7%	5.2%	11.9%	4.7%	4.6%	5.7%	5.3%
LACERA	-2.8%	-2.8%	5.0%	11.7%	4.6%	4.5%	5.6%	5.3%
Superior Court	-2.9%	-2.9%	5.0%	11.7%	4.6%	4.4%	--	6.2%

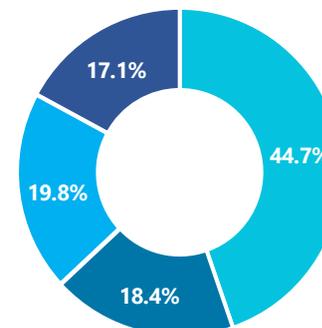
Cumulative Return



Functional Category

	QTD	FYTD	YTD	1 Year	3 Year	5 Year
OPEB Growth	-3.3%	-3.3%	9.5%	20.4%	7.1%	6.3%
OPEB Growth Policy Benchmark	-2.3%	-2.3%	11.0%	20.9%	6.9%	6.1%
Excess	-1.0%	-1.0%	-1.4%	-0.6%	0.2%	0.2%
OPEB Credit	0.8%	0.8%	7.0%	11.8%	2.6%	2.7%
OPEB Credit Policy Benchmark	2.2%	2.2%	7.9%	11.6%	2.7%	3.0%
Excess	-1.4%	-1.4%	-0.9%	0.2%	-0.1%	-0.2%
OPEB Real Assets & Inflation Hedges	-3.5%	-3.5%	-1.5%	1.9%	6.1%	3.3%
OPEB RA & IH Policy Benchmark	-2.2%	-2.2%	-4.9%	-2.2%	6.5%	3.5%
Excess	-1.3%	-1.3%	3.5%	4.0%	-0.5%	-0.2%
OPEB Risk Reduction & Mitigation	-5.0%	-5.0%	-2.5%	-1.0%	-4.6%	0.0%
OPEB RR & M Policy Benchmark	-5.3%	-5.3%	-2.9%	-1.7%	-5.2%	-0.4%
Excess	0.3%	0.3%	0.4%	0.6%	0.6%	0.4%

Exposure



- Growth
- Credit
- Real Assets & Inflation Hedges
- Risk Reduction & Mitigation

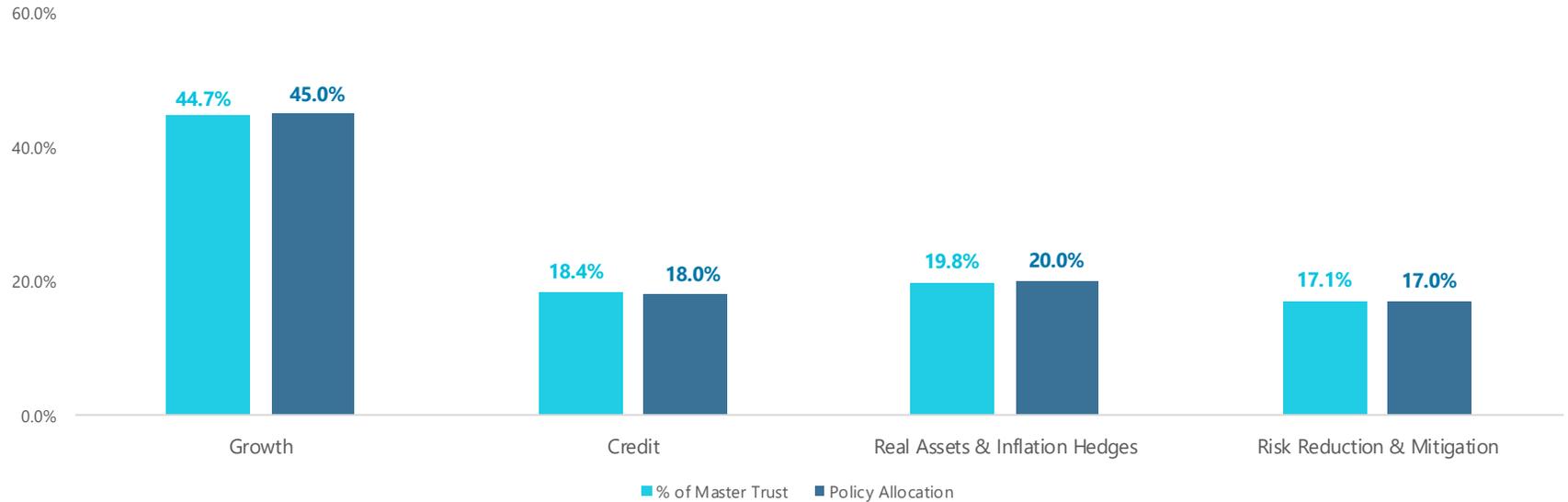
Asset Allocation

for the quarter ended September 30, 2023



Los Angeles County Employees Retirement Association

Actual vs. Policy¹



	Ending Market Value (mm)	% of Master Trust	Policy Allocation	Over / Under (%)	Over / Under (mm)
LACERA Master OPEB Trust Fund	3,129	100.0%	100.0%		
Growth	1,399	44.7%	45.0%	-0.3%	-9
Credit	575	18.4%	18.0%	0.4%	11
Real Assets & Inflation Hedges	620	19.8%	20.0%	-0.2%	-6
Risk Reduction & Mitigation	536	17.1%	17.0%	0.1%	4
Real Assets & Inflation Hedges	620	19.8%	20.0%	-0.2%	-6
OPEB HL PM Cash	0	0.0%			

¹ Total market value excludes cash balances held in ownership funds.

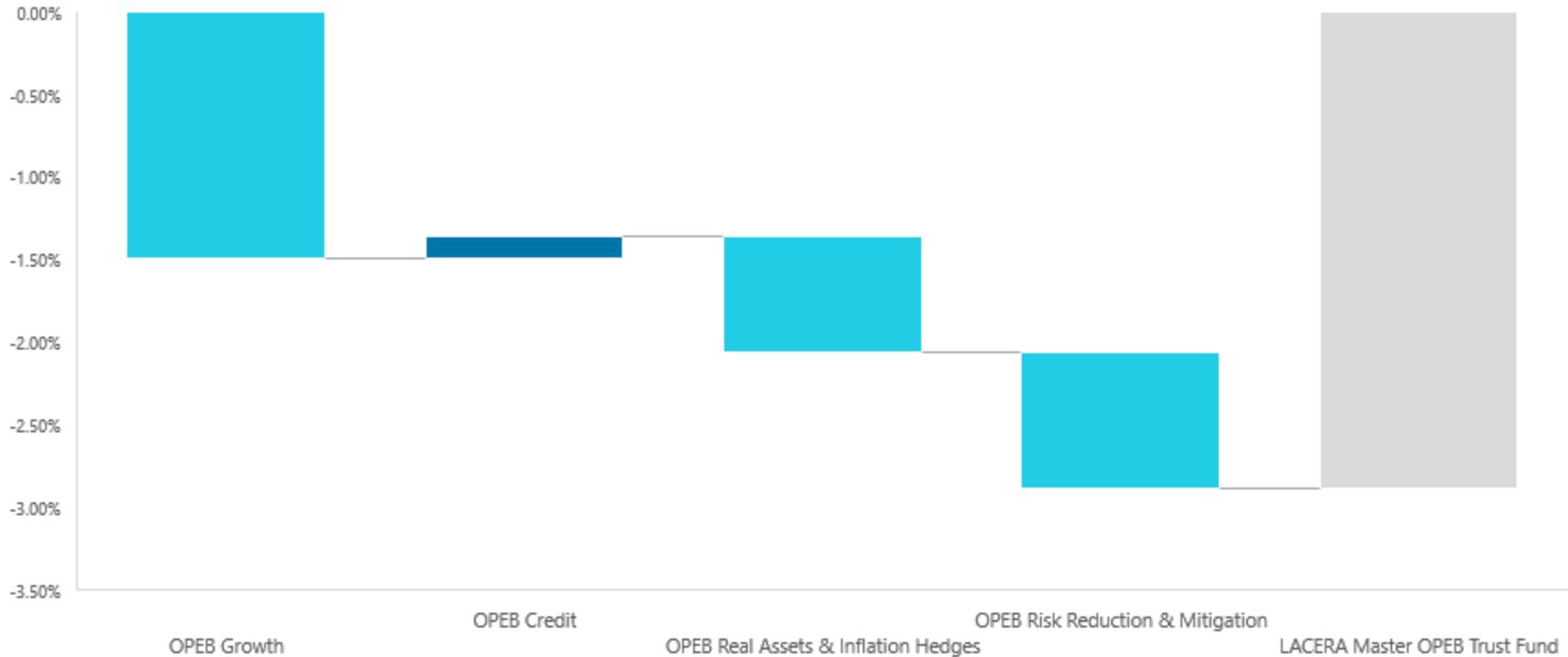
Contribution to Return

for the quarter ended September 30, 2023



Los Angeles County Employees Retirement Association

QTD/FYTD Contribution to Return



Functional Category	Contributors	Detractors
OPEB Growth	OPEB BLK Bank Loans	OPEB BLK Global Equities
OPEB Credit	OPEB BTC Commodities	OPEB BLK REITS
OPEB Real Assets & Inflation Hedges	OPEB Cash	OPEB LTG Bonds
OPEB Risk Reduction & Mitigation	OPEB BLK High Yield	OPEB BLK IG Bonds
LACERA Master OPEB Trust Fund		

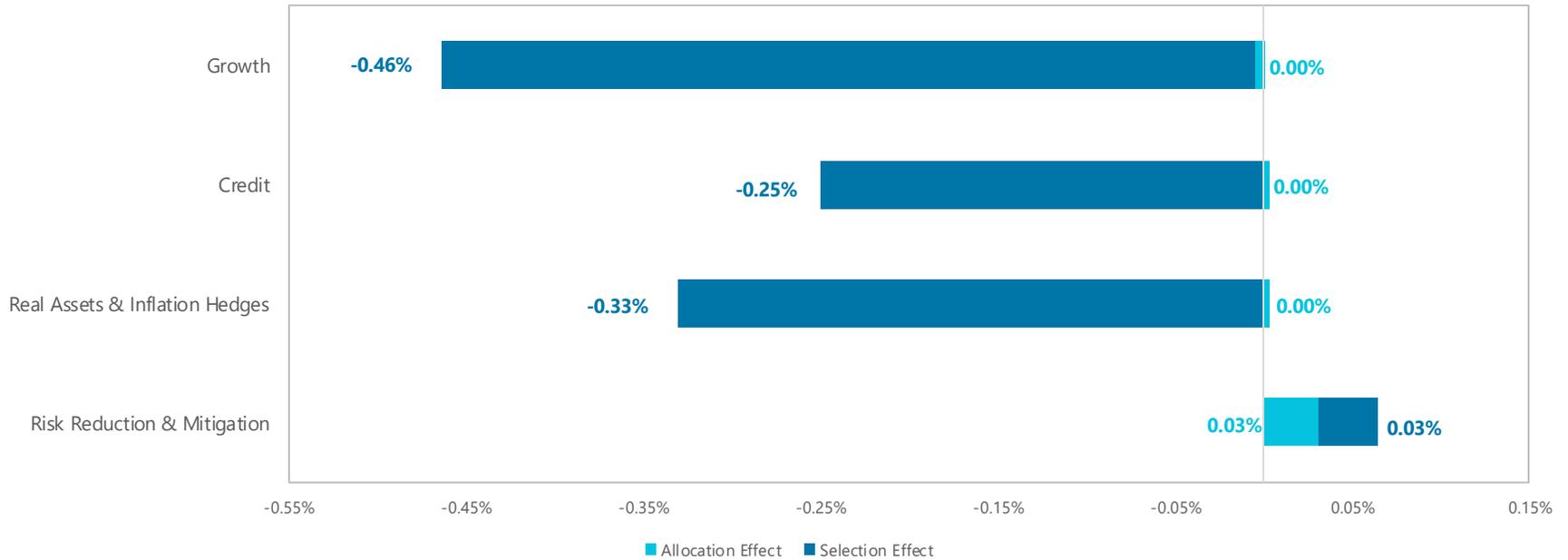
Return Attribution

for the quarter ended September 30, 2023



Los Angeles County Employees Retirement Association

QTD/FYTD Performance Attribution^{1,2}



	Ending Market Value (mm)	% of Master Trust	Policy Allocation	Portfolio Return	Benchmark Return	Allocation Effect	Selection Effect	Total Value Add
LACERA Master OPEB Trust Fund	3,129	100.0%	100.0%	-2.9%	-2.0%	0.03%	-1.00%	-0.97%
Growth	1,399	44.7%	45.0%	-3.3%	-2.3%	0.00%	-0.46%	-0.46%
Credit	575	18.4%	18.0%	0.8%	2.2%	0.00%	-0.25%	-0.25%
Real Assets & Inflation Hedges	620	19.8%	20.0%	-3.5%	-2.2%	0.00%	-0.33%	-0.33%
Risk Reduction & Mitigation	536	17.1%	17.0%	-5.0%	-5.3%	0.03%	0.03%	0.06%
OPEB HL PM Cash	0	0.0%	0.0%					

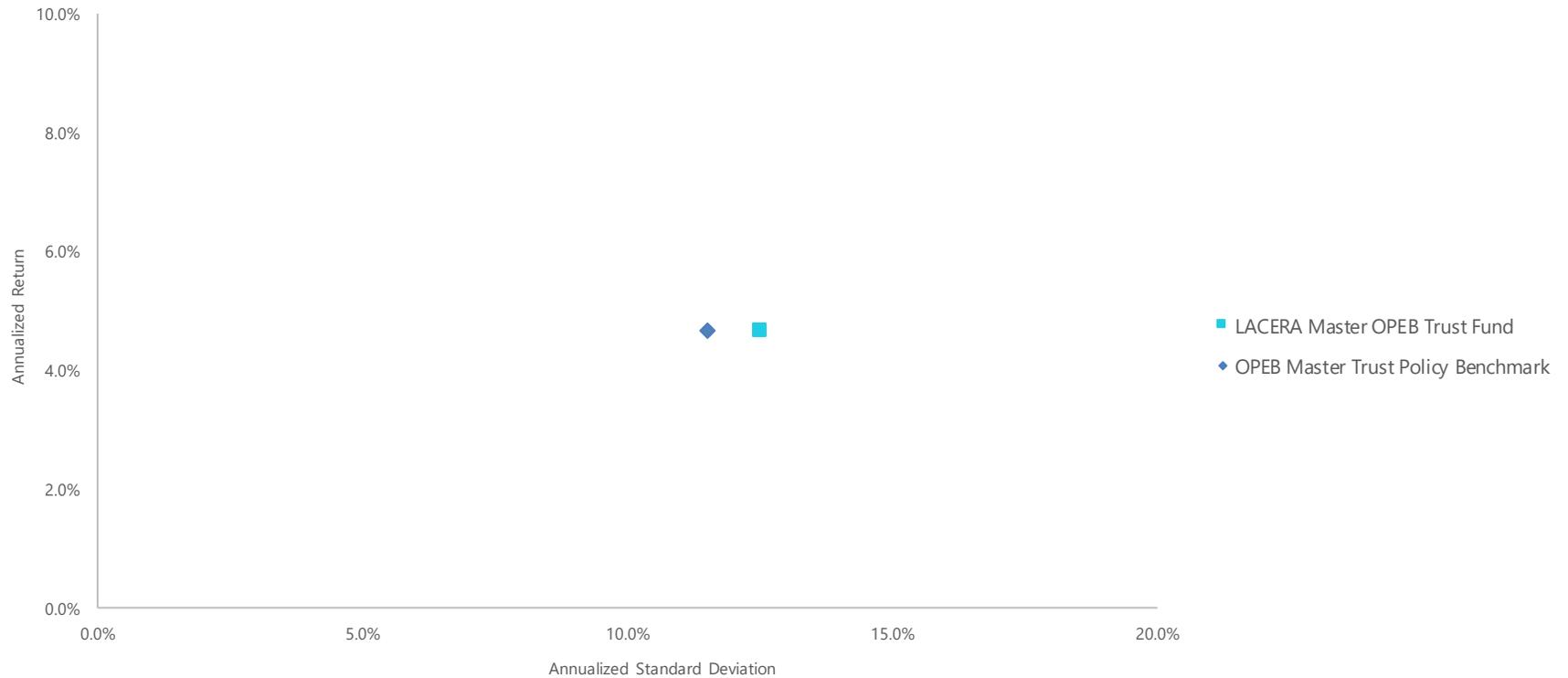
¹ Total market value excludes cash balances held in ownership funds.

² Total Value Add column includes Interaction Effect.

Risk vs. Return

for the quarter ended September 30, 2023

3 Year (Annualized)



	Annualized Return	Standard Deviation	Sharpe Ratio	Information Ratio	Beta	Tracking Error
LACERA Master OPEB Trust Fund	4.7%	12.5%				
OPEB Master Trust Policy Benchmark	4.7%	11.5%	0.29	-0.01	1.08	1.6%

Performance Detail

for the quarter ended September 30, 2023



Los Angeles County Employees Retirement Association

Annualized Net Returns

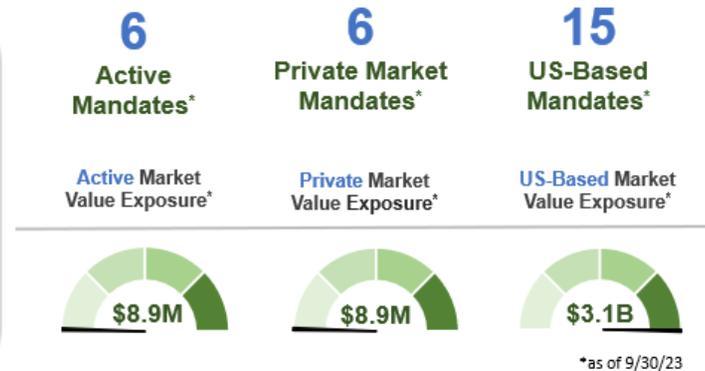
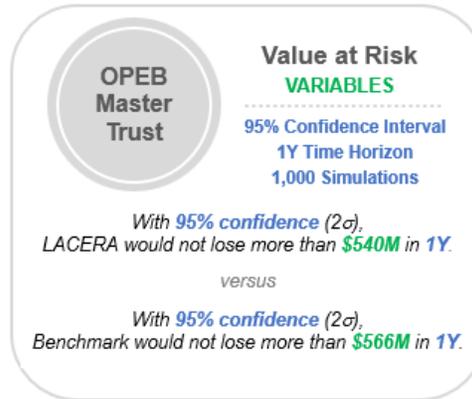
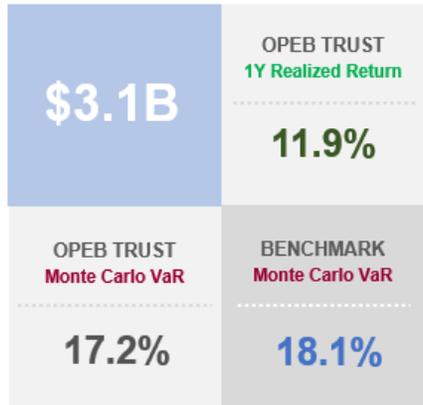
	% of Total Fund	Ending Market Value (mm)	Prior Quarter Ending MV (mm)	QTD	FYTD	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Inception Date
OPEB Master Trust	100.0%	3,130	3,092	-2.7%	-2.7%	5.2%	11.9%	4.7%	4.6%	6.2%	5.8%	Feb-2013
OPEB Master Trust Policy Benchmark				-2.0%	-2.0%	5.0%	11.0%	4.7%	4.4%	5.3%	5.0%	
Sub-Trusts												
LACERA	0.5%	16	16	-2.8%	-2.8%	5.0%	11.7%	4.6%	4.5%	5.6%	5.3%	Feb-2013
Los Angeles County	97.4%	3,050	3,009	-2.7%	-2.7%	5.2%	11.9%	4.7%	4.6%	5.7%	5.3%	Feb-2013
Superior Court	2.1%	65	67	-2.9%	-2.9%	5.0%	11.7%	4.6%	4.4%	--	6.2%	Jul-2016
LACERA Master OPEB Trust Fund	100.0%	3,129	3,084	-2.9%	-2.9%	5.1%	11.8%	4.7%	4.6%	5.7%	5.3%	Feb-2013
OPEB Master Trust Policy Benchmark				-2.0%	-2.0%	5.0%	11.0%	4.7%	4.4%	5.3%	5.0%	
OPEB Growth	44.7%	1,399	1,469	-3.3%	-3.3%	9.5%	20.4%	7.1%	6.3%	--	9.1%	Jul-2016
OPEB Growth Policy Benchmark				-2.3%	-2.3%	11.0%	20.9%	6.9%	6.1%	--	8.9%	
OPEB Global Equities	44.5%	1,392	1,469	-3.4%	-3.4%	9.4%	20.2%	7.1%	6.3%	--	7.1%	Mar-2014
MSCI ACWI IMI Net				-3.4%	-3.4%	9.4%	20.2%	6.9%	6.1%	--	6.8%	
OPEB HL Private Equity	0.2%	7	0	--	--	--	--	--	--	--	37.2%	Sep-2023
OPEB Private Equity Custom Benchmark				--	--	--	--	--	--	--	6.0%	
OPEB Credit	18.4%	575	587	0.8%	0.8%	7.0%	11.8%	2.6%	2.7%	--	2.8%	Jul-2018
OPEB Credit Policy Benchmark				2.2%	2.2%	7.9%	11.6%	2.7%	3.0%	--	3.1%	
OPEB Liquid Credit	18.4%	575	587	0.8%	0.8%	7.0%	11.8%	--	--	--	0.3%	Oct-2021
OPEB Liquid Credit Policy Benchmark				1.4%	1.4%	7.2%	11.4%	--	--	--	0.0%	
OPEB BlackRock Bank Loans	9.3%	292	294	2.8%	2.8%	9.1%	12.7%	5.6%	4.1%	--	4.3%	Jul-2018
S&P/LSTA Leverage Loan				3.5%	3.5%	10.2%	13.1%	6.1%	4.5%	--	4.6%	
OPEB BTC EM Debt LC	3.5%	111	117	-3.7%	-3.7%	3.6%	12.2%	-3.1%	-0.5%	--	-0.9%	Jul-2018
JPM GBI-EM Global Diversified				-3.3%	-3.3%	4.3%	13.1%	-2.7%	0.0%	--	-0.4%	
OPEB BTC High Yield Bonds	5.5%	172	176	0.3%	0.3%	5.7%	9.9%	1.5%	2.5%	--	2.9%	Jul-2018
BBG BC US Corporate HY Index				0.5%	0.5%	5.9%	10.3%	1.8%	3.0%	--	3.3%	
OPEB Real Assets & Inflation Hedges	19.8%	620	616	-3.5%	-3.5%	-1.5%	1.9%	6.1%	3.3%	--	3.1%	Jul-2018
OPEB RA & IH Policy Benchmark				-2.2%	-2.2%	-4.9%	-2.2%	6.5%	3.5%	--	3.2%	
OPEB BTC Commodities	4.4%	137	121	4.7%	4.7%	-3.6%	-1.5%	16.2%	6.1%	--	5.4%	Jul-2018
Bloomberg Commodity Index Total Return				4.7%	4.7%	-3.4%	-1.3%	16.2%	6.1%	--	5.4%	
OPEB BTC REITS	9.3%	291	312	-7.4%	-7.4%	-1.8%	2.9%	6.1%	1.5%	--	1.6%	Jul-2018
DJ US Select Real Estate Securities				-7.3%	-7.3%	-2.0%	2.7%	6.1%	1.6%	--	1.6%	
OPEB BTC TIPS	6.1%	190	183	-2.6%	-2.6%	-0.5%	1.4%	-1.9%	2.2%	--	1.9%	Jul-2018
Bloomberg U.S. Treasury: U.S. TIPS				-2.6%	-2.6%	-0.8%	1.2%	-2.0%	2.1%	--	1.9%	
OPEB HL Natural Resources	0.1%	2	0	--	--	--	--	--	--	--	-3.9%	Sep-2023
OPEB Natural Resources Policy Benchmark				--	--	--	--	--	--	--	6.5%	
OPEB Risk Reduction & Mitigation	17.1%	536	413	-5.0%	-5.0%	-2.5%	-1.0%	-4.6%	0.0%	--	0.4%	Jul-2016
OPEB RR & M Policy Benchmark				-5.3%	-5.3%	-2.9%	-1.7%	-5.2%	-0.4%	--	0.0%	
OPEB BTC Investment Grade Bonds	10.2%	318	275	-3.1%	-3.1%	-0.9%	0.8%	-5.1%	0.2%	--	0.2%	Jul-2018
BBG BARC Aggregate Bond Index				-3.2%	-3.2%	-1.2%	0.6%	-5.2%	0.1%	--	0.1%	
OPEB Cash	2.0%	63	62	1.4%	1.4%	4.1%	5.4%	2.0%	2.1%	1.5%	1.5%	Feb-2013
OPEB Cash Policy Benchmark				1.4%	1.4%	3.8%	4.7%	1.8%	1.8%	1.2%	1.1%	
OPEB LTG Bonds	5.0%	155	76	-12.0%	-12.0%	-8.9%	--	--	--	--	-8.7%	Dec-2022
Bloomberg U.S. Treasury: Long				-11.8%	-11.8%	-8.6%	--	--	--	--	-8.9%	
OPEB HL PM Cash	0.0%	0	0									

risk reports

Risk Summary

for the quarter ended September 30, 2023

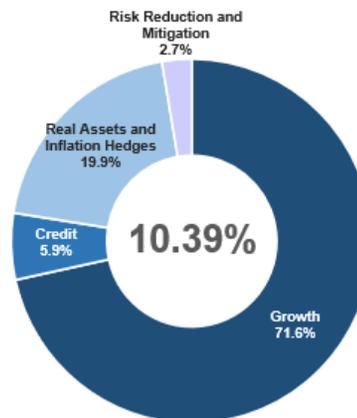
Realized (Ex-Post) Risks



Projected (Ex-Ante) Risks

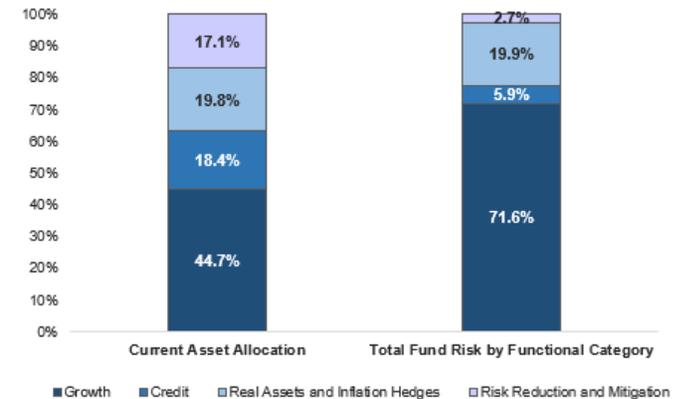


Functional Category Contributions to OPEB Trust Risk



OPEB Master Trust Asset Allocation

Capital-based versus Risk-based



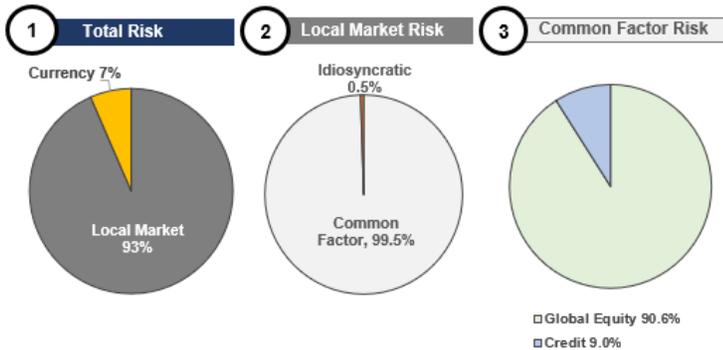
Risk Summary

for the quarter ended September 30, 2023

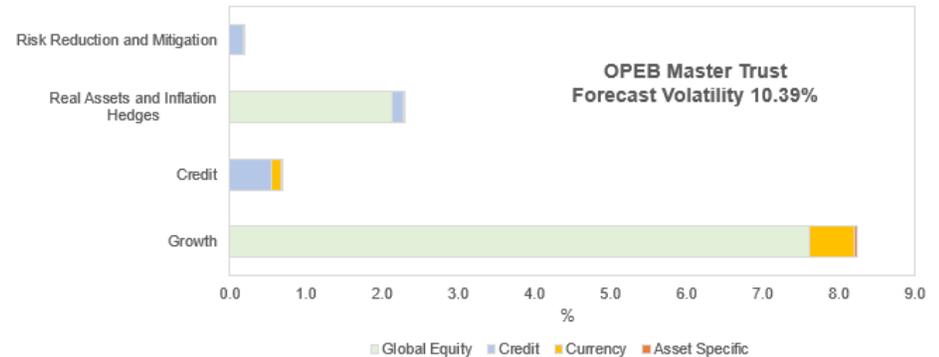
Decomposition of MSCI Risk Factors



OPEB Master Trust Risk Decomposition



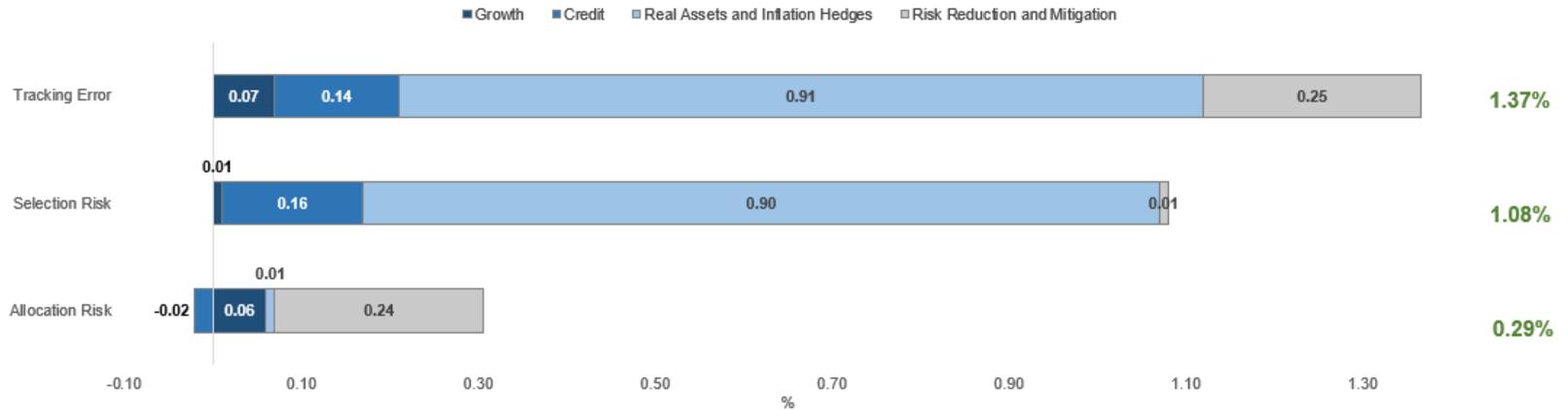
OPEB Master Trust Contribution by Risk Factor



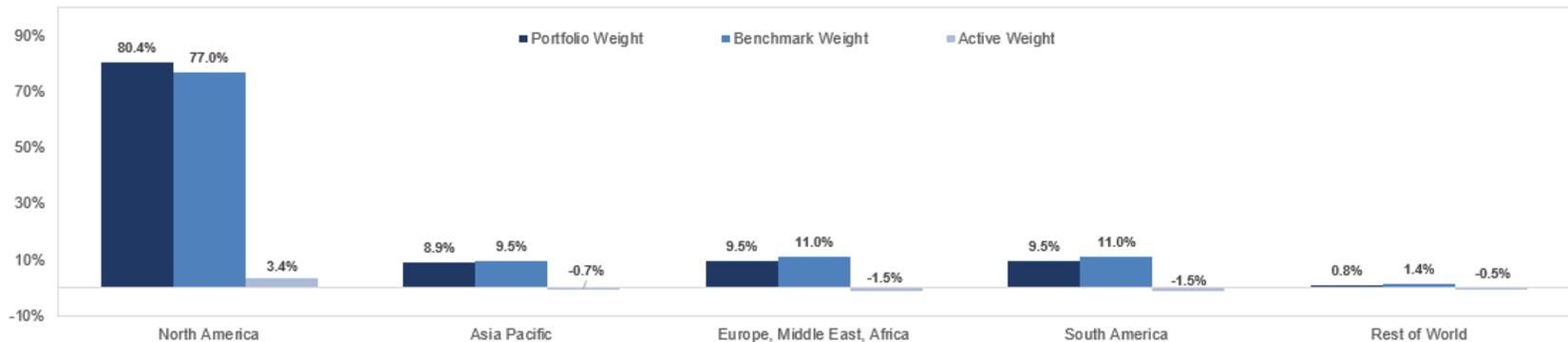
Risk Summary

for the quarter ended September 30, 2023

Functional Category Contributions to Tracking Error



Portfolio Allocation by Region¹



¹ Rest of World is sum of countries with weights below 0.5%.

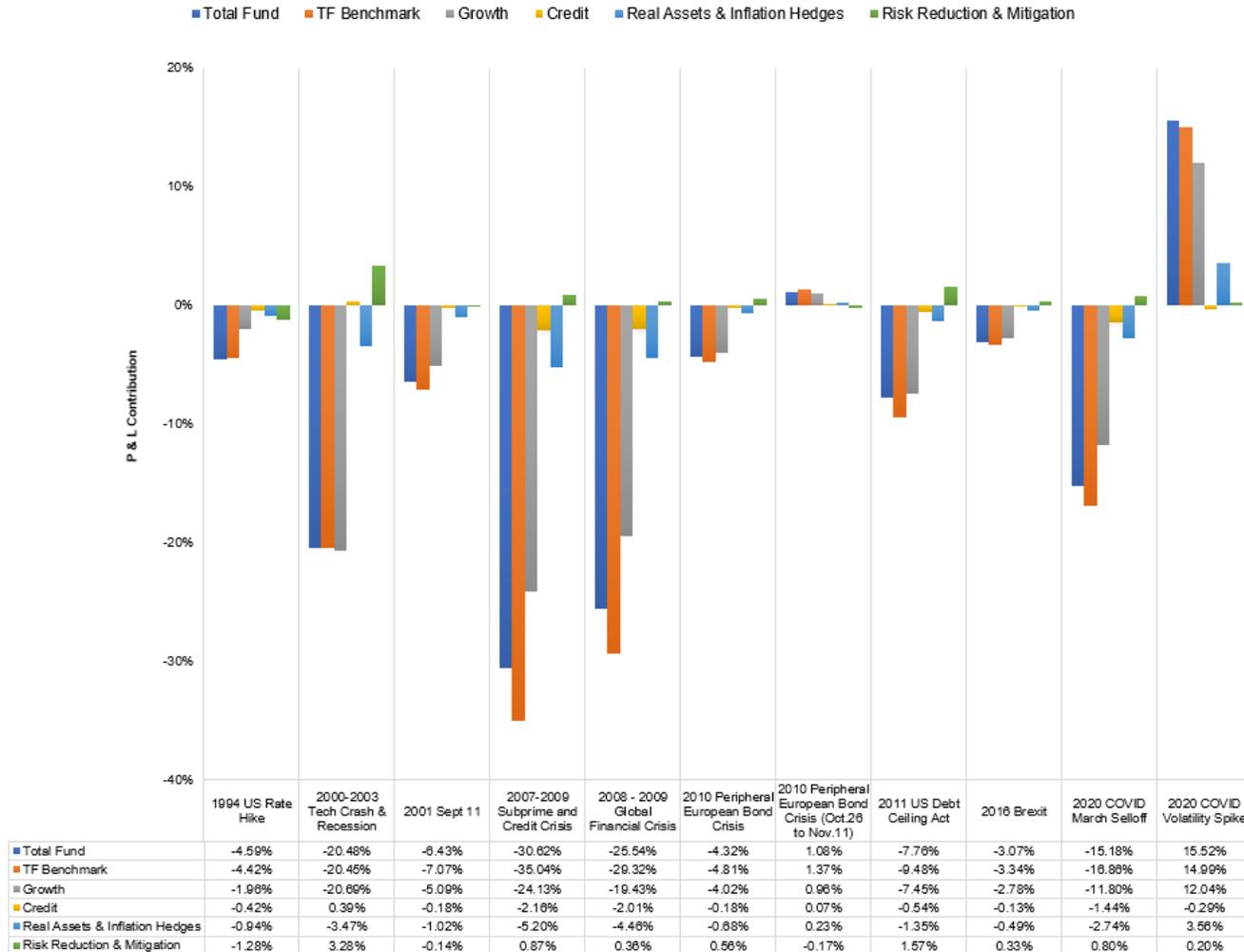
Stress Tests

for the quarter ended September 30, 2023



Los Angeles County Employees Retirement Association

Scenarios by Asset Category



Stress Tests

for the quarter ended September 30, 2023

Scenario Descriptions

Historical Scenario	Description	Stock Market	Interest Rates	Bond Market	Commodity Market
1994 US Rate Hike	In combating inflation, the US Federal Reserve raised rates from 3.25% in February to 5.5% in November 1994.				
2000-2003 Tech Crash & Recession	Period of crisis and slowdown for technological firms due to a rapid jump in stock prices when tech bubble began to burst.				
2001 September 11th	The US stock market was closed for a week upon a series of coordinated suicide attacks upon the US on September 11, 2001.				
2008-2009 Global Financial Crisis	Major financial crisis starting with the failure of several US-based financial firms. Extended into 2009, when stock markets reached their lowest.				
2010 European Bond Crisis	During crisis, the liquidity access for peripheral countries was affected by budget deficits, high borrowing costs, and failing banking systems.				
2011 US Debt Ceiling Act	Political deadlock on appropriate level of US government spending and its impacts. Debt and equity markets experienced significant volatility.				
2016 Brexit	The referendum by British voters to exit the European Union roiled global markets causing the pound to fall to its lowest level in decades.				
2020 COVID March Selloff	Peak and Valley of the MSCI ACWI index when Covid became a Global Pandemic.				
2020 COVID Volatility Spike	Period it took for the Cboe Volatility Index (VIX) to revert to pre-pandemic levels.				

Market Trend Signals

Up
 Slightly Up
 Neutral
 Down
 Slightly Down

appendix

Benchmark Definitions

Current Composition

	Weight	Component
Master Trust		
OPEB Master Trust Policy Benchmark		
	45%	OPEB Growth Policy Benchmark
	18%	OPEB Credit Policy Benchmark
	20%	OPEB RA & IH Policy Benchmark
	17%	OPEB RR & M Policy Benchmark
Growth		
OPEB Growth Policy Benchmark		
	89%	MSCI ACWI IMI Net
	11%	OPEB Private Equity Policy Benchmark
Credit		
OPEB Credit Policy Benchmark		
	72%	OPEB Liquid Credit Policy Benchmark
	28%	OPEB Illiquid Credit Policy Benchmark
OPEB Liquid Credit Policy Benchmark		
	38%	Bloomberg U.S. Corporate High Yield
	46%	CS Leveraged Loan Index
	8%	JPMorgan EMBI Global Diversified Index
	4%	JPM GBI-EM Global Diversified Index
	4%	JPM CEMBI Broad Diversified
Real Assets & Inflation Hedges		
OPEB RA & IH Policy Benchmark		
	40%	OPEB Real Estate Policy Benchmark
	10%	S&P Global Natural Resources Index
	10%	Bloomberg Commodity Index Total Return
	10%	DJ Brookfield Global Infra Comp
	30%	Bloomberg U.S. Treasury: U.S. TIPS
Risk Reduction & Mitigation		
OPEB RR & M Policy Benchmark		
	59%	Bloomberg U.S. Aggregate
	29%	Bloomberg U.S. Treasury: Long
	12%	OPEB Cash Policy Benchmark
OPEB Cash Policy Benchmark		
	100%	FTSE 3-Month US Treasury Bill

A

ANNUAL RETURN

The total return of a security over a specified period, expressed as an annual rate of interest.

ACTIVE RISK

The expected standard deviation of the differential return between the portfolio and the benchmark. Active total risk arises from active management, and it is the result of active weights (deviations from the benchmark at the asset level) and therefore active exposures; for passively managed portfolios, it is referred to as “total tracking error.”

ACTIVE RISK CONTRIBUTION

Percent contribution to active total risk (or tracking error). The percent of active total risk that an individual asset or risk source contributes. For example, a % CR to Active Total Risk of 10% indicates that 10% of the portfolio’s active total risk is arising from the active position in that particular asset.

B

BASIS POINTS (BPS)

One one-hundredth of one percent. One hundred basis points equal one percent.

BETA

A measure of the volatility of a stock relative to the overall market. A beta of less than one indicates lower risk than the market; a beta of more than one indicates higher risk than the market.

D

DURATION

A measure of the price sensitivity of a bond portfolio to changes in interest rates.

F

FUTURES CONTRACT

Agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price and a stipulated future date.

H

HIGH YIELD BOND

A bond with a low investment quality and credit worthiness, usually with a rating of BB or less.

I

INFORMATION RATIO

The excess return (alpha) per unit of active risk (tracking error).

INTERNAL RATE OF RETURN (IRR)

A total rate of return that gives full weight to the size and timing of cash flows over the period measured and fully reflects unrealized gains and losses in addition to realized gains and losses, interest and dividend income.

M

MC TO TOTAL TRACKING ERROR

This value represents the change in the active risk of an asset's portfolio or group that would result from a one percent increase in the asset's effective position plus an equal short position in the benchmark.

S

SHARPE RATIO

Average return earned in excess of the risk-free rate per unit of total risk.

STANDARD DEVIATION

Statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution. The greater the degree of dispersion, the greater the risk.

T

TIME-WEIGHTED RETURN (TWR)

A measure of the compound rate of growth in a portfolio. Often used to compare the returns of investment managers because it eliminates the distorting effects on growth rates created by inflows and outflows of money.

TOTAL RISK

The total (gross) risk to an asset (or portfolio), which is the standard deviation of the asset's total return distribution, expressed in percent. Total risk is forecasted using MSCI Barra's multiple factor models. The total risk for an asset depends on the asset's exposures to the risk factors, the factor variance/covariance matrix, and the forecast selection risk of the asset.

TOTAL RISK CONTRIBUTION

The percent of total risk that an individual asset or risk source contributes. For example, a % CR to Total Risk of 10% indicates that 10% of the portfolio's total risk is arising from the portfolio's position in that particular asset.

Y

YIELD TO MATURITY

The return a bond earns on the price at which it was purchased if it were held to maturity. It assumes that coupon payments can be reinvested at the yield to maturity.