Client Insight Unit

BlackRock.

US Public Pension Peer Risk Study

FY 2023 Allocations and Reporting

San Bernardino County Employees Retirement Association

AIBM0724U/S-3759009-1/63

Important Disclosures

Source: BlackRock, Public Plan Database (PPD), and Pensions & Investments (P&I), May 2024. BlackRock does not verify the information reported by each plan or data provider.

Longer-term trend data:
Funded ratio, demographics, payments, contributions, assumed return, and realized return trends are sourced from PPD and are stated as reported. Data is based on availability and the cohort of plans included in trend data presented may change over time. BlackRock performs calculations using the PPD data to illustrate topical trends affecting public pensions through time. Allocation trend data includes approximately 93 plans with granular and consistent data from PPD. Actual plan allocations may differ based on reporting and proxying methodology and changes in exposure may represent modifications to reporting instead of an actual change in allocation. FY 2023 allocation data based on peer study coverage universe.

FY 2023 information used in peer comparisons:
Actuarial, return, and allocation data for each plan is sourced from public reports, data provided by plans, P&I and PPD. Details on the full peer universe is available on the "BlackRock's Public Pension Plan Coverage Universe" slide at the end of this presentation. In some instances, fund level modeled data, reported actuarial data, and returns data are reported at different entity levels based on information availability. The asset allocation of each plan is aligned to a defined asset allocation for comparability between plans and mapped to BlackRock's Capital Market Assumptions (CMA) to estimate the risk and return. Aggregate average metrics (peer group and all plans) is the simple average of the cohort.

Hypothetical Expected Return and Stress Testing Returns:
Expected returns are based upon BlackRock's March 2024 Capital Market Assumptions (CMA). Stress Test Returns are based upon BlackRock Solutions Aladdin risk model.
There is no guarantee that results of BlackRock's CMA or Aladdin risk model will be achieved and all returns could be significantly higher or lower than those shown. **All hypothetical results are not a guarantee of future returns.** Hypothetical returns are shown net of fees and expenses and include reinvestment of dividends, capital gains, and interest. The results shown are for illustrative discussion purposes only and no representation is being made that any account, product or strategy will achieve results shown. All hypothetical returns deduct advisory level and underlying asset class level fees and expenses. The advisory level model fee of 0.05% represents the highest advisory fee charged for the institutional client type. **Please read Appendix slides entitled Capital Markets Modeling Assumption (CMA) for table listing the underlying fees applied for each underlying asset class.**

Risk modeling uses a 84% confidence interval and 282 constant weighted monthly observations. Stress scenarios are instantaneous and fees are divided by 365 and deducted from the modeled scenario output. Stress scenario results do not represent any account, product or strategy and there is no guarantee that a proxy or portfolio will achieve results similar to those shown. The historical scenarios simulate each portfolio shown through hypothetical large market shocks and geopolitical stresses, with implied shocks. Scenario analysis is performed by parametrically shocking the underlying risk factor exposures of the portfolios by a set of instantaneous changes to derive the resulting hypothetical returns. The returns in the scenarios are expressed as a hypothetical percentage change in value if those shocks were to be realized and are based on criteria that have been applied retroactively with the benefit of hindsight and therefore cannot account for all financial risk that may affect actual performance.

Hypothetical Expected Risk
BlackRock, as of March 2024. Ex-ante risk is defined as annual expected volatility and is calculated using data derived from portfolio holdings, using the Aladdin portfolio risk model. This proprietary multi-factor model can be applied across multiple asset classes to analyze the impact of different characteristics of securities on their behaviors in the market place. In analyzing risk factors, the Aladdin portfolio risk model attempts to capture and monitor these attributes that can influence the risk/return behavior of a particular security/asset. Risk: Monthly Constant Weighted (MTC model) with 282 monthly observations; 1 standard deviation; 1yr horizon.

Definitions and Abbreviations:
Assumed return is the target return the plan believes it can achieve and is set by the plans advisors; assumed returns reflect the latest return available and are stated as reported
Realized return is the actual return the plan reported it achieved in the period of measurement; return methodology may differ plan to plan and are stated as reported. Net of fee returns are used where available.
YoY: Year-over-year, Exp: Expected, FI: Fixed Income, Gov: Governments, Tsy: Treasuries, MBS: Mortgage Backed Securities, Corp: Corporates, IG/Inv Grade: Investment Grade, HY: High Yield, BL: Bank Loans, EM: Emerging Market, HF: Hedge Funds, PE: Private Equity, PC/Prv Credit: Private Credit, RE: Real Estate, Opp: Opportunistic, Distrsd: Distressed, Special Sits: Special Situations, Infra: Infrastructure, Cmdty: Commodity, RA: Real Assets, Sys: Systematic, NAV: Net Asset Value.

Read the Macro Factors Glossary, CMA disclosures, Asset Class Mapping, Stress testing disclosures and scenario definitions, and other information in the Appendix.

What
is the US Public Pension Peer Risk Study

Industry thought leadership
Our annual study provides a holistic overview of the pension investment landscape, including asset allocation, expected returns, risk factor decomposition, and stress testing

Who
is included in the analysis

Coverage
Our analysis covers over 135 plans ranging in size from $437M to $450B; peer groups are selected based on AUM, funded ratio, location, as well as other factors

Where
is the data sourced from

Sourcing
Plan data is sourced from public reports, data provided by plans, Pensions & Investments (P&I) and the Public Plans Database (PPD); PPD data is also leveraged for trend analysis which covers a different cohort of plans

How
is the analysis compiled

Capital market assumptions (CMAs)
Asset allocation data is mapped to an asset class represented by an index/proxy with an associated expected risk and return using the Aladdin® platform and our 10yr CMAs (May '24)

When
is the data as of

Latest annual reports
While most peer data is as of June 2023, some plans report actuarial, return, or holdings data on another date. Refer to "Peer Group Summary" for the reporting dates of each plan

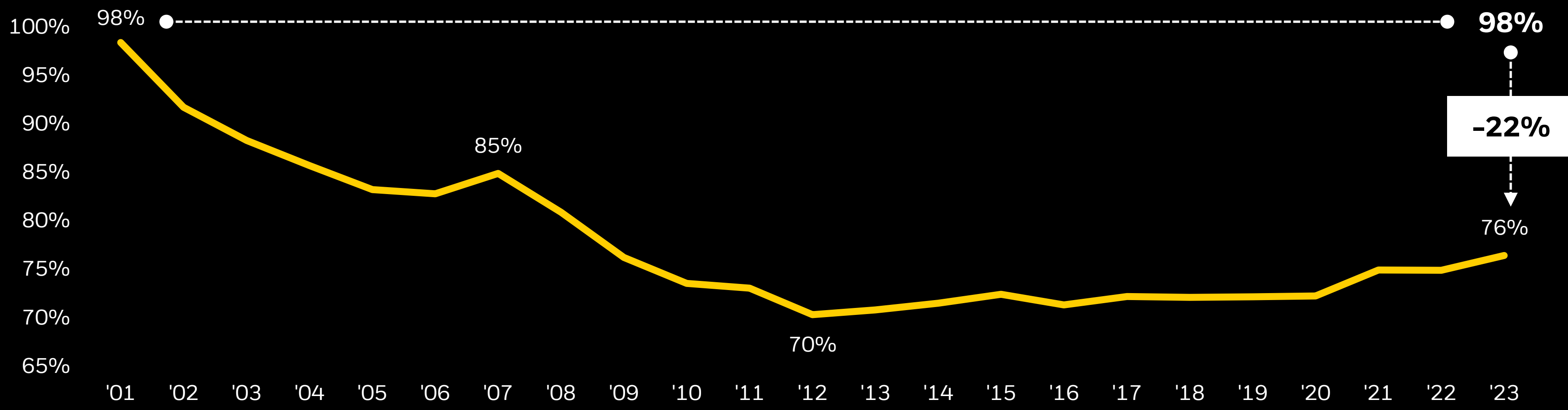
Important Info

Source: BlackRock, Pensions & Investments (P&I), Public Plan Data (PPD), June 2024. Plan data is sourced from fiscal year end Annual Reports as of 2023. There is no guarantee that the Capital Market Assumptions will be achieved, and actual returns could be significantly higher or lower than those shown. **Please refer to the "Capital Market and Modeling Assumptions" and "Asset Class Mapping" slides in the appendix for more information.** All aggregate average metrics (peer group and all plans) is the simple average of the cohort.

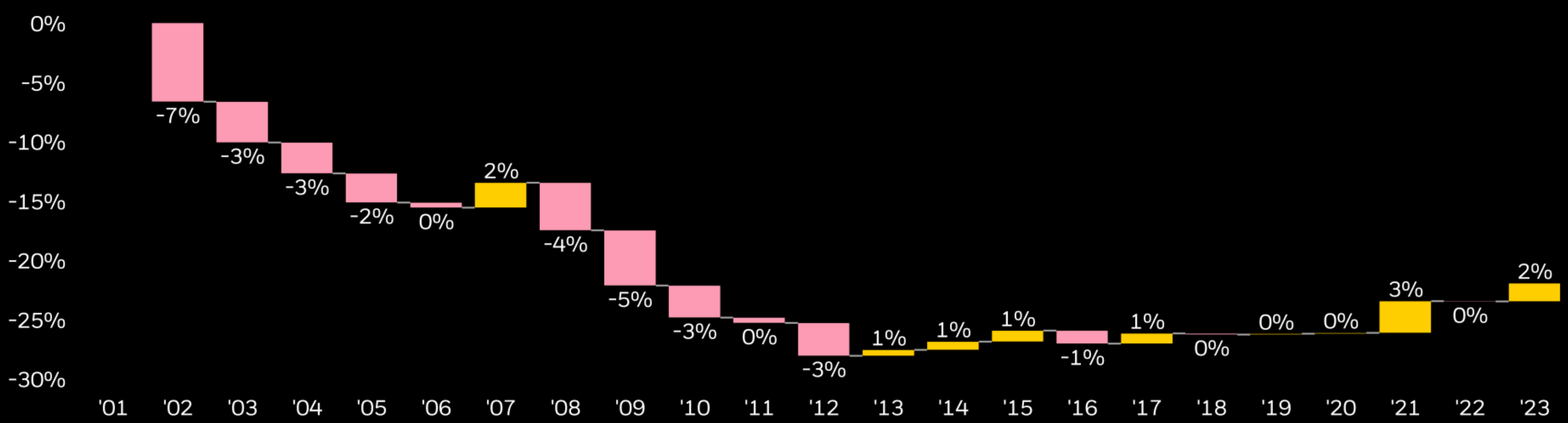
Public Pension Trends

Funded Ratio

Funded Ratio by Year

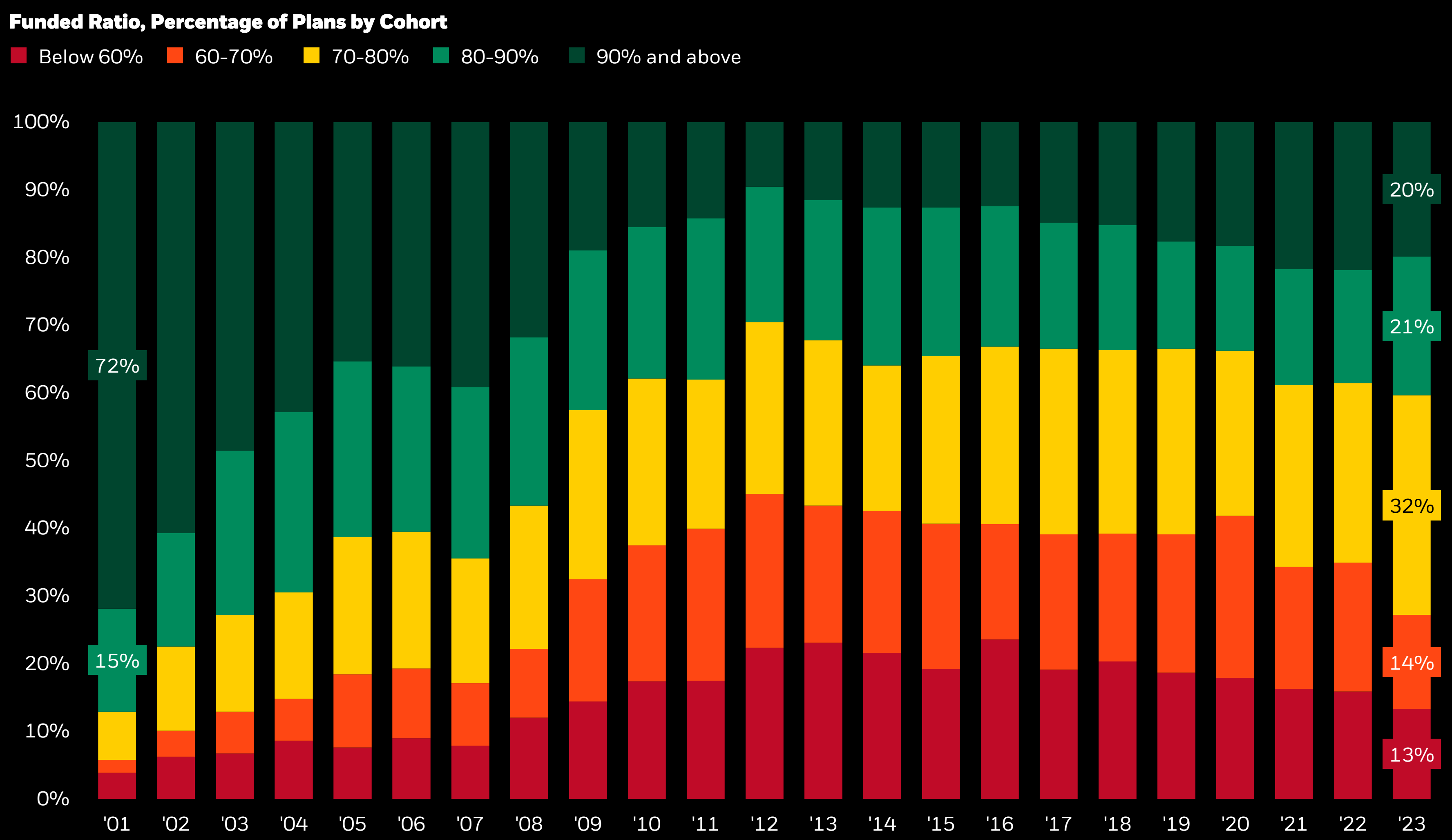


Funded Ratio, Year over Year Change



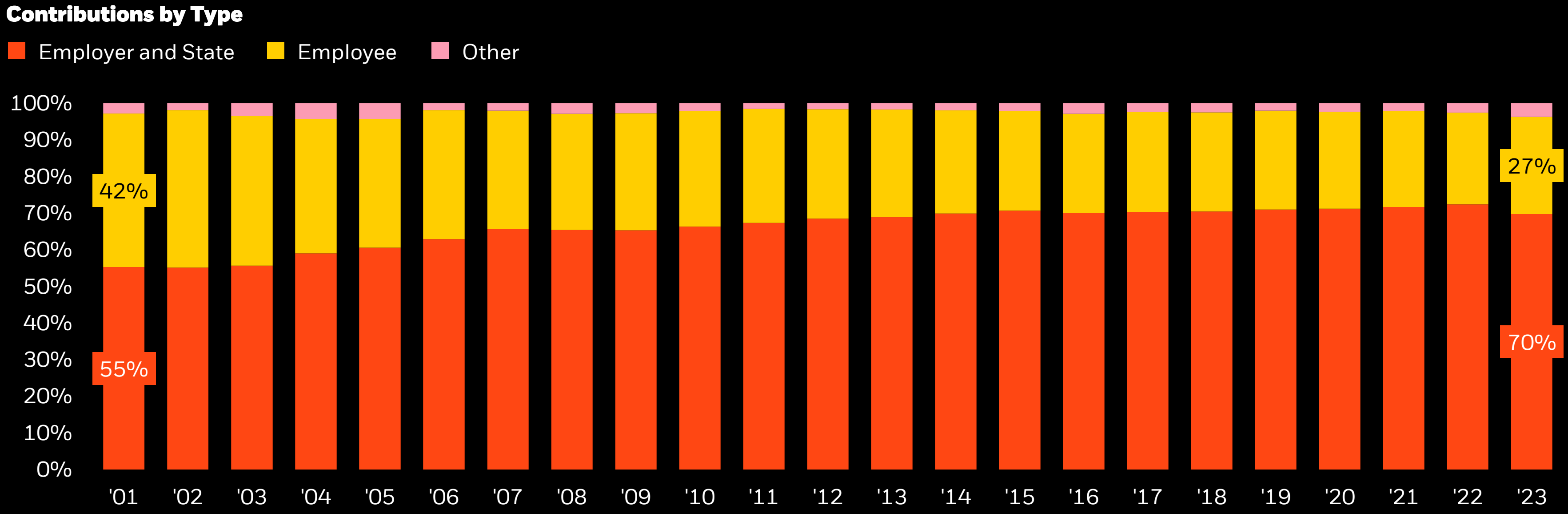
Source: PPD and BlackRock, June 2024. Read important disclosures on slide 2 for more information.

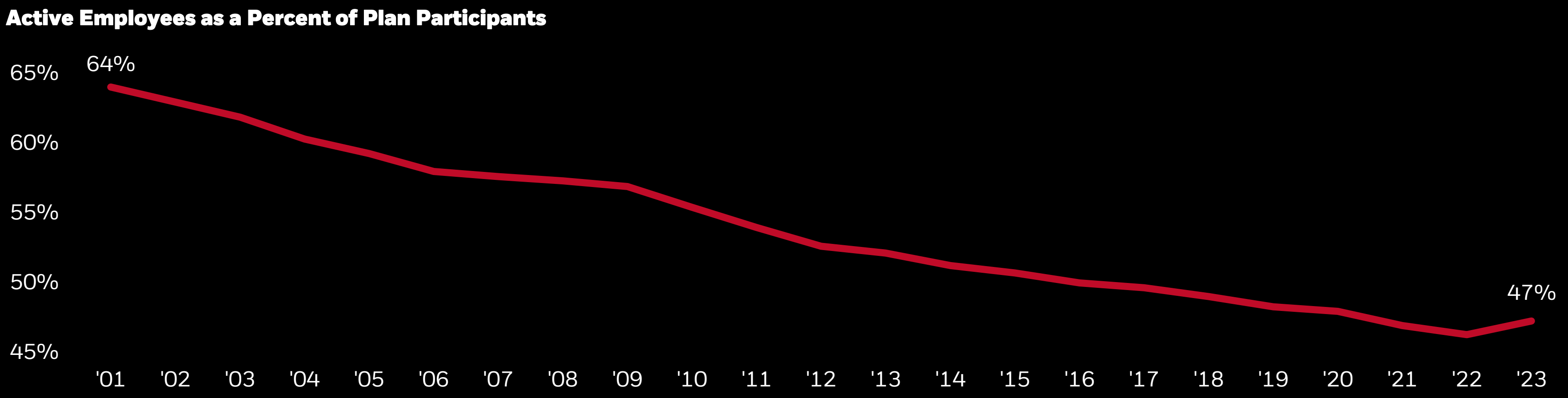
Funded Ratio



Source: PPD and BlackRock, June 2024. Read important disclosures on slide 2 for more information.

Contributions and Demographics



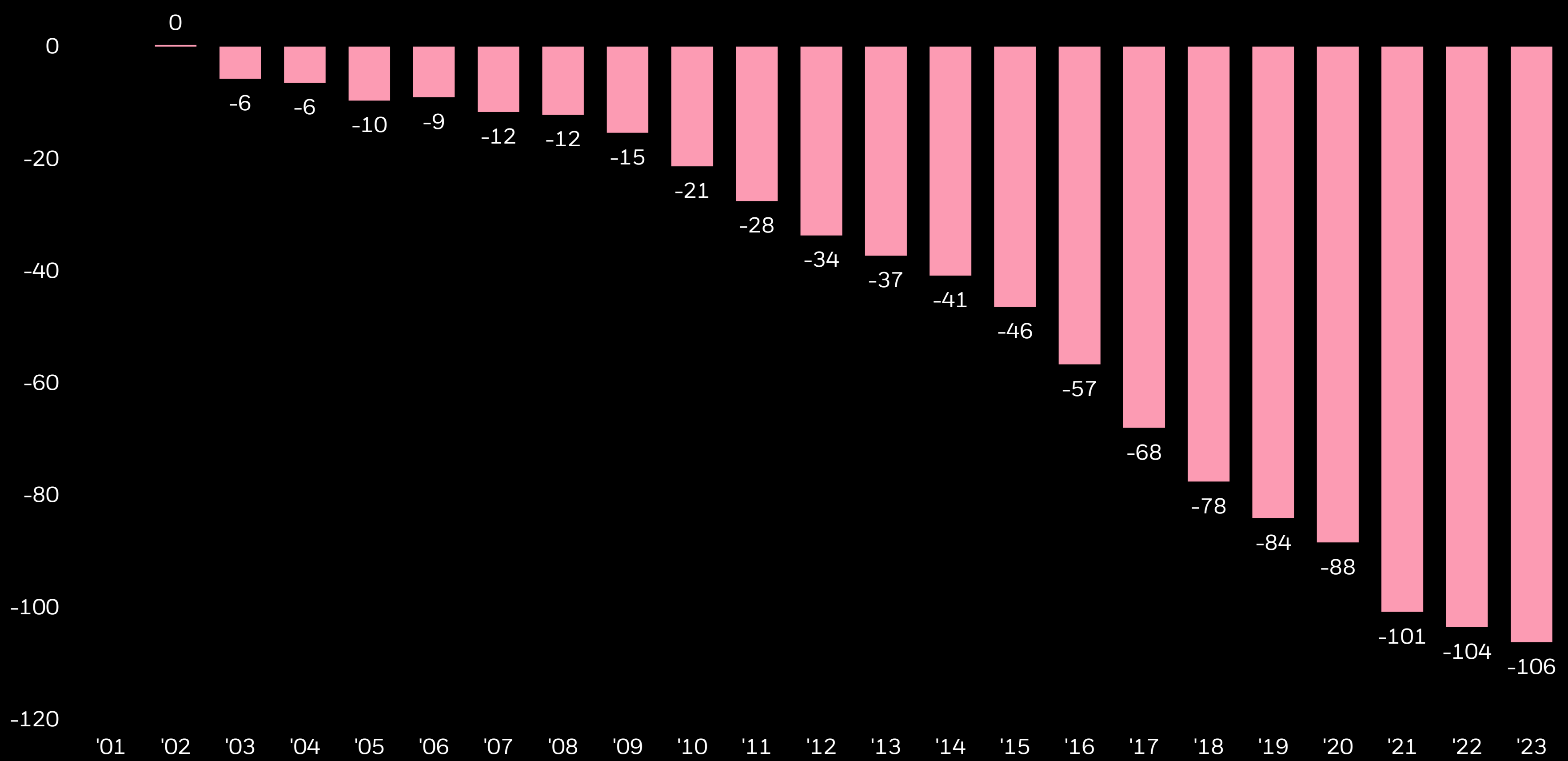


Source: PPD and BlackRock, June 2024. Read important disclosures on slide 2 for more information.

Assumed Return

8.00% → 6.94%

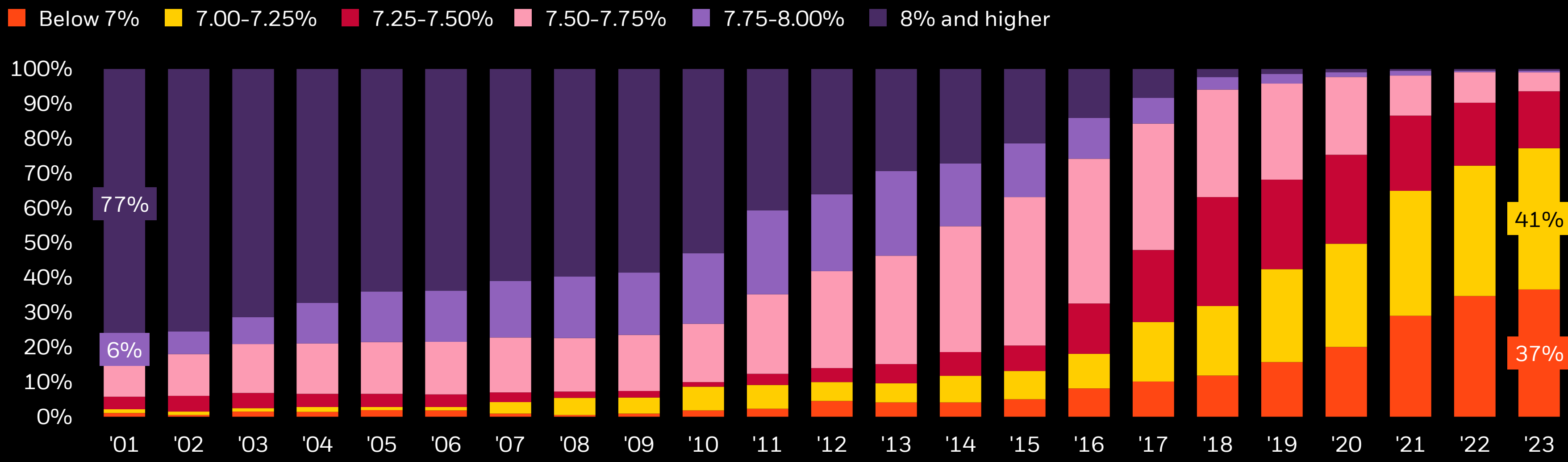
Assumed Return, Cumulative Change Over Time (basis point)



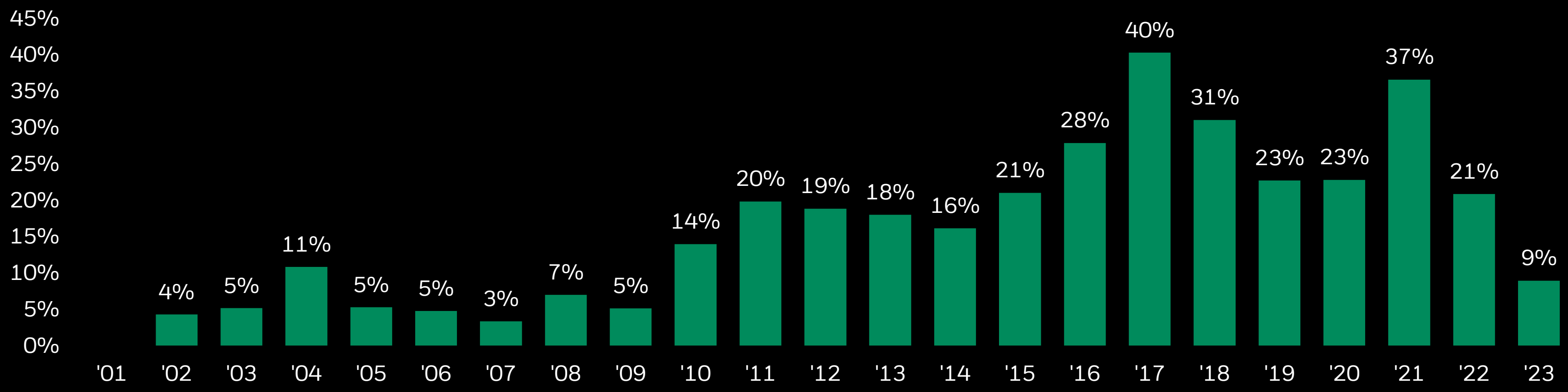
Source: PPD and BlackRock, June 2024. Read important disclosures on slide 2 for more information.

Assumed Return

Assumed Return, Percentage of Plans by Cohort



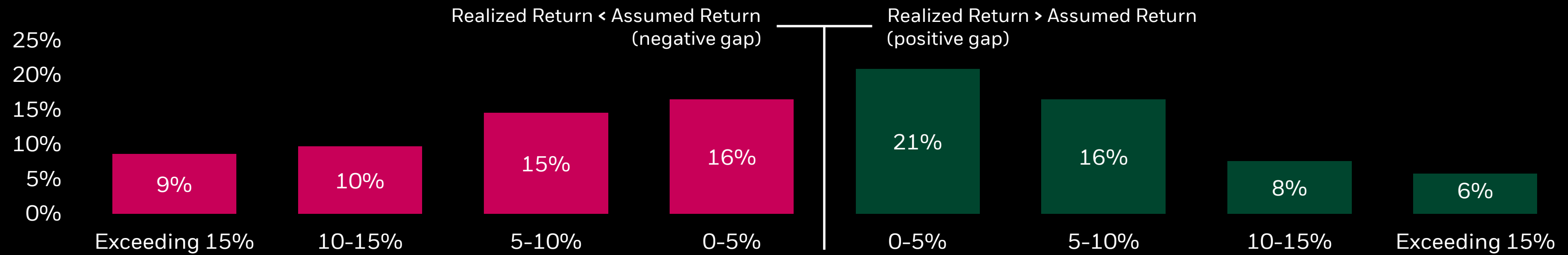
Percent of Plans Reducing Assumed Return by Year



Source: PPD and BlackRock, June 2024. Read important disclosures on slide 2 for more information.

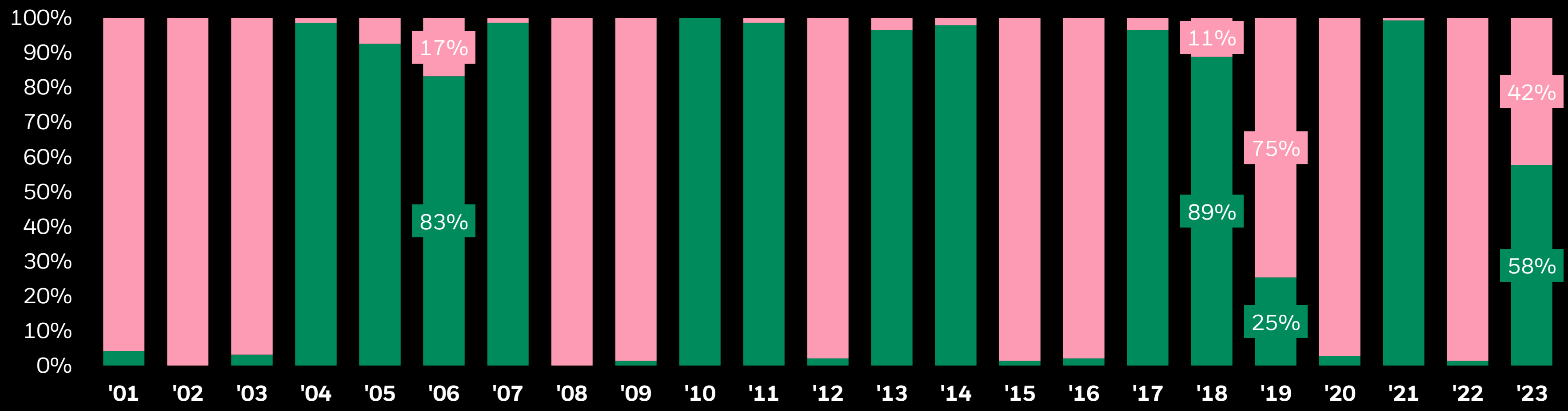
Realized vs. Assumed Returns

Return Gap Distribution Since 2001



Reported Returns Over Time

Percent of Plans Meeting or Exceeding Assumed Return
Percent of Plans Falling Short of Assumed Return

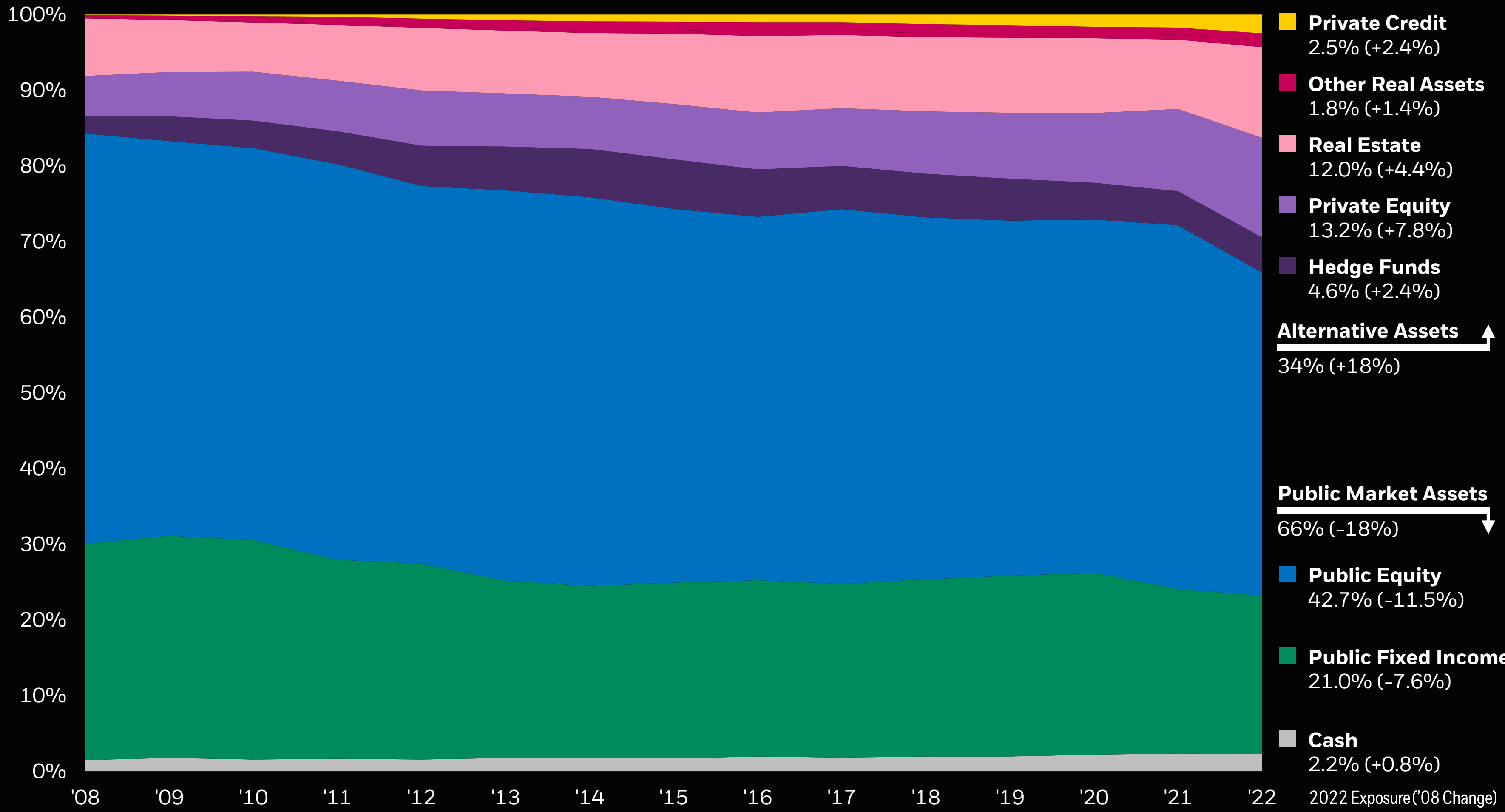


	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23
S&P 500	-15.14	-18.34	-0.29	18.49	5.65	8.02	19.91	-13.64	-26.81	13.73	29.92	4.75	19.79	23.83	6.77	3.31	17.16	13.71	9.75	6.87	40.14	-11.01	18.98
US Agg	11.23	8.63	10.40	0.32	6.80	-0.81	6.12	7.12	6.05	9.50	3.90	7.47	-0.69	4.37	1.86	6.00	-0.31	-0.40	7.87	8.74	-0.33	-10.29	-0.94
Avg Plan	-4.80	-5.68	3.90	15.46	10.24	10.57	17.27	-4.29	-18.39	13.67	21.17	1.42	12.07	16.62	3.27	0.70	12.30	8.95	6.28	2.80	27.71	-5.12	6.70

Source: PPD and BlackRock, June 2024. Only plans with June FY reporting were included in this analysis segment. **Past performance is not indicative of future results.** All investing is subject to risk, including possible loss of money invested. Performance results will vary. Accordingly, performance may be higher or lower than results cited. US Agg refers to the Bloomberg Barclays US Aggregate Index. Index returns are for illustrative purposes only. Index performance does not reflect any management fees, transaction costs or expenses. Indexes are unmanaged; direct investment in an index is not possible. **Read important disclosures on slide 2 for more information.**

Asset Allocation

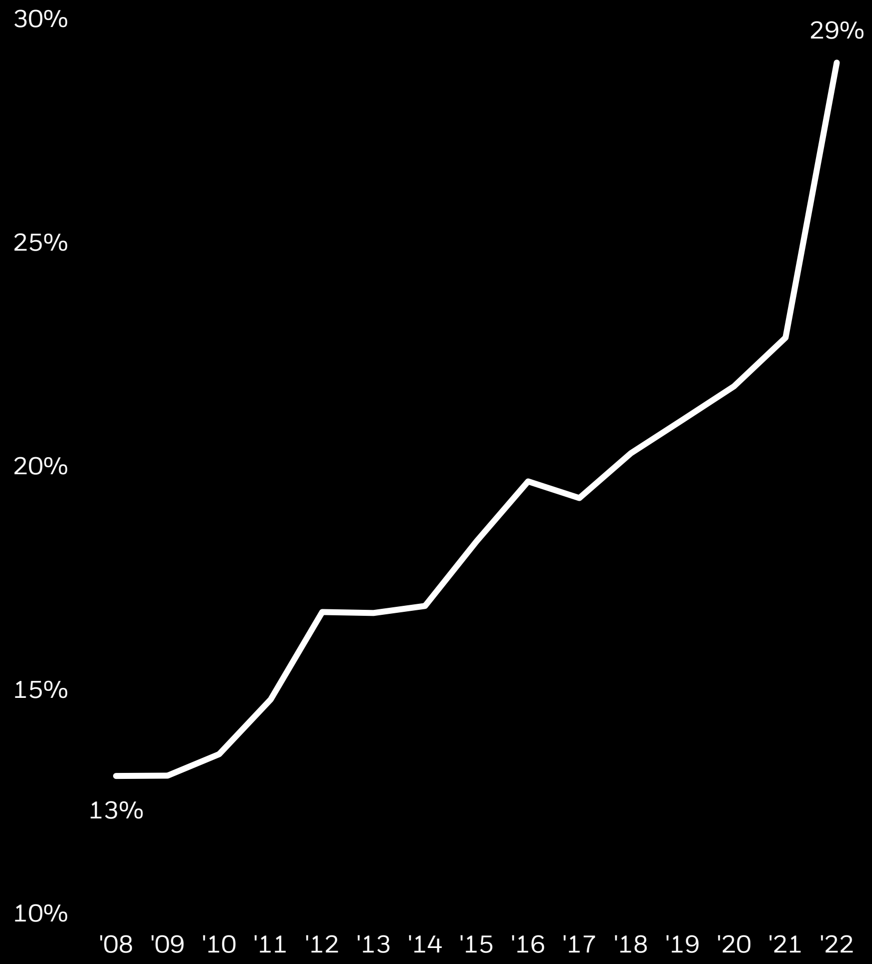
Asset Allocation, Total Portfolio



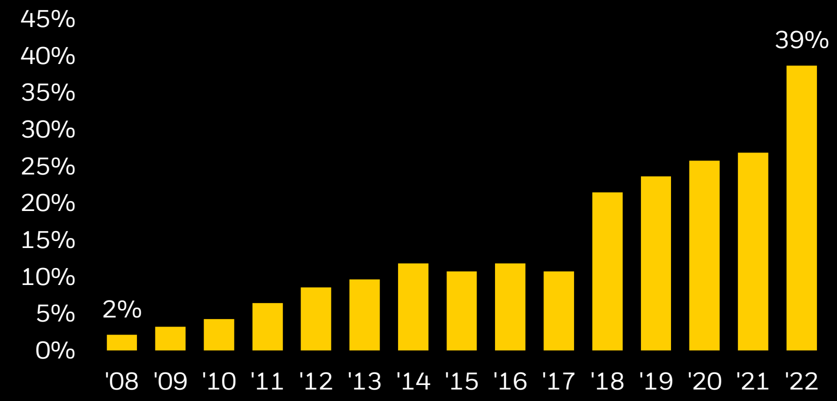
Source: PPD and BlackRock, June 2024. Neither asset allocation nor diversification can guarantee profit nor prevent loss of money invested. Read important disclosures on slide 2 for more information.

Asset Allocation

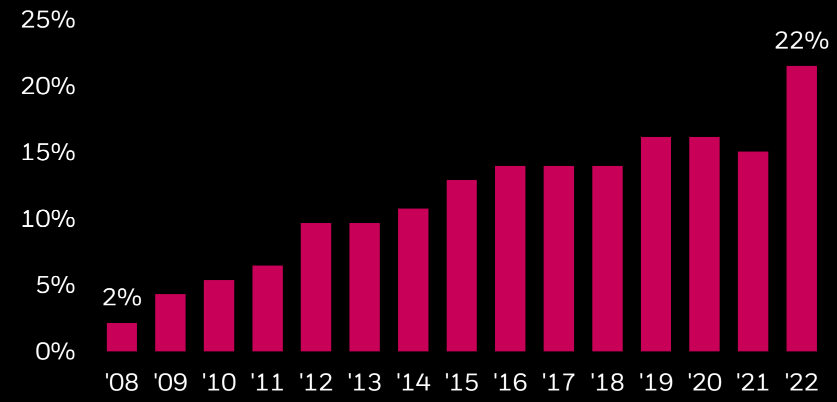
Asset Allocation, Illiquid Exposure



Asset Allocation, Percent of Plans with Private Credit Exposure



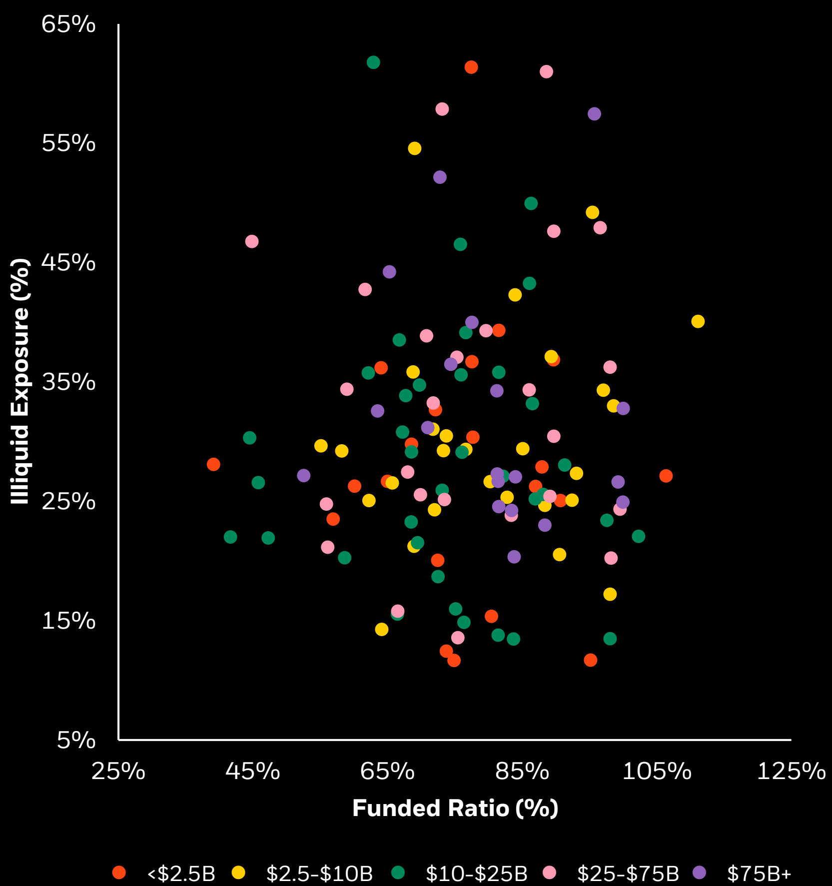
Asset Allocation, Percent of Plans with Infrastructure Exposure



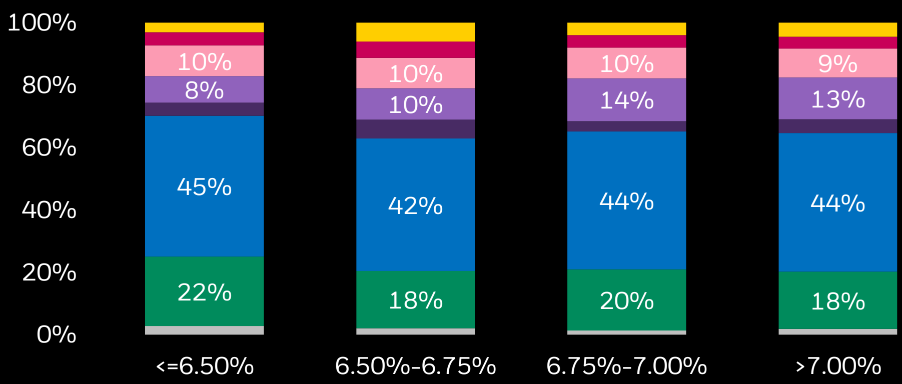
Source: PPD and BlackRock, June 2024. Neither asset allocation nor diversification can guarantee profit nor prevent loss of money invested. Read important disclosures on slide 2 for more information.

Asset Allocation – FY 2023

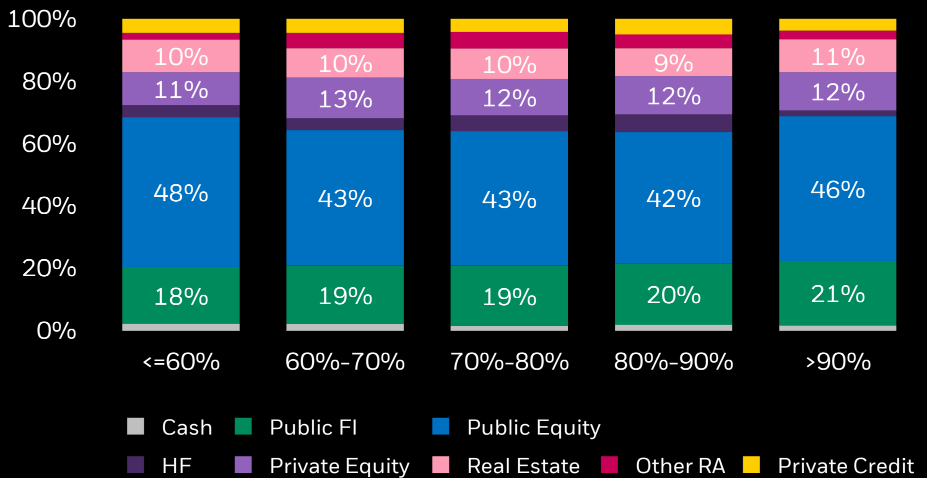
Illiquid Exposure by Funded Ratio and NAV



Asset Allocation by Assumed Return



Asset Allocation by Funded Ratio

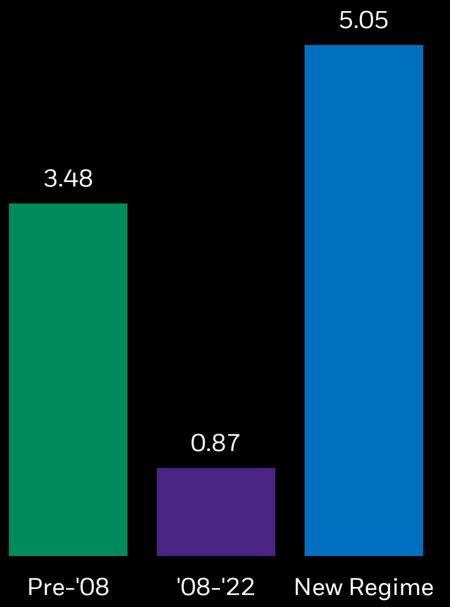


Source: BlackRock, PPD, P&I, June 2024. The FY 2023 asset allocation data presented on this slide is based on our peer study universe and differs from the allocation trends shown on the prior slide. **Read important disclosures on slide 2 for more information.**

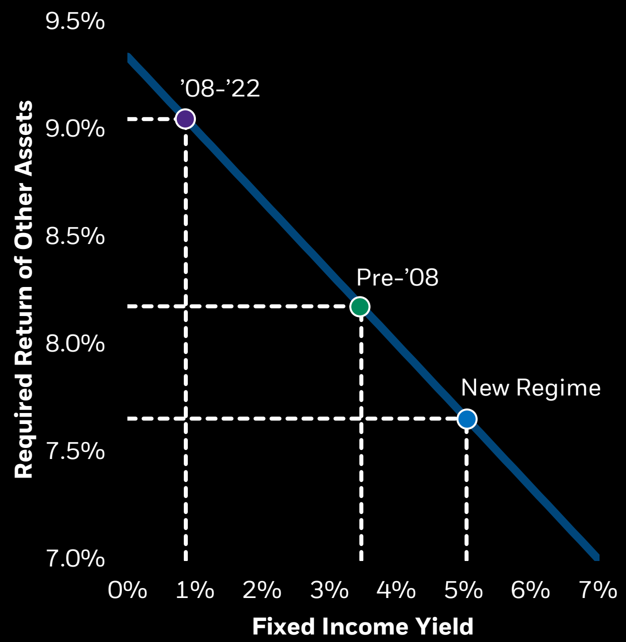
Finding purpose: Higher for longer

The rate of change in today's yield environment brings new meaning to fixed income's role in a pension portfolio; enhanced income potential – across public and private markets - reduces the pressure for growth assets to outperform and gives plans greater flexibility to reduce risk and diversify factor concentration.

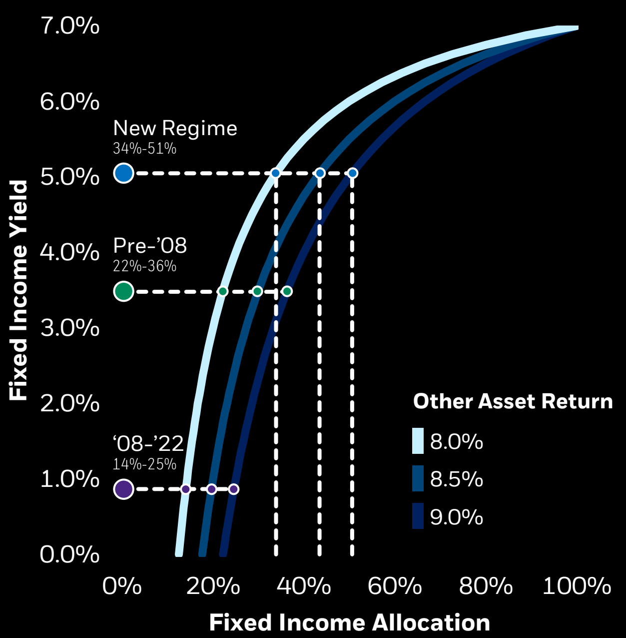
Average 1yr US Treasury Yield
Based on daily 1yr US treasury rates



Required Return to Meet 7% Return Target
Assuming 25% allocation to FI returns stated yield



Fixed Income Allocation to Meet 7% Return Target
Assuming stated yield and other asset return



Source: U.S. Department of Treasury, BlackRock, June 2024. Pre-'08 includes yields from 2000-2007. New regime begins in 2023 and is through April 30, 2024. Required return of other assets is calculated by solving for the return needed to hit a 7% return target given a 25% allocation to the yield. The allocation to fixed income is calculated by solving for the allocation needed to hit a 7% return target given the stated yield and other asset return. **Actual and Hypothetical returns are not a guarantee of future results.** All returns are net of fees and expenses. The results shown are for illustrative purposes only. Any interpretation of results should take into consideration inherent limitations and risks of the model and assumptions used. Results may be higher or lower than shown. **Read slide 2 and the Appendix for disclosures.**

Peer Analysis Executive Summary

Peer Group Summary

We selected your peer group based on size of assets and funded ratio

Plan Information		Modeled Data	Actuarial & Participant Information					Reported Dates		
Plan Name	**Label**	**Cash & Inv ($m)**	**Funded Ratio (%)**	**Total Participants**	**Active (%)**	**Inactive (%)**	**Retired (%)**	**Returns Data**	**Actuarial Data**	**Holdings Data**
Modeled Public Pension Universe	**All Plans**	4,724,000	77.4%	30,643,313	42%	24%	34%			
Peer Average	**Peer Avg**	13,201	81.0%	83,031	42%	15%	42%			
San Bernardino Cnty ERA	**SBCERA**	**14,311**	**86.1%**	**47,797**	**46%**	**22%**	**32%**	**Jun 2023**	**Jun 2023**	**Jun 2023**
Arkansas PERS	APERS	10,691	81.4%	100,875	43%	15%	42%	Jun 2023	Jun 2023	Jun 2023
Contra Costa Cnty ERA	CCCERA	10,506	91.3%	24,617	41%	16%	43%	Jun 2023	Dec 2022	Jun 2023
New Hampshire Rtrmt Sys	NHRS	11,392	67.2%	114,284	43%	19%	38%	Jun 2023	Jun 2023	Jun 2023
Public ERA of New Mexico	NM PERA	16,655	67.7%	121,602	39%	23%	37%	Jun 2023	Jun 2023	Jun 2023
School ERS of Ohio	OH SERS	17,895	76.6%	248,169	64%	3%	33%	Jun 2023	Jun 2023	Jun 2023
Oklahoma PERS	OK PERS	11,715	100.7%	72,331	40%	9%	51%	Jun 2023	Jun 2023	Jun 2023
Sacramento Cnty ERS	SCERS	12,370	86.5%	31,803	41%	15%	44%	Jun 2023	Jun 2023	Jun 2023
San Diego Cnty ERA	SDCERA	15,842	76.3%	49,310	39%	17%	44%	Jun 2023	Jun 2023	Jun 2023
San Diego City ERS	SDCERS	10,633	76.0%	19,519	28%	15%	57%	Jun 2023	Jun 2022	Jun 2023

Source: BlackRock, Pensions & Investments (P&I), Public Plan Data (PPD), June 2024.
For more details on the full peer universe, see "BlackRock's Public Pension Plan Coverage Universe" at the end of this presentation. Returns data refers to the realized return quoted later in this presentation; actuarial data includes the actuarial assets, liabilities, funded ratio, and assumed return. In some instances, fund level modeled data, reported actuarial data, and returns data are reported at different entity levels based on information availability.

Key Themes for SBCERA

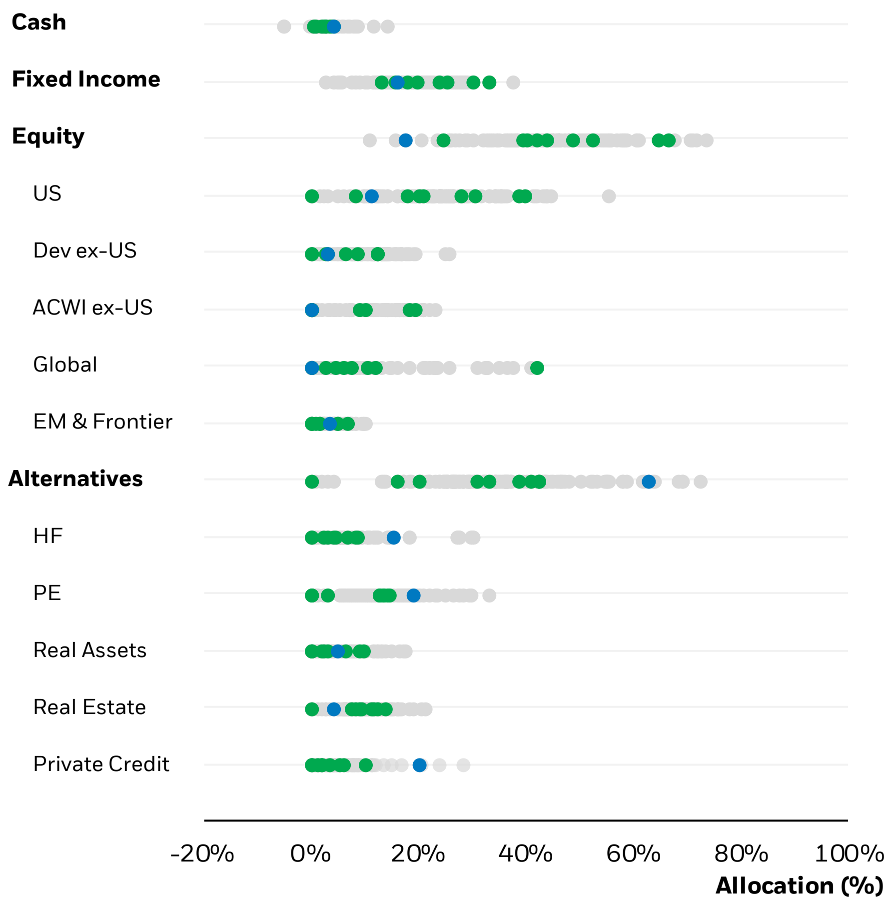
Total Portfolio	> SBCERA's 10 year expected return of 8.97% exceeds the assumed return target of 7.25% by 172bps. > The economic growth risk factor comprises 70% of SBCERA's total portfolio risk of 12.4%.
Fixed Income	> SBCERA has a 15.8% allocation to fixed income relative to the peer average of 21.0%. > SBCERA's Fixed Income portfolio is mainly focused within International/Global (56%).
Alternatives	> SBCERA's alternatives allocation is overweight relative to the peer average by 30.1%. > SBCERA's alternatives exposure is primarily focused on Private Credit (32%) and Private Equity (30%).

The views expressed are as of June 2024 and subject to change with market conditions. The ideas included in this material should not be construed as investment advice or a recommendation regarding any investment or investment strategy. **For important notes regarding the risk and expected returns, please read important disclosures on slide 2 and the Appendix for more information.**

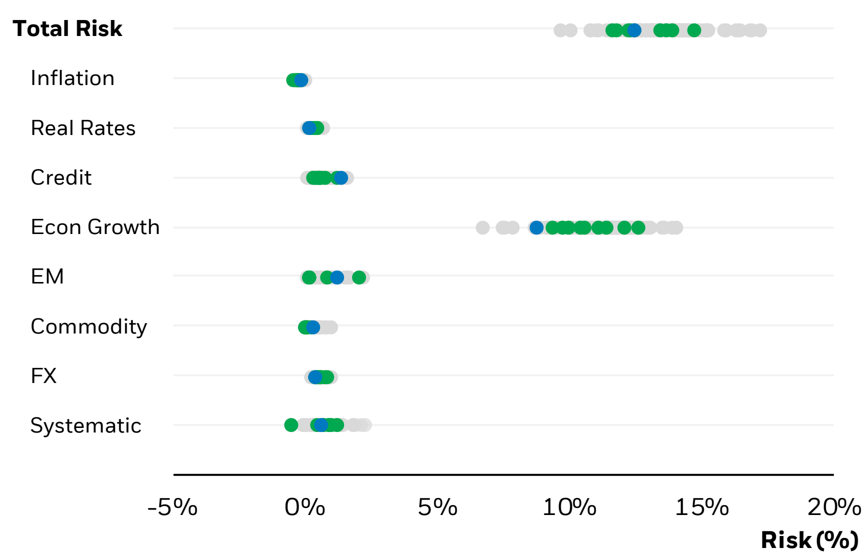
Executive Dashboard – SBCERA vs. Peers

SBCERA has a 80.1% allocation to growth assets (vs.76.5% peers) which is driving its expected return of 8.97% (vs. 7.32% peers) and risk of 12.4% (vs. 12.8% peers); the portfolio's 17.4% allocation to Equity (26.4% UW average) and 62.7% allocation to Alternatives (30.1% OW average) largely explains its divergence from the peers.

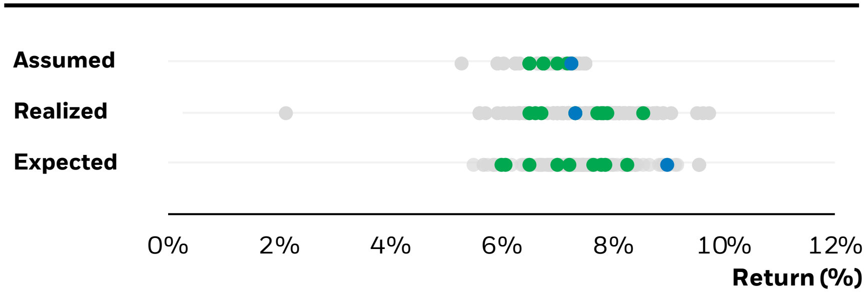
Asset Allocation



Risk Factor Decomposition



Returns (10yr Annualized) vs. Assumed Return



Legend: All Plans Peers SBCERA

Sources: BlackRock as of May 2024 based on BlackRock's CMA. Neither diversification nor asset allocation can guarantee a profit or prevent loss. **Actual and hypothetical results are not a guarantee of future results and may be higher or lower than shown.** Expected returns are shown net of fees and expenses; realized returns are stated as reported. The results shown are for illustrative discussion purposes only and no representation is being made that any account, product or strategy will achieve results shown. The hypothetical results are based on criteria applied retroactively with the benefit of hindsight and with knowledge of factors that may positively affect performance and that cannot account for risk factors that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. **Read slide 2 and the Appendix for details.**

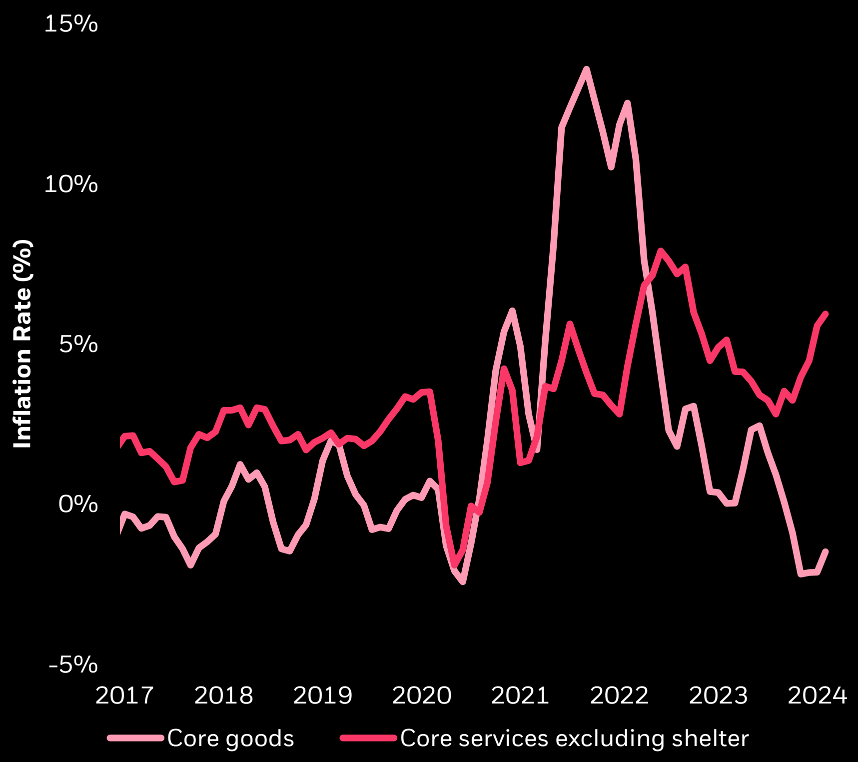
Market

Viewpoints

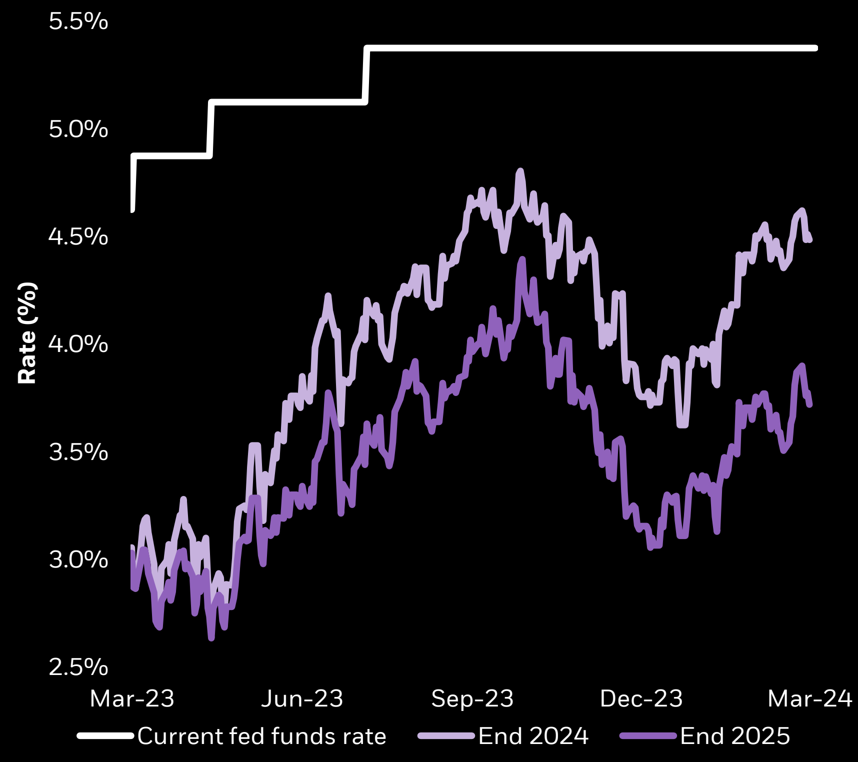
Off the Mark

While a persistently tight labor market and sticky services inflation has dialed back market pricing of Fed rate cuts, we still think markets are hoping for deeper rate cuts than are likely in the long term

U.S. Core inflation, 2017-2024



Market Pricing of Future Fed Policy Rate, 2023-2024



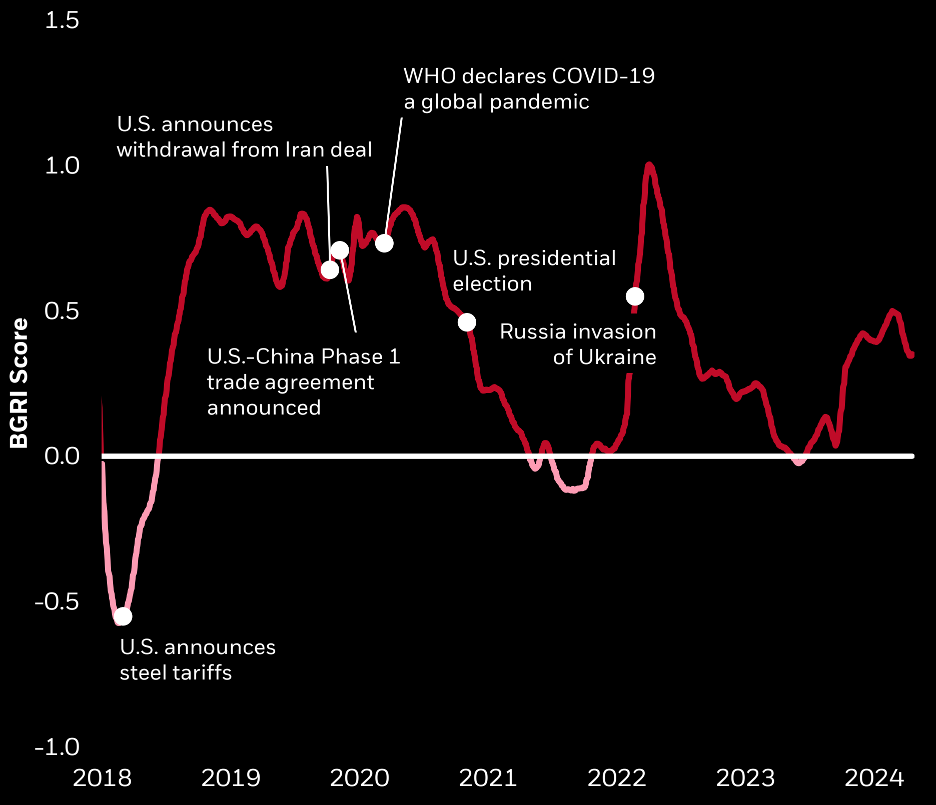
Source: BlackRock Investment Institute, with data from LSEG Datastream, March 2024. Notes: The charts show the current fed funds policy rate and market expectations of the fed funds rate via SOFR futures pricing. The fed funds rate shown is the midpoint of the Federal Reserve's target range. **Forward looking estimates may not come to pass.**

Source: BlackRock Investment Institute, U.S. Bureau of Labor Statistics, with data from Haver Analytics, March 2024. Note: The chart shows core goods and services inflation measured by the change over six months at an annualized rate. Core goods inflation covers all goods excluding energy and food costs; core services inflation covers all services excluding energy and shelter costs.

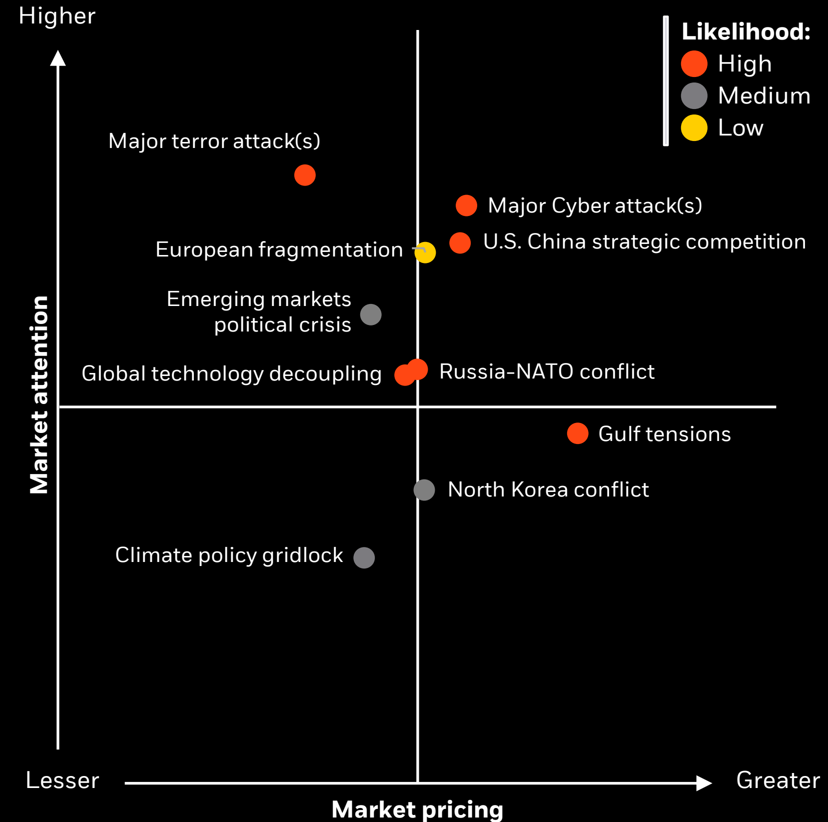
Tensions Rising

Geopolitical fragmentation is accelerating in 2024, reinforcing persistent inflation pressures; a series of intertwined dynamics are exacerbating volatility in global markets are driving structural changes in the geopolitical order

BlackRock Geopolitical Risk Indicator



BlackRock Geopolitical Risk Map

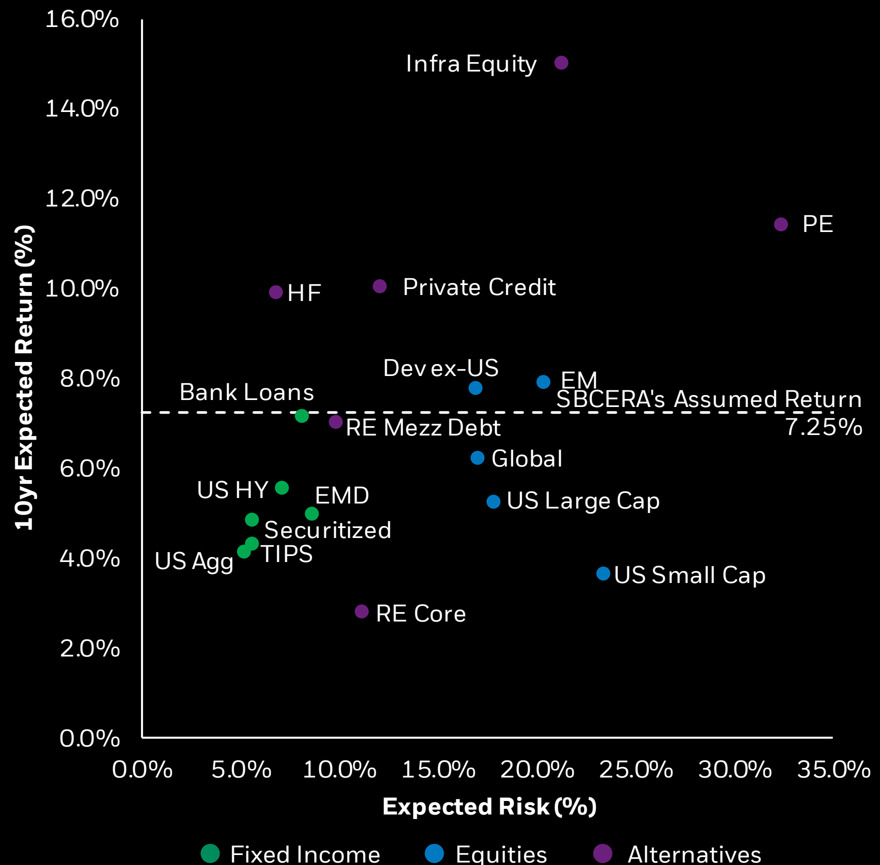


Source: BlackRock Investment Institute, April 2024. Notes: The BlackRock Geopolitical Risk Indicator (BGRI) tracks the relative frequency of brokerage reports (via Refinitiv) and financial news stories (Dow Jones News) associated with specific geopolitical risks. We adjust for whether the sentiment in the text of articles is positive or negative, and then assign a score. This score reflects the level of market attention to each risk versus a five-year history. We assign a heavier weight to brokerage reports than other media sources since we want to measure market attention to any particular risk, not public. The Geopolitical Risk Map depicts the market attention to each of our top 10 risks, as reflected in brokerage reports and financial media and measured by the BGRI. Some of the scenarios we envision do not have precedents or only imperfect ones. The scenarios are for illustrative purposes only and do not reflect all possible outcomes as geopolitical risks are ever evolving. The chart is meant for illustrative purposes only. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research or investment advice regarding any funds, strategy or security in particular. **Forward looking estimates may not come to pass. Please read the BGRI Information slide in the Appendix for more information.**

Predictions are Hard, Especially about the Future

We think the risk-return trade off is worse in a new regime of structurally higher volatility and portfolios built for the new regime will look very different; conventional approaches will likely underperform in the new environment

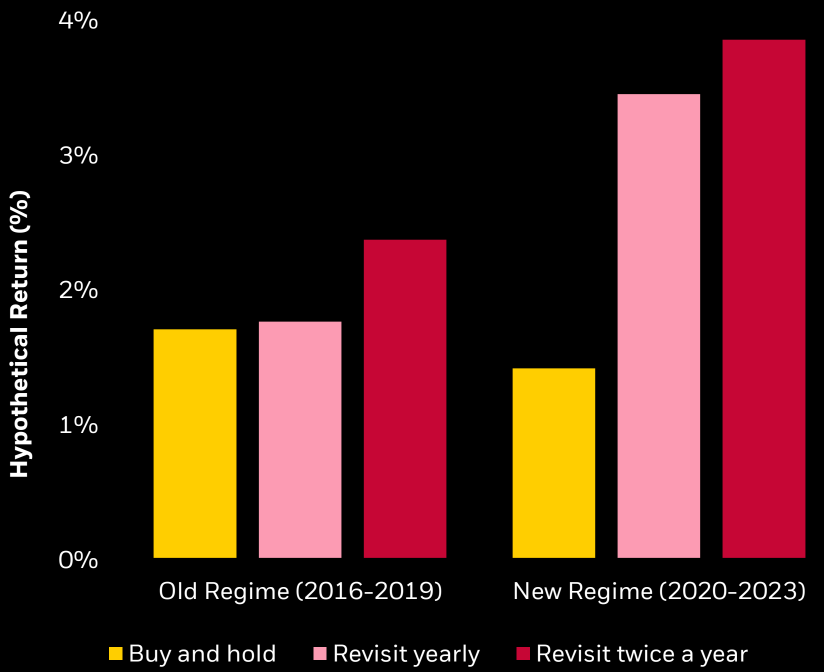
BlackRock Capital Market Assumptions – May 2024



Source: BlackRock as of May 2024. **Hypothetical results are net of expenses and are not a guarantee of future results.** For illustrative purposes only; no representation is being made that the results shown will be achieved. The hypothetical results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. Hypothetical results may be higher or lower than shown. **Read slide 2 and the Appendix for details.**

A Dynamic Approach

Getting the asset mix right matters much more in the "new regime" and more frequent implementation of insights may see greater rewards



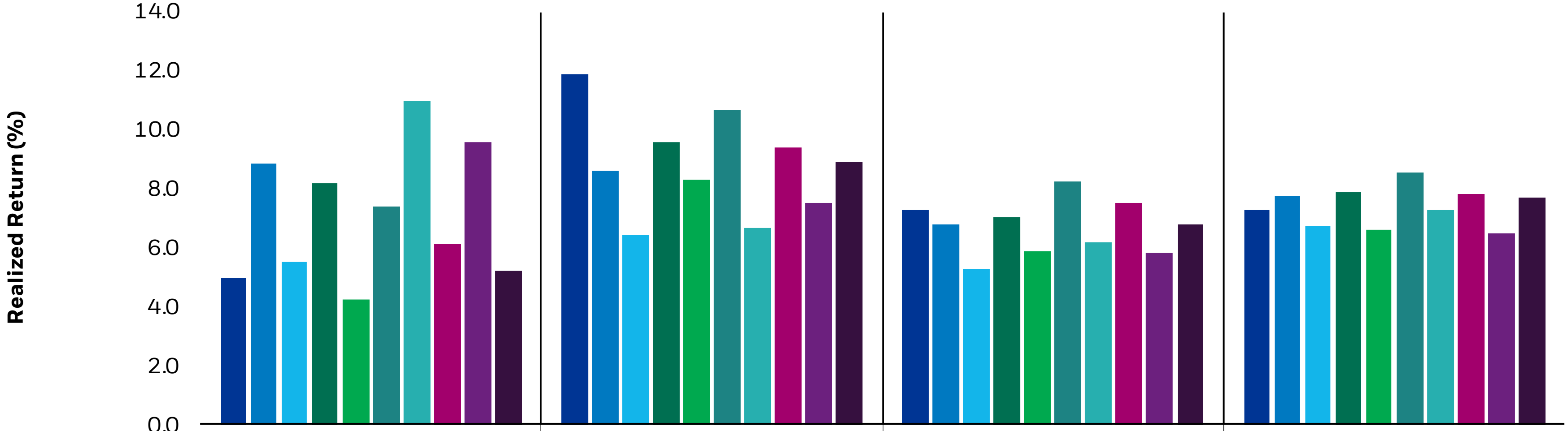
Source: BlackRock Investment Institute, MSCI with data from Bloomberg, January 2024. **Hypothetical performance is not a guarantee of future returns.** Notes: The chart shows monthly U.S. equity returns – based on the MSCI USA – in the old and new regime under three scenarios: keeping the holdings unchanged (buy-and-hold), yearly rebalances and semi-annual rebalances. The rebalances optimize the hypothetical portfolio for returns, diversification and risk with perfect foresight of equity sector returns in the MSCI USA index. This analysis uses historical returns and has been conducted with the benefit of hindsight. Future returns may vary and these results may not be the same for other asset classes. It does not consider potential transaction costs that may detract from returns. It also does not represent an actual portfolio and is shown for illustrative purposes only.. **Index returns do not account for fees. It is not possible to invest directly in an index.**

Peer Analysis
Total Portfolio

Broadening Horizons

Reported investment returns over different periods of measurement

1, 3, 5, and 10yr Annualized Realized Returns (as reported)



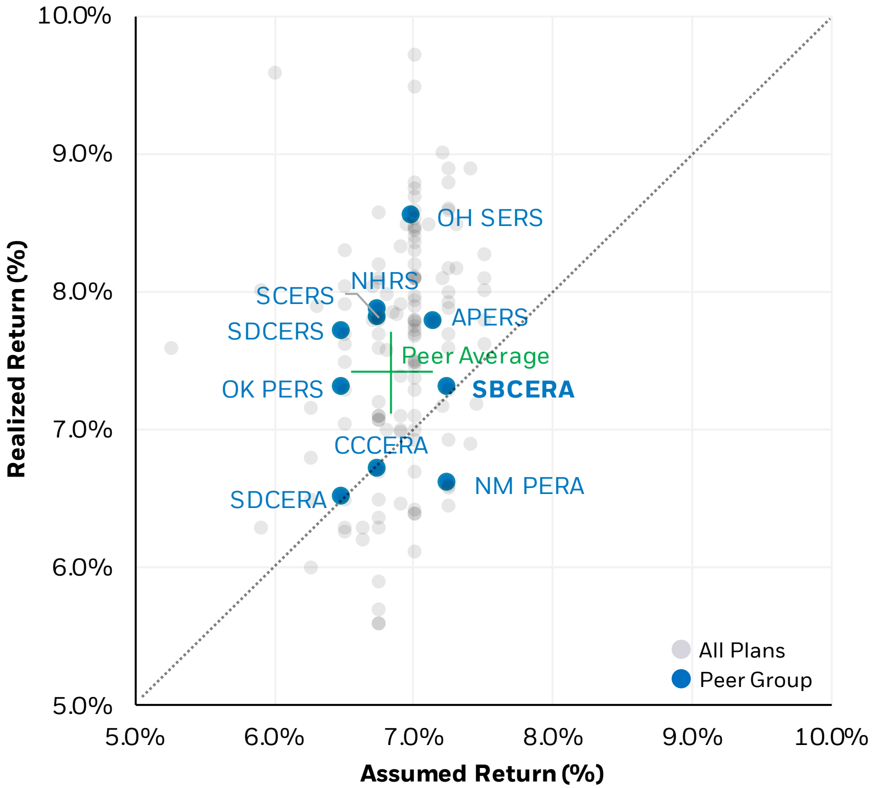
	1yr	3yr	5yr	10yr
SBCERA (Jun)	5.00	11.90	7.30	7.30
APERS (Jun)	8.83	8.58	6.76	7.78
CCCERA (Jun)	5.50	6.40	5.30	6.70
NHRS (Jun)	8.18	9.56	7.06	7.87
NM PERA (Jun)	4.23	8.33	5.90	6.60
OH SERS (Jun)	7.39	10.65	8.26	8.54
OK PERS (Jun)	10.96	6.66	6.17	7.30
SCERS (Jun)	6.10	9.40	7.50	7.80
SDCERA (Jun)	9.60	7.50	5.80	6.50
SDCERS (Jun)	5.20	8.90	6.80	7.70

Source: BlackRock, PPD, P&I as of May 2024. See the slide titled "Peer Group Summary" at the beginning of this presentation for reporting date of each plan. Realized returns are stated as reported, based on availability, and are not a guarantee of future results. Read additional disclosures on page 2.

The Realization of Assumptions

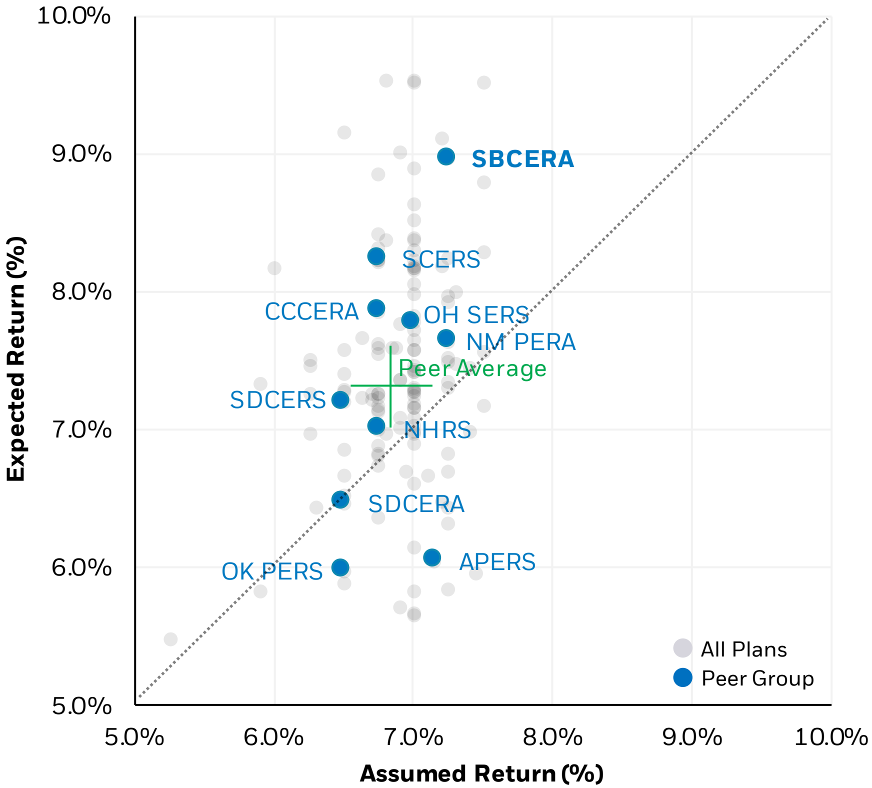
SBCERA's 10yr annualized realized return of 7.30% exceeded current assumed return (7.25%) by 5bps; looking forward, we estimate SBCERA's return over the next 10 years will be 8.97%, 172bps above its assumed return target

10 Year Annualized Realized Return vs. Assumed Return



Return Information	Peer Average	vs. Avg	All Plans	% Rank
Assumed Return	6.8%	0.4%	6.9%	82
Realized Return	7.4%	-0.1%	7.5%	34

10 Year Annualized Expected Return vs. Assumed Return



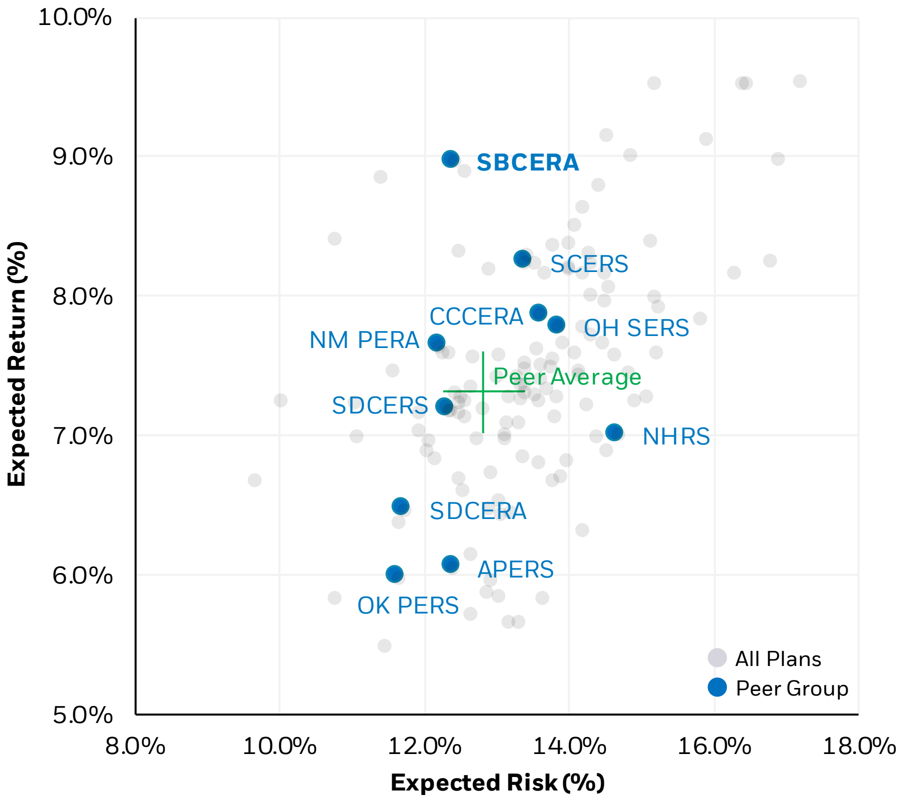
Return Information	Peer Average	vs. Avg	All Plans	% Rank
Assumed Return	6.8%	0.4%	6.9%	82
Expected Return	7.3%	1.6%	7.5%	94

Source: BlackRock, PPD, P&I as of May 2024. Realized/assumed returns (LHS) are stated as reported. **Actual and hypothetical results are not a guarantee of future results.** Realized/assumed returns (LHS) are stated as reported. Hypothetical results (RHS) are net of fees and expenses. The returns shown are for illustrative purposes only; no representation is being made that the results shown will be achieved. The hypothetical results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. Hypothetical results may be higher or lower than shown. **Read slide 2 and the Appendix for details.**

"The Future Depends on What you do Today"

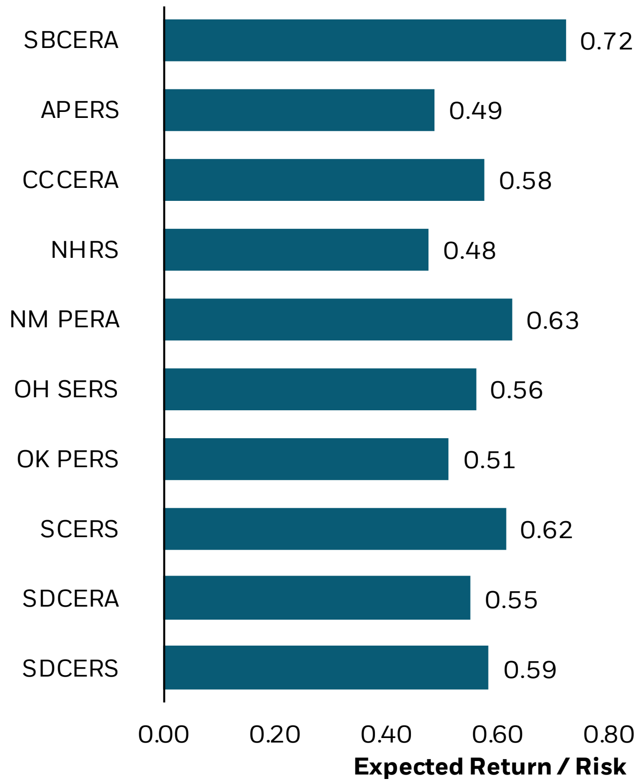
Expected returns vs. expected risk: Are you being compensated for the risk you're taking?

10 Year Annualized Expected Return vs. Expected Risk



Return Information	Peer Average	vs. Avg	All Plans	% Rank
Expected Risk	12.8%	-0.4%	13.3%	19
Expected Return	7.3%	1.6%	7.5%	94

Finding Efficiencies



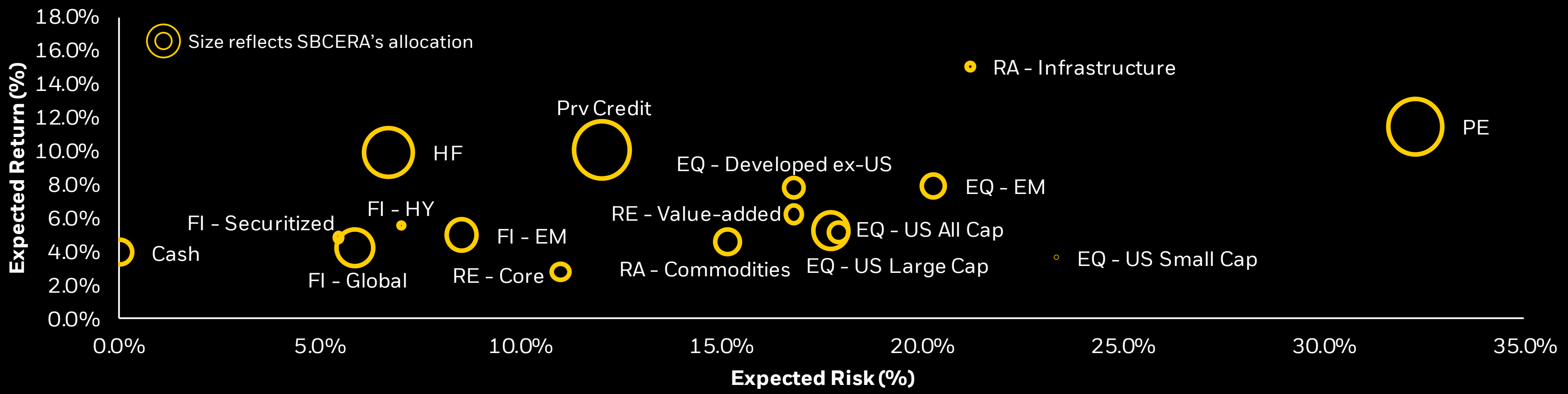
Portfolio Return/Risk	Peer Average	vs. Avg	All Plans	% Rank
Return/Risk	0.57	0.15	0.56	98

Source: BlackRock, PPD, P&I as of May 2024. **Hypothetical results are net of expenses and are not a guarantee of future results.** The hypothetical results shown are for illustrative purposes only; no representation is being made that the results shown will be achieved. The hypothetical results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. Hypothetical results may be higher or lower than shown. **Read slide 2 and the Appendix for details.**

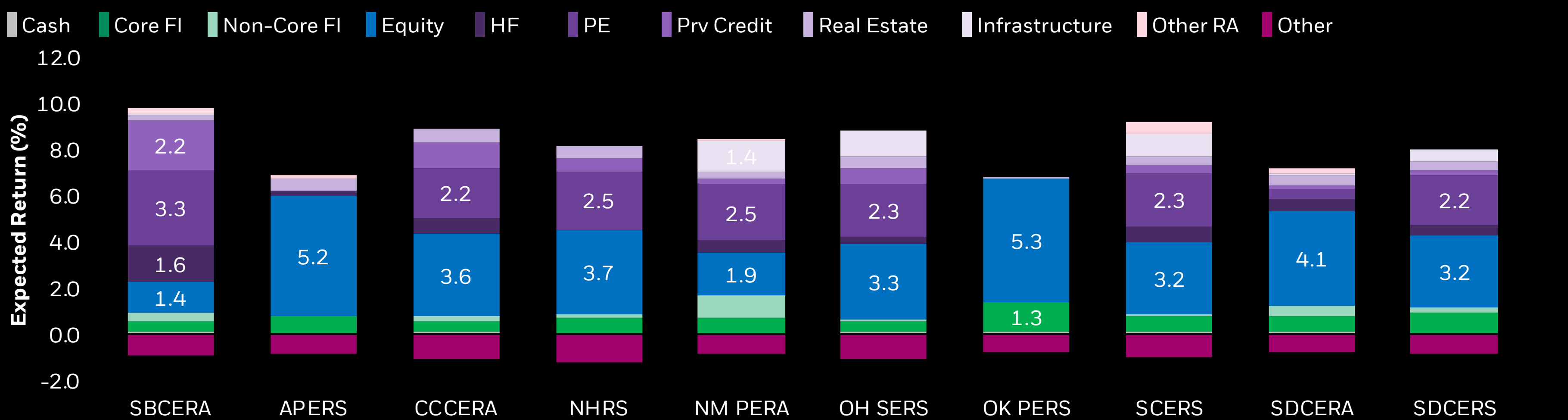
Deeper Reflections

Expected return drivers and attribution

Expected Return and Risk – SBCERA's Exposure



Expected Return Attribution

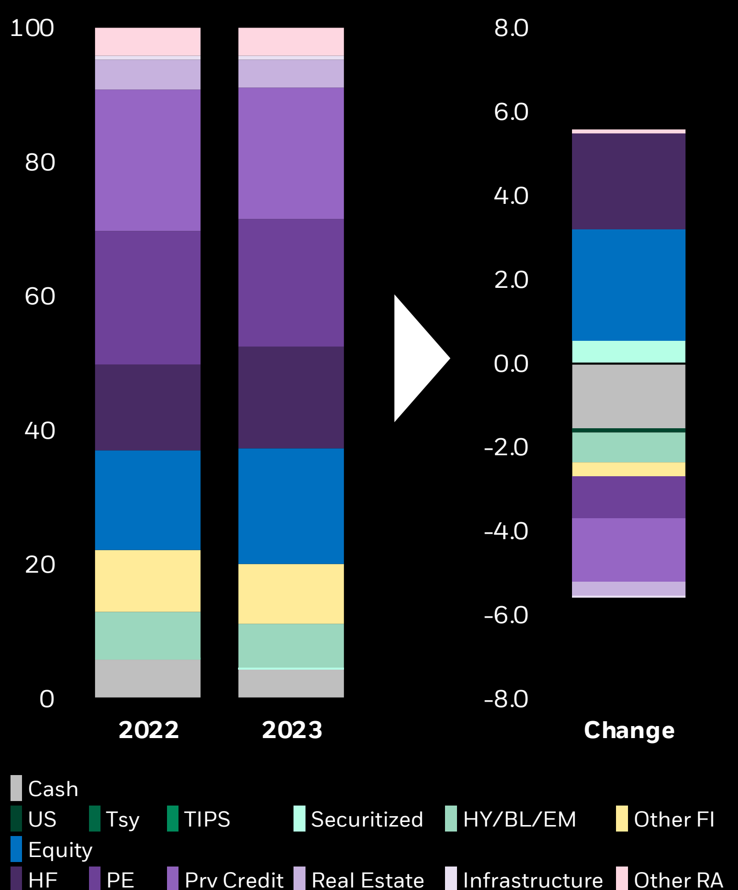


Source: BlackRock, PPD, P&I as of May 2024. Source: BlackRock as of May 2024. **Hypothetical results are net of expenses and are not a guarantee of future results.** Hypothetical results are for illustrative purposes only; no representation is being made that the results shown will be achieved. The hypothetical results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. Hypothetical results may be higher or lower than shown. Non-core fixed income includes FI asset classes other than US, TIPS, Long Duration, and Intl/Global. 'Other' is the difference between the total portfolio geometric return and the decomposed arithmetic returns shown above. **Read slide 2 and the Appendix for details.**

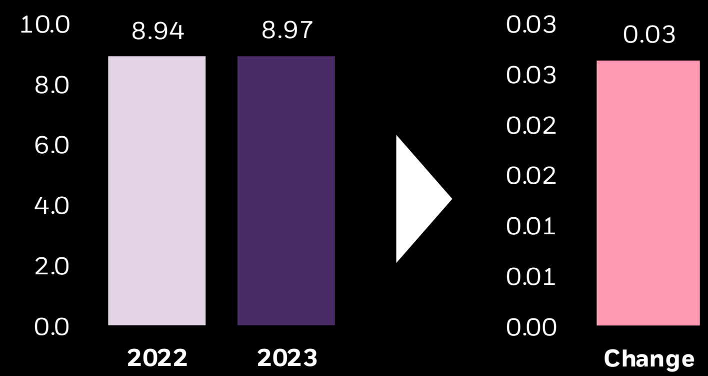
Summary Analytics

A comparison of SBCERA's allocation in 2023 vs. 2022 – and the potential implications to risk and return

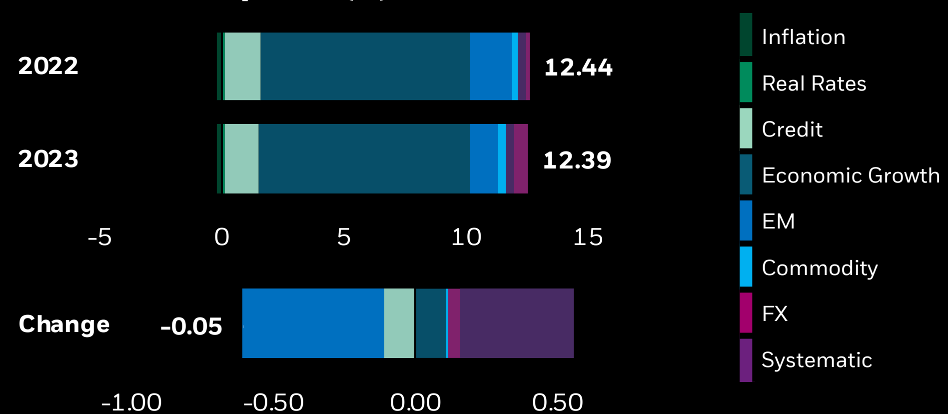
Allocations (%)



Hypothetical Return (%)



Risk Factor Decomposition (%)



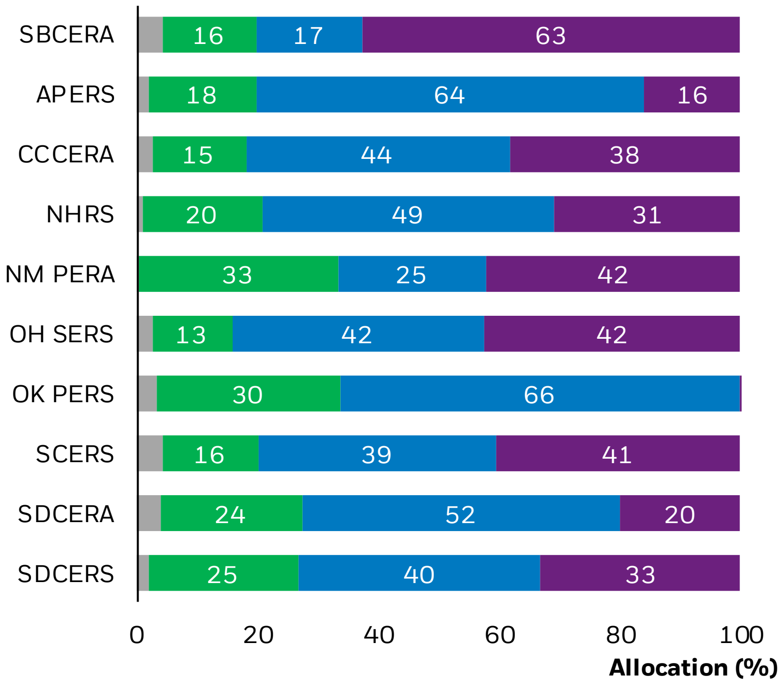
Source: BlackRock, May 2024. Neither asset allocation nor diversification can guarantee profit nor prevent loss of money invested. **Hypothetical results are not a guarantee or indicative of future results.** Hypothetical expected returns are shown net of fees and expenses. The results shown are for illustrative discussion purposes only and no representation is being made that results shown will be achieved. The hypothetical results are based on criteria applied retroactively with the benefit of hindsight and with knowledge of factors that may positively affect performance and that cannot account for risk factors that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. Hypothetical risk and return results may be higher or lower than shown. Exposure changes/differences may represent differences in reporting, and/or proxying instead of an actual change in allocation. Returns are hypothetical. **Read important disclosures on slide 2 for more information.**

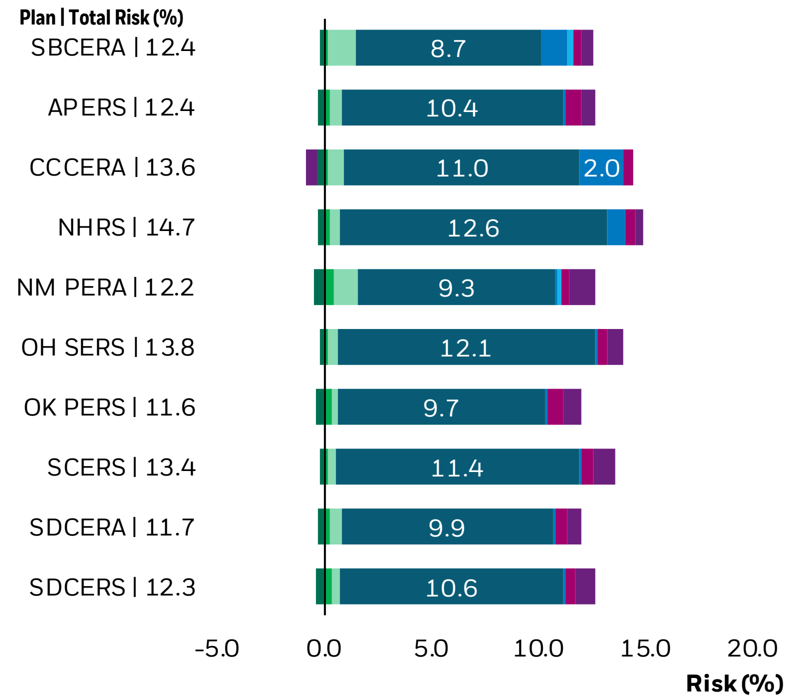
Asset Allocation Relative to Peers

Economic growth comprises 70% of SBCERA's total risk of 12.4%; the peer group has an average total risk of 12.8% and ranges from 11.6% to 14.7%

Total Portfolio Allocation (%)	Peer Average	vs. Avg	All Plans	% Rank
Cash	3	2	2	87
Fixed Income	21	-5	19	26
Equity	44	-26	44	1
Alternatives	33	30	35	94
Other	0	0	0	2

Macro Factor Risk Decomp (%)	Peer Average	vs. Avg	All Plans	% Rank
Inflation	-0.3	0.1	-0.3	83
Real Rates	0.2	-0.1	0.2	17
Credit	0.6	0.7	0.5	99
Economic Growth	10.6	-1.9	11.2	4
EM	0.5	0.7	0.1	92
Commodity	0.1	0.2	0.1	88
FX	0.5	-0.2	0.5	14
Systematic	0.6	-0.1	1.0	28
Total Risk	**12.8**	**-0.4**	**13.3**	**19**





Source: BlackRock, PPD, P&I as of May 2024. Neither asset allocation nor diversification can guarantee profit or prevent loss. Risk: 84% confidence interval, 282 constant weighted monthly observations. **Read the "Peer Group Summary" for reporting date of each plan, the "Macro Factors Glossary" for additional risk details; and regarding the indexes used to represent each asset class, see the Asset Class Mapping slides at the end of this presentation.**

Total Portfolio: Scenario Analysis

Historical and hypothetical scenarios offer insight into downside risk protection; BlackRock's proprietary market-driven scenarios estimate the PnL impact of ensuing geo-political, environmental, and market catalysts

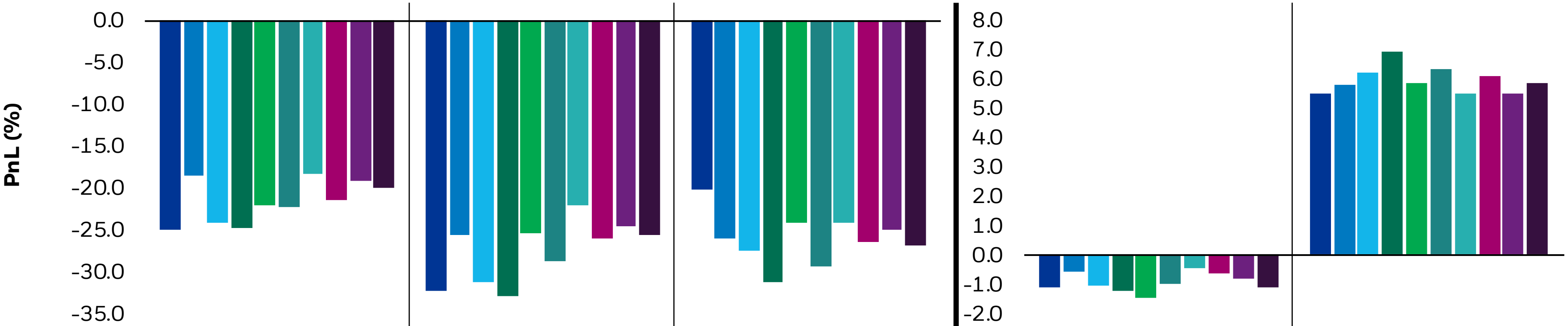
Crash '08 (Historical)
Lehman bankruptcy (Sep 12 –Nov 3, 2008)

COVID Drawdown (Historical)
COVID-19 related stress (Feb 21 – Mar 23, 2020)

Stagflation 1974 (Historical)
1974 historical stagflation scenario. Policy variable shocks based on actual factor returns in the year 1974.

ECB / Fed Divergence (Hypothetical)
The Fed holds steady driven by sticky inflation. The ECB cuts rates to begin a cutting cycle ahead of the Fed

April 2024 Reversal (Hypothetical)
Reversal of April 2024 market movements where equities experienced a decline and rates rose on the back of higher than expected inflation data



	Crash '08 (Historical)	COVID Drawdown (Historical)	Stagflation 1974 (Historical)	ECB / Fed Divergence (Hypothetical)	April 2024 Reversal (Hypothetical)
SBCERA	-24.95	-32.26	-20.32	-1.13	5.50
APERS	-18.50	-25.55	-26.06	-0.56	5.81
CCCERA	-24.25	-31.33	-27.57	-1.07	6.19
NHRS	-24.79	-32.86	-31.24	-1.24	6.92
NM PERA	-22.11	-25.35	-24.08	-1.48	5.83
OH SERS	-22.40	-28.81	-29.44	-1.02	6.36
OK PERS	-18.29	-22.19	-24.08	-0.44	5.48
SCERS	-21.44	-26.16	-26.43	-0.66	6.12
SDCERA	-19.16	-24.56	-25.08	-0.84	5.53
SDCERS	-20.02	-25.71	-26.93	-1.10	5.85

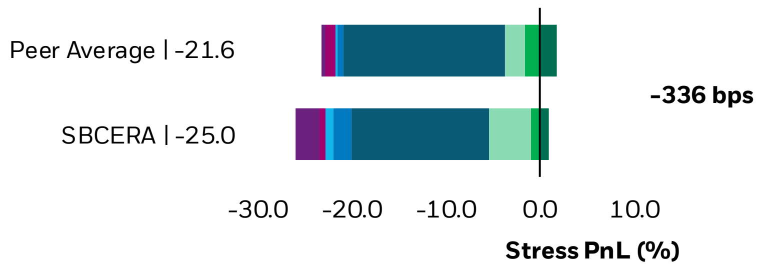
Source: BlackRock as of May 2024, based on BlackRock's CMA. **The hypothetical performance shown is net of fee and is not a guarantee of future results.** Given the instantaneous nature of applied shocks, fees are divided by 365 and deducted from the modeled scenario output. Stress scenario results are for illustrative purposes and no representation is being made that results shown will be achieved. The historical scenarios simulate each portfolio shown through hypothetical large market shocks and geopolitical stresses, with implied shocks. Scenario analysis is performed by parametrically shocking the underlying risk factor exposures of the portfolios by a set of instantaneous changes to derive the resulting hypothetical returns. The returns in the scenarios are expressed as a hypothetical percentage change in value if those shocks were to be realized and are based on criteria that have been applied retroactively with the benefit of hindsight and therefore cannot account for all financial risk that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. All results may be higher or lower than shown. **Read important disclosures on slide 2 and appendix for more information.**

Total Portfolio: Scenario Analysis

We expect greater costs associated with getting the asset mix wrong in the new regime compared with the Great Moderation; the larger dispersion of public plan returns more recently underscores the need to focus on tail risks

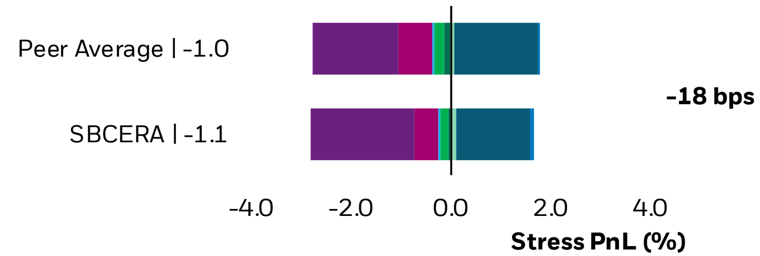
Crash ‘08

Implied change in funded status of -21% may result in a new funded status of 65%



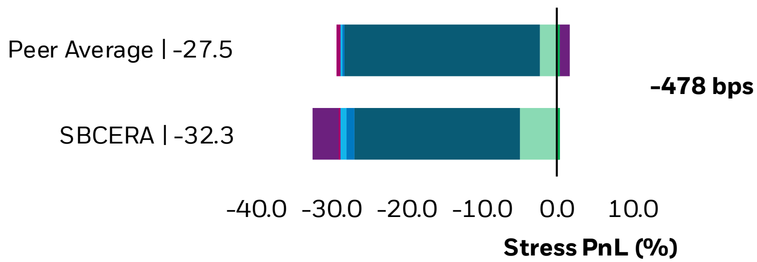
ECB/Fed Divergence

Implied change in funded status of -1% may result in a new funded status of 85%



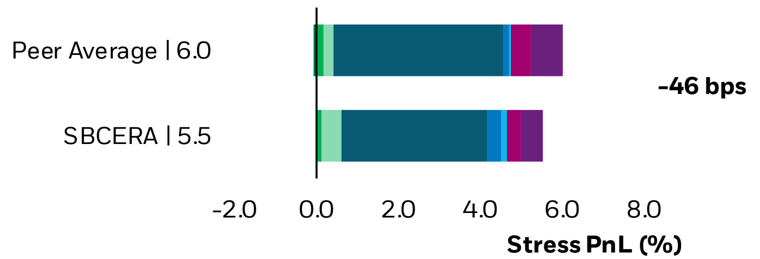
COVID Drawdown

Implied change in funded status of -28% may result in a new funded status of 58%



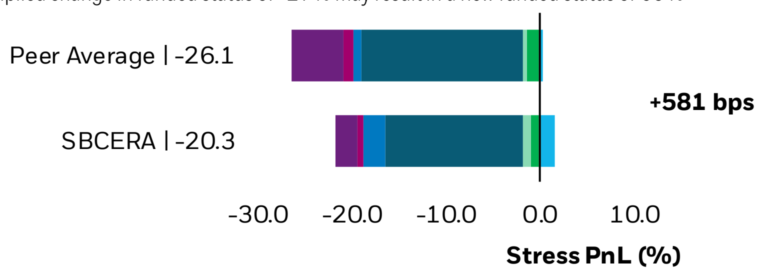
April 2024 Reversal

Implied change in funded status of 5% may result in a new funded status of 91%



Stagflation 1974

Implied change in funded status of -17% may result in a new funded status of 69%



Inflation, Real Rates, Credit, Economic Growth, EM, Commodity, FX, Systematic

Source: BlackRock as of May 2024, based on BlackRock’s CMA. **The hypothetical performance shown is net of fee and is not a guarantee of future results.** Given the instantaneous nature of applied shocks, fees are divided by 365 and deducted from the modeled scenario output. Stress scenario results are for illustrative purposes and no representation is being made that results shown will be achieved. The historical scenarios simulate each portfolio shown through hypothetical large market shocks and geopolitical stresses, with implied shocks. Scenario analysis is performed by parametrically shocking the underlying risk factor exposures of the portfolios by a set of instantaneous changes to derive the resulting hypothetical returns. The returns in the scenarios are expressed as a hypothetical percentage change in value if those shocks were to be realized and are based on criteria that have been applied retroactively with the benefit of hindsight and therefore cannot account for all financial risk that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. All results may be higher or lower than shown. **Read important disclosures on slide 2 and appendix for more information.**

Calibrating Liquidity Constraints

Peer perspectives

Inputs Considered

- Target allocation to private markets
- Quarterly NAVs and cash flows for private market funds (all fund types and geographies from Preqin)
- Age of private markets portfolio
- Annual spending requirement from total portfolio
- Mix of liquid assets

Zoning Rules

Liquidity Event
For the purposes of this analysis, a liquidity event is defined as a scenario in which liquid assets fall below two years of spending requirements

Conservative

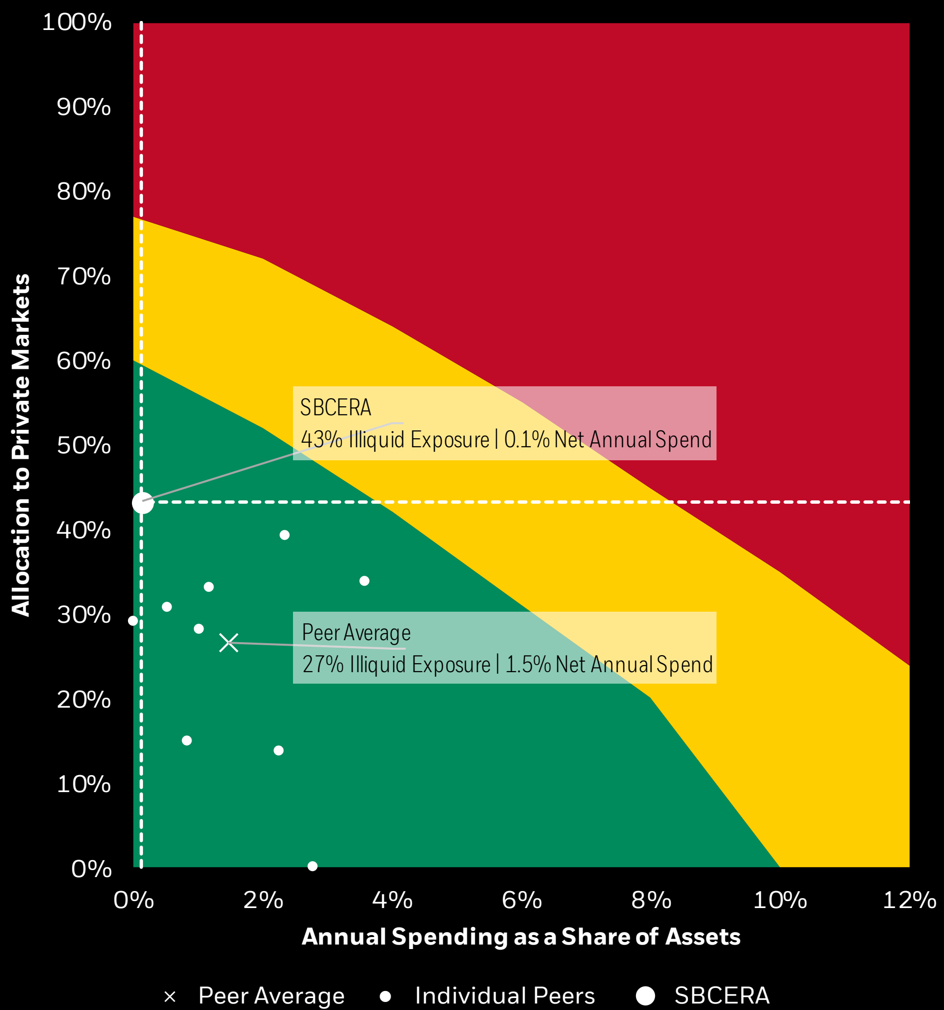
The range of allocations to private markets given any combination of the other input parameters that result in less than a 5% chance of a liquidity event

Moderate

The range of allocations to private markets where some combinations of other input parameters result in more than a 5% chance of a liquidity event

Aggressive

The range of allocations to private markets in which all combinations of other input parameters lead to at least a 5% chance of a liquidity event



Source: BlackRock as of June 2024, based on BlackRock Investment Institute paper from March 2019. Labels for each plan is based on FY2023 plan information from Annual Reports. Net Flows is calculated as benefits payments less total contributions. **This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise – or even as an estimate – of future performance.**

In Summary

SBCERA's Relative Positioning

Asset Class	SBCERA Allocation	Peer Avg	All Plans	vs. Peer Avg	vs. All Plans
Cash	4%	3%	2%	2%	2%
Fixed Income	16%	21%	19%	-5%	-4%
US	0%	14%	11%	-14%	-11%
TIPS	0%	0%	1%	0%	-1%
Tsy / Long Duration	0%	1%	2%	-1%	-2%
Intl/Global	9%	1%	0%	8%	8%
Non-Core	7%	5%	5%	2%	2%
Equity	17%	44%	44%	-26%	-26%
US	11%	21%	23%	-10%	-12%
Dev ex-US	3%	6%	7%	-3%	-4%
International	0%	6%	6%	-6%	-6%
EM	3%	2%	3%	1%	1%
Global	0%	8%	6%	-8%	-6%
Alternatives	63%	33%	35%	30%	28%
HF	15%	5%	4%	10%	11%
Real Estate	4%	9%	10%	-5%	-6%
Core	2%	4%	4%	-2%	-2%
Core +	0%	0%	0%	0%	0%
Value-added	2%	2%	1%	0%	1%
Opportunistic	0%	0%	0%	0%	0%
Distressed	0%	0%	0%	0%	0%
Debt	0%	0%	0%	0%	0%
REITs	0%	0%	1%	0%	-1%
Other	0%	2%	3%	-2%	-3%
Other Real Assets	5%	4%	4%	1%	0%
Private Equity	19%	10%	12%	9%	7%
Private Credit	20%	5%	4%	15%	15%
Liquid	57%	73%	71%	-17%	-14%
Illiquid	43%	27%	29%	17%	14%

Neither asset allocation nor diversification can guarantee profit or prevent loss.

Ideas for Consideration for SBCERA

Focusing on Fixed Income

- Diversify EM exposure within fixed income
- Consider an unconstrained, multi-sector approach, providing greater flexibility to proactively address rapid changes to bond markets across sector, duration, curve, and inflation expectations.

Revisiting Real Assets

- Revisit the real assets exposure of your portfolio.
- Consider additional infrastructure exposure as a possible source of idiosyncratic risk and return, for income stability and as a hedge for inflation.

Considerations within Credit

- Vary cash flow lending exposures to other lending markets within private credit.
- Consider the breadth of the private credit market to enhance risk-adjusted yield potential and diversification across the asset class.

Source: BlackRock as of May 2024

Additional Content

Asset Class Deep Dives – Equities, Fixed Income, Alternatives

Equities

Equities
Market Overview

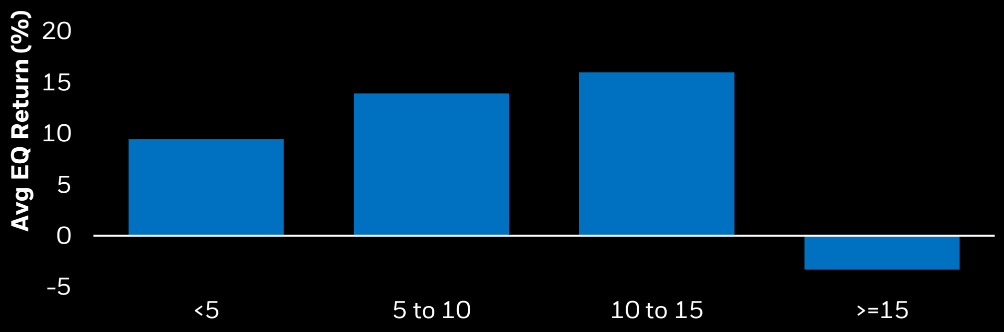
A more favorable equity backdrop and greater market breadth present a potential robust opportunity set for stock pickers in 2024.

Earnings growth and cheaper valuations in non mega caps suggest higher potential upside in a broader set of stocks. Equity market concentration is extreme relative to history; active selection remains increasingly important amidst higher dispersion.

Rate cuts may support equities – but aren't essential for equity performance.

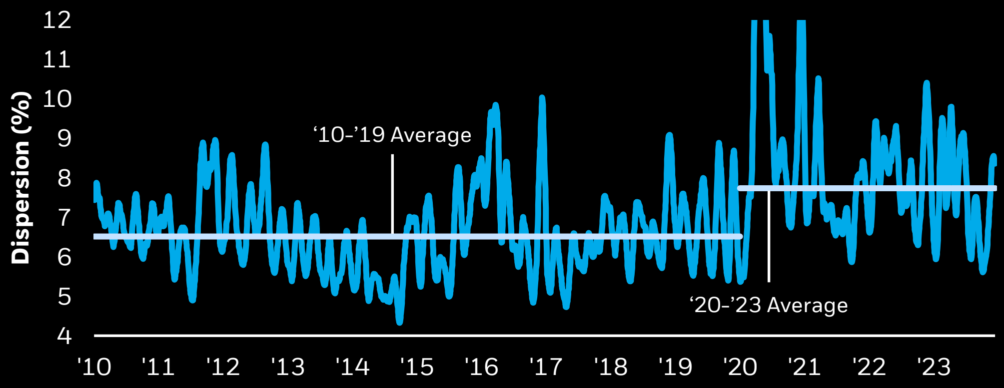
The opinions expressed are of BlackRock and as of May 2024 and can change with market conditions. Index performance is shown for illustrative purposes only. **Past performance is not indicative of future results. Indexes are unmanaged; direct investment is not possible.**

Average Forward 12M Equity Return



Source: Data from Ken French and Federal Reserve Economic Data, November 2023. Chart reflects the average next-12-month MSCI World return during different interest rate environments, 1975-2022. **Past performance is not a reliable indicator of current or future results.** Index performance returns do not reflect any management fees, transaction costs or expenses. Indices are unmanaged and one cannot invest directly in an index.

Performance Dispersion (S&P 500 Index)



Source: BlackRock Investment Institute, with data from LSEG Datastream, February 2024. Dispersion reflects the 20-day average of dispersion in S&P 500 monthly stock returns and the median level of dispersion following the global financial crisis through 2019 and from 2020-2023. **Past performance is not a reliable indicator of current or future results, and index returns do not account for fees. It is not possible to invest directly in an index.**

Total Equity Portfolio

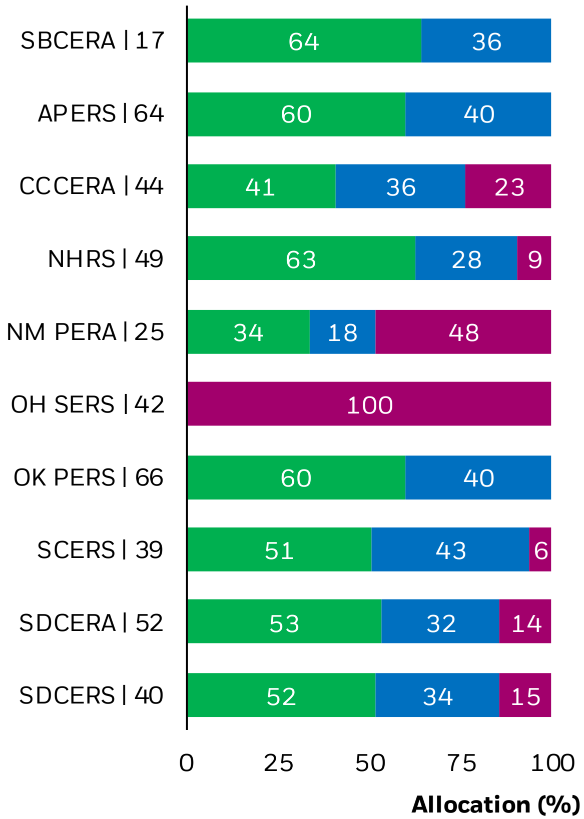
SBCERA's 17% allocation to equity is 26.4% underweight the peer average; changing market dynamics may warrant revisiting equity exposures to identify active style factor tilts and the potential for overlapping exposures

Total EQ Regional (%)	Peer Average	% Rank
US	48	86
Non-US	31	45
Global	22	0
Equity	**44**	**1**

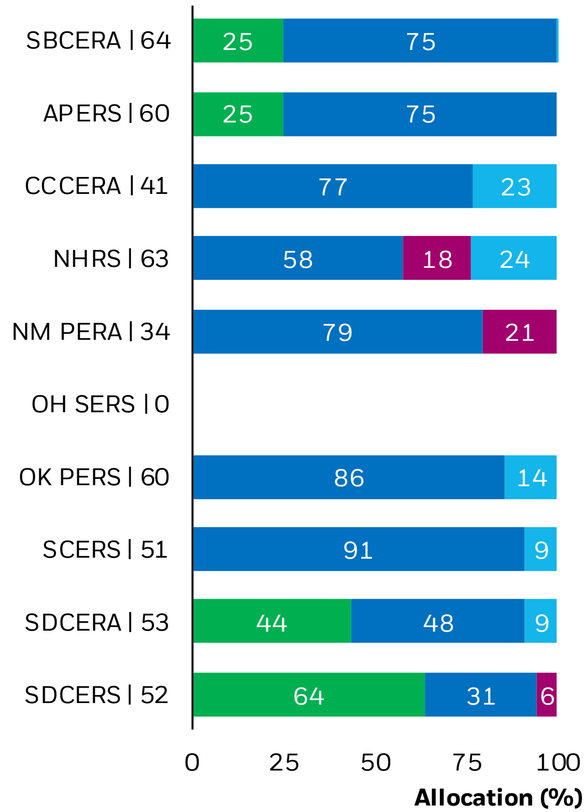
US EQ Market Cap (%)	Peer Average	% Rank
All Cap	17	53
Large Cap	69	71
Mid Cap	0	0
SMid Cap	5	0
Small Cap	9	47

Intl EQ Regional Allocation (%)	Peer Average	% Rank
Developed ex-US	47	44
ACWI ex-US	30	0
Emerging	23	95
Frontier	0	0

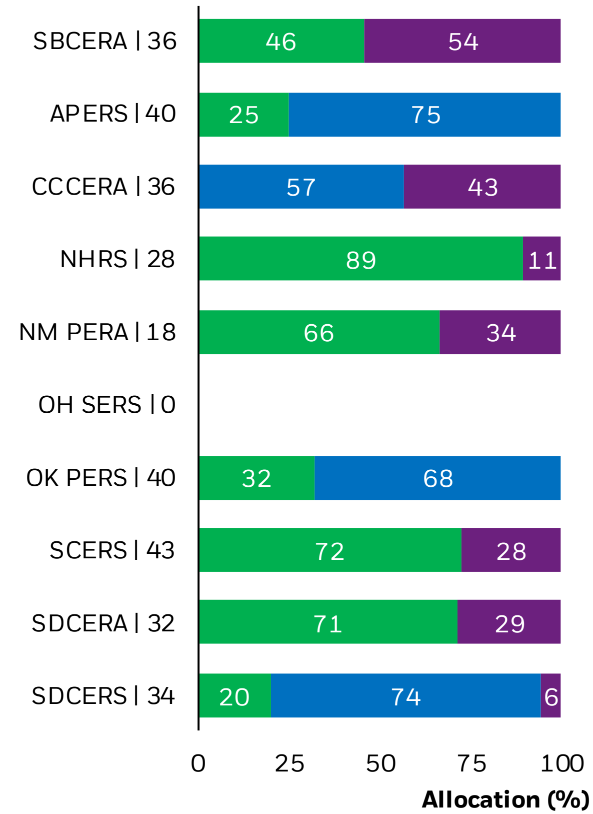
Plan | EQ (% Total)



Plan | US (% EQ)



Plan | Non-US (% EQ)



Source: BlackRock as of May 2024. Neither asset allocation nor diversification can guarantee profit or prevent loss.

Fixed Income

Sensitivity to Economic Surprises
The chart shows how sensitive the U.S. 10-year Treasury yield is to economic surprises. This is calculated by using regression analysis to estimate the relationship between U.S. 10-year Treasury yields and the Citi Economics Surprise Index over a rolling six-month window. The sensitivity is measured by how closely movements of the U.S. 10-year Treasury yield align with fluctuations in the Citi Economics Surprise Index, relative to how much the Surprise index itself varies. This analysis is only an estimate of the relationship between the 10-year Treasury yield and economic surprises.

Annual Performance Extremes, 2011-2023, Fixed Income Portfolio – Scenario Analysis
The following indices were used: US Agg / Aggregate: BBG US Aggregate Index, Long Gov/Duration: BBG US Govt Long Index, TIPS: BBG US Treasury TIPS Index, MBS: BBG US MBS Index, IG Corp: BBG US Corp Bond Index, HY Corp / High Yield: BBG US Corp High Yield Bond Index, Loans: Credit Suisse Leveraged Loans USD Index, EM Corp: JPM CEMBI Diversified Index.

Fixed Income Market Overview

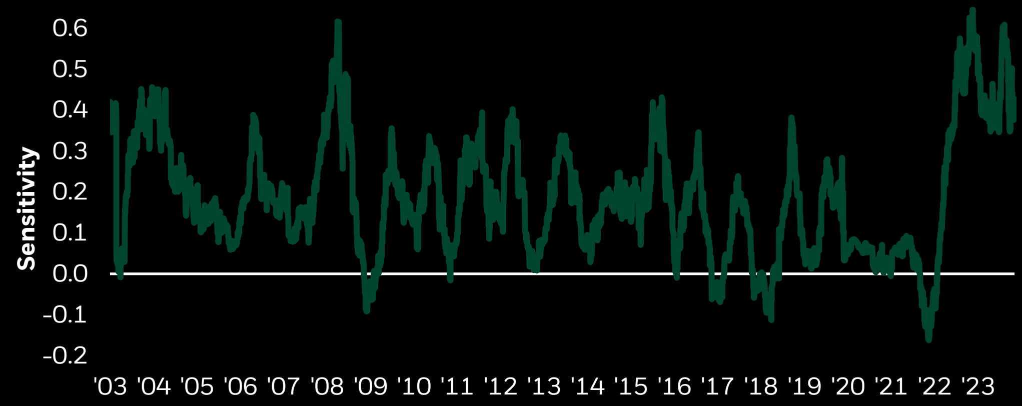
Sticky inflation has prompted markets to drastically reprice their expectations for Federal Reserve rate cuts this year. The Fed has gone from blessing market hopes for inflation to fall to 2% without a growth hit to implying policy may have to stay tight.

We expect inflation to stay closer to 3% in the new regime and prefer short and medium-term bonds over long-term due to more uncertain and volatile inflation, heightened bond market volatility and weaker investor demand.

10-year Treasury yields are the most sensitive to economic surprises than they ever have been post global financial crisis – a potential sign that macro uncertainty is still driving outsized markets moves; taking a flexible approach – from asset class and sector to duration and curve positioning – can better position portfolios for alpha capture across varying market regimes.

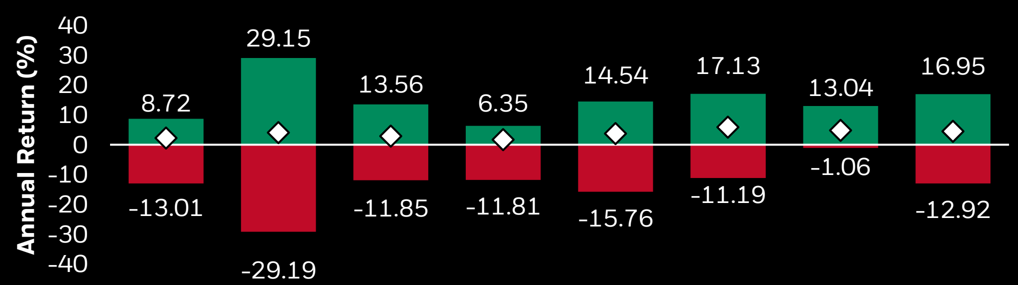
The opinions expressed are of BlackRock and as of May 2024 and can change with market conditions. Index performance is shown for illustrative purposes only. **Past performance is not indicative of future results. Indexes are unmanaged; direct investment is not possible.**

Sensitivity to Economic Surprises



Source: BlackRock Investment Institute, with data from LSEG Datastream, March 2024. **Past performance is no guarantee of future results.** Read additional information on Fixed Income section divider for additional information.

Annual Performance Extremes, 2011-2023



Index	US Agg	Long Gov	TIPS	MBS	IG Corp	HY Corp	Loans	EM Corp
Avg	2.30%	4.14%	2.92%	1.73%	3.80%	5.98%	4.82%	4.53%
Range	21.73%	58.34%	25.41%	18.16%	30.30%	28.32%	14.10%	29.87%

Min Max ◆ Avg

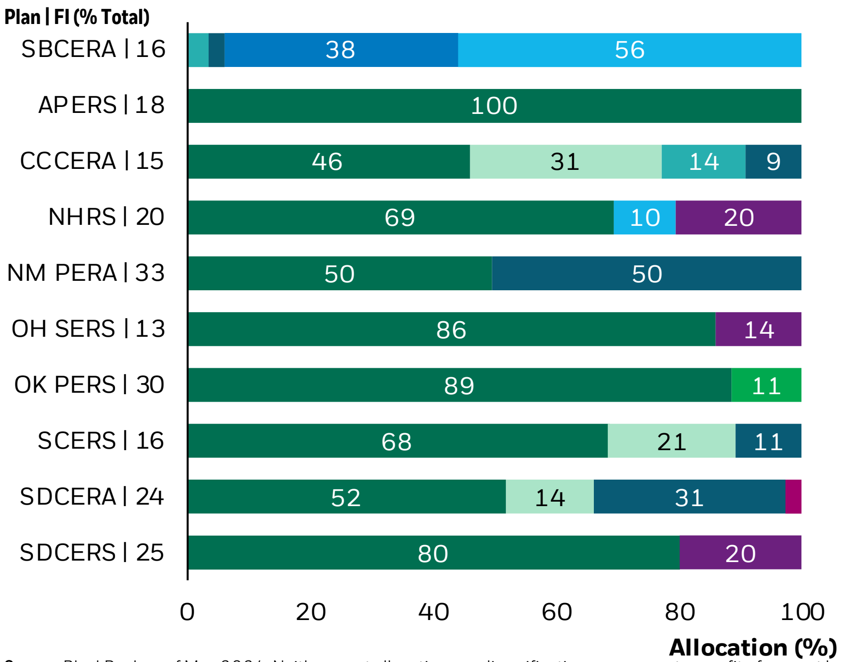
Source: BlackRock, Morningstar as of December 2023. **Past performance is not indicative of future results. All investing is subject to risk, including possible loss of money invested. Performance results will vary. Accordingly, performance may be higher or lower than results cited.** Index returns are for illustrative purposes only. Index performance does not reflect any management fees, transaction costs or expenses. Indexes are unmanaged; direct investment in an index is not possible. Read additional information on Fixed Income section divider for details on indices used for this illustration.

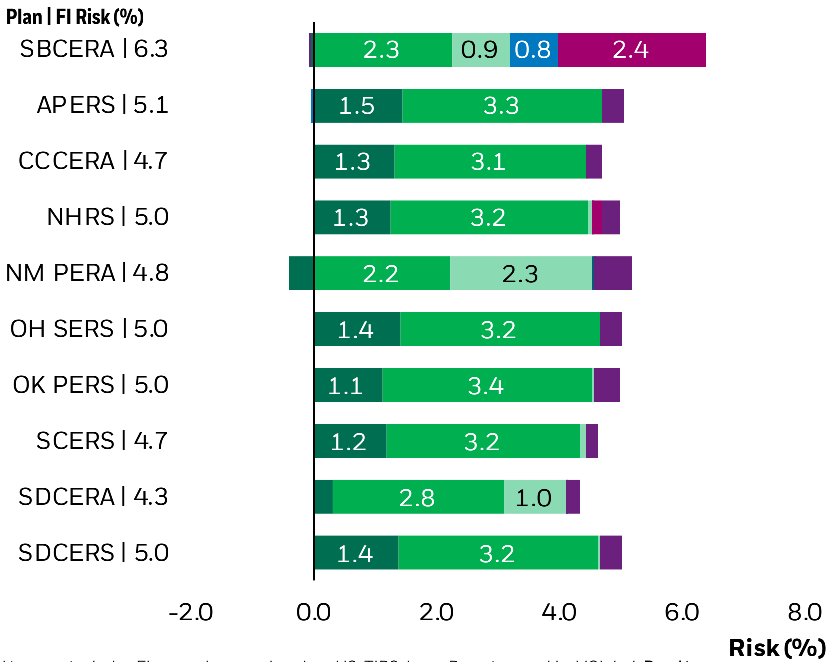
Fixed Income Portfolio – Asset Allocation & Risk

SBCERA's 15.8% allocation to fixed income has approximately 44% to non-core spread sectors; today's higher yield environment may provide opportunities to reduce risk by increasing fixed income exposure

Fixed Income Allocation (%)	Peer Average	vs. Avg	All Plans	% Rank
US	64	-64	56	0
TIPS	1	-1	7	0
Tsy/Long Dur	7	-7	9	0
Securitized	2	2	4	80
HY/BL	10	-8	13	44
EM	4	34	4	100
Intl/Global	7	49	3	99
Multi-Strat	5	-5	4	0
Conv	0	0	0	0
Total Fixed Income	**21**	**-5**	**19**	**26**

FI Macro Factor Risk Decomp (%)	Peer Average	vs. Avg	All Plans	% Rank
Inflation	0.9	-0.9	0.7	14
Real Rates	3.0	-0.7	3.3	5
Credit	0.4	0.5	0.4	82
Economic Growth	0.0	0.0	0.0	70
EM	0.1	0.7	0.0	100
Commodity	0.0	0.0	0.0	0
FX	0.3	2.1	0.1	100
Systematic	0.3	-0.3	0.3	0
Total Risk	**5.0**	**1.3**	**4.7**	**99**

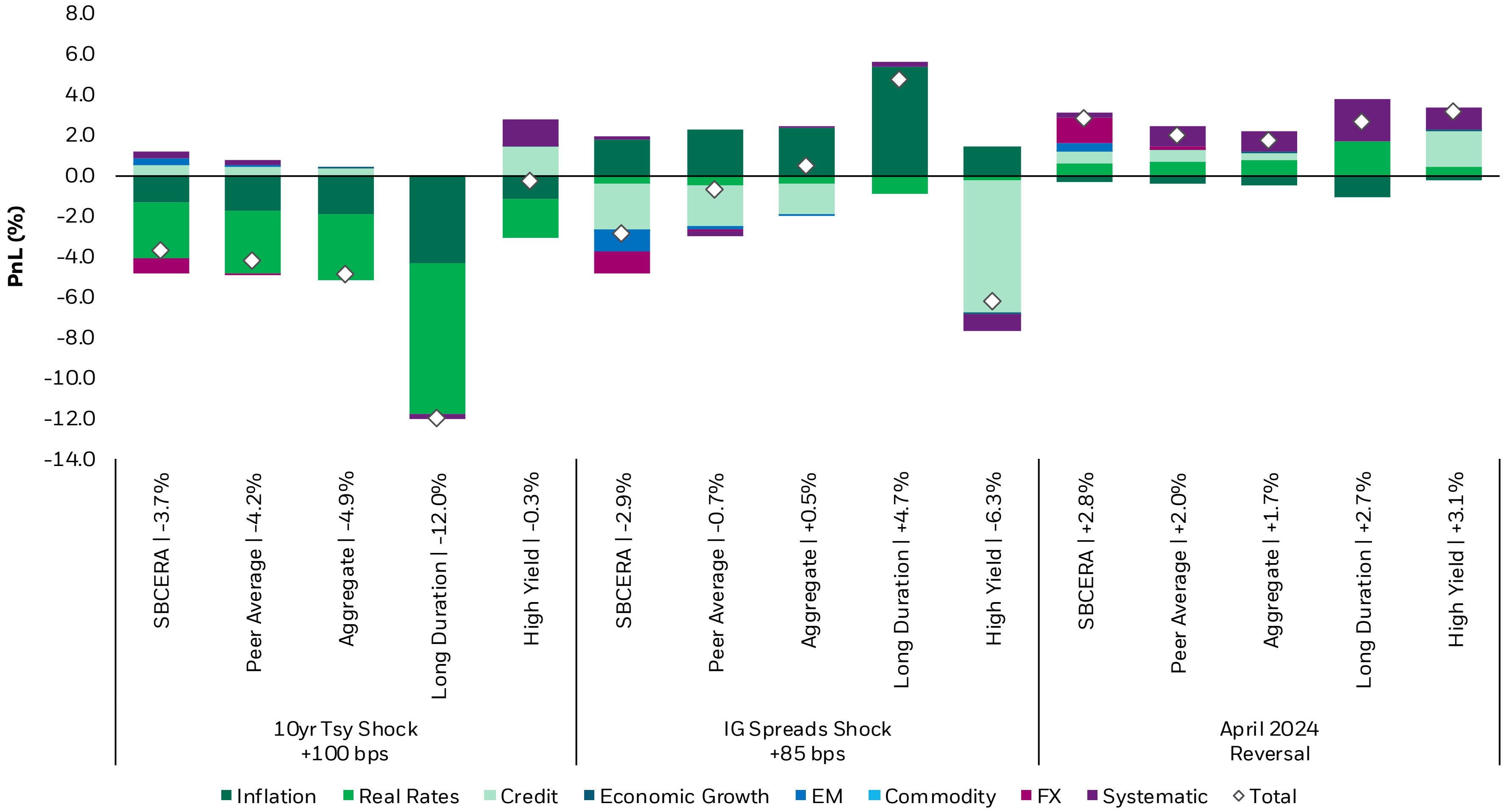




Source: BlackRock as of May 2024. Neither asset allocation nor diversification can guarantee profit of prevent loss. Non-core fixed income includes FI asset classes other than US, TIPS, Long Duration, and Intl/Global. **Read important disclosures on slide 2 and appendix for more information.**

Fixed Income Portfolio – Scenario Analysis

We prefer very short-term government paper for income given the potential for a sharp jump in Fed rate expectations and see long-term yields moving up further as investors demand a greater term premium



Source: BlackRock as of May 2024, based on BlackRock's CMA. **The hypothetical performance shown is net of fee and is not a guarantee of future results.** Given the instantaneous nature of applied shocks, fees are divided by 365 and deducted from the modeled scenario output. Stress scenario results are for illustrative purposes and no representation is being made that results shown will be achieved. The historical scenarios simulate each portfolio shown through hypothetical large market shocks and geopolitical stresses, with implied shocks. Scenario analysis is performed by parametrically shocking the underlying risk factor exposures of the portfolios by a set of instantaneous changes to derive the resulting hypothetical returns. The returns in the scenarios are expressed as a hypothetical percentage change in value if those shocks were to be realized and are based on criteria that have been applied retroactively with the benefit of hindsight and therefore cannot account for all financial risk that may affect actual performance. Interpretation of any results should take into consideration inherent limitations and risks of the model and assumptions used. All results may be higher or lower than shown. Index returns do not reflect deduction of fee and expenses. Indexes are unmanaged; direct investment is not possible. **Read important disclosures on slide 2, FI section header and appendix for more information.**

Alternatives

Alternatives Overview

Broad shifts in the economy and financial markets have positioned private markets to grow in the year ahead.

Companies are staying private for longer which implies a more prominent place for private markets in the broader economy – including providing more flexible and faster financing for companies that might shy away from public markets amid tougher macro conditions.

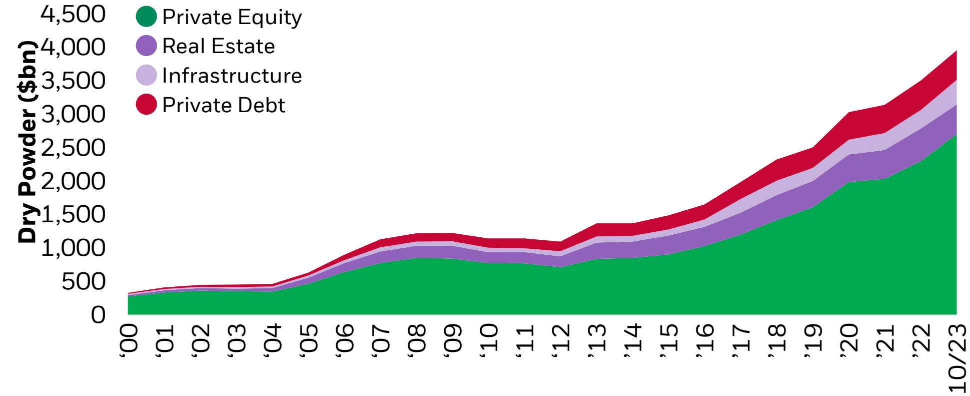
With lending standards tightening, we expect the banking system to reduce loans on their balance sheets; this has the potential to create deep opportunities across private markets from private debt to an increased reliance on equity financing and beyond.

With overall dry powder growing and investors becoming increasingly selective, private markets assets are on track to reprice which may result in attractive entry points in higher-quality companies in parts of the capital structure that offer more protections.

The opinions expressed are of BlackRock and as of May 2024 and can change with market conditions. Index performance is shown for illustrative purposes only. **Past performance is not indicative of future results. Indexes are unmanaged; direct investment is not possible.**

Drying Up

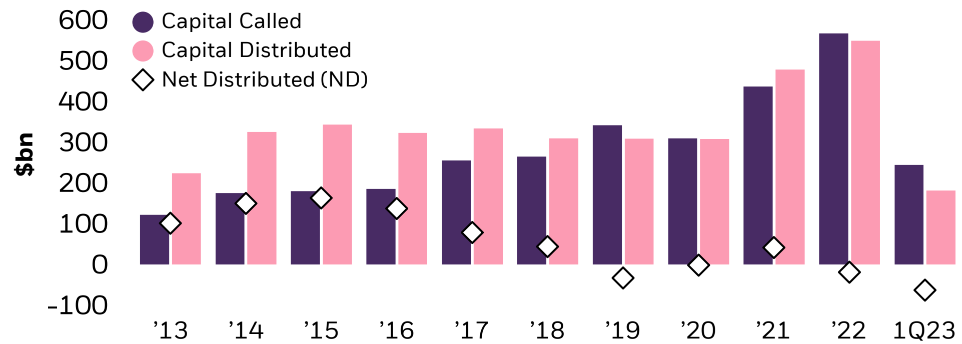
Dry powder is increasing as investors remain selective; capital on the sidelines has increased by over 50% since 2019



Source: Preqin and BlackRock, October 30, 2023. Dry Powder is the "available capital to fund managers for investment, i.e. committed capital that has not yet been called for investment."

Going for Seconds

The shortage of exit opportunities has left an estimated 75% of private portfolios net-cash-flow negative[1]; limited partners are turning to the secondaries market for liquidity and to meet distribution requirements



ND	+$101.4	+$150.2	+$163.3	+$137.6	+$78.7	+$44.4	-$33.2	-$1.2	+$41.5	-$18.8	-$62.6

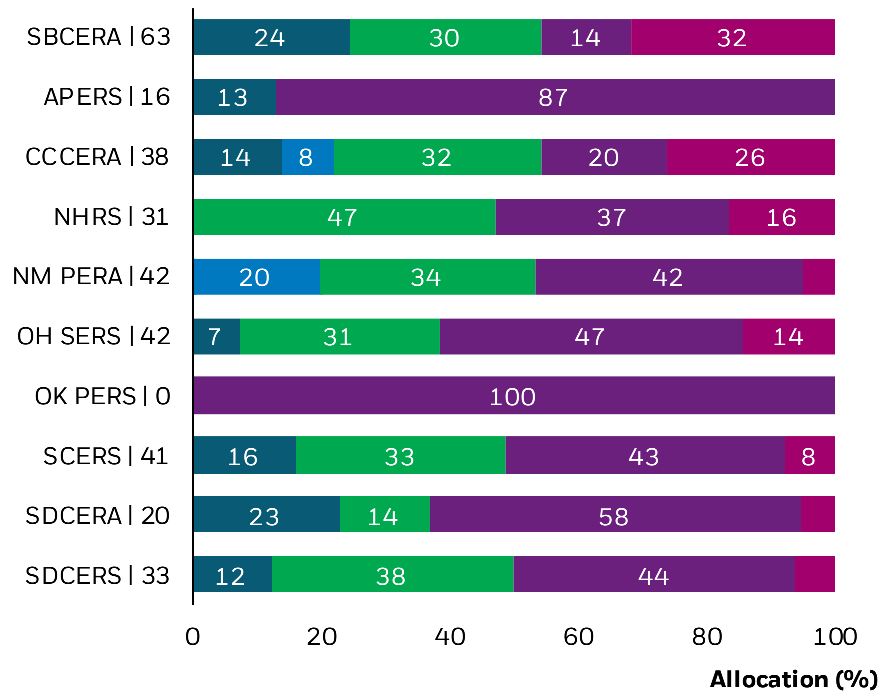
Source: Preqin, data as of March 31, 2023. [1]PJT Partners - Secondary Investor Roadmap Series, July 2023.

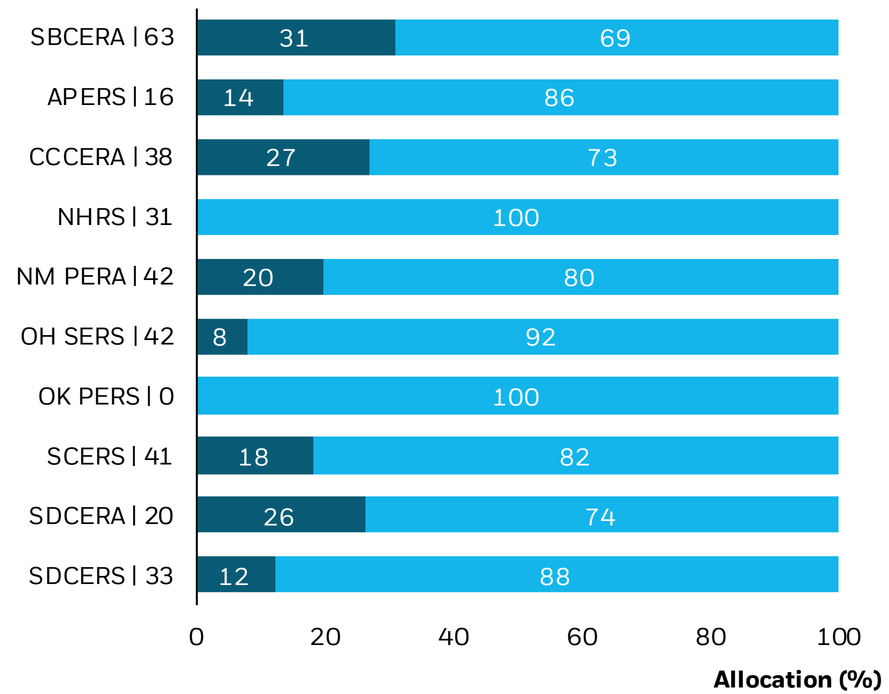
Alternatives Portfolio

SBCERA has a 63% allocation to alternatives relative to the peer average of 33%; Real Assets is the largest alternative exposure across the peer group at 49% of the alternatives portfolio

Alternatives Asset Allocation (%)	Peer Average	vs. Avg	All Plans	% Rank
HF	11	13	10	93
Risk Parity	3	-3	2	0
Portable Alpha	0	0	0	0
PE	26	4	35	32
Real Assets	49	-35	40	2
Private Credit	11	20	13	94
Alternatives	**33**	**30**	**35**	**94**

Alternatives Liquidity Profile (%)	Peer Average	vs. Avg	All Plans	% Rank
Liquid Alternatives	16	15	16	91
Illiquid Alternatives	84	-15	84	9





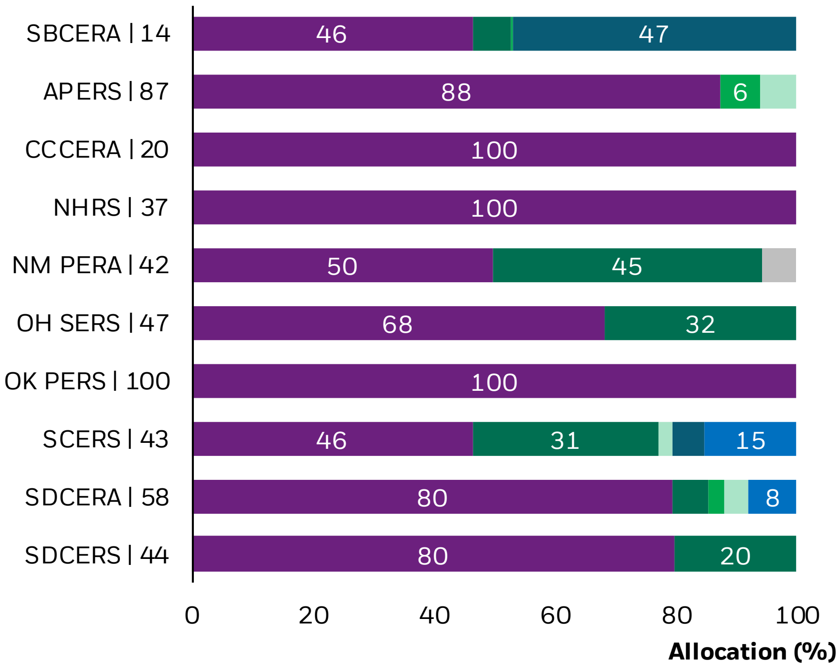
Neither asset allocation nor diversification can guarantee profit or prevent loss. Liquid Alternatives include HF, Risk Parity, Portable Alpha, REITs (Real Assets - Real Estate), MLPs (Real Assets), and Commodities (Real Assets)

Revisiting Real Assets

In addition to generating stable income and serving as a volatility dampener, Real Assets have historically shown resilience in inflationary environments

Real Assets Asset Allocation (%)	Peer Average	vs. Avg	All Plans	% Rank
Real Estate	76	-29	69	11
Infrastructure	14	-8	16	41
Timber	1	-1	1	78
Farmland	1	-1	2	0
Commodities	5	42	4	100
Energy	2	-2	3	0
MLPs	0	0	1	0
Other	1	-1	3	0
Real Assets	**49**	**-35**	**40**	**2**

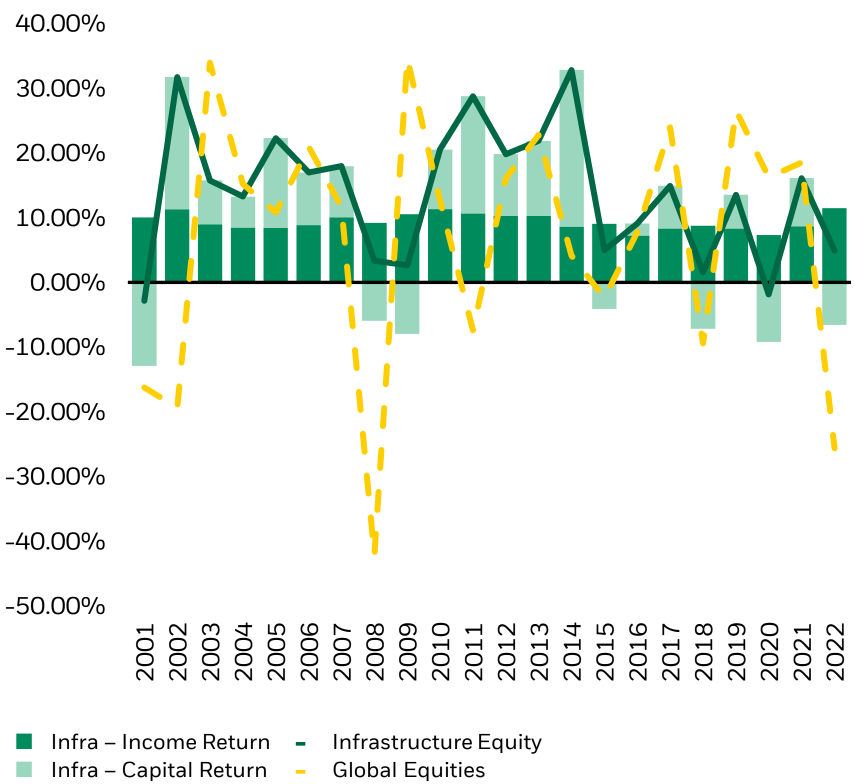
Plan | Real Assets (% Alts)



Source: BlackRock as of May 2024. Neither asset allocation nor diversification can guarantee profit of prevent loss.

Calm in the Eye of the Storm

Infrastructure has exhibited a steady income stream and modest drawdowns relative to equities throughout market turmoil

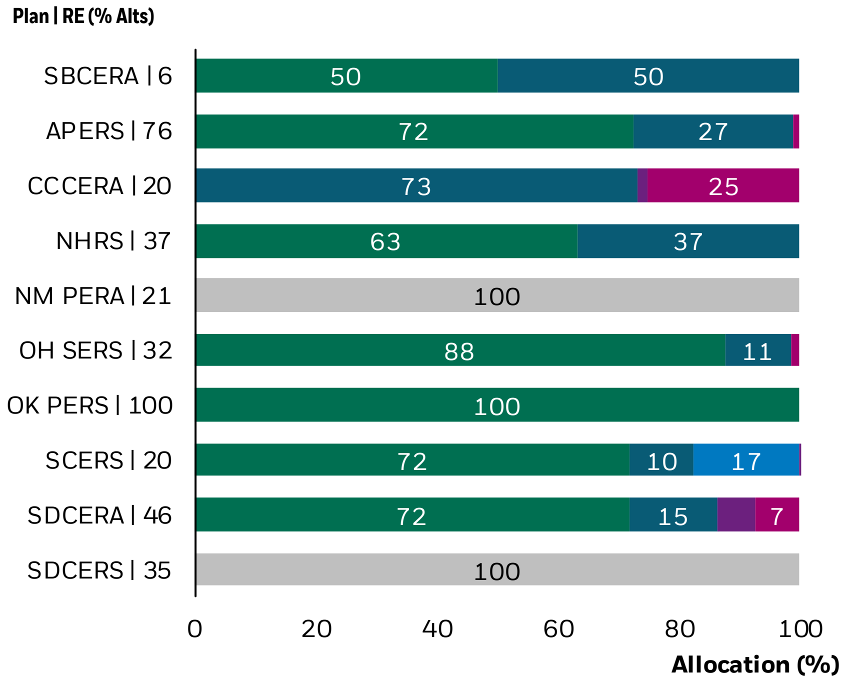


Source: BlackRock, May 2023. **Past performance is not indicative of future results.** All investing is subject to risk, including possible loss of money invested. Performance results will vary. Accordingly, performance may be higher or lower than results cited. Global Equities is the MSCI ACWI Index, Infra is represented by the EDHEC Infra 300 Index. Index returns are for illustrative purposes only. Index performance does not reflect any management fees, transaction costs or expenses. Indexes are unmanaged; direct investment in an index is not possible.

Real Estate

Real Estate exposure is a foundational component of the average pension portfolio; REITs are less exposed to cyclical sectors and may be more resilient to potential economic slowdown than its private market counterparts

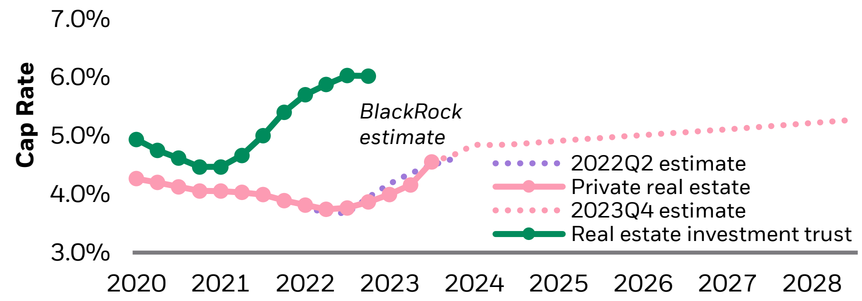
RE Allocation by Strategy (%)	Peer Average	vs. Avg	All Plans	% Rank
Core	52	-2	37	55
Core +	0	0	3	0
Value-added	22	28	11	96
Opportunistic	2	-2	5	0
Distressed	0	0	0	0
Debt	1	-1	3	0
REITs	3	-3	7	0
Other	20	-20	34	1
Real Estate	**39**	**-33**	**28**	**1**



Source: BlackRock as of May 2024. Neither asset allocation nor diversification can guarantee profit of prevent loss.

Taking Time to Adjust

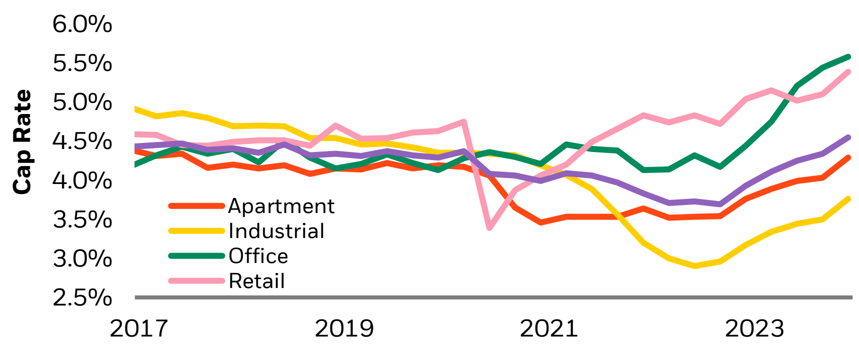
Real estate investment trusts (REITs) valuations have plunged further than private core real estate prices



Source: BlackRock Investment Institute with data from NCREIF, August 2023. Notes: The chart shows capitalization rates for private real estate and real estate investment trusts (REITs). Our cap rate estimates are based on our analysis of the historical relationship between 10-year real Treasury bond yields, investment grade credit spreads and a real estate premium (the additional compensation investors require for investing in real estate). This analysis is only an estimate of the relationship and may not fully reflect the true relationship between these factors. **Forward looking estimates may not come to pass.**

Difference in Opinion

Capitalization (Cap) rates illustrate dispersion between property sectors

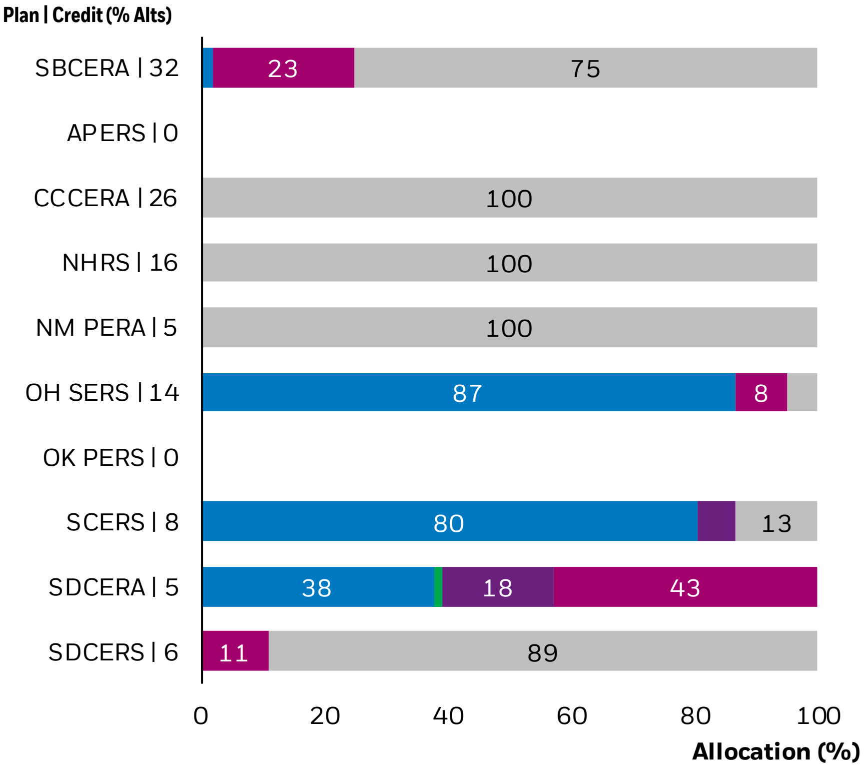


Source: MSCI Global Annual property Index, December 2022. **Past performance is not indicative of future results.** Indexes are unmanaged; direct investment is not possible.

Private Credit

In addition to a illiquidity premium to amplify income, private lending can provide greater flexibility to drive deal structure and covenant protections, which has resulted in lower defaults and higher recoveries than public markets

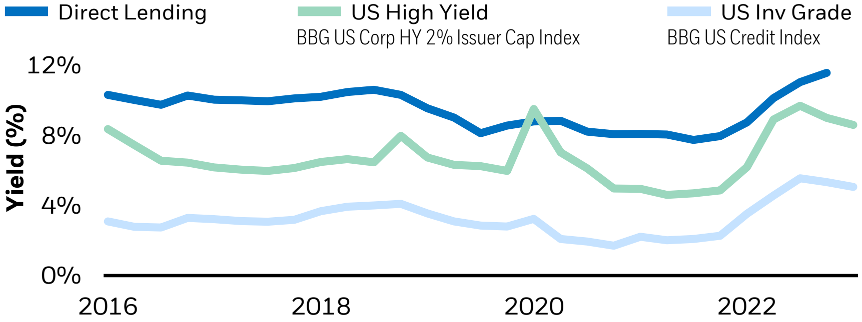
Alternative Credit Asset Allocation (%)	Peer Average	vs. Avg	All Plans	% Rank
Direct Lending	26	-24	21	55
Mezzanine	0	0	1	0
Opportunistic	0	0	4	0
Special Sits	3	-3	4	0
Distressed	11	12	8	87
Other	60	15	61	53
Private Credit	**11**	**20**	**13**	**94**



Source: BlackRock as of May 2024. Neither asset allocation nor diversification can guarantee profit of prevent loss.

Putting a Premium on Privacy[1]

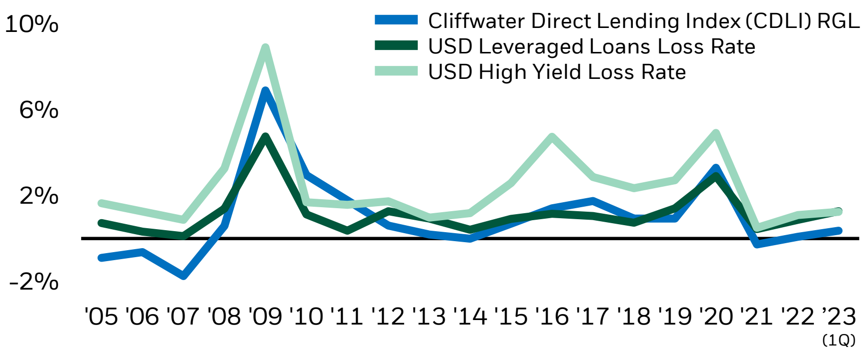
Private credit has potential yield appeal over similarly rated publics



Source: BlackRock, Lincoln International and Barclays Live, May 2023. Lincoln Senior Debt (based on valuation data from 2017-2022) used for Direct Lending. **Past performance is not a reliable indicator of current or future results.** Indexes are unmanaged and do not account for fees. It is not possible to invest directly in an index.

Directing Attention to Losses

We assume a 40% recovery rate for HY and 60% recovery for leveraged loans to arrive at an estimated loss rate



Source: BlackRock, Cliffwater, Moody's. *Data as of March 2022. The figures shown relate to past performance. **Past performance is not a reliable indicator of current or future results.** RGL refers to realized gains/losses.

Appendix

BlackRock's Public Pension Plan Coverage Universe

Our coverage universe includes 136 plans with total assets over $4.9 trillion; average plan size is $38.1bn and ranges from $437 million to $450 billion

Plans in Scope

Alameda County Empl Ret Assoc
Alaska Rtrmt Mgmt Board
Arkansas PERS
Arkansas Teachers Rtrmt Sys
Atlanta Firefighters' Pension Fund
Atlanta General Empl Pension Fund
Atlanta Police Officers' Pension Fund
Austin Police Retirement System
AZ Public Safety
AZ State Ret Sys
Baltimore Fire & Police
Boston Rtrmt Sys
CA Public Empl Rtrmt Sys
CA State Tchrs Ret Sys
Chicago Teachers Pension Fund
City of Ann Arbor Empl Ret Sys
City of Austin ERS
City of Dallas Empl Rtrmt Fund
City of Fresno Empl Retirement Sys
City of Jacksonville ERS
City of LA Dept of Fire & Police
City of Milwaukee ERS
Commonwealth of PA ERS
Contra Costa Cnty ERA
Cook Cnty Annuity & Benefit
County Employees' Ret Fund of Missouri
CT Ret Plans & Trusts
Dallas Police & Fire Pension Sys
DC Rtrmt Board
ERS of Rhode Island
ERS of Texas
ERS of the State of Hawaii
Fairfax Cnty - Employees
Fairfax Cnty - Police
Fairfax Cnty - Uniformed
Florida Ret Sys
Fort Worth Employees' Retirement Fund
Fresno Cnty ERA
Grand Rapids General Ret Sys
Grand Rapids Police & Fire Ret Sys
Hartford Municipal Employees Ret Sys
Houston Firefighters' Relief and Ret Fund
Houston Municipal Empl Pension Sys
Houston Police Officers Pension Sys
Illinois Muni Rtrmt Fund
Illinois St Uni Rtrmt Sys
Illinois State Board of Inv
Imperial County Empl Ret System
Indiana Public Rtrmt System
Iowa PERS
Kansas PERS
Kentucky Rtrmt Sys
LA City Empl Ret Sys
LA Cnty ERA
LA Water & Power ERP
Louisiana Empl Ret Sys
Louisiana School Empl Ret Sys
Maine Public Empl Ret Sys
Marin County Empl Ret Assoc
Maryland St Rtrmt & Pension Sys
Massachusetts PRIM
Mendocino County ERA
Merced County Employees Ret Assoc
Milwaukee County ERS
Minnesota State Board of Inv
Mississippi PERS
MO Local Gov Empl Ret Sys
MO State Empl Ret Sys
Montana Board of Investment
Montgomery Cnty Empl Ret Sys
Muni Empl Ret Sys of Michigan
Nebraska Public Employees Ret Sys
New Hampshire Rtrmt Sys
New Mexico Educational Rtrmt Board
New York City Board of Ed
New York City ERS
New York City Fire Dept
New York City Police
New York City TRS
NJ Division of Investment
North Carolina Ret Sys
North Dakota State Inv Board
NYS Common Ret Fund
NYS Tchrs' Ret Sys
Ohio PERS
Ohio Police & Fire Pension
Oklahoma Muni Rtrmt Fund
Oklahoma PERS
Orange Cnty ERS
Oregon Public ERF
PA Public School Empl Ret Sys
Pennsylvania Municipal Ret Sys
PERS of Nevada
Philadelphia PERS
Public Empl Ret Assoc of CO
Public Empl Ret Sys of Idaho
Public ERA of New Mexico
Public School & Ed ERS of MO
Ret Sys of AL
Richmond Retirement System
Sacramento Cnty ERS
San Bernardino Cnty ERA
San Diego City ERS
San Diego Cnty ERA
San Joaquin County Empl Ret Assoc
San Jose Federated City ERS
San Jose Police & Fire Dept Ret Plan
San Luis Obispo CPT
San Mateo Cnty ERA
Santa Barbara Cnty ERS
School ERS of Ohio
SF Empl Ret Sys
Sonoma County Empl Ret Assoc
South Carolina Ret Sys
South Dakota Inv Council
Stanislaus County Empl Ret Assoc
State of Michigan Rtrmt Sys
State of Wisconsin Inv Board
State Tchrs Ret Sys of Ohio
Tallahassee Retirement System
Tchrs Ret Sys of GA
Tchrs Ret Sys of Kentucky
Tchrs Rtrmt Sys of Illinois
Tchrs Rtrmt Sys of Louisiana
Tchrs Rtrmt Sys of Oklahoma
Teacher Ret Sys of Texas
Texas County & District RS
Texas Muni Rtrmt Sys
TN Consolidated Ret Sys
Tulare Cnty Empl Rtmrt Assoc
Ventura County Empl Ret Assoc
Vermont State Ret Sys
Virginia Ret Sys
Washington St Inv Board
Weld County Ret Plan
WV Inv Mgmt Board

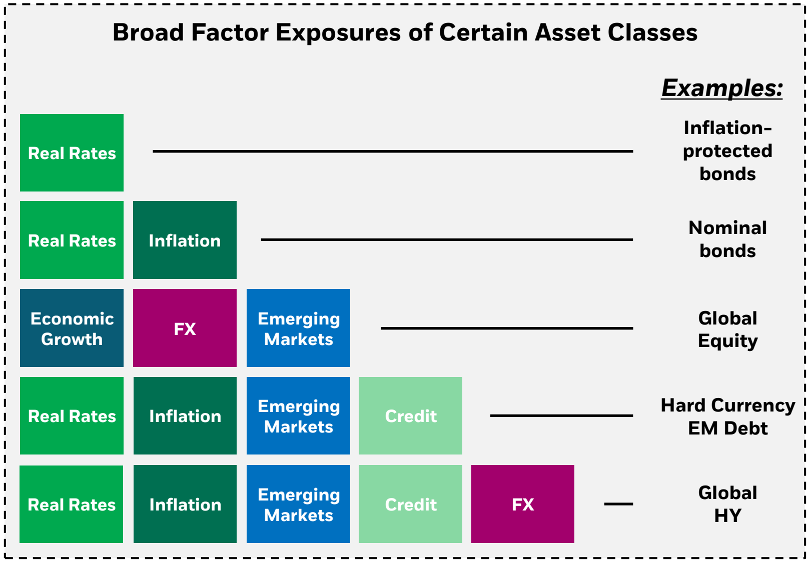
Source: BlackRock, Pensions & Investments (P&I) as of May 2024.

Macro Factors Glossary

Drivers of Portfolio Return and Risk

These common economic factors are intuitive, applicable across all asset classes, and explain the majority of asset class risk

Factor	Description
Inflation	Risk of bearing exposure to changes in nominal prices *Return of long nominal bonds, short inflation-linked bonds portfolio*
Real Rates	Risk of bearing exposure to real interest rate changes *Inflation-linked bond returns*
Credit	Risk of default or spread widening *Return of long corporate bonds, short nominal government bonds portfolio*
Economic Growth	Risk associated with global economic growth *Broad-market equity index returns*
Emerging Markets	Risk that emerging sovereign governments will change capital market rules *Equally weighted basket of EM asset classes: EM CDX, EM FX, and long EM equity short DM equity*
Commodity	Risk associated with commodity markets *Weighted GSCI commodity index returns*
FX	Risk associated with developed foreign currency exposure *USD-denominated basket of EUR, JPY, GBP, CAD and AUD*



Source: BlackRock as of May 2024. Ex-ante risk is defined as annual expected volatility and is calculated using data derived from representative indices, using the Aladdin portfolio risk model. This proprietary multi-factor model can be applied across multiple asset classes to analyze the impact of different characteristics of securities on their behaviors in the market place. In analyzing risk factors, the Aladdin portfolio risk model attempts to capture and monitor these attributes that can influence the risk/return behavior of a particular security/asset. Systematic reflects the portion of the risk that is undefined by the other factors.

Capital Market and Modeling Assumptions

Asset Class	Asset Description	Benchmark	Fee Deducted	10yr Ann. (Net) Expected Return	Expected Risk
Cash	Cash	USD Cash Benchmark	-	4.01%	-
Fixed Income	US	BBG Barc U.S. Aggregate Index	0.10%	4.15%	5.06%
Fixed Income	HY	BBG Barc US Corp High Yield 2% Issuer Capped Index	0.38%	5.55%	7.01%
Fixed Income	EM	50% JPMGBIEGDV | 50% EMBIGLOBAL Index	0.45%	4.99%	8.51%
Fixed Income	Treasuries	BBG Barc Government Index	0.11%	3.81%	5.00%
Fixed Income	Long Duration	BBG Barc Treasury 10+ Yr Index	0.15%	2.80%	13.02%
Fixed Income	TIPS	BBG Barc US Government Inflation-Linked Bond Index	0.12%	4.30%	5.46%
Fixed Income	Global	BBG Barc Global Aggregate Index	0.10%	4.26%	5.85%
Fixed Income	Bank Loans	S&P/LSTA Leveraged Loan Index	0.45%	7.17%	7.99%
Fixed Income	Convertibles	BBG Barc U.S. Aggregate Index	0.10%	4.15%	5.06%
Fixed Income	Multi-Strat	BBG U.S. Universal Index	0.10%	4.36%	4.85%
Fixed Income	Securitized	BBG Barc Securitized Index	0.05%	4.84%	5.46%
Equity	US Large Cap	Russell 1000 Index	0.13%	5.26%	17.71%
Equity	US Mid Cap	Russell Midcap Index	0.13%	4.48%	19.24%
Equity	US Small/Mid Cap	Russell 2500 Index	0.20%	3.89%	21.69%
Equity	US Small Cap	Russell 2000 Index	0.19%	3.66%	23.34%
Equity	US All Cap	Russell 3000 Index	0.20%	5.13%	17.92%
Equity	Non-US / Developed (World-ex US)	MSCI World Ex-US Index	0.20%	7.80%	16.80%
Equity	Non-US (ACWI ex-US)	MSCI All Country World Ex-US	0.25%	8.28%	17.12%
Equity	EM	MSCI Emerging Markets Index	0.36%	7.93%	20.26%
Equity	Global (ACWI)	MSCI All Country World Index	0.18%	6.25%	16.88%

Source: BlackRock as of May 2024. Expected returns shown are net of fees and expenses. The representative indices listed above may differ from those that are publicly available, but the underlying methodology and assumptions are consistent. BlackRock expected market return information is based on BlackRock's capital market assumptions as of May 2024 which are subject to change. Capital market assumptions contain forward-looking information that is not purely historical in nature. **They should not be construed as guarantees of future returns**. The projections in the chart above are based on BlackRock's proprietary capital markets assumptions for risk and geometric return (above) and correlations between major asset classes. These asset class assumptions are passive only and do not consider the impact of active management. The assumptions are presented for illustrative purposes only and should not be used, or relied upon, to make investment decisions. The assumptions are not meant to be a representation of, nor should they be interpreted as BlackRock's investment recommendations. Allocations, assumptions, and expected returns are not meant to represent BlackRock performance. Capital markets assumptions are subject to high levels of uncertainty regarding future economic and market factors that may affect actual future performance. Ultimately, the value of these assumptions is not in their accuracy as estimates of future returns, but in their ability to capture relevant relationships and changes in those relationships as a function of economic and market influences. Please note all information shown is based on assumptions, therefore, exclusive reliance on these assumptions is incomplete and not advised. The individual asset class assumptions are not a promise of future performance. Indexes are unmanaged and used for illustrative purposes only and are not intended to be indicative of any fund's performance. It is not possible to invest directly in an index.

The hypothetical returns shown are net of a all fees and expenses. Please see the expense column for additional details on each asset class.

Please continue reading disclosure on the following slide.

Capital Market and Modeling Assumptions (continued)

Asset Class	Asset Description	Benchmark	Fees Deducted	Alpha	10yr Ann. (Net) Expected Return	Expected Risk
Alternatives	Hedge Funds	BlackRock Proxy: HFRI Global Fund Weighted Index (Hedged)	2.20%	3.30%	9.93%	6.70%
Alternatives	Private Equity	BlackRock Proxy: US Buyout Private Equity - eFront Insights Research US Buyout PE Index	4.68%	5.70%	11.46%	32.27%
Alternatives	Commodities	Bloomberg Commodities Index	0.75%	-	4.56%	15.14%
Alternatives	Energy	BlackRock Proxy: Global Diversified Infrastructure - eFront Insights Research Global Infrastructure Index	1.50%	5.50%	15.03%	21.18%
Alternatives	Infrastructure	BlackRock Proxy: Global Diversified Infrastructure - eFront Insights Research Global Infrastructure Index	1.50%	5.50%	15.03%	21.18%
Alternatives	Timber	Bloomberg Commodities Index	0.75%	-	4.56%	15.14%
Alternatives	Farmland	FTSE Nareit Equity Diversified	0.25%	-	6.14%	26.94%
Alternatives	MLPs	Bloomberg Commodities Index	0.75%	-	4.56%	15.14%
Alternatives	Real Assets: Other	Bloomberg Commodities Index	0.75%	-	4.56%	15.14%
Alternatives	Real Estate: Core	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	0.91%	0.80%	2.80%	10.99%
Alternatives	Real Estate: Core Plus	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	0.91%	0.80%	2.80%	10.99%
Alternatives	Real Estate: Value-added	BlackRock Proxy: US Real Estate Value-Added - NCREIF Index/S&P Global/Refinitiv	0.91%	4.40%	6.20%	16.79%
Alternatives	Real Estate: Opp	BlackRock Proxy: US Real Estate Value-Added - NCREIF Index/S&P Global/Refinitiv	0.91%	4.40%	6.20%	16.79%
Alternatives	Real Estate: Distressed	BlackRock Proxy: US Real Estate Value-Added - NCREIF Index/S&P Global/Refinitiv	0.91%	4.40%	6.20%	16.79%
Alternatives	Real Estate: Debt	BlackRock Proxy: Real Estate Mezzanine Debt (Unhedged)	1.20%	2.20%	7.03%	9.76%
Alternatives	Real Estate: REITs	FTSE EPRA Nareit United States Index	0.25%	-	6.00%	21.29%
Alternatives	RE - Other	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	0.91%	0.80%	2.80%	10.99%
Alternatives	Private Credit: Distressed	BlackRock Proxy: Direct Lending - Lincoln Senior Debt Index	2.99%	2.20%	10.07%	12.00%
Alternatives	Private Credit: Mezz	BlackRock Proxy: Direct Lending - Lincoln Senior Debt Index	2.99%	2.20%	10.07%	12.00%
Alternatives	Private Credit: Direct Lending	BlackRock Proxy: Direct Lending - Lincoln Senior Debt Index	2.99%	2.20%	10.07%	12.00%
Alternatives	Private Credit: Opp	BlackRock Proxy: Direct Lending - Lincoln Senior Debt Index	2.99%	2.20%	10.07%	12.00%
Alternatives	Private Credit: Special Sits	BlackRock Proxy: Direct Lending - Lincoln Senior Debt Index	2.99%	2.20%	10.07%	12.00%
Alternatives	Private Credit: Other	BlackRock Proxy: Direct Lending - Lincoln Senior Debt Index	2.99%	2.20%	10.07%	12.00%
Alternatives	Portable Alpha	BlackRock Proxy: HFRI Global Fund Weighted Index (Hedged)	2.20%	3.30%	9.93%	6.70%
Alternatives	Risk Parity	14.75% Long Dur, US HY, TIPS, EMD | 20% MSCI ACWI | 21% Cmdty	-	-	5.30%	7.76%

For additional details on Private Market asset class proxies, see the following slide titled "Alternative Risk Proxy Descriptions." Disclosure continued from prior slide, please read full disclosure.

The Risk Parity asset above was constructed by blending seven capital market assumptions together; please see prior page for more information on each component.

Expected returns shown net of fees and expenses and are for informational purposes only. Expected returns for the following asset classes are inclusive of an additional alpha assumption: Direct Lending: 2.20%, PE: 5.70%, Global Infra Equity: 5.50%, Global Hedge Funds: 3.30%, US Core Real Estate: 0.80%, RE Value Added: 4.40%, RE Debt: 2.20%. The alpha assumption for private markets are defined as expected outperformance from a top quartile manager vs a median manager. For top-quartile performance in PE buyout, direct lending, and mezzanine debt, net of fees Preqin data is used. PE data consists of 800 managers over a 25-year period to 2012 vintage, direct lending and mezzanine debt data consists of 240 managers over the same period. We use forward five-year performance for each fund launched in each calendar year: we find that at least five years' worth of data is needed to draw meaningful conclusions on performance. Infrastructure equity excess returns are assumed to be similar as PE buyout excess returns. Historical National Council of Real Estate Investment Fiduciaries (NCREIF) index performance, with a 5 year lookback period as of March 2019, was used for US core real estate also defined as expected outperformance from a top quartile vs median manager performance, net of fees.

Alternative Risk Proxy Descriptions

Asset Class	Risk Proxy Description
Private Equity	The private equity risk proxy estimates the economic risks of a private equity fund, within the context of a multi-asset portfolio, using the Aladdin Private Equity Risk Model. The proxy uses average observed fund exposures spanning vintages 2000 to present day (or the latest available). These averaged exposures consider capital deployed along with geographic, industry and size dimensions. The risk proxy also uses a leverage adjustment based on average observed deal equity contributions and the leveraged loan market. Data inputs to this proxy's construction include Bloomberg, MSCI, Refinitiv, S&P and BlackRock proprietary data.
Real Estate	The real estate risk proxy estimates the economic risks of a real estate private equity fund, within the context of a multi-asset portfolio, using the Aladdin Real Estate Risk Model. The proxy uses average observed fund exposures and real estate transactions. These exposures consider both geographies and property types while, depending on investment strategy, adjusting for average Loan-to-Value ratios. Data inputs to this proxy's construction include Asian Association for Investors in Non-Listed Real Estate Vehicles (ANREV), Investors in Non-Listed Real Estate Vehicles (INREV), National Council of Real Estate Investment Fiduciaries (NCREIF), Real Capital Analytics, S&P SNL and BlackRock proprietary data.
Infrastructure	The infrastructure risk proxy estimates the economic risks of an infrastructure private equity fund, within the context of a multi-asset portfolio, using the Aladdin Private Infrastructure Risk Model. The proxy uses average observed fund exposures as well as transactions from Insight Research Infrastructure transactions. These averaged exposures consider capital deployed along with geographic and industry dimensions. Data inputs to this proxy's construction include eFront Insight Resarch, BlackRock Proprietary data and BFRE factors.
Hedge Funds	The hedge fund risk proxies estimate the economic risks of a given hedge fund strategy, within the context of a multi-asset portfolio, using the Aladdin Hedge Fund Risk Model. The proxy uses a regression-based analysis to identify key risk factor exposures for each hedge fund strategy cohort. This analysis considers equity, fixed income, commodity and strategy-specific effects. Data inputs to the construction of these proxies include Hedge Fund Research, Lipper TASS and BlackRock proprietary data.
Direct Lending	The direct lending capital market assumption risk proxy is a blend of Business Development Company (BDC) equity and bank loan exposure to estimate the risk level of a direct lending investment.

Source: BlackRock as of July 2024.

BlackRock Capital Market Assumptions Methodology and Limitations

BlackRock Capital Market Assumptions

This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise of future performance. Note that these asset class assumptions are passive, and do not consider the impact of active management. All estimates in this document are in U.S. dollar terms unless noted otherwise. Given the complex risk-reward trade-offs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations to all the asset classes and strategies.

References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. This material has been prepared for information purposes only and is not intended to provide, and should not be relied on for, accounting, legal, or tax advice.

The outputs of the assumptions are provided for illustration purposes only and are subject to significant limitations. "Expected" return estimates are subject to uncertainty and error. Expected returns for each asset class can be conditional on economic scenarios; in the event a particular scenario comes to pass, actual returns could be significantly higher or lower than forecasted. Because of the inherent limitations of all models, potential investors should not rely exclusively on the model when making an investment decision. The model cannot account for the impact that economic, market, and other factors may have on the implementation and ongoing management of an actual investment portfolio. Unlike actual portfolio outcomes, the model outcomes do not reflect actual trading, liquidity constraints, fees, expenses, taxes and other factors that could impact future returns.

BlackRock 10-year asset return and long-term volatility assumptions

Annualized return assumptions are in geometric terms and reflect total nominal returns. Return assumptions for all asset classes are shown in unhedged terms unless otherwise noted. We use long-term volatility assumptions. We break down each asset class into factor exposures and analyze those factors' historical volatilities and correlations over the past 15+ years. We combine the historical volatilities with the current factor makeup of each asset class to arrive at our forward-looking assumptions. This approach takes into account how asset classes evolve over time. Example: Some fixed income indices are of shorter or longer duration than they were in the past. Our forward-looking assumptions reflect these changes, whereas a volatility calculation based only on historical monthly index returns would fail to capture the shifts. We have created BlackRock proxies to represent asset classes where historical data is either lacking or of poor quality. Expected return estimates are subject to uncertainty and error. Expected returns for each asset class can be conditional on economic scenarios; in the event a particular scenario comes to pass, actual returns could be significantly higher or lower than forecasted. The geometric return, sometimes called the time-weighted rate of return, takes into account the effects of compounding over the investment period. The arithmetic return can be thought of as a simple average calculated by taking the individual annual returns divided by the number of years in the investment period.

Index returns are for illustrative purposes only and do not represent any actual fund performance. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.

This material is prepared by BlackRock and is not intended to be relied upon as a forecast, research or investment advice, and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy. The opinions expressed are as of February 2024 and may change as subsequent conditions vary. The information and opinions contained in this material are derived from proprietary and non-proprietary sources deemed by BlackRock to be reliable, are not necessarily all-inclusive and are not guaranteed as to accuracy. As such, no warranty of accuracy or reliability is given and no responsibility arising in any other way for errors and omissions (including responsibility to any person by reason of negligence) is accepted by BlackRock, its officers, employees or agents. This material may contain "forward-looking" information that is not purely historical in nature. Such information may include, among other things, projections and forecasts. There is no guarantee that any forecasts made will come to pass. Reliance upon information in this material is at the sole discretion of the reader.

The information provided here is neither tax nor legal advice. Investors should speak to their tax professional for specific information regarding their tax situation. Investment involves risk including possible loss of principal. International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation, and the possibility of substantial volatility due to adverse political, economic or other developments. These risks are often heightened for investments in emerging/developing markets or smaller capital markets.

Reallocation Risk Assumptions

Asset Class	Asset	Index Proxy / Product Proxy	Expected Risk	10yr Annualized Expected Return
Fixed Income	Credit	33% BBG Barc US Corporate High Yield 2% Issuer Capped Index 33% BlackRock Proxy, based on S&P/LSTA Leveraged Loan Index 33% 50% JPM GBI-EM Global Diversified Index | 50% JPM Global EMBI Index	6.78%	5.99%
Alternatives	Hedge Funds	BlackRock Proxy: HFRI Global Fund Weighted Index (Hedged)	6.70%	9.93%
Alternatives	Infrastructure	BlackRock Proxy: Global Diversified Infrastructure – eFront Insights Research Global Infrastructure Index	21.18%	15.03%
Alternatives	Core Real Estate	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	10.99%	2.80%
Alternatives	Value Add Real Estate	BlackRock Proxy: US Value-Added Real Estate	16.79%	6.20%
Alternatives	Private Equity	BlackRock Proxy: US Buyout Private Equity – eFront Insights Research US Buyout Private Equity Index	32.27%	11.46%
Alternatives	Private Credit	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	12.00%	10.07%

Expected risk and return calculations based on BlackRock's capital market assumptions (CMA) as of May 2024, See slide titled "Capital Market and Modeling Assumptions" for additional details. There is no guarantee that the CMAs will be achieved, and actual returns could be significantly higher or lower than those shown. This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise of future performance. Note that these asset class assumptions are passive, and do not consider the impact of active management. All estimates in this document are in U.S. dollar terms unless noted otherwise. Given the complex risk-reward trade-offs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations to all the asset classes and strategies. It is not possible to invest directly in an index.
Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. This material has been prepared for information purposes only and is not intended to provide, and should not be relied on for, accounting, legal, or tax advice.

Expected returns shown net of fees and expenses and are for informational purposes only. Expected returns for the following asset classes are inclusive of an additional alpha assumption: Direct Lending: 2.20%, PE: 5.70%, Global Infra Equity: 5.50%, Global Hedge Funds: 3.30%, US Core Real Estate: 0.80%, RE Value Added: 4.40%, RE Debt: 2.20%.

Asset Class Mapping: Traditional Assets

Cash: 1.9% **Fixed Income: 19.5%** **Public Equity: 43.8%**

Asset Class	**Asset Description**	**Benchmark / Proxy Description**	All Plans Avg **Allocation**
Cash	Cash	US Cash	1.9%
Fixed Income	Domestic	BBG Barc US Aggregate Index	11.0%
Fixed Income	Long Duration	BBG Barc Treasury 10+ Yr Index	0.4%
Fixed Income	Treasuries	BBG Barc Government Index	1.3%
Fixed Income	TIPs	BBG Barc US Government Inflation-Linked Bond Index	1.4%
Fixed Income	Securitized	BBG Barc Securitized Index	0.7%
Fixed Income	Emerging markets	50% JPM GBI-EM Global Diversified Index | 50% JPM Global EMBI Index	0.8%
Fixed Income	International/Global	BBG Barc Global Aggregate Index	0.5%
Fixed Income	High yield	BBG Barc US Corporate High Yield 2% Issuer Capped Index	2.2%
Fixed Income	Bank Loans	BlackRock Proxy, based on S&P/LSTA Leveraged Loan Index	0.5%
Fixed Income	Multi-Strategy	BBG Barc US Universal Index	0.8%
Fixed Income	Convertibles	BBG Barc U.S. Aggregate Index	0.1%
Equity	US All-Cap	Russell 3000 Index	10.0%
Equity	US Large-Cap	Russell 1000 Index	9.7%
Equity	US Mid-Cap	Russell Midcap Index	0.7%
Equity	US SMID-Cap	Russell 2500 Index	0.5%
Equity	US Small-Cap	Russell 2000 Index	1.8%
Equity	Developed ex-US	MSCI World ex-US	6.8%
Equity	International	MSCI All Country World ex-US	5.5%
Equity	Emerging markets	MSCI Emerging Markets Index	2.8%
Equity	Global Equity	MSCI All Country World Index	5.9%

Indices are unmanaged; direct investment is not possible. Neither asset allocation nor diversification can guarantee profit or prevent loss.

Asset Class Mapping: Alternative Assets

Alternatives: 34.9%

Asset Class	Asset Description	Benchmark / Proxy Description	All Plans Avg Allocation
Alternatives	HF	BlackRock Proxy: HFRI Global Fund Weighted Index (Hedged)	3.6%
Alternatives	Portable Alpha	BlackRock Proxy: HFRI Global Fund Weighted Index (Hedged)	0.1%
Alternatives	Risk Parity	14.75% Long Dur | 14.75% US HY | 14.75% TIPS | 14.75% EMD | 20% MSCI ACWI | 21% Cmdty	0.7%
Alternatives	Private Equity	BlackRock Proxy: US Buyout Private Equity – eFront Insights Research US Buyout Private Equity Index	12.2%
Alternatives	Real Estate: REITs	FTSE EPRA Nareit United States Index	0.7%
Alternatives	Real Estate: Debt	BlackRock Proxy: Real Estate Mezzanine Debt (Unhedged)	0.3%
Alternatives	Real Estate: Core	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	3.6%
Alternatives	Real Estate: Core-plus	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	0.3%
Alternatives	Real Estate: Value-added	BlackRock Proxy: US Value-Added Real Estate – NCREIF Index/ S&P Global/Refinitiv	1.1%
Alternatives	Real Estate: Opportunistic	BlackRock Proxy: US Value-Added Real Estate – NCREIF Index/ S&P Global/Refinitiv	0.5%
Alternatives	Real Estate: Distressed	BlackRock Proxy: US Value-Added Real Estate – NCREIF Index/ S&P Global/Refinitiv	0.0%
Alternatives	Real Estate: Other	BlackRock Proxy: US Core Real Estate - NCREIF ODCE Index	3.3%
Alternatives	Real Assets: Commodities	Bloomberg Commodities Index (Unhedged)	0.5%
Alternatives	Real Assets: Energy	BlackRock Proxy: Global Diversified Infrastructure – eFront Insights Research Global Infrastructure Index	0.5%
Alternatives	Real Assets: MLPs	Bloomberg Commodities Index (Unhedged)	0.1%
Alternatives	Real Assets: Infrastructure	BlackRock Proxy: Global Diversified Infrastructure – eFront Insights Research Global Infrastructure Index	2.3%
Alternatives	Real Assets: Farmland	FTSE Nareit Equity Diversified	0.2%
Alternatives	Real Assets: Timber	Bloomberg Commodities Index (Unhedged)	0.2%
Alternatives	Real Assets: Other	Bloomberg Commodities Index (Unhedged)	0.5%
Alternatives	Alt Credit: Direct Lending	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	0.9%
Alternatives	Alt Credit: Mezzanine	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	0.0%
Alternatives	Alt Credit: Opportunistic	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	0.2%
Alternatives	Alt Credit: Distressed Debt	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	0.4%
Alternatives	Alt Credit: Special Situations	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	0.2%
Alternatives	Alt Credit: Other	BlackRock Proxy: Direct Lending – Lincoln Senior Debt Index	2.7%

Indices are unmanaged; direct investment is not possible. Neither asset allocation nor diversification can guarantee profit or prevent loss.

Stress Test Scenario Definitions

Scenario	Type	Historical Period	Implied Shock	Description and Catalysts of Event
Crash 2008	Historical Scenario	Sep 12, 2008 – Nov 03, 2008	-	Credit & liquidity crisis and equity market crash set off by Lehman Brothers bankruptcy. Significant credit spreads widening caused by massive deleveraging.
COVID Drawdown	Historical Scenario	Feb 21, 2020 – Mar 23, 2020	-	Major and sudden global market crash as a response to the spread of COVID-19. Massive equity selloffs led to circuit breakers halting trading in an attempt to curb panic selling. Biggest global market crash since 2008.
Stagflation 1974	Historical Scenario	Jan 1974 – Dec 1974	-	1974 Historical Stagflation Scenario. Policy variable shocks are based on actual factor returns in the year 1974.
ECB / Fed Divergence	Market Driven Scenario (Hypothetical)	-	MSCI Europe: +9% S&P 500: -3% MSCI World Materials-IT: +3% US 1Y Tsy: +62bps DEM 1yr: -25bps US IG Market – EU Credit: +15bps CPI 1yr: +20bps EUR Inf 1yr: -20bps JPY/USD: +2%	**Description:** The Fed holds steady driven by sticky inflation. The ECB cuts rates to begin a cutting cycle ahead of the Fed. **Catalysts:** US inflation continues to remain sticky, driven by high wage and services inflation. Eurozone inflation start trending downwards, from weaker GDP and consumption growth. Credit spreads widen in the US but tighten in the EU **Calibration:** Treasury rates sell off in the US and Japan, but rally in the Eurozone. European equities outperform US. Specific shock value for the US equities is derived from the lower tail outcome from ESS simulations, while the MSCI Europe shock is the upper tail outcome. The simulation was conditioned to views on global policy rates. JPY/USD appreciates as interest rate differential increases. Specific shock value is the upper tail outcome from ESS simulations conditioned to views on global policy rates. Because MSCI World IT is mostly driven by US names, the relative difference between World Materials and IT is controlled.
April 2024 Reversal	Market Driven Scenario (Hypothetical)	-	S&P 500: +7.94% MSCI Europe: +2.84% MSCI Info Tech: +6% US 1Y Tsy: -34bps DEM 1yr: -11bps JPY 1yr: -11bps CPI 1yr: -30bps JPY/USD: +7.26%	**Description:** Reversal of April 2024 market movements where equities experienced a decline and rates rose on the back of higher than expected inflation data. Here we take the market movements over April 2024 and reverse them and magnify by 2. **Catalysts:** Given the market movements over April 2024, it is interesting to consider the impact of reversing the movements of select policy variables to understand the positioning of the platform. **Calibration:** We see equities and rates broadly rallying. Information Technology is directly shocked to prevent an outsized market impact coming directly from exposure to tech (instead of x2 of its April movement, it is only 1x). Inflation in the US drops and JPY appreciates. Spreads tighten as well.
10yr Tsy Shock	Hypothetical Scenario	-	US 10yr Tsy: +100bps	10yr treasury rises by 100bps.
IG Spreads Shock	Hypothetical Scenario	-	Leh Credit: +85bps	Investment grade spreads widen by an absolute 85 bps (<1% event).

Stress Test Scenarios Methodology, Assumptions and Limitations

Methodology and Assumptions

Risk calculations performed using BlackRock Solutions Aladdin risk model. Each portfolio component is mapped to a broad set of risk factors; the parametric sensitivity to changes in key interest rates, spreads, and other risk factors is calculated for each portfolio component. The parametric exposures are then summed using the appropriate portfolio weights to compute the portfolio's exposure to systematic market risk factors. BlackRock Solutions' parametric return model then uses the risk factor changes and exposures in the specified time period to estimate the return of the portfolio.

Historical scenarios are calibrated to historical markets and the shocks used are representative of the actual market moves during these periods. Each portfolio component is mapped to a broad set of risk factors; the parametric sensitivity to changes in key interest rates, spreads, and other risk factors is calculated for each portfolio component. Market-Driven scenarios simulate current portfolio through hypothetical large market shocks and geopolitical stresses. These are also defined by a set of risk factors with carefully calibrated shocks. The remaining market shocks are implied using a covariance matrix.

Stress test scenarios were performed using Portfolio Risk Tools, a proprietary BlackRock Solutions software. Scenarios have been chosen based on risks relevant to the peer group based on the composition of the portfolios and desire to protect against downside risk. Stress test performance is determined by the implied shock to each risk factor that the security or portfolio is exposed to. Shocks for unconstrained risk factors (i.e. implied interest rate moves, economic and market volatility, etc. in the risk model were derived using their historical correlations with the constrained factors). Implied shock scenarios provide the ability to perform hypothetical stress tests with the full risk factor set. Relationships between risk factors and implied shocks are derived using historical correlations and BlackRock analysis.

Please note that this list of assumptions does not include all assumptions that may have been applied to a particular model and that the models themselves do not factor in every performance factor that can have a significant impact on a portfolio. Since many potential scenarios may exist, it is impossible to show all of the potential circumstances that would yield similar results. Actual events will vary and may differ materially from those assumed. It is provided to illustrate the estimated investment P&L of a company in a specific stress scenario. Actual returns may vary. The model is based purely on assumptions using available data, based on past and current market conditions, and assumptions relating to available investment opportunities, each of which are subject to change. The model is subject to significant limitations. It cannot account for the impact that economic, market, and other factors may have on the implementation of an actual investment. In addition to the variables identified above, the return of any portfolio will vary materially from the return shown based on numerous factors including, but not limited to, current market conditions, the specific securities in the portfolio, and the current leverage costs, among others. While leverage can increase returns, it also increases risk of loss. This model is not intended to provide, and should not be relied upon for investment, accounting, legal or tax advice, nor used with any third-parties.

Limitations

Hypothetical performance has inherent limitations. Such results do not represent actual trading, and thus may not reflect material economic and market factors, such as liquidity constraints, that may have had an impact on our actual decision-making. No representation is made that a portfolio will achieve results similar to those shown, and performance of actual portfolios may vary significantly from the hypothetical results.

No representation is made as to the accuracy or completeness of the scenario analysis shown in this material or the validity of the underlying methodology, and results are provided for informational purposes only. The shocks specified give more color as to the magnitude of the moves, but are not the comprehensive set of moves that occur in each stress test. In addition, the models themselves do not factor in every performance factor that can have a significant impact on a portfolio. The scenario analysis should not be misinterpreted as constituting the actual performance of the portfolios nor should it be relied upon in connection with any investment decision relating to any product or strategy. All investments involve a risk of loss of capital, and no guarantee or representation can be made that an investment will generate profits or will avoid losses.

We would be happy to further discuss our methodology and assumptions at your request.

BlackRock Geopolitical Risk Indicator (BGRI)

The quantitative components of our geopolitical risk dashboard incorporate two different measures of risk: the first based on the market attention to risk events, the second on the market movement related to these events.

Market attention

The BlackRock Geopolitical Risk Indicator (BGRI) tracks the relative frequency of brokerage reports (via LSEG) and financial news stories (Dow Jones News) associated with specific geopolitical risks. We adjust for whether the sentiment in the text of articles is positive or negative, and then assign a score. This score reflects the level of market attention to each risk versus a five-year history. We use a shorter historical window for our COVID-19 risk due to its limited age. We assign a heavier weight to brokerage reports than other media sources since we want to measure market attention to any particular risk, not public. Our updated methodology improves upon traditional “text mining” approaches that search articles for predetermined key words associated with each risk. Instead, we take a big data approach based on machine-learning. Huge advances in computing power now make it possible to use language models based on neural networks. These help us sift through vast data sets to estimate the relevance of every sentence in an article to the geopolitical risks we measure.

How does it work? First we augment a pre-trained language model with broad geopolitical content and articles representative of each individual risk we track. The fine-tuned language model then focuses on two tasks when trawling though millions of brokerage reports and financial news stories:

- classifying the relevance of each sentence to the individual geopolitical risk to generate an attention score
- classifying the sentiment of each sentence to produce a sentiment score

The attention and sentiment scores are aggregated to produce a composite geopolitical risk score. A zero score represents the average BGRI level over its history. A score of one means the BGRI level is one standard deviation above its historical average, implying above-average market attention to the risk. We weigh recent readings more heavily in calculating the average. The level of the BGRIs changes slowly over time even if market attention remains constant. This is to reflect the concept that a consistently high level of market attention eventually becomes “normal.”

Our language model helps provide more nuanced analysis of the relevance of a given article than traditional methods would allow. Example: Consider an analyst report with boilerplate language at the end listing a variety of different geopolitical risks. A simple keyword-based approach may suggest the article is more relevant than it really is; our new machine learning approach seeks to do a better job at adjusting for the context of the sentences – and determining their true relevance to the risk at hand.

Market movement

In the market movement measure, we use Market-Driven Scenarios (MDS) associated with each geopolitical risk event as a baseline for how market prices would respond to the realization of the risk event. Our MDS framework forms the basis for our scenarios and estimates of their potential one-month impact on global assets. The first step is a precise definition of our scenarios – and well-defined catalysts (or escalation triggers) for their occurrence. We then use an econometric framework to translate the various scenario outcomes into plausible shocks to a global set of market indexes and risk factors.

The size of the shocks is calibrated by various techniques, including analysis of historical periods that resemble the risk scenario. Recent historical parallels are assigned greater weight. Some of the scenarios we envision do not have precedents – and many have only imperfect ones. This is why we integrate the views of BlackRock’s experts in geopolitical risk, portfolio management, and Risk and Quantitative Analysis into our framework. See the 2018 paper Market Driven Scenarios: An Approach for Plausable Scenario Construction. MDS are for illustrative purposes only and do not reflect all possible outcomes as geopolitical risks are ever-evolving.

We then compile a market movement index for each risk.* This is composed of two parts:

1. Similarity: This measures how “similar” the current market environment is to our expectation of what it would look like in the event the particular MDS was realized. We focus on trailing one-month returns of the relevant MDS assets.
2. Magnitude: This measures the magnitude of the trailing one-month returns of the relevant MDS assets.

These two measures are combined to create an index that works as follows: A value of 1 would means that asset prices reacted in an identical way as our MDS indicated. A value of zero would indicate that the pattern of asset prices bears no resemblance at all to what the MDS for a particular risk would indicate. A value of -1 would indicate that asset prices are moving in the opposite direction to what the MDS would indicate. Markets are effectively betting against the risk.

*This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research or investment advice regarding any funds, strategy or security in particular. The scenarios are for illustrative purposes only and do not reflect all possible outcomes as geopolitical risks are ever-evolving.

Private Debt Sub-Strategy Definitions

Asset Based Lending: Category of Private Credit that encompasses loans and other forms of financing backed by assets as opposed to cashflows.
Trade Finance: Trade finance includes strategies such as receivables factoring, invoice discounting, supply chain management, export finance and other esoteric forms of financing where a financial firm provides an advance against a receivable payment to be received in the future.
NAV Lending: NAV Lending incorporates both senior loans to private market funds collateralized by diversified portfolios of assets at 10-20% LTVs, as well as preferred solutions backed by things like GP commitments, management fees and carried interest at 30-60% LTVs.
Real Estate Lending: Real estate lending encompasses bridge loans, mezzanine loans, preferred equity and note purchases which are collateralized by real estate. The use of proceeds for the strategy can range from development or construction to asset conversions and repositionings.
Infrastructure Lending: Infrastructure lending strategies involve financing a range of infrastructure projects including renewable energy, transportation, water, waste, and digital and social infrastructure, such as data centers, hospitals, and education facilities, amongst others, with types of senior and junior debt.
Asset-Based Lending (General): General asset-based lending strategies focus on providing first lien lending facilities collateralized by hard assets via a bankruptcy remote structure.
Equipment Leasing: Equipment leasing strategies involve the purchase and subsequent lease-out of equipment ranging from heavy trucks to aircraft to medical devices in exchange for regular lease payments.
Mining Finance: Mining finance involves providing loans to mining companies focused on extracting base and precious metals, as well minerals in the natural resources sector. The loans may also include enhancements such as warrants and/or royalty streams.

Cash Flow Lending: Category of Private Credit that encompasses loans and other forms of financing backed by cash flows rather than assets.
Senior Lending – Sponsor: Sponsor-backed direct lending refers to extending loans directly to companies wholly or partially owned by private equity managers.
Senior Lending – Non-Sponsor: Non-sponsor-backed direct lending strategies focus on providing private loans to companies that are not owned by private equity managers, typically family-run businesses that are smaller and less sophisticated than their PE-backed peers.
Mezzanine & Structured Equity: Mezzanine debt and structured equity strategies focus on creating hybrid capital solutions for companies. The solutions combine features of junior debt and equity instruments, offering higher potential returns than other forms of lending, but with more potential risk.
Venture Capital Lending: Venture capital lending strategies focus on providing debt financing to early-stage, high growth potential companies. In many cases, the loans are backed by companies that are unprofitable; venture lenders protect their investment through sophisticated debt structuring, as well as by relying on the resources and brand of the sponsor.

Structured Credit: Category of Private Credit that encompasses complex financial instruments created to meet the specific financing needs of large institutions or companies that cannot be satisfied with conventional financial products.
Residential Real Estate: Residential real estate structured credit strategies focus on investing in tranches of residential mortgage backed securities ("RMBS") or the securitization of pools of mortgages. Primary instruments traded within the strategy include collateralized mortgage obligations ("CMO"), mortgage pass-through securities, credit risk transfer ("CRT"), and stripped mortgage securities.
Asset Backed: Asset backed structured credit strategies involve investing in tranches of the securitization of pools of assets like loans, leases or receivables. There are a wide variety of collateral types of ABS securitizations including credit card receivables, automobile loans and leases, equipment loans and leases, student loans and others.
Commercial Real Estate: Structured credit commercial real estate strategies focus on investing in tranches of commercial mortgage backed securities ("CMBS") or the securitization of loans backed by real estate across sectors including multifamily, industrial, office and retail.
Structured Corporate: Structured corporate structured credit strategies focus on investing in tranches of securitizations of corporate credit including mainly collateralized debt obligations ("CDO") or collateralized loan obligations ("CLO"). Newer forms of financing such as Significant Risk Transfers ("SRTs") are included here as well.

Multi-Strategy Credit: Category of Private Credit that encompasses that includes Multi-Strategy Credit managers as well as Credit Solutions managers.
Multi-Strategy Credit: Multi-Strategy credit strategies invest across the full spectrum of credit strategies including Asset-Based Lending, Cashflow Lending, Credit Solutions, Structured Credit and Specialty Finance. These firms tend to be larger and better-known.
Credit Solutions: Credit solutions strategies involve structuring bespoke financing solutions for companies experiencing stress or distress as a result of mis-management, excessive leverage, liquidity or working capital issues. Such funds typically require locked-up capital in order to effectuate their strategy of recapitalizing and rehabilitating their target companies.

Specialty Finance: Category of Private Credit that encompasses non-traditional financing activity that is not covered in other categories.
Royalties: Royalty strategies focus on purchasing the rights to receive future royalty payments or a percentage of sales of a product via a licensing agreement. Popular fund strategies include music royalties, healthcare royalties, and mining royalties.
Insurance Linked: Insurance-linked strategies primarily focus on providing reinsurance of catastrophe or natural disaster risk to insurers. Instruments can include catastrophe bonds, industry loss warranties, and private retrocession.
Legal Assets: Legal asset strategies involve a multitude of investment strategies that invest in litigation outcomes and/or intellectual property. Investments may occur pre-trial, post-settlement or post-trial and may be credit-oriented with a fixed return or more equity-oriented, where the level of return depends on the resolution of a case.

Important Notes

Risk Warnings:

Past performance information indicated herein is neither a guarantee nor indicative of future performance or investment returns and actual events or conditions may not be consistent with, and may differ materially from, historical or forecasted events or conditions. There is no assurance that any strategy will achieve its investment objective or generate positive returns. Investing involves risk, including possible loss of principal. **All asset class characteristics and allocations shown are for informational purposes only.** Such characteristics and allocations are not intended to be predictions or projections of any portfolio's performance. Neither asset allocation nor diversification ensure profit or protect against loss of principal.

Equity Risk: Stock values may fluctuate in price so the value of your investment can go down depending on market conditions. Investing in small- and mid-cap companies may entail greater risk than large-cap companies, due to shorter operating histories, less seasoned management or lower trading volumes. International investing involves specials risks including, but not limited to currency fluctuations, illiquidity and volatility. These risks may be heightened for investments in emerging markets. Investments in emerging markets may be considered speculative and are more likely to experience hyperinflation and currency deviations, which adversely affect returns. In addition, many emerging securities markets have lower trading volumes and less liquidity.

Bond Risk: Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and while generally backed by a government, government-agency or private guarantor there is no assurance that the guarantor will meet its obligations. High-yield, lower-rated, securities involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. Investors will, at times, incur a tax liability. Income from municipal bonds may be subject to state and local taxes and at times the alternative minimum tax.

Risks Associated with Private Equity:

Limited Regulatory Oversight: Since private equity funds are typically private investments, they do not face the same oversight and scrutiny from financial regulatory entities such as the Securities and Exchange Commission ("SEC") and are not subject to the same regulatory requirements as regulated investment companies, (i.e., open-end or closed-end mutual funds) including requirements for such entities to provide certain periodic pricing and valuation information to investors. Private equity offering documents are not reviewed or approved by the SEC or any US state securities administrator or any other regulatory body. Also, managers may not be required by law or regulation to supply investors with their portfolio holdings, pricing, or valuation information.

Strategy Risk: Many private equity funds employ a single investment strategy. Thus, a private equity funds may be subject to strategy risk, associated with the failure or deterioration of an entire strategy.

Use of Leverage and Other Speculative Investment Practices: Since many private equity fund managers use leverage and speculative investment strategies such as options, investors should be aware of the potential risks. When used prudently and for the purpose of risk reduction, these instruments can add value to a portfolio. However, when leverage is used excessively and the market goes down, a portfolio can suffer tremendously. When options are used to speculate (i.e., buy calls, short puts), a portfolio's returns can suffer and the risk of the portfolio can increase.

Valuations: Further there have been a number of high profile instances where private equity fund managers have mispriced portfolios, either as an act of fraud or negligence.

Limited Liquidity: Investors in private equity funds have limited rights to transfer their investments. In addition, since private equity funds are not listed on any exchange, it is not expected that there will be a secondary market for them. Repurchases may be available, but only on a limited basis. A private equity fund's manager may deny a request to transfer.

Risks Associated with Private Credit

Risks associated with an investment in a private credit strategy (the Strategy) include, but are not limited to, the following: (i) the Strategy is speculative and its investments are subject to a risk of total loss, (ii) the performance of the Strategy may be volatile, (iii) the general partner of the Strategy will retain ultimate authority over the Strategy's assets and investment decisions, (iv) there are restrictions on the ability of investors to withdraw capital and on the transferability of investor ownership interests in the Strategy, (v) the fees and expenses of the Strategy may offset any profits of the Strategy, (vi) investing the Strategy may involve complex tax structures and delays in distributing important tax information, (vii) the Strategy is not subject to the same regulatory requirements as mutual funds. Investors should also be aware that as a global provider of investment management, risk management and advisory services to institutional and retail clients, BlackRock engages in a broad spectrum of activities. Although the relationships and activities of BlackRock may help offer attractive opportunities and service to the Strategy, such relationships and activities create certain inherent conflicts of interest between BlackRock and the Strategy and/or the Strategy's investors. Further risks associated with the Strategy include, but are not limited to, the following: i.) Credit & Interest Rate risk ii.) Risks associated with high-yield, non-investment-grade debt securities ("high-yield bonds" or "junk bonds"); iii) Derivatives; iv) Foreign/International Markets; and v) Emerging market risk.

Risks Associated with Infrastructure

Infrastructure Funds invest exclusively or almost exclusively in equity or debt, or equity or debt related instruments, linked to infrastructure assets. Therefore, the performance of an Infrastructure Fund may be materially and adversely affected by risks associated with the related infrastructure assets including: construction and operator risks; environmental risks; legal and regulatory risks; political or social instability; governmental and regional political risks; sector specific risks; interest rate changes; currency risks; and other risks and factors which may or will impact infrastructure and as a result may substantially affect aggregate returns. Investments in Infrastructure assets are typically illiquid and investors seeking to redeem their holdings in an Infrastructure Fund can experience significant delays and fluctuations in value.

Important Notes (continued)

Risk Associated with Hedge Funds

An investment in a hedge fund is speculative and includes a high degree of risk, including the risk of a total loss of capital. A hedge fund is illiquid, subject to significant restrictions on transfer and investors should be aware that they may be required to bear the risks associated with holding such investment for an indefinite period of time. Investors should carefully review the confidential private placement memorandum and other offering documents for the hedge fund strategy prior to making an investment decision. Any investment decision with respect to a hedge fund should be made solely on the definitive and final version of the private placement memorandum, the governing agreements, subscription agreements and other ancillary documents.

Risks Associated with Real Estate

Funds that invest in real estate or property invest exclusively or almost exclusively in equity or debt, or equity or debt related instruments. Therefore, in addition to risks associated with investment in such equity or debt instrument, the performance of the real estate fund may be material and adversely affected by risks associated with the related real estate assets. Past performance of funds investing in real estate are not indicative of the performance of the real estate market as a whole and the value of real property will generally be a matter of a valuer's opinion rather than fact. The value of any real estate investment may be significantly diminished in the event of a downturn in the real estate market. Real estate investments are subject to many factors including adverse changes in economic conditions, adverse local market conditions and risks associated with the acquisition, financing, ownership, operation, and disposal of real estate

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