

Public Pension Industry Investment Trends

AndCo Consulting

Dan Johnson, Partner, Consulting Director

FPPTA Spring Trustee School
CEU Program

January 30, 2023

Putting clients first.



THIS PRESENTATION IS PROVIDED FOR EDUCATIONAL AND INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE REGARDED AS INVESTMENT ADVICE OR AS A RECOMMENDATION REGARDING ANY PARTICULAR COURSE OF ACTION. ANDCO CONSULTING IS AN INVESTMENT ADVISER REGISTERED WITH THE U.S. SECURITIES AND EXCHANGE COMMISSION (“SEC”). REGISTRATION AS AN INVESTMENT ADVISER DOES NOT CONSTITUTE AN ENDORSEMENT FOR THE FIRM BY SECURITIES REGULATORS NOR DOES IT INDICATE THAT THE ADVISER HAS ATTAINED A PARTICULAR LEVEL OF SKILL OR ABILITY.

AndCo Consulting | (844) 44-ANDCO | AndCoConsulting.com

Important Disclosure Information:

For illustrative purposes only.

This presentation represents AndCo Consulting's proprietary material and has been prepared for use with the Florida Public Pension Trustees Association (FPPTA). Any reproduction or reuse of the article without the express written consent of AndCo is strictly prohibited. It is being provided for informational and educational purposes but is not intended to be reproduced and should not be regarded as investment advice or as a recommendation regarding any particular course of action and additionally is not intended to provide, and should not be relied upon, for legal advice.

AndCo Consulting is an investment adviser registered with the U.S. Securities and Exchange Commission ("SEC"). Registration as an investment adviser does not constitute an endorsement for the firm by securities regulators nor does it indicate that the adviser has attained a particular level of skill or ability.

Opinions expressed reflect prevailing market conditions at the time this material was completed and are subject to change. Additionally, the material provided herein is valid as of the date of distribution and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available, or circumstances existing or changes occurring after such date.

This presentation may contain forward-looking statements or projections which may be subject to various uncertainties whereby the actual outcomes or results could differ from those indicated.

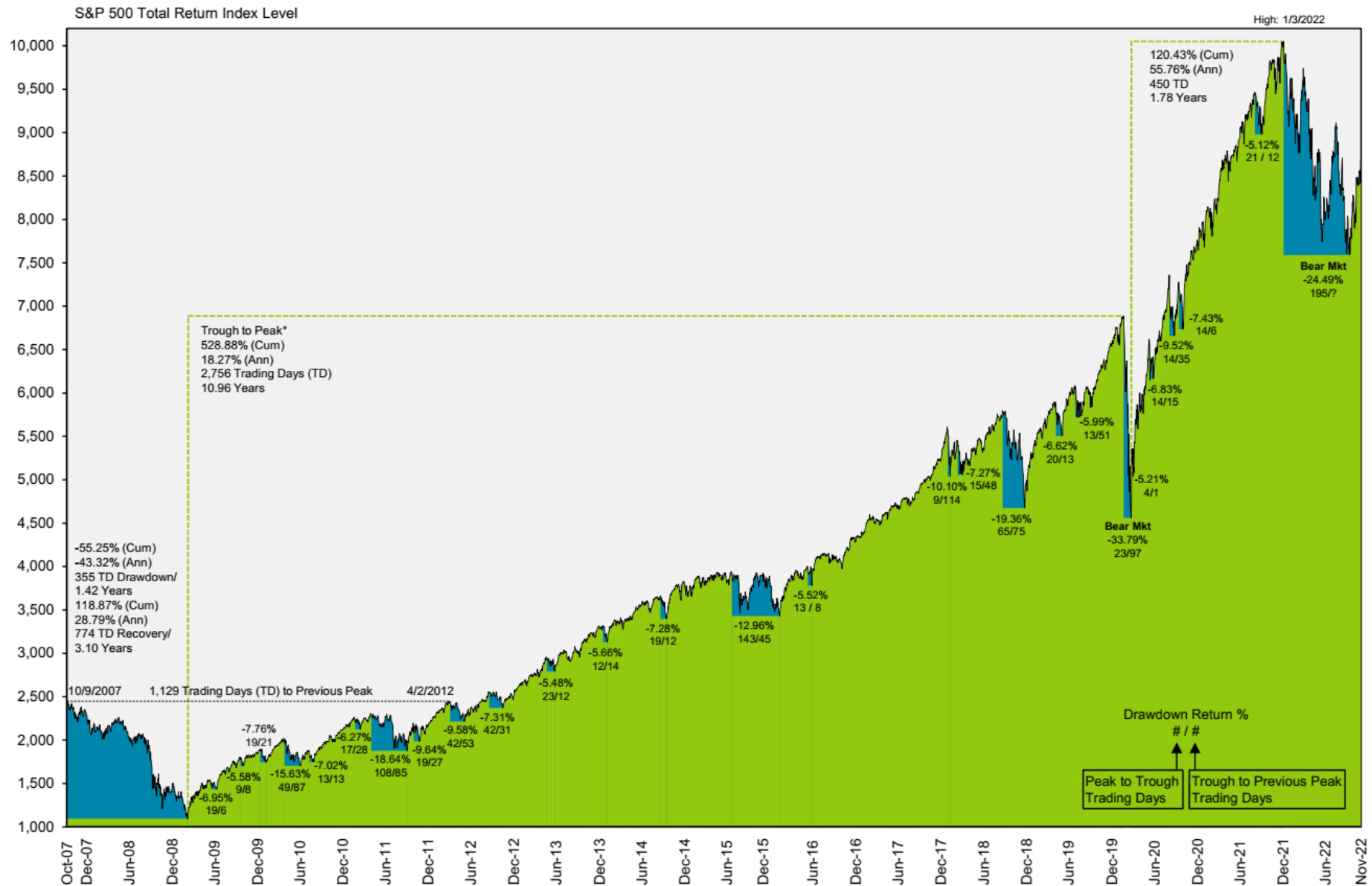
Certain information is based on sources and data believed to be reliable, but AndCo cannot guarantee the accuracy, adequacy or completeness of the information. The source for all data, charts and graphs is AndCo Consulting unless otherwise stated. AndCo Consulting is neither affiliated with the Florida Public Pension Trustees Association (FPPTA) nor any firms we're presenting alongside.

- ❖ Investment Market Perspectives
- ❖ Current Challenges Facing Public Pensions
 - ❖ Investment Trends
 - ❖ Considerations



Investment Market Perspectives

S&P 500 Total Return Index History (10/09/2007 to 11/30/2022)



Source: AndCo Consulting, using data and information derived from Bloomberg.

*Peak represents the start of a new bear market (>20% decline) period. Return data is provided for historical and informational purposes only.

Past performance does not guarantee future results.

S&P 500 Total Return Index History

Trading Day Drawdowns of Greater Than 20% 1/1/1990–8/31/2022

Drawdown Start	Drawdown Trading Days	Cumulative Drawdown Return	Drawdown Conclusion	Recovery Trading Days
9/5/2000	529	-47.41%	10/23/2006	1017
10/10/2007	355	-55.25%	4/2/2012	774
2/20/2020	23	-33.79%	10/10/2020	97
1/4/2022	114	-22.79%		

Source: AndCo Consulting, using data and information derived from Bloomberg.

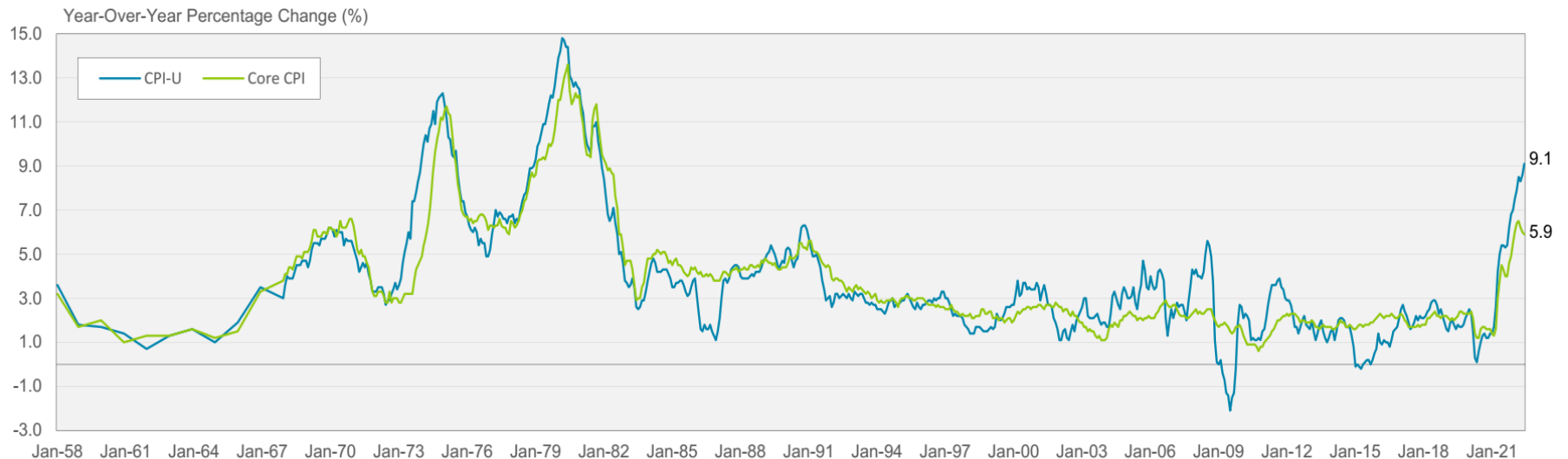
*Peak represents the start of a new bear market (>20% decline) period. Return data is provided for historical and informational purposes only.

Past performance does not guarantee future results.

CPI-U & Core CPI

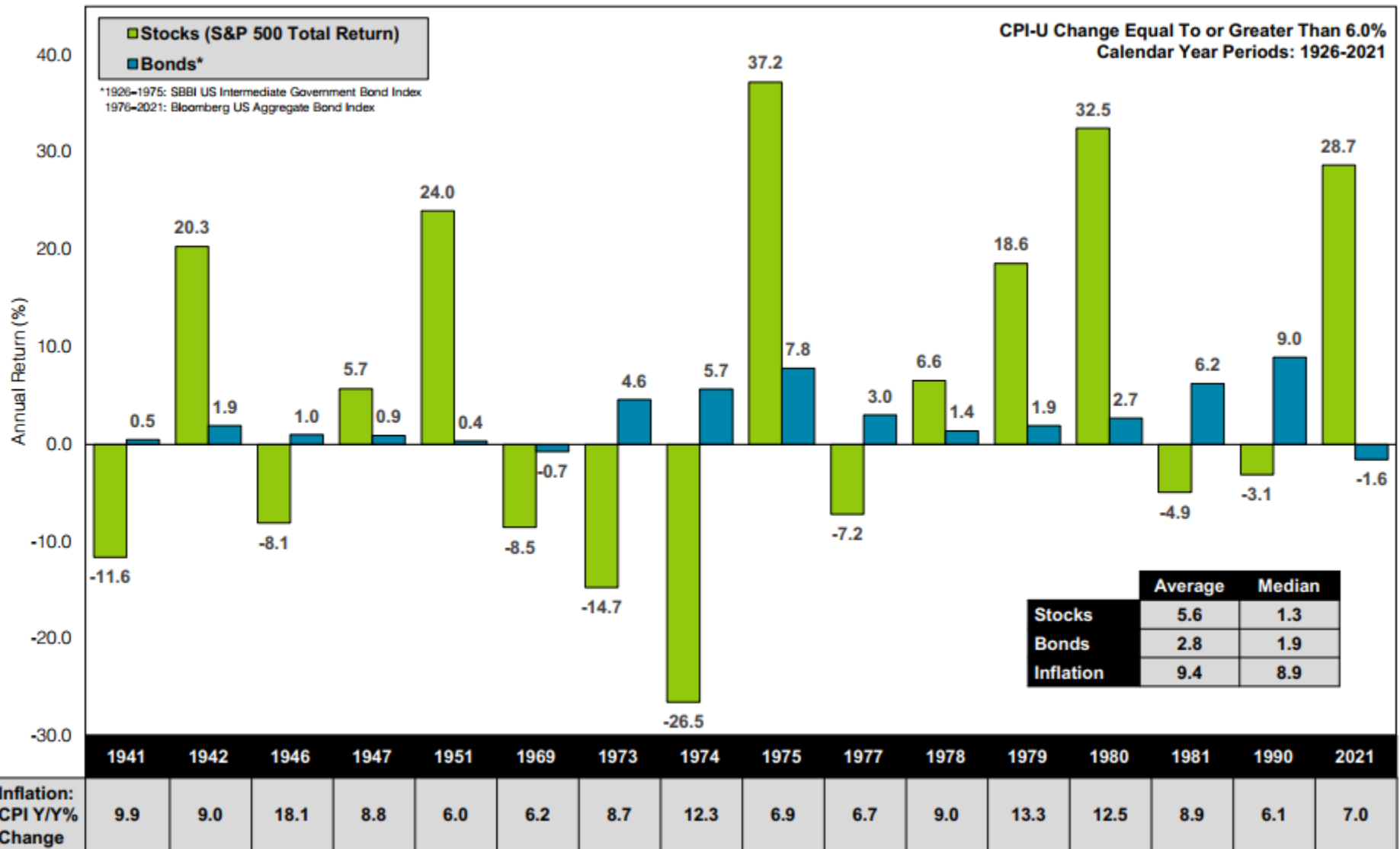
CPI Components	CPI Weight*	Y-Y % Change
Commodities (Level 2)	21.25%	7.2%
Services (Level 2)	56.66%	5.5%
Core CPI	77.91%	5.9%
Food (Level 1)	13.42%	10.4%
Energy (Level 1)	8.67%	41.6%
CPI-U	100.00%	9.1%

*CPI Relative Importance May 2022



Source: Bureau of Labor Statistics. Data as of July 13, 2022
For illustrative purposes only.

Stock and Bond Returns During Periods of High Inflation

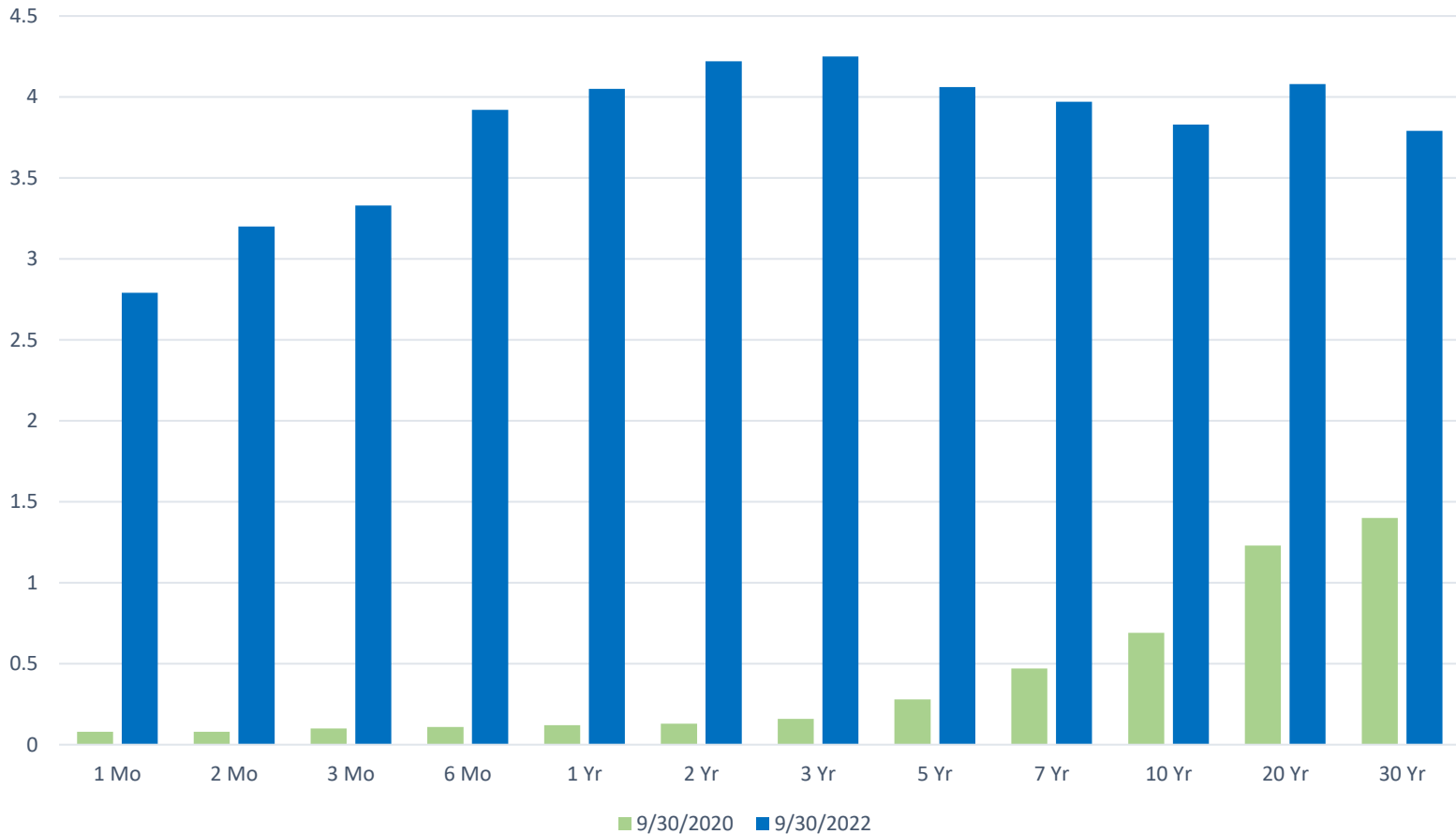


Source: Bureau of Labor Statistics & Morningstar Direct. Data as of December 31, 2021

Return data is provided for historical and informational purposes only. Past performance does not guarantee future results.

Treasury Yield Curve

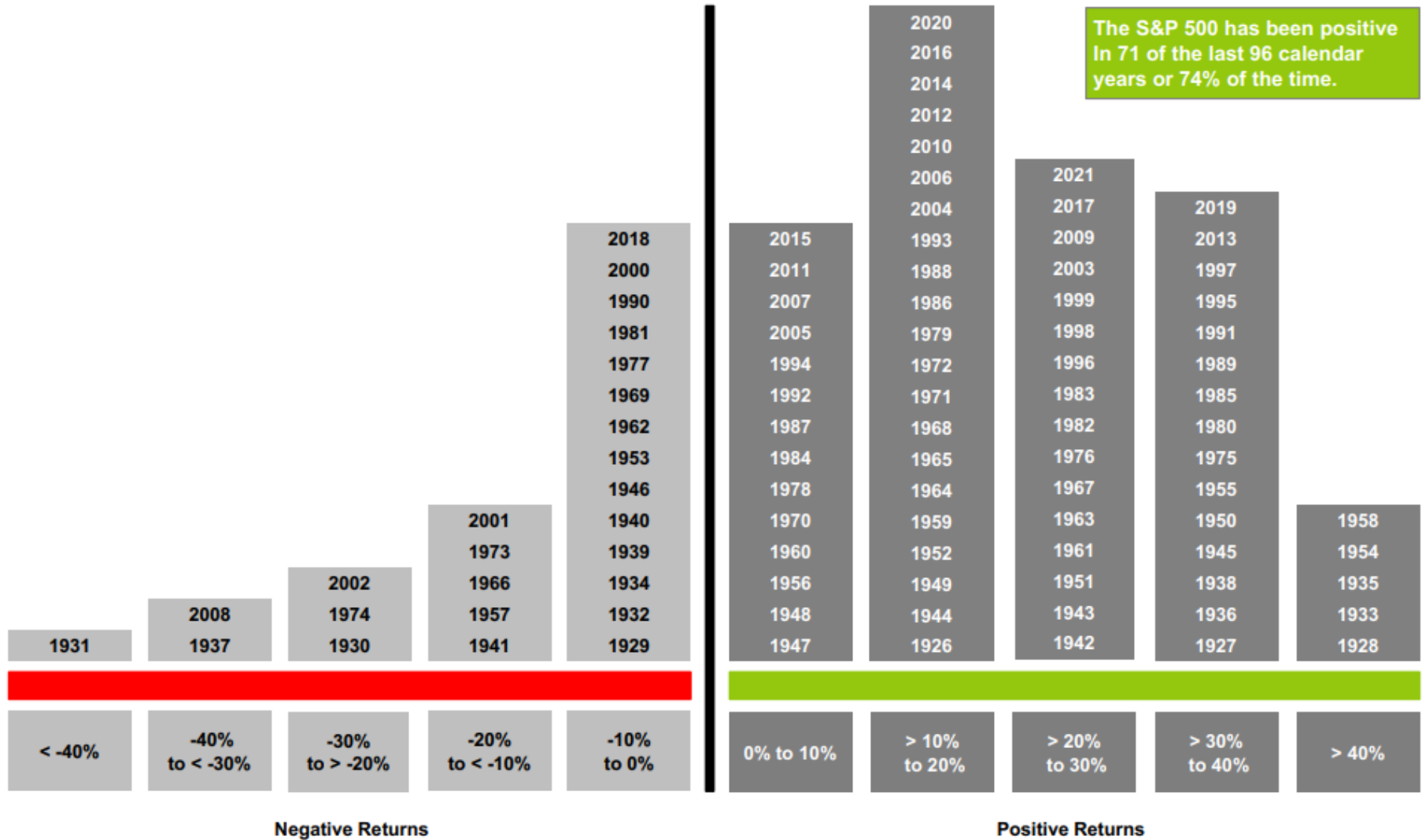
Changes in Interest Rates from 9/30/2020-9/30/2022



Source: US Department of Treasury

Return data is provided for historical and informational purposes only. Past performance does not guarantee future results.

S&P 500 Histogram of Annual Returns (1926-2021)



Source: Morningstar Direct. Data as of December 31, 2021

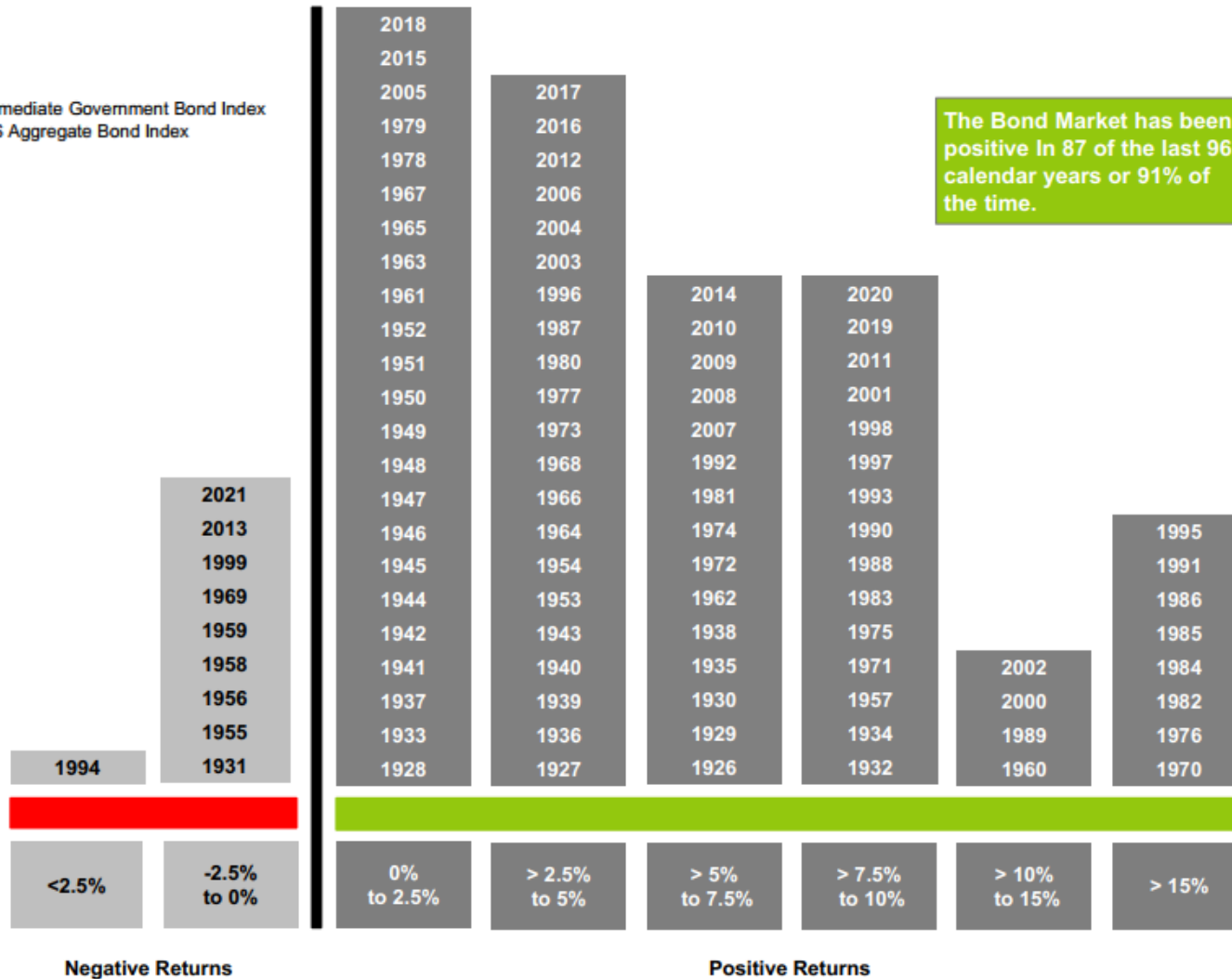
Return data is provided for historical and informational purposes only.
Past performance does not guarantee future results.

Bond Market Histogram of Annual Returns (1926-2021)

*Bond Market

1926–1975: SBBI US Intermediate Government Bond Index

1976–2021: Bloomberg US Aggregate Bond Index



Source: Morningstar Direct. Data as of December 31, 2021

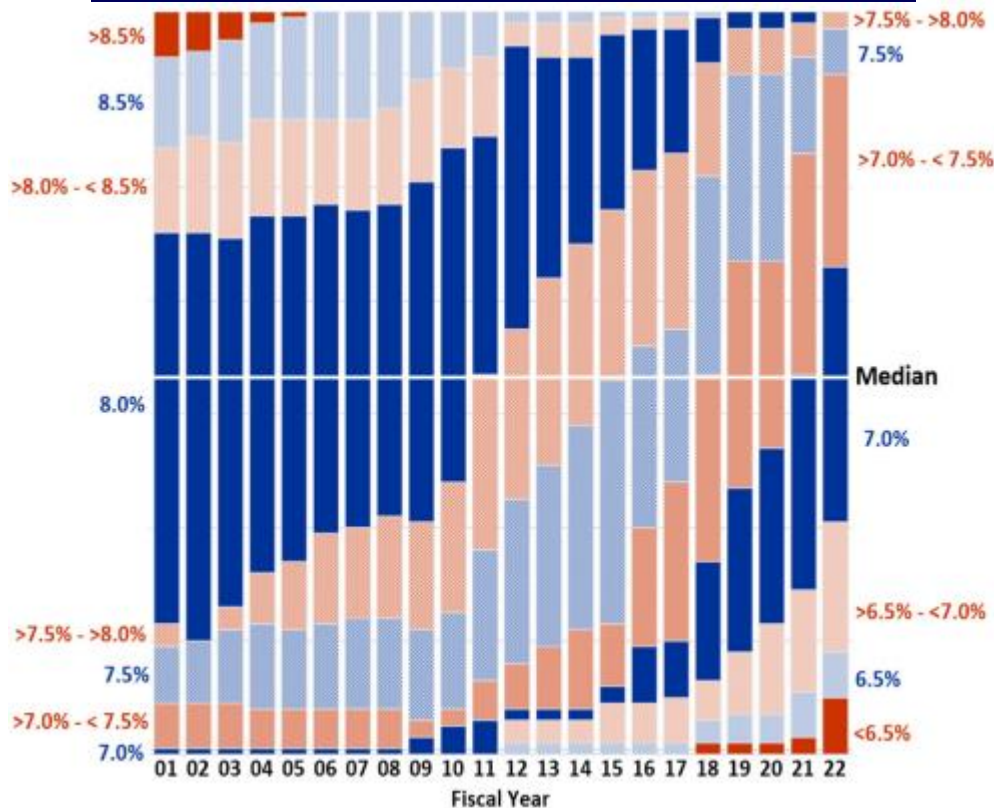
Return data is provided for historical and informational purposes only.
Past performance does not guarantee future results.



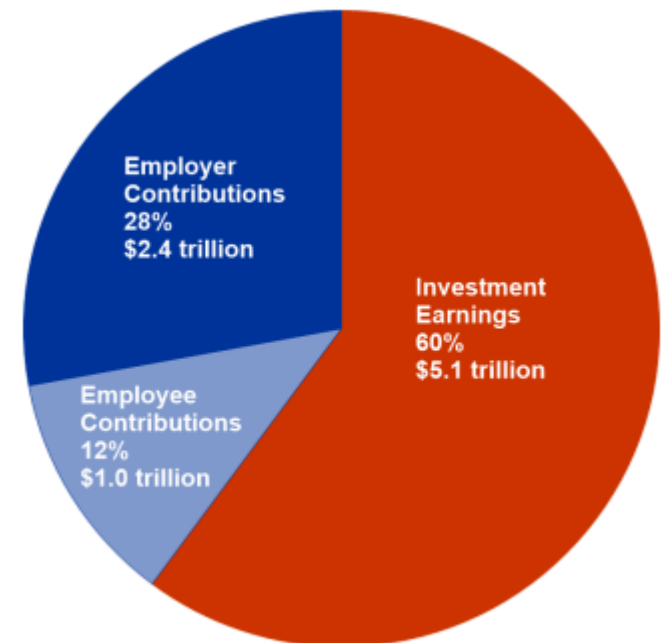
Current Challenges Facing Public Pensions

Challenges Facing Governmental Plans

Change in Distribution of Public Plan Return Assumptions, FY 01 to FY 22



Public Pension Sources of Revenue, 1991-2022



Compiled by NASRA based on U.S. Census Bureau data

Challenges Facing Governmental Plans

RETIREMENT

Public Pensions Are Being Overly Optimistic



Business

http://www.stltoday.com/business/local/reckoning-comes-for-pension-funds-as-investment-returns-lag/article_7a60dccc-8d9c-5e9b-aa74-32e244e4f2ea.html

Reckoning comes for pension funds as investment returns lag

By Elizabeth Campbell Bloomberg Sep 22, 2016

*Calpers Braces for Lower Returns in
'Most Challenging Market'*

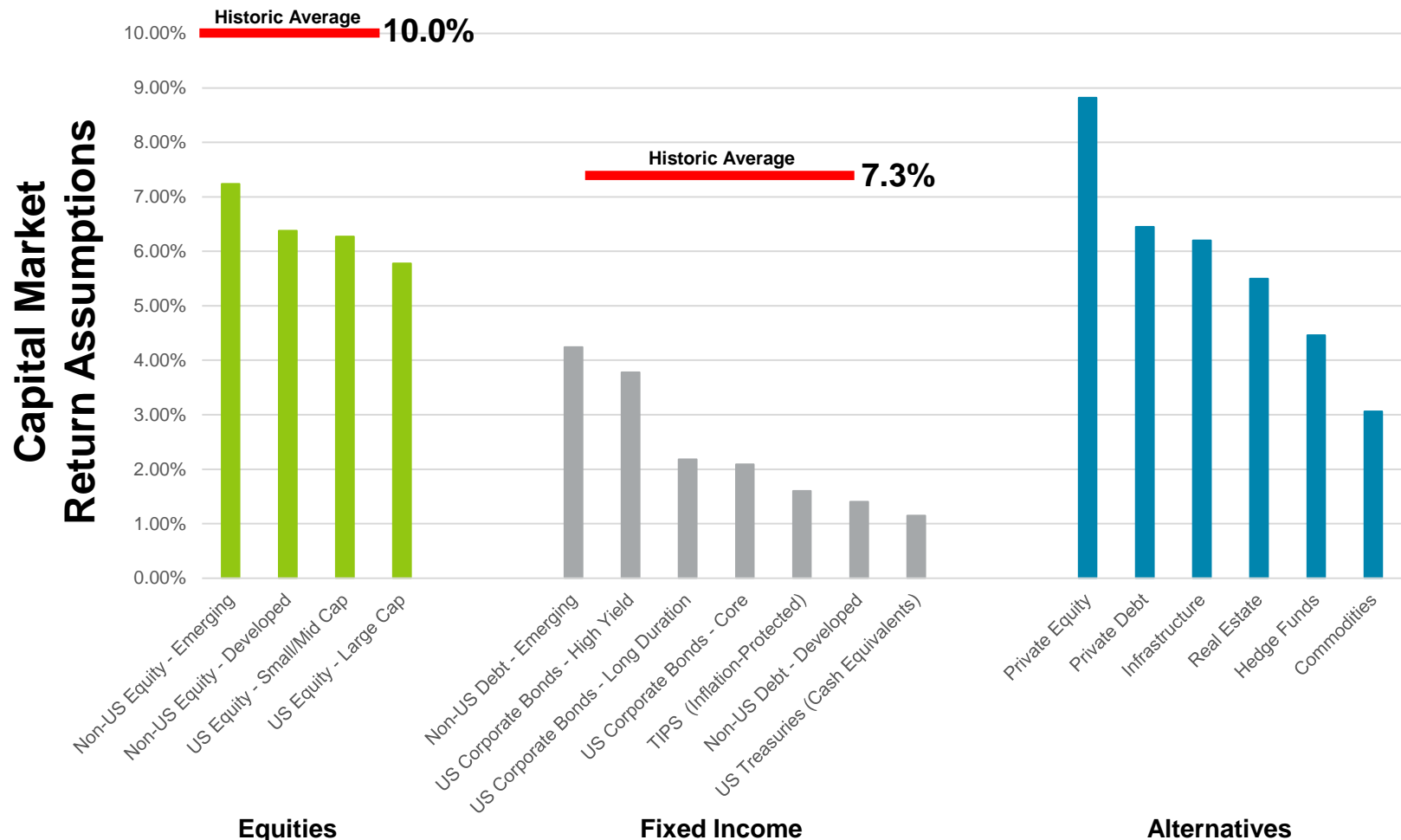
Covering Up the Pension Crisis

Why the Municipal Pension Crisis Will Worsen

Sources: *Pensions & Investments, Milliman, Investor's Business Daily, Bloomberg*

Challenges Facing Governmental Plans

Forward Looking Returns Expected to be Below Historic Average



Source: 2021 Horizon Actuarial Services – Capital Markets Survey, Average Expected Return – 10 year horizon

This contains forward-looking statements which may be subject to various uncertainties whereby the actual outcomes or results could differ from those indicated.

Investment Trends

Current Trends:

- Continued confidence in Real Estate and progression to more value -added real estate.
- New allocations to areas including Infrastructure.
- Reductions to US Public Equity Exposure / Increasing Exposure to Private Equity Strategies .
- Diversification of Fixed Income into High Yield, Floating Rate, and Private Debt.
- Hedge Strategies as potential diversification from traditional stock/bond portfolios.
- Cash?

Alternatives – What are they?

A variety of asset classes that are outside of publicly traded stocks and bonds that are often associated with reduced liquidity.

Real Estate

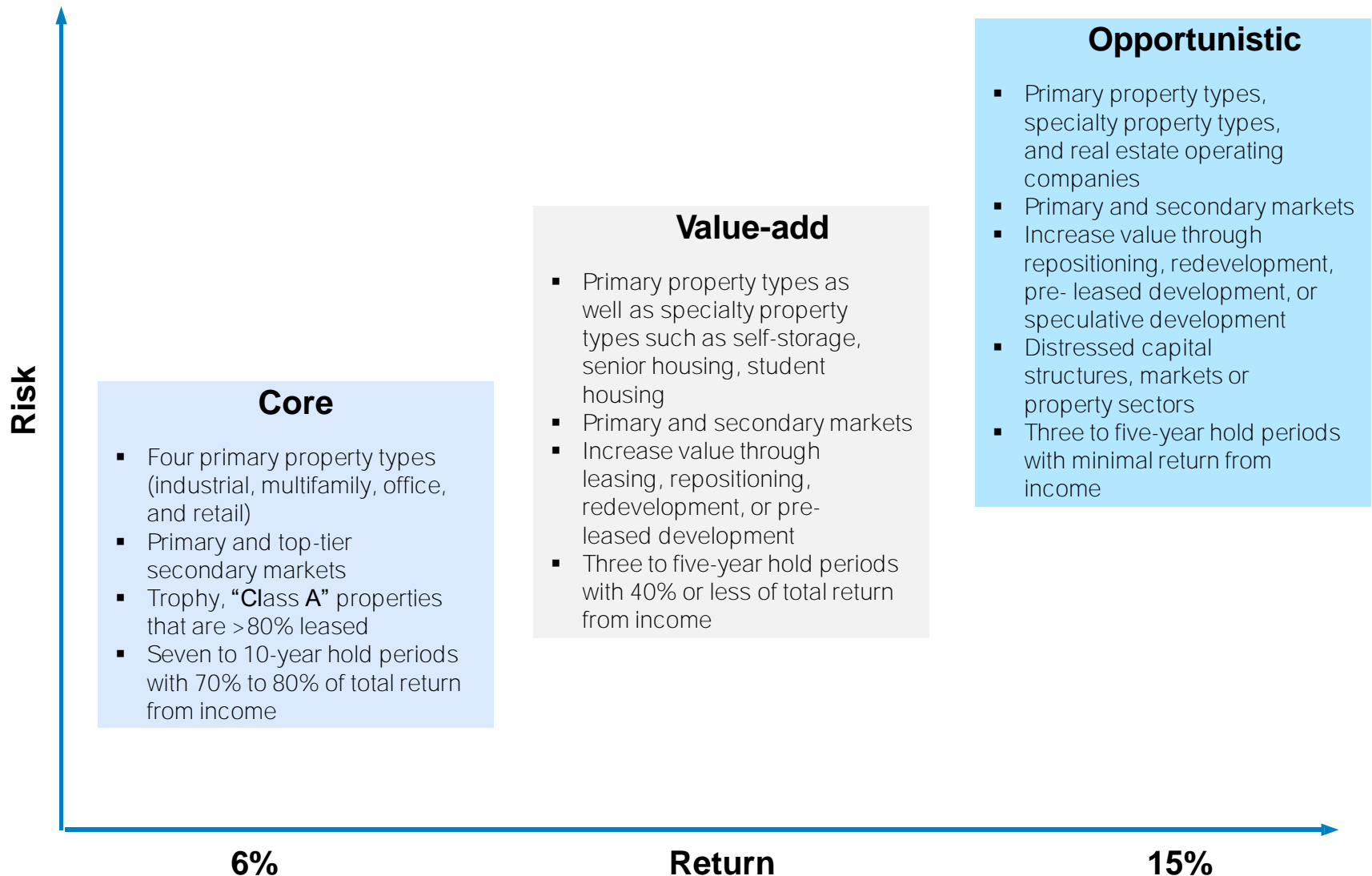
Infrastructure

Private
Equity

Private Debt

Hedge
Funds

Real Estate:



Infrastructure is defined as essential public services and facilities needed for the general economic operation of a region.

Characteristics include:

- Monopolistic or semi-monopolistic position, high barriers to entry
- Long useful life
- Operate in regulated environments
- Stable, relatively predictable cash flows
- Lower exposure to business cyclicity

Common types of Infrastructure assets:

Sectors	Transportation	Energy/Utilities	Communications	Social
Subsectors	Toll roads/bridges/tunnels Municipal Parking Airports Rail Mass Transit Networks Port Facilities	Oil and Gas Pipelines Regulated Utilities Renewable Energy Water Treatment/Distribution	Communication Towers Cable Networks Satellite Systems	Education Facilities Healthcare Facilities Correctional Facilities

Private Equity Overview

Private Equity:

Style	Venture Capital	Growth Equity	Buyouts	Turnaround/ Distressed
Investment Strategy	<ul style="list-style-type: none"> Investments are made in the early life of the company, seed stage, early stage and pre-revenue Typically companies have an innovative business idea for a proprietary product or service. 	<ul style="list-style-type: none"> Provides expansion capital for small, growing businesses, that are generating cash flow and profits. Generally, these types of investments have minimal exposure to technology risk. 	<ul style="list-style-type: none"> Investments in established, performing companies that may require capital to expand and or restructure. Company is often publicly held but transaction takes ownership private. 	<ul style="list-style-type: none"> Investments in companies that have poorly organized capital structures or failing operations. Can include debt and equity positions.
Main Sectors	Technology, Communications, Software, Bio-tech, Healthcare, Clean Tech	Diversified, Business Services, Industrial, Consumer	Diversified, Business Services, Industrial, Consumer	Diversified, Business Services, Industrial, Consumer
Time Horizon (post investment)	8 to 12 years	5 to 7 years	5 to 7 years	3 to 4 years
IRR* Range/ MOIC**	25% to 30%/3x	20% to 25%/2.5x	15% to 20%/2x	15% to 20%/2x
Primary Return Drivers	Capital Appreciation	Capital Appreciation	Current Income and Capital Appreciation	Current Income and Capital Appreciation
Unique Features	<ul style="list-style-type: none"> Highest risk and return potential. Typical to have a single investment drive entire portfolio performance, the "Unicorn" or "Decacorn" 	<ul style="list-style-type: none"> Usually a minority investment, companies that seek growth capital will often do so to finance a transformational event. Usually can not take on additional debt. 	<ul style="list-style-type: none"> Seek control positions. Leverage used at managers discretion. Ideally, performance is driven equally across portfolio investments. 	<ul style="list-style-type: none"> May involve the purchase of distressed assets or debt Countercyclical nature, negatively correlated to economic growth. Shorter turnaround time

Provided as an illustrative example and should not be relied upon solely to assess cost, liability and needs of participants.

➤ Venture Capital

- Investments in startup companies

➤ Distressed Debt

- Purchases of the debt of financially troubled companies, often with the intent of gaining control in bankruptcy

➤ Mezzanine Debt

- Investing in junior, unsecured, non-public debt

➤ Hedge Funds

- Investments in a variety of asset classes, often using leverage, short selling, and derivative securities.

Engage in proactive discussion with your service providers, including:

Fund actuary

- Understand how market movement will likely impact the funding of the plan.
- Can market increases offset changes that could potentially increase funding cost (ie reduction in assumed rate of return).
- Funding status and risk tolerance

Investment Managers

- Opportunities they are seeing in the marketplace
- Issues they are facing (ie market illiquidity)
- Stability of their organizations

Investment Consultant

- If meetings normally take place quarterly, a special meeting may be required to address large market movements.
- Engage in discussions about the long term allocation that is in place.
- Engage the consultant to understand what are other clients doing/adding/removing from portfolios.

Summary:

- Recognize the history of market declines and subsequent recoveries.
- Identify how the Plan's investment policy statement acts as a roadmap in periods of dislocation.
- Describe how to engage investment professionals to evaluate the market environment.
- Identify how to evaluate the viability of market opportunities arising out of the market volatility.

Thank you!

Thank you!





APPENDIX

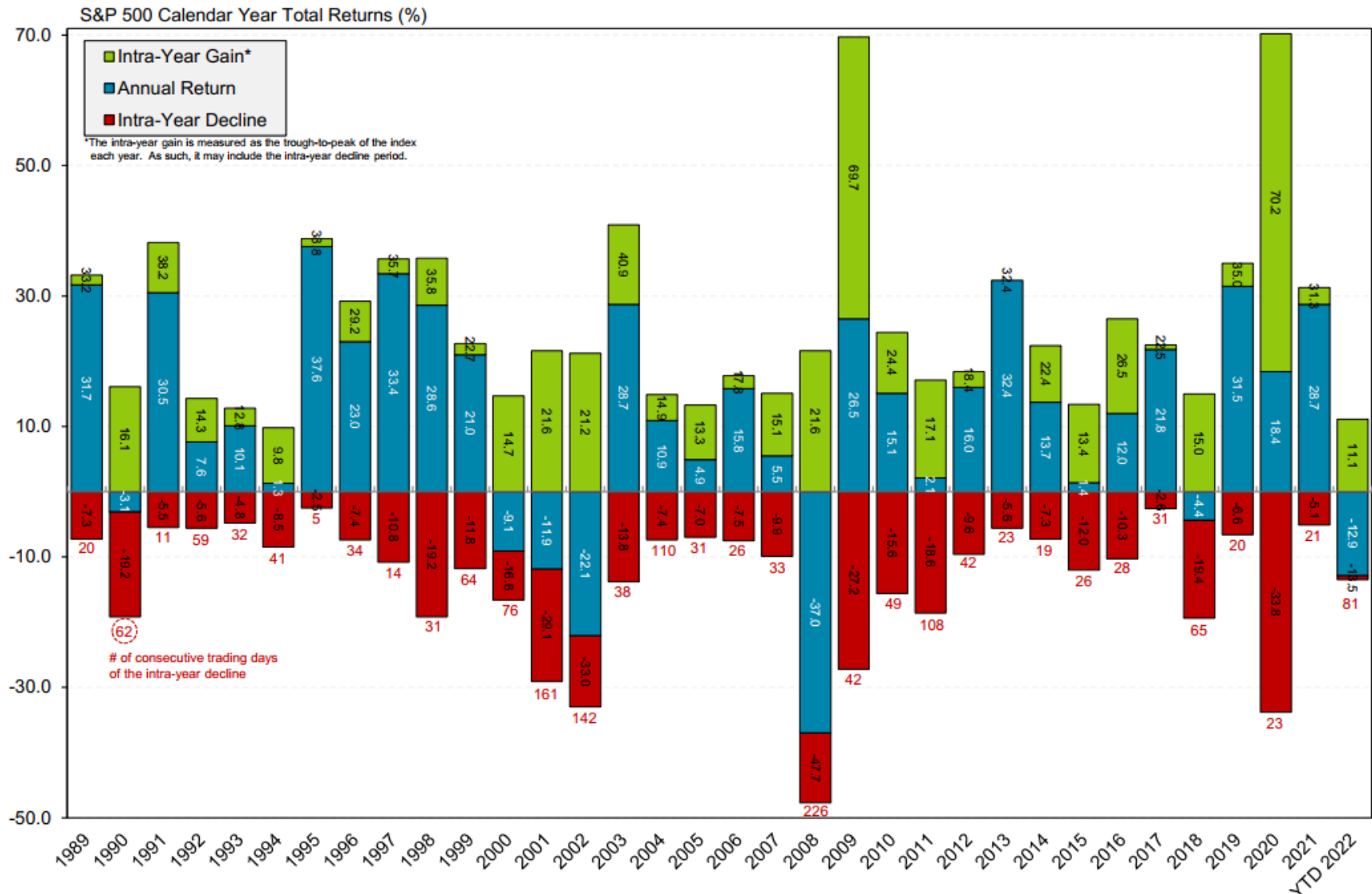
Annual Asset Class Returns (as of June 30, 2022)

Annual Asset Class Performance

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD
Best	Bloomberg U.S. Aggregate Index 5.2 %	MSCI Emerging Markets (Net) Index 78.5 %	Russell 2000 Growth Index 29.1 %	NCREIF Fund Index-ODCE (EW) (Net) 15.0 %	MSCI Emerging Markets (Net) Index 18.2 %	Russell 2000 Growth Index 43.3 %	S&P 500 Index 13.7 %	NCREIF Fund Index-ODCE (EW) (Net) 14.2 %	Russell 2000 Value Index 31.7 %	MSCI Emerging Markets (Net) Index 37.3 %	NCREIF Fund Index-ODCE (EW) (Net) 7.3 %	Russell 1000 Growth Index 36.4 %	Russell 1000 Growth Index 38.5 %	S&P 500 Index 28.7 %	NCREIF Fund Index-ODCE (EW) (Net) 12.5 %
	Bloomberg Global Aggregate Ex USD 4.4 %	Bloomberg U.S. Corp High Yield 58.2 %	Russell 2000 Index 26.9 %	Bloomberg U.S. Aggregate Index 7.8 %	Russell 2000 Value Index 18.1 %	Russell 2000 Index 38.8 %	Russell 1000 Value Index 13.5 %	Russell 1000 Growth Index 5.7 %	Russell 2000 Index 21.3 %	Russell 1000 Growth Index 30.2 %	Bloomberg U.S. Aggregate Index 0.0 %	S&P 500 Index 31.5 %	Russell 2000 Growth Index 34.6 %	Russell 2000 Value Index 28.3 %	Bloomberg U.S. Aggregate Index -10.3 %
	NCREIF Fund Index-ODCE (EW) (Net) -11.1 %	Russell 1000 Growth Index 37.2 %	Russell 2000 Value Index 24.5 %	Bloomberg U.S. Corp High Yield 5.0 %	Russell 1000 Value Index 17.5 %	Russell 2000 Value Index 34.5 %	Russell 1000 Growth Index 13.1 %	S&P 500 Index 1.4 %	Russell 1000 Value Index 17.3 %	MSCI EAFE (Net) Index 25.0 %	Russell 1000 Growth Index -1.5 %	Russell 2000 Growth Index 28.5 %	Russell 2000 Index 20.0 %	Russell 1000 Growth Index 27.6 %	Russell 1000 Value Index -12.9 %
	Bloomberg U.S. Corp High Yield -26.2 %	Russell 2000 Growth Index 34.5 %	MSCI Emerging Markets (Net) Index 18.9 %	Bloomberg Global Aggregate Ex USD 4.4 %	MSCI EAFE (Net) Index 17.3 %	Russell 1000 Growth Index 33.5 %	NCREIF Fund Index-ODCE (EW) (Net) 11.4 %	Bloomberg U.S. Aggregate Index 0.5 %	Bloomberg U.S. Corp High Yield 17.1 %	Russell 2000 Growth Index 22.2 %	Bloomberg U.S. Corp High Yield -2.1 %	Russell 1000 Value Index 26.5 %	S&P 500 Index 18.4 %	Russell 1000 Value Index 25.2 %	Bloomberg U.S. Corp High Yield -14.2 %
	Russell 2000 Value Index -28.9 %	MSCI EAFE (Net) Index 31.8 %	Russell 1000 Growth Index 16.7 %	Russell 1000 Growth Index 2.6 %	Russell 2000 Index 16.3 %	Russell 1000 Value Index 32.5 %	Bloomberg U.S. Aggregate Index 6.0 %	MSCI EAFE (Net) Index -0.8 %	S&P 500 Index 12.0 %	S&P 500 Index 21.8 %	Bloomberg Global Aggregate Ex USD -2.1 %	Russell 2000 Index 25.5 %	MSCI Emerging Markets (Net) Index 18.3 %	NCREIF Fund Index-ODCE (EW) (Net) 21.9 %	Bloomberg Global Aggregate Ex USD -16.5 %
	Russell 2000 Index -33.8 %	Russell 2000 Index 27.2 %	Russell 1000 Value Index 15.5 %	S&P 500 Index 2.1 %	S&P 500 Index 16.0 %	S&P 500 Index 32.4 %	Russell 2000 Growth Index 5.6 %	Russell 2000 Growth Index -1.4 %	Russell 2000 Growth Index 11.3 %	Russell 2000 Index 14.6 %	S&P 500 Index -4.4 %	Russell 2000 Value Index 22.4 %	Bloomberg Global Aggregate Ex USD 10.1 %	Russell 2000 Index 14.8 %	Russell 2000 Value Index -17.3 %
	Russell 1000 Value Index -36.8 %	S&P 500 Index 26.5 %	Bloomberg U.S. Corp High Yield 15.1 %	Russell 1000 Value Index 0.4 %	Bloomberg U.S. Corp High Yield 15.8 %	MSCI EAFE (Net) Index 22.8 %	Russell 2000 Index 4.9 %	Russell 1000 Value Index -3.8 %	MSCI Emerging Markets (Net) Index 11.2 %	Russell 1000 Value Index 13.7 %	Russell 1000 Value Index -8.3 %	MSCI EAFE (Net) Index 22.0 %	MSCI EAFE (Net) Index 7.8 %	MSCI EAFE (Net) Index 11.3 %	MSCI Emerging Markets (Net) Index -17.6 %
	S&P 500 Index -37.0 %	Russell 2000 Value Index 20.6 %	NCREIF Fund Index-ODCE (EW) (Net) 15.1 %	Russell 2000 Growth Index -2.9 %	Russell 1000 Growth Index 15.3 %	NCREIF Fund Index-ODCE (EW) (Net) 12.4 %	Russell 2000 Value Index 4.2 %	Russell 2000 Index -4.4 %	NCREIF Fund Index-ODCE (EW) (Net) 8.4 %	Bloomberg Global Aggregate Ex USD 10.5 %	Russell 2000 Growth Index -9.3 %	MSCI Emerging Markets (Net) Index 18.4 %	Bloomberg U.S. Aggregate Index 7.5 %	Bloomberg U.S. Corp High Yield 5.3 %	MSCI EAFE (Net) Index -19.6 %
	Russell 1000 Growth Index -38.4 %	Russell 1000 Value Index 19.7 %	S&P 500 Index 15.1 %	Russell 2000 Index -4.2 %	Russell 2000 Growth Index 14.6 %	Bloomberg U.S. Corp High Yield 7.4 %	Bloomberg U.S. Corp High Yield 2.5 %	Bloomberg U.S. Corp High Yield -4.5 %	Russell 1000 Growth Index 7.1 %	Russell 2000 Value Index 7.8 %	Russell 2000 Index -11.0 %	Bloomberg U.S. Corp High Yield 14.3 %	Bloomberg U.S. Corp High Yield 7.1 %	Russell 2000 Growth Index 2.8 %	S&P 500 Index -20.0 %
	Russell 2000 Growth Index -38.5 %	Bloomberg Global Aggregate Ex USD 7.5 %	MSCI EAFE (Net) Index 7.8 %	Russell 2000 Value Index -5.5 %	NCREIF Fund Index-ODCE (EW) (Net) 9.9 %	Bloomberg U.S. Aggregate Index -2.0 %	MSCI Emerging Markets (Net) Index -2.2 %	Bloomberg Global Aggregate Ex USD -6.0 %	Bloomberg U.S. Aggregate Index 2.6 %	Bloomberg U.S. Corp High Yield 7.5 %	Russell 2000 Value Index -12.9 %	Bloomberg U.S. Aggregate Index 8.7 %	Russell 2000 Value Index 4.6 %	Bloomberg U.S. Aggregate Index -1.5 %	Russell 2000 Index -23.4 %
	MSCI EAFE (Net) Index -43.4 %	Bloomberg U.S. Aggregate Index 5.9 %	Bloomberg U.S. Aggregate Index 6.5 %	MSCI EAFE (Net) Index -12.1 %	Bloomberg U.S. Aggregate Index 4.2 %	MSCI Emerging Markets (Net) Index -2.6 %	Bloomberg Global Aggregate Ex USD -3.1 %	Russell 2000 Value Index -7.5 %	Bloomberg Global Aggregate Ex USD 1.5 %	NCREIF Fund Index-ODCE (EW) (Net) 6.9 %	MSCI EAFE (Net) Index -13.8 %	NCREIF Fund Index-ODCE (EW) (Net) 5.2 %	Russell 1000 Value Index 2.8 %	MSCI Emerging Markets (Net) Index -2.5 %	Russell 1000 Growth Index -28.1 %
Worst	MSCI Emerging Markets (Net) Index -53.3 %	NCREIF Fund Index-ODCE (EW) (Net) -31.3 %	Bloomberg Global Aggregate Ex USD 4.9 %	MSCI Emerging Markets (Net) Index -18.4 %	Bloomberg Global Aggregate Ex USD 4.1 %	Bloomberg Global Aggregate Ex USD -3.1 %	MSCI EAFE (Net) Index -4.9 %	MSCI Emerging Markets (Net) Index -14.9 %	MSCI EAFE (Net) Index 1.0 %	Bloomberg U.S. Aggregate Index 3.5 %	MSCI Emerging Markets (Net) Index -14.6 %	Bloomberg Global Aggregate Ex USD 5.1 %	NCREIF Fund Index-ODCE (EW) (Net) 0.8 %	Bloomberg Global Aggregate Ex USD -7.1 %	Russell 2000 Growth Index -29.5 %

Source: Investment Metrics

S&P 500 (Intra-Year Gains, Declines, and Annual Returns)

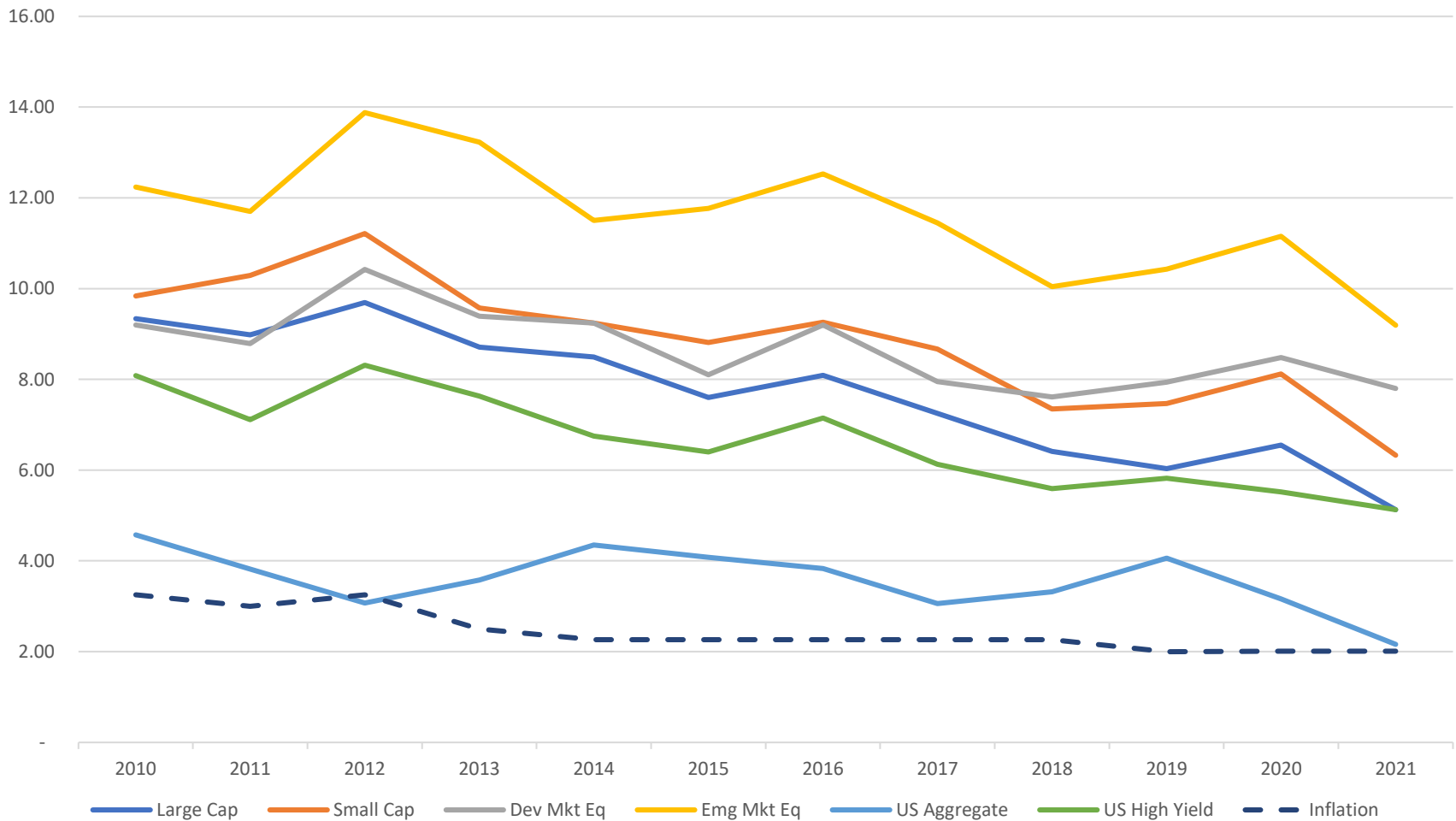


Source: AndCo Consulting, using data and information derived from Morningstar Direct.

Return data is provided for historical and informational purposes only.
 Past performance does not guarantee future results.

Capital Markets Assumptions

10-15 Year Expected Return Projections Since 2010



Source: JP Morgan 2010 - 2021 Long-Term Capital Market Assumptions. This contains representations of future expectations and assumptions which are inherently speculative and actual results, performance or events may differ materially from those expressed or implied in this report.

Passive vs Active Investment Management

PASSIVE		ACTIVE	
<i>Strengths</i>	<i>Weaknesses</i>	<i>Strengths</i>	<i>Weaknesses</i>
<ul style="list-style-type: none"> ✓ Low Cost ✓ Implementation Efficiency ✓ Predictability of Returns (you “get the market”) ✓ Difficult to beat net of fees ✓ “Safer” choice for decision makers and plan sponsors 	<ul style="list-style-type: none"> ✓ Aggregate of the market ✓ No potential for excess return ✓ Cap weighted benchmarks are inefficient ✓ Subject to market fads ✓ Net of fees, typically underperform index it is tracking 	<ul style="list-style-type: none"> ✓ Potential for above market return ✓ Potentially more efficient portfolio than passive ✓ Opportunity to avoid market fads ✓ Can be critical in low-return environments ✓ Compounding positive relative returns can be powerful advantage over the long-term 	<ul style="list-style-type: none"> ✓ Higher Cost ✓ Difficult to identify managers who can consistently outperform ✓ Potential for periods of large underperformance ✓ Requires patience and long-term perspective ✓ Requires additional due diligence

Efficient Capital Markets

Investment Grade US Bonds
Highly Traded US Stocks

Widely researched
Narrow investment universe
Large volume of securities traded
Highly liquid market
Low transaction costs

Inefficient Capital Markets

High Yield and Intl Bonds
Mid and Small Cap Stocks
Developed & Emerging Intl Stocks
Real Estate & Alternatives Assets

Not as widely researched
Broad Investment Universe
Lower volume of securities traded
Less liquid markets
Higher transaction cost

Putting clients first.



CHICAGO | CLEVELAND | DALLAS | DETROIT | ORLANDO | PITTSBURGH | RENO | TULSA

AndCo Consulting | (844) 44-ANDCO | *AndCoConsulting.com*