

# TLC Class of 2026

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Florida Public Pension Trustees Association

## Asset Allocation Analysis

Geoff Gerber, Ph.D.



*Shaping the Future - Trustee by Trustee*

# Impact of a Trustee's Investment Decisions

- Asset Allocation - Target or Policy Asset Allocation
  - ✓ Is the most critical decision as it drives 90-95% of your pension fund return
- Equity Allocation - is likely the biggest piece of the fund; returns are driven by the four “S’s”
  - ✓ Size - capitalization extends beyond the “Magnificent Seven”
  - ✓ Sector - only 1 of 11 sectors beat the market for the 10 years through 2025
  - ✓ Style - Growth vs. Value, Dynamic vs. Defensive
  - ✓ Sphere - Domestic vs International & Emerging Markets



# Asset Classes

- Equities (Stocks)
  - ✓ Domestic Large-Capitalization Securities
  - ✓ Domestic Small-Capitalization Securities
  - ✓ International
- Fixed Income (Bonds)
  - ✓ Domestic Long-Term Bonds
  - ✓ Domestic Intermediate- and Short-Term Bonds
  - ✓ Domestic Long-Term Bonds
  - ✓ International Bonds
- Cash
- Real Estate
  - ✓ Public (REIT) vs. Private
  - ✓ Commercial vs. Residential
- Alternative Investments
  - ✓ Hedge Funds
  - ✓ Private Equity
  - ✓ Venture Capital
  - ✓ Private Debt
  - ✓ Infrastructure
  - ✓ Timber



# PBGP Asset Allocation Over Time

Date	S&P 500	Russell 1000 Growth	Russell 1000 Value	S&P 400	S&P 600	MSCI EAFE	Fixed Inome	Short-term Fixed Incom e	International Bonds	Real Estate	Infrastructure	PBGP Total Market Value
7/1/2000	60%						40%					9,527,470
1/1/2003	50%			10%			40%					9,910,911
1/1/2004	40%			10%	10%		40%					13,002,121
10/1/2006	35%			10%	10%	5%	40%					22,276,568
10/1/2007	25%	10%		10%	10%	5%	40%					28,329,651
10/1/2008	25%	10%		10%	10%	10%	35%					26,897,256
10/1/2010	25%	10%		10%	10%	10%	31%		4%			41,122,361
1/1/2011	25%	10%		10%	10%	10%	27%		8%			
4/1/2012	25%	10%		10%	10%	10%	29%		4%	2.0%		43,065,943
4/1/2014	25%	10%		10%	10%	10%	26%		4%	5.0%		67,694,000
7/1/2015	25%	10%		10%	10%	10%	23.5%		4%	7.5%		74,092,896
1/1/2017	25%	10%		10%	10%	10%	27.5%			7.5%		82,113,694
4/1/2018	25%	10%		10%	10%	10%	25%			10%		90,176,684
7/1/2020	17.5%	10%		10%	10%	10%	22.5%			12.5%	7.5%	98,385,410
7/1/2021	20%	10%		10%	10%	10%	17.5%	5%		12.5%	5%	104,509,559
4/1/2022	10%	10%	10%	10%	10%	10%	17.5%	5%		12.5%	5%	127,508,035
10/1/2022	10%	10%	10%	10%	7.5%	10%	17.5%	5%		12.5%	7.5%	111,825,514
1/15/2026	10%	10%	10%	10%	7.5%	10%	17.5%	5%		12.5%	7.5%	158,828,664



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# FPPTA Asset Allocation Template Using 1/15/26 Allocations

## Custom Portfolio Return

Using Historical Asset Class Performance from 1999-2025

Asset Class	All Cap	Large Cap	Mid Cap	Small Cap	Developed International Equity	International Small Cap Equity	Emerging Markets Equity	Hedge Funds	Private Equity	Private Debt	High Yield Fixed Income	Real Estate	Farmland	Timber	Aggregate Fixed Income	Global Fixed Income	Intermediate Fixed Income	Government Credit	Cash	Total
Annualized Mean	8.63	8.52	9.56	8.22	5.76	8.55	8.76	7.26	13.14	5.04	6.40	7.18	10.18	6.33	3.88	3.01	3.77	2.97	1.73	100
Standard Deviation	16.99	16.38	18.92	21.40	18.29	20.62	23.10	10.86	10.41	8.12	9.86	6.50	6.32	4.49	4.28	6.61	3.39	1.92	0.89	
Percent Weight	0	30	10	7.5	10	0	0	0	0	0	0	20	0	0	22.5	0	0	0	0	

Custom Portfolio 27 Year Results (1999-2025)	Annualized Mean	Standard Deviation	Risk Assets	Safety Assets
	7.53	9.94	57.50	42.50

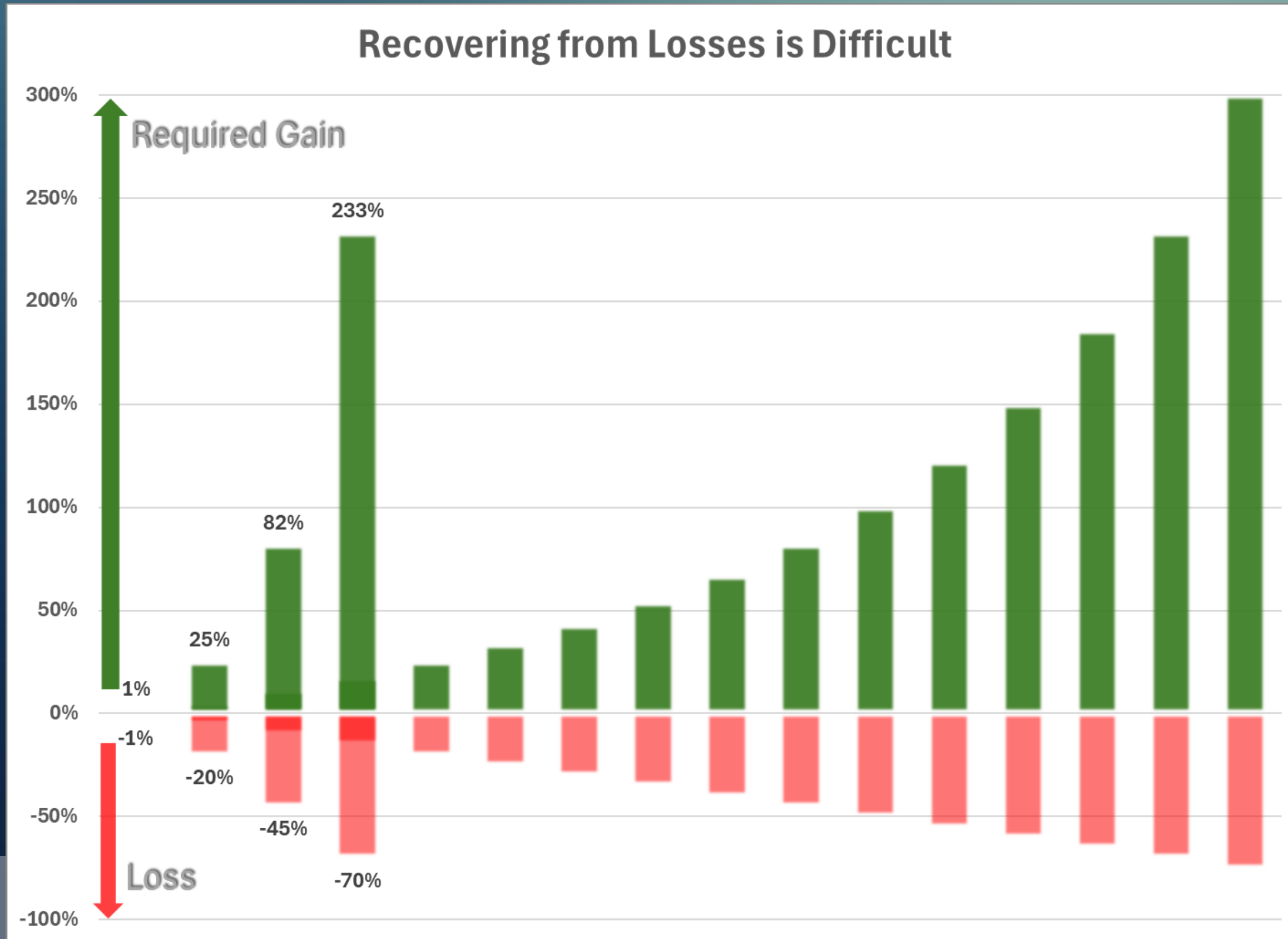
*Placing the 7.5% Infrastructure allocation into Real Estate, the PBGP Current Policy Allocation would have generated a 7.5% annual return with 9.9% annual risk from 1999 through 2025.*



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# Risk Does Matter

## The Mathematics of Compounding



*The return to an investment is Asymmetric as losses have greater impact than gains - the more you lose, the more you must earn to get back your initial investment!*

## Asset Allocation: Stocks & Bonds

Annualized Rates of Return and Risk in Percent  
Averages of Rolling 5- & 10- Year Periods 1900-2024  
Five US Stock and US Bond Simulated Portfolios

Simulated Portfolios * Stock/Bond	Five-Year Annualized		Proportion of Return and Risk Compared to the Bond Index		Proportion of Return and Risk Compared to the Stock Index	
	Return	Risk	Return	Risk	Return	Risk
100%/0%	9.9	7.9	190	203	--	--
75/25	9.0	6.1	173	156	91	77
60/40	8.4	5.1	160	131	84	65
50/50	7.9	4.6	152	118	80	58
40/60	7.4	4.2	142	106	75	52
25/75	6.7	3.8	127	96	67	47
0/100	5.2	3.9	--	--	53	49

Simulated Portfolios * Stock/Bond	Ten-Year Annualized		Proportion of Return and Risk Compared to the Bond Index		Proportion of Return and Risk Compared to the Stock Index	
	Return	Risk	Return	Risk	Return	Risk
100%/0%	9.7	5.2	183	160	--	--
75/25	8.9	4.1	168	124	92	77
60/40	8.3	3.5	157	107	86	67
50/50	7.9	3.2	149	99	81	62
40/60	7.4	3.1	140	93	77	58
25/75	6.7	3.0	126	90	69	56
0/100	5.3	3.3	--	--	55	62

\* Invested proportionally in US stocks and US bonds, rebalanced annually.

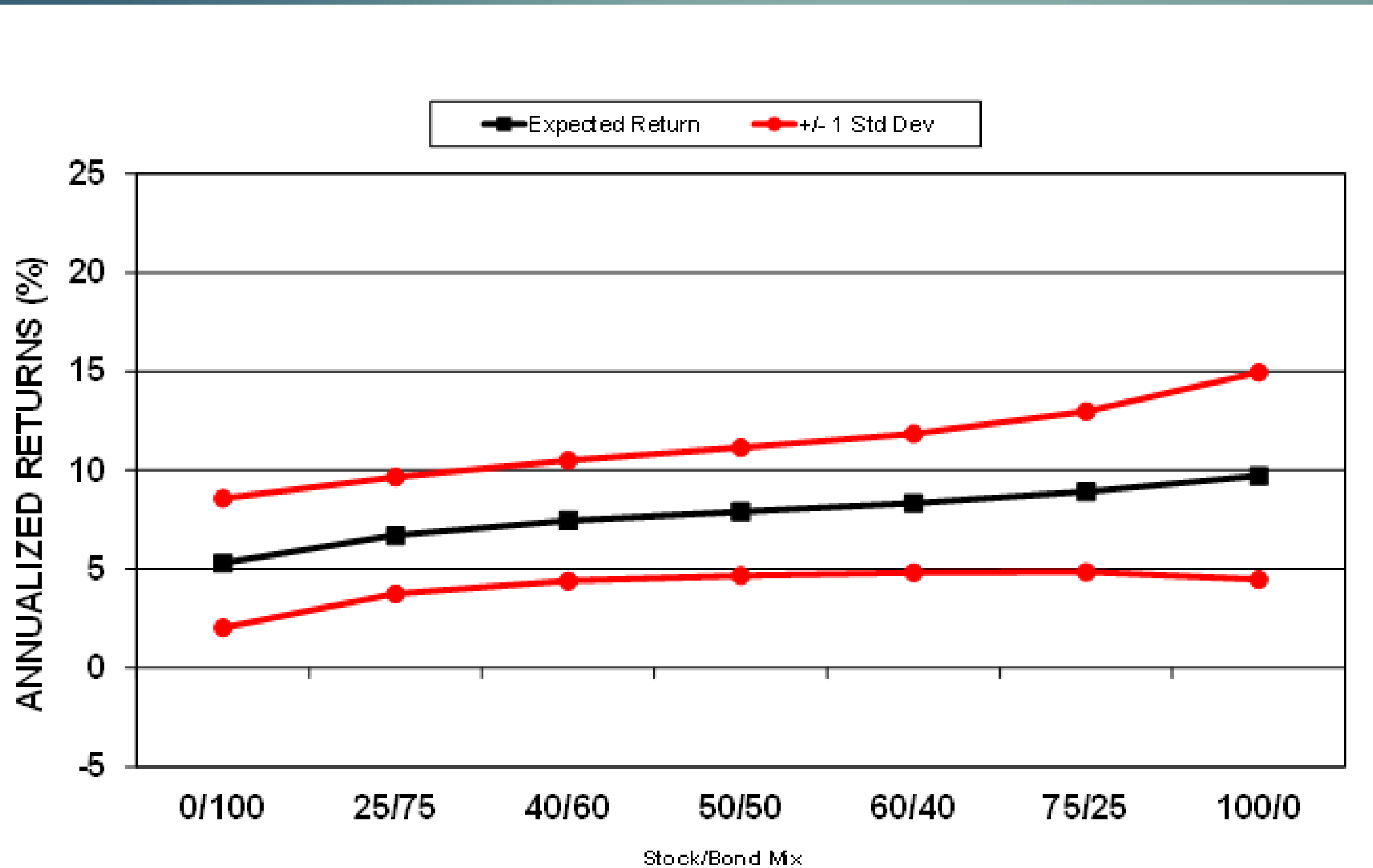
SOURCE: LSEG/RUSSELL & TWIN CAPITAL



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# Asset Allocation: Stocks & Bonds

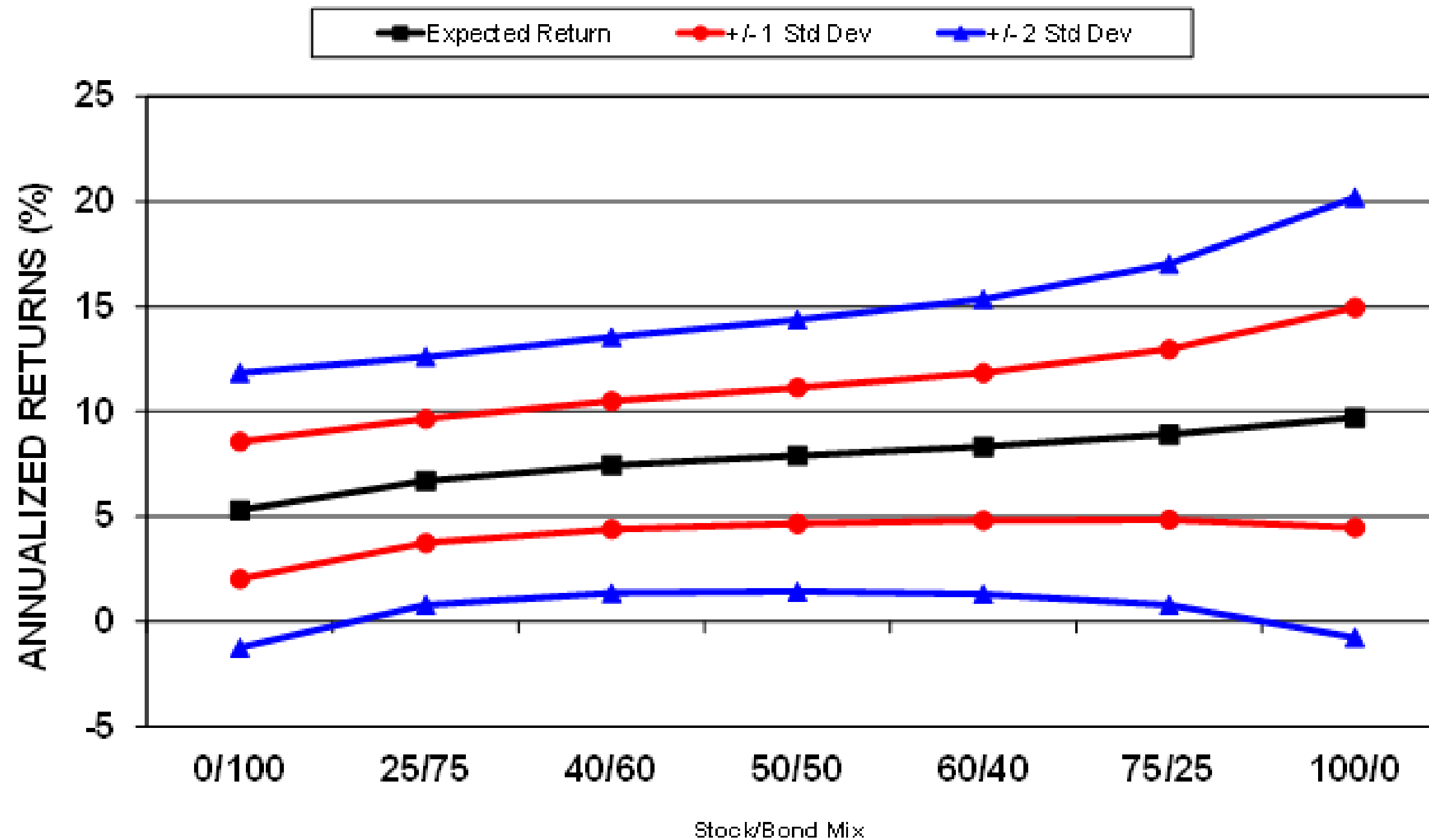
## Range of Returns for Various Mixes (10-Year Horizon)



*For a given Stock/Bond asset mix, you should expect in 2 out of every 3 ten-year periods, your portfolio to earn a return between the best case in red and the worst case in red.*

# Asset Allocation: Stocks & Bonds

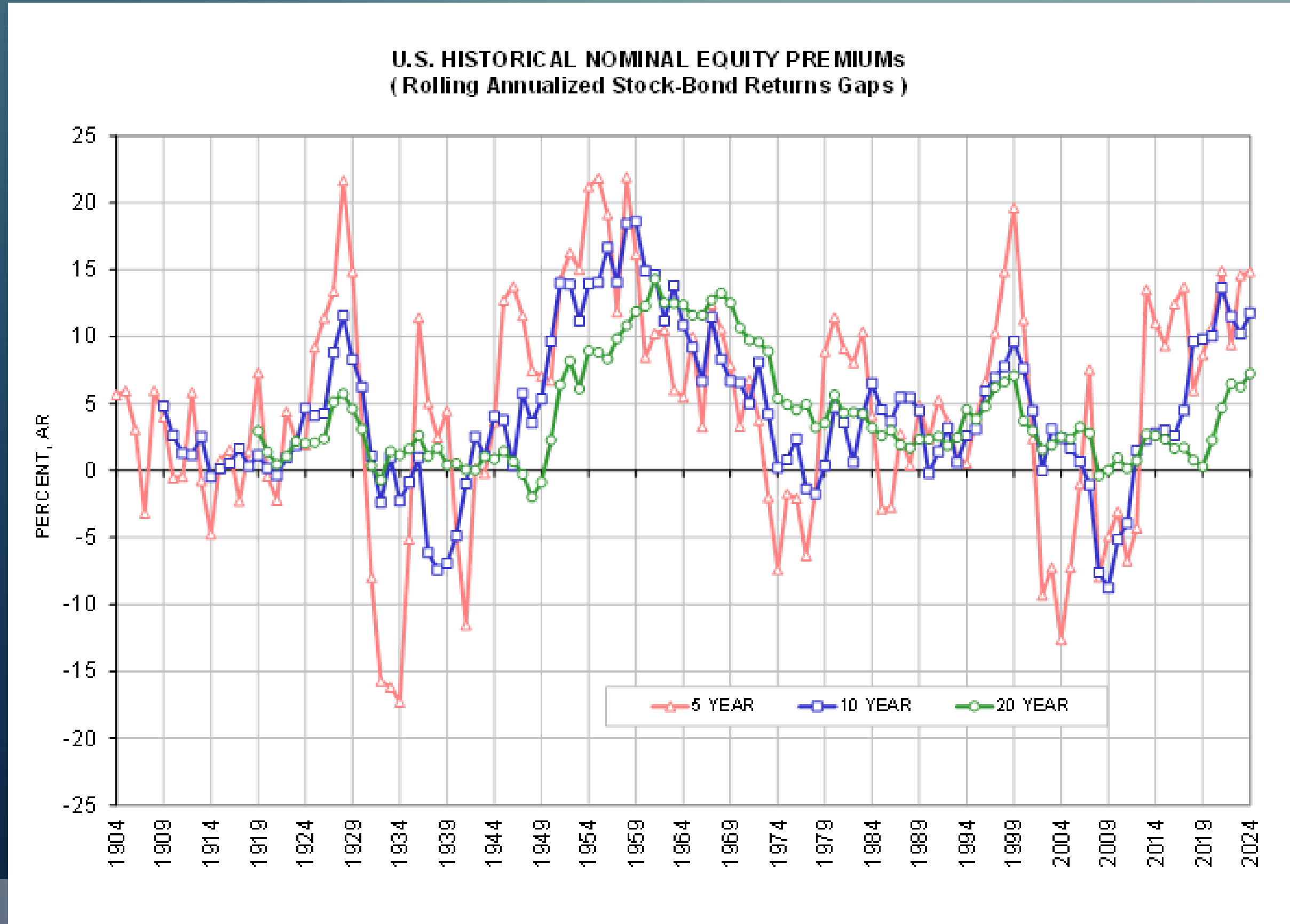
## Range of Returns for Various Mixes (10-Year Horizon)



*For a given Stock/Bond asset mix, you should expect in 19 out of every 20 ten-year periods, your portfolio to earn a return between the best case in blue and the worst case in blue.*



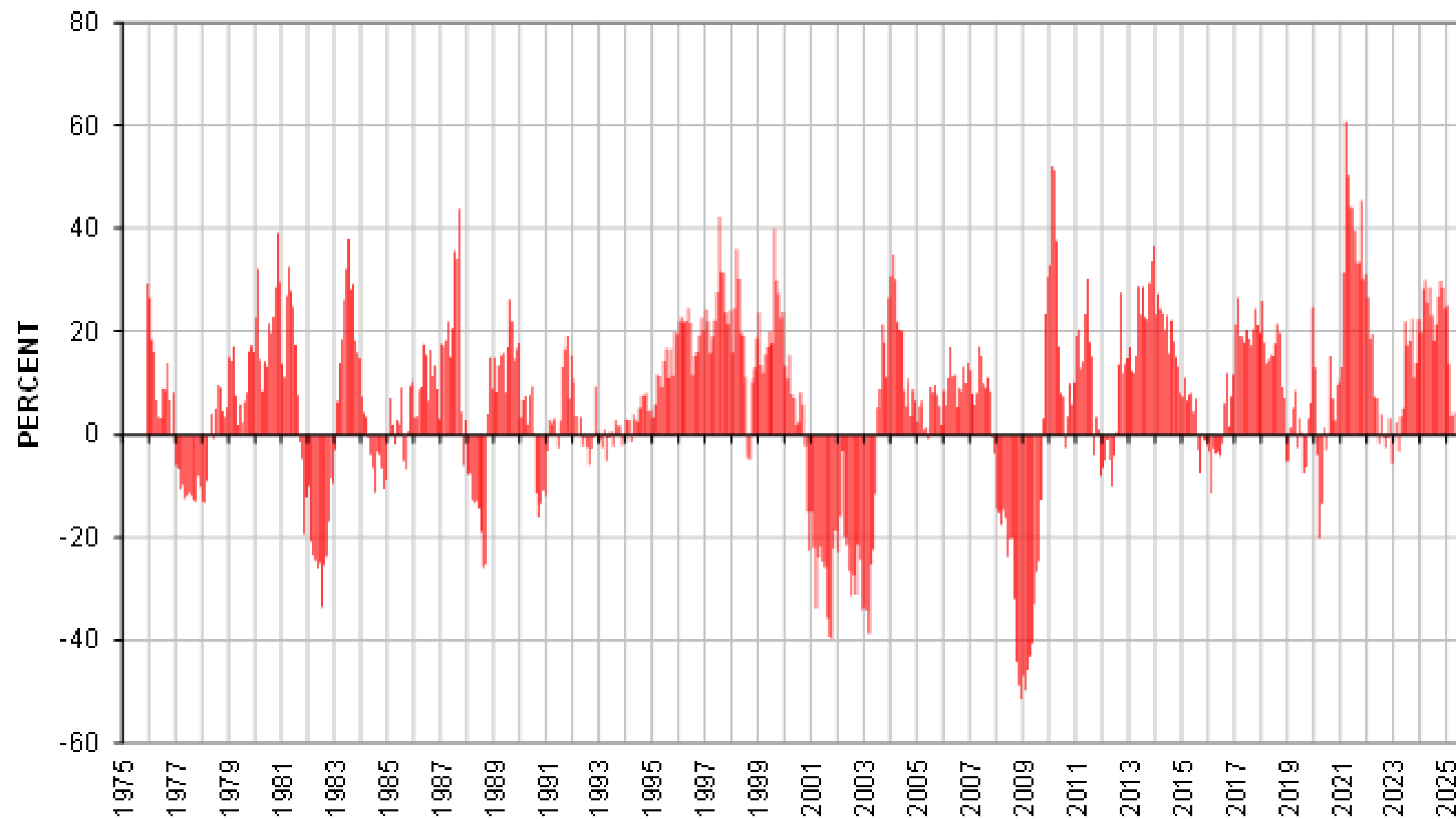
# Stocks Beat Bonds For Most Long-Term (20-year) Periods



*While there are many 5- and some 10-year periods when Bonds beat Stocks, for most 20-year periods, Stocks have outpaced Bonds.*



# Bonds Can Outperform Stocks Over Shorter-term (12-month Rolling) Periods



*While the 20-year Equity Premium has ranged from -2% to +15% (annualized), the rolling 12-month spread between stock and bond returns has ranged from a -51% to +52%.*

# Tactical Investment Decisions

- Reinforcing vs. Rebalancing decisions are being made whenever the current allocation is different than the policy allocation
- Reasons for tactical shifts away from the policy allocation include:
  1. Valuations different from historical values (i.e., an asset class or sub-asset class is cheaper or more expensive relative to its history and/or relative to other asset class or sub-asset class alternatives)
  2. Extreme absolute and/or relative performance leads to an overbought or oversold asset class (or sub-asset class)
  3. Macroeconomic/regulatory environment shifts



# Reinforcing Vs. Rebalancing Strategies – Does Your Pension Plan Have a Formal Rebalancing Policy?

- Reinforcing
  - Trend Follower; Momentum Play
  - “Let It Ride”
- Rebalancing
  - Mean Reverting; Contrarian Play
  - “Take Your Profits Off The Table”
- Tax implications
  - Reinforcing has Tax Advantages
  - Rebalancing Reduces After-Tax Returns
- Typically, Rebalancing strategies lower volatility of returns, but increase taxes.
- The greater the number of trend reversals, the more potential value-added exists from Rebalancing.
- If no reversals, Reinforcing strategy would be preferred, especially on after-tax basis.



# Annual S&P 500 Calendar Year Returns Feast or Famine (1926-2025)

- 100 calendar years of S&P 500 returns
  - ✓ Annualized Return: 10.5%
  - ✓ Annualized Risk: 19.6%
    - 26 years with a negative return (26%)
    - 60 years with a return >10% (60%)
    - 14 years (14% of the time) with a return between 0% and 8%

**There have been NO calendar years with the S&P 500 return between 8% and 10% even though the historical return has been in that range over past 100 years**



# S&P 500 History by Decade (1926-2025)

## Annualized Historical Returns

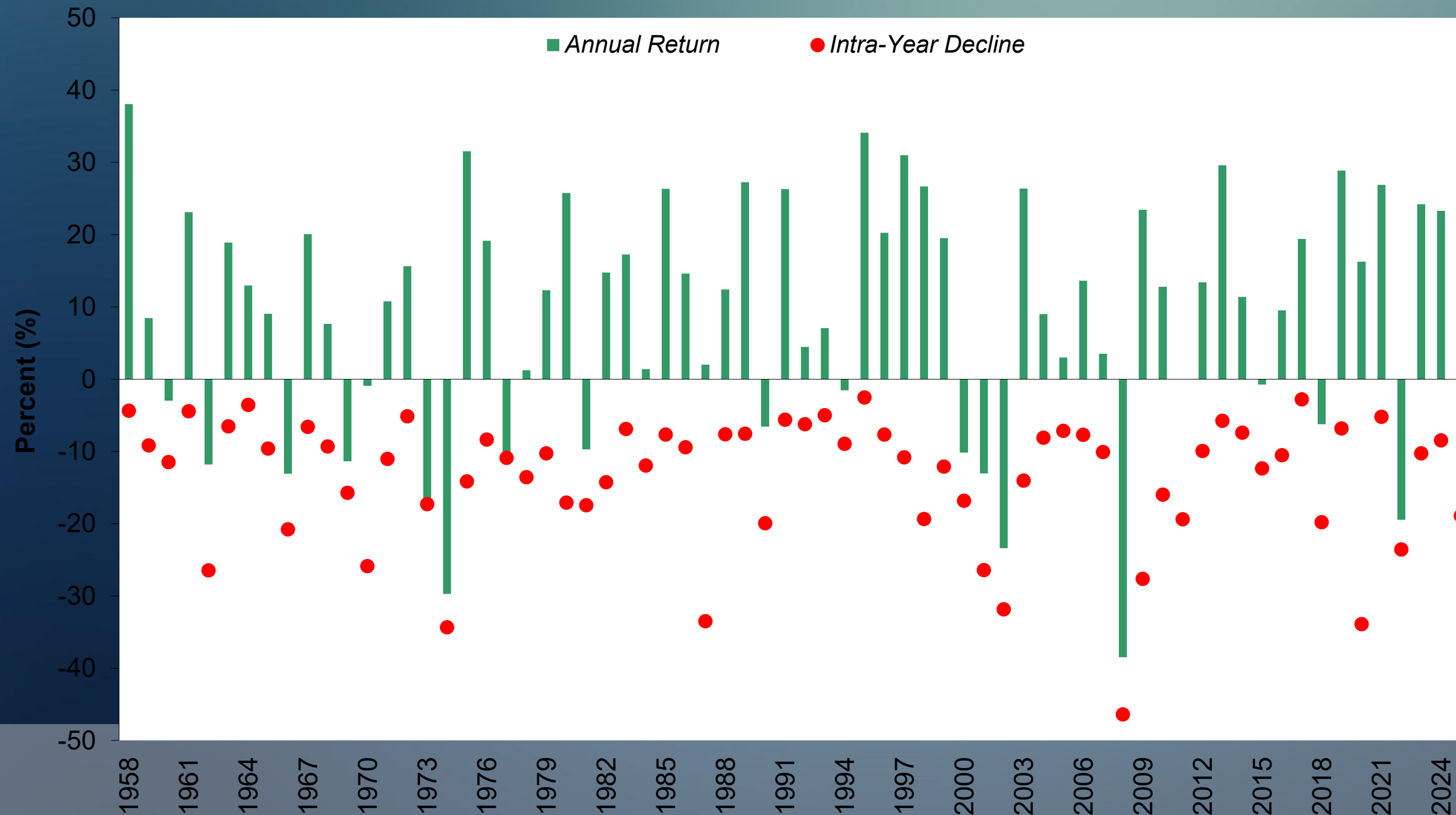
Period	S&P 500® Total Return	S&P 500® Price-Only Return	S&P 500® Income Return	Number of Negative Total Return Years
1926-1929	19.2	13.9	5.3	1
1930-1939	-0.1	-5.3	5.2	6
1940-1949	9.2	3.0	6.2	3
1950-1959	19.4	13.6	5.8	2
1960-1969	7.8	4.4	3.4	3
1970-1979	5.9	1.6	4.3	3
1980-1989	17.6	12.6	5.0	1
1990-1999	18.2	15.3	2.9	1
2000-2009	-0.9	-2.7	1.8	4
2010-2019	13.6	11.2	2.3	1
2020-2025	15.1	13.3	1.7	1
1926-2025	10.5	6.5	4.0	26

Since 1926, there have been 2 lost decades for the S&P 500, when the index declined.

From the 1920's through the 1980's, Dividend Income used to represent a larger portion of the total return.

# xxxVery Long History Shows Substantial Intra-Year Draw-downs in S&P 500

**Annual Returns & Intra-Year Declines: S&P 500 Index**  
1958 - 2025 (YTD 2025 through 7/31)



*Intra-Year decline is defined as the maximum decline for up to a 125-day period within a calendar year. The average such decline is 13.4% for the S&P 500 during the 67 years between 1958 & 2024, even as the average yearly return is positive (9.1%).*

# How Often is the S&P 500 Down? 1962 - 2024

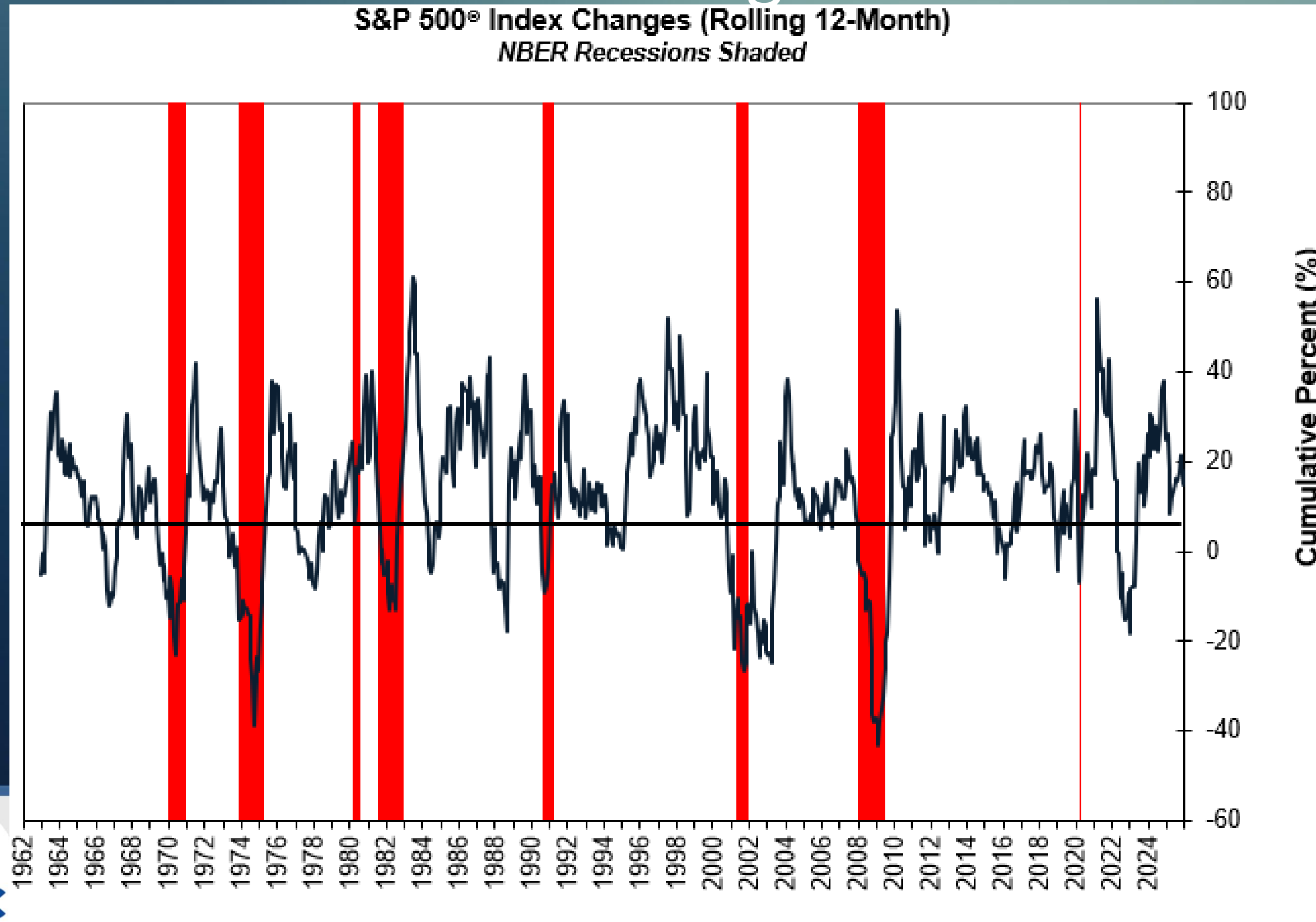
<u>Calendar Frequency</u>	<u>Total #</u>	<u>Number Positive</u>	<u>Number Negative</u>	<u>% Down</u>
Years	63	49	14	22%
Quarters	252	180	72	29%
Months	756	477	279	37%
Days	15,858	8,393	7,465	47%

*The more often investors look at the market, the more often they see their portfolio values decline.*

*The S&P 500 is down 47% of all days and 37% of all months but only 22% of all years. For most Investment Committee Meetings with a quarterly or monthly cycle, the market is down on average 1/3<sup>rd</sup> of the time.*



# The Worst 12-Month Equity Returns Happen During Recessions



*There have been 14 times beginning in 1962 when the S&P 500 Index declined by more than 25% cumulatively over a 12-month period. ALL 14 instances occurred during a recession. Equities typically fall prior to a recession and rebound before the recession is over.*

*Pete Strong - "It's been a while since we've seen red lines"*

# PBGP Changes to Investment Program 2015 - 2024

- Diversified domestic equity portfolio to include active small- and mid-cap equity investments
- After taking advantage of the strength of large-cap index funds for many years, PBGP began investing in a large-cap core enhanced index strategy
- Rather than focusing on Hedge Funds and Private Equity, PBGP has instead invested in Real Estate and Infrastructure (Real Return Asset Class) in their Alternative Investments portion of their portfolio
- Continual rebalancing back towards policy target allocations through time



# Palm Beach Gardens Police Case Study

## 10-Year History of the Pension Formula At Work

Year	<u>Employer &amp; Supplemental Plan Members Contributions</u>	<u>Supplemental Contributions (185)</u>	<u>Benefit Payments</u>	<u>Plan Administrative Expenses</u>	<u>Refunds</u>	<u>Contributions Minus Benefits, Expenses &amp; Refunds</u>	<u>Net Investment Income/(Loss)</u>	<u>Market Value of Pension Plan Assets</u>	<u>Annual Return</u>
2014								72,626,331	
2015	3,532,259	422,145	3,297,504	116,088	-	540,812	925,753	74,092,896	2.02%
2016	3,541,013	452,421	3,938,855	132,973	8,046	(86,440)	8,107,238	82,113,694	10.83%
2017	3,467,611	515,513	6,532,546	121,211	13,857	(2,684,490)	10,747,480	90,176,684	9.82%
2018	3,499,567	599,553	6,137,826	134,667	12,573	(2,185,946)	9,658,544	97,649,282	8.29%
2019	4,480,064	694,166	6,283,515	144,764	56,045	(1,310,094)	2,046,222	98,385,410	0.75%
2020	4,428,951	755,910	5,982,441	147,675	61,754	(1,007,009)	7,131,158	104,509,559	6.22%
2021	4,865,777	882,102	6,279,976	154,039	32,533	(718,669)	23,717,145	127,508,035	22.01%
2022	5,272,631	854,303	7,042,743	159,383	31,153	(1,106,345)	(14,576,176)	111,825,514	-12.30%
2023	5,712,602	993,453	7,033,082	159,161	118,312	(604,500)	10,633,174	121,749,020	8.87%
2024	6,229,944	1,101,003	6,788,652	197,168	118,820	226,307	23,855,612	145,830,939	19.78%
10-Year Sum	45,030,419	7,270,569	59,317,140	1,467,129	453,093	(8,936,374)	82,246,150	Annualized Return	7.22%
9-Year Average Growth	8.5%	17.9%	11.8%	7.8%				Annualized Risk	9.71%



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# PBGP Annual Returns 1990 - 2024

<u>FY End September</u>	<u>Annual Investment Return</u>	<u>FY End September</u>	<u>Annual Investment Return</u>
1990	9.1	2009	6.7
1991	8.6	2010	9.8
1992	8.2	2011	-0.4
1993	8.8	2012	18.0
1994	2.4	2013	14.2
1995	18.2	2014	10.4
1996	5.2	2015	1.3
1997	24.2	2016	10.9
1998	5.3	2017	13.1
1999	11.6	2018	10.7
2000	6.7	2019	2.1
2001	-7.8	2020	7.2
2002	-6.5	2021	22.3
2003	12.7	2022	-11.3
2004	8.6	2023	9.3
2005	9.6	2024	19.2
2006	6.4		
2007	11.5	<b>35-Year Annualized Return</b>	<b>7.18</b>
2008	-13.9	<b>35-Year Annualized Risk</b>	<b>8.76</b>
		<b>35-Year Average Annual Return</b>	<b>6.78</b>

***PBGP Pension Plan has been down in 5 of 35 fiscal years and has outperformed its 7% annual target return in 23 of those 35 years.***



# PBGP Trustee Decisions Impact on Income

- Palm Beach Gardens Police Trustees made a good decision to begin diversifying their equity assets away from just large-cap stocks into mid- and small-cap stocks beginning in 2003 as their asset base grew and they were able to invest in more funds
- Similarly, they began investing in international equities in 2006 and in international bonds in 2010
- The PBGP Trustees began investing in Real Estate in 2012 and extended their alternative exposure with Infrastructure in 2020
- The Trustees were forward-looking with their diversification into large-cap growth in 2007 (perfect timing!), large-cap value in 2022 (looked good for a year, but can look good again), and into large-cap enhanced indexing and active SMID cap in the past 2 years with the expectation that downside protection will pay off



# How Would Your Pension Fund Asset Allocation Performed Over the Long-Term (27 Years)?

Custom Portfolio Return Using Historical Asset Class Performance from 1999-2025																				
Asset Class	All Cap	Large Cap	Mid Cap	Small Cap	Developed International Equity	International Small Cap Equity	Emerging Markets Equity	Hedge Funds	Private Equity	Private Debt	High Yield Fixed Income	Real Estate	Farmland	Timber	Aggregate Fixed Income	Global Fixed Income	Intermediate Fixed Income	Government Credit	Cash	Total
Annualized Mean	8.63	8.52	9.56	8.22	5.76	8.55	8.76	7.26	13.14	5.04	6.40	7.18	10.18	6.33	3.88	3.01	3.77	2.97	1.73	100
Standard Deviation	16.99	16.38	18.92	21.40	18.29	20.62	23.10	10.86	10.41	8.12	9.86	6.50	6.32	4.49	4.28	6.61	3.39	1.92	0.89	
Percent Weight	0	32	8	7	10	0	3	0	0	0	0	12	0	0	28	0	0	0	0	

Custom Portfolio 27 Year Results (1999-2025)	Annualized Mean	Standard Deviation	Risk Assets	Safety Assets
	7.38	10.33	60.00	40.00

*A static asset allocation of 60% in Diversified Equities, 28% in Fixed Income and 12% in Real Estate would have generated a 7.4% annualized return with 10.3% annualized risk over the long-term.*



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# How Would Your Pension Fund Asset Allocation Performed Over the Intermediate-Term (10 Years)?

Custom Portfolio Return Using Historical Asset Class Performance from 2016-2025																				
Asset Class	All Cap	Large Cap	Mid Cap	Small Cap	Developed International Equity	International Small Cap Equity	Emerging Markets Equity	Hedge Funds	Private Equity	Private Debt	High Yield Fixed Income	Real Estate	Farmland	Timber	Aggregate Fixed Income	Global Fixed Income	Intermediate Fixed Income	Government Credit	Cash	Total
Annualized Mean	14.28	14.82	11.00	9.61	8.72	7.94	8.86	8.07	14.34	5.83	6.34	4.79	4.85	5.32	2.01	1.26	2.06	2.09	1.47	100
Standard Deviation	16.35	15.68	18.23	21.69	16.37	19.29	17.49	10.64	8.61	6.27	8.52	5.42	2.26	2.31	5.35	7.55	4.08	1.98	0.66	
Percent Weight	0	32	8	7	10	0	3	0	0	0	0	12	0	0	28	0	0	0	0	

Custom Portfolio 10 Year Results (2016-2025)	Annualized Mean	Standard Deviation	Risk Assets	Safety Assets
	8.93	10.14	60.00	40.00

*A static asset allocation of 60% in Diversified Equities, 28% in Fixed Income and 12% in Real Estate would have generated an 8.9% annualized return with 10.1% annualized risk since 2016.*



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# How Would Your Pension Fund Asset Allocation Performed Compared to other 2026 TLC Pension Funds?

TLC Members	Pension Board/Firm	27-Yr Return	27-Yr Risk	10-Yr Return	10-Yr Risk
Bacon, Robert	Tallahassee 185 Supplemental Share Plan				
Charlton, Angel	Tallahassee Ge Pension Board				
Creasman, John	Okeechobee General Employees Retirement System				
Donley, Mark	Hialeah Police Pension				
Freeman, Harry	Riviera Beach Firefighters' Pension Fund				
Gaines, Arnold	City of Fort Pierce				
Harris Wynter, Ann	City of Tamarac Firefighters Pension				
Hettler, Matthew	Casselberry P&F				
Rodriguez, Karel	North Miami Police Officers Pension Plan				
Spencer, Jay	Palm Beach Gardens Police Officers' Pension Fund	7.53	9.94	8.95	9.61
Thomas, Russell	City of Naples General Employees				
Thomas, Stephanie	Clair T Singerman				
Vroman, Kurt	Deltona Firefighters Pension Fund				
Warren, Kevin	North Miami Police Officers Pension Plan				
West, Warren	City of Avon Park Firefighters' Retirement System				
White, David	Sanford Police Officers'				
Winewski, Frank	North Palm Beach Police & Fire				
Wright, Kafele	Tallahassee 175 Pension Fund				



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# How Different Are Returns & Risks Over the Two Periods?

10 Year Minus 27 Year Annualized Returns & Risk Differentials																			
Asset Class	All Cap	Large Cap	Mid Cap	Small Cap	Developed International Equity	International Small Cap Equity	Emerging Markets Equity	Hedge Funds	Private Equity	Private Debt	High Yield Fixed Income	Real Estate	Farmland	Timber	Aggregate Fixed Income	Global Fixed Income	Intermediate Fixed Income	Government Credit	Cash
Annualized Return	5.65	6.30	1.44	1.38	2.96	-0.61	0.10	0.81	1.21	0.78	-0.06	-2.39	-5.33	-1.00	-1.87	-1.74	-1.71	-0.88	-0.26
Annualized Risk	-0.65	-0.70	-0.69	0.29	-1.92	-1.33	-5.61	-0.22	-1.80	-1.84	-1.33	-1.08	-4.06	-2.18	1.07	0.94	0.69	0.07	-0.24

- The most recent 10-years have been wonderful for large-cap equities while most equities have enjoyed higher returns
- Most asset classes have the same or slightly lower risk during the past 10 years compared to the longer-term (27-year) period
- The past 10 years have been more difficult for the “Safety” assets including bonds and real estate
- Emerging Markets volatility has come down dramatically over the past 10 years compared to the longer-term



# Key Takeaways

- Among all the investment decisions made by a Trustee impacting the Income component of the pension formula, asset allocation is the most critical, driving 90 to 95% of your pension plan's return
- Secondary impacts are made within your Equities allocation, which typically represents the biggest by weight and certainly by risk to your pension plan
- Remember the four “S’s” that drive equity returns – Size (Capitalization), Sector, Style (Growth vs. Value, Dynamic vs. Defensive) and Sphere (Domestic vs. International)



# Important Disclosures

**PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. INVESTMENTS ARE NOT GUARANTEED AND MAY LOSE VALUE.**

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## **INDEX INFORMATION**

The **Dividend Select Club** is a custom collection of companies with a rising dividend stream thought to be less at-risk than the stream from typical dividend-paying stocks. Stocks in the S&P 500 with at least 10 years of history are screened to insure the latest indicated annual dividend is at least as large as the level one year ago, and strictly progressively increasing over intervals of prior 10, 5, 3 and 1 years. In addition, the indicated annual dividend must be less than recent reported trailing 12-month operating earnings and the 12-month forward consensus analyst earnings estimate. The S&P 500 Index is a float-capitalization-weighted representative measure of leading large-cap companies created and maintained by Standard & Poor's. The Dividend Select Club is constructed and maintained by TCM as a hypothetical portfolio and is not a publicly available index. TCM reconstitutes the stocks in the Dividend Select Club at each quarter-end based on current dividend & earnings trends. Stock weights reflect market capitalization. Overly large weights are capped at a threshold for diversification purposes. While the stocks remain the same throughout the subsequent calendar quarter, the weight of each company in the benchmark is reset monthly based on the latest data at each month-end. Returns are computed using a bottom-up, buy and hold computation, based on prior month-end holdings in the Dividend Select Club portfolio. Stocks in the S&P 500 not in the Dividend Select Club at reconstitution are assigned to one of two distinct alternative group portfolios: Other Dividend Paying Stocks (provided the latest indicated annual dividend is strictly positive) or Non-Dividend Paying Stocks. Group weights and returns are constructed in an analogous manner to those of the Dividend Select Club.

# Important Disclosures

## **INDEX INFORMATION (Continued)**

The S&P 500 Index is a representative measure of 500 leading companies from leading industries; the index is a benchmark for the large-cap segment of U.S. equity market. Company weights in the index are proportional to firms' available market capitalization (price times available shares outstanding). A Committee at Standard and Poor's maintains the index with a focus on liquidity and investability. The S&P 500 Low-Volatility Index consists of the 100 least-volatile stocks in the S&P 500 at each quarterly reconstitution date as measured by daily realized returns variability over the 12 months prior to reconstitution, weighted in proportion to the inverse of the realized volatility score. The S&P 500 Top 50 is a custom portfolio managed by TWIN consisting of the 50 largest stocks in the S&P 500 by index weight, reconstituted each quarter. The Bottom 450 portfolio consists of the remaining S&P 500 constituents not in the Top 50. Russell Investments produces and maintains a family of U.S. equity indexes. In the determination of index membership, Russell calculates capitalization and other category breakpoint values based on ranks of U.S. common stocks at each annual reconstitution period using market value of freely-available outstanding shares (as of the last day of May each year). Stocks exceeding the breakpoint established for the largest 3,000 stocks become constituents in the Russell 3000 Index (with some adjustments to the constituent list to reduce category changes). Similarly, the largest approximately 1,000 stocks become the Russell 1000 Index. The Russell Top 200 Index consists of the approximately 200 largest stocks in the Russell 1000; the Midcap Index is composed of the remaining stocks in the Russell 1000. Style category breakpoints based on an objective scoring algorithm are used to assign fractions of Russell Index constituents' capitalization to value & growth sub-indices. The Russell stability indices employ an objective scoring algorithm to assign constituents to defensive and dynamic sub-indices based on a comprehensive measure of risk incorporating volatility and accounting-based measures of quality. The TWIN Equity Universe (Large/Mid Cap) is a custom portfolio of large- & mid-cap stocks chosen from the Russell 1000 and S&P 900 indices.

## **HYPOTHETICAL RETURNS & PERFORMANCE**

The long-run performance presented by TCM for the **TWIN Dividend Select Club**, other dividend-related groupings of stocks and other custom benchmarks is hypothetical. Prospective investors are advised to consider a number of important factors when reviewing this type of back-tested information. The reported performance was derived from the retroactive application of sets of rules with the benefit of hindsight. There are inherent limitations with this type of data (e.g., performance results do not represent actual trading) and results are sensitive to the period of analysis chosen. TCM did not offer the trading strategies throughout the entire periods presented and different economic conditions might have impacted the adviser's decision-making when using the rules to manage actual client accounts. While the sets of rules have been applied consistently to generate the latest results, these rules and associated trading strategies have evolved over time. The performance presented does not reflect the deduction of advisory fees, brokerage or other commissions, mutual fund exchange fees, and other expenses a client would have paid. Investors are reminded of the potential for loss as well as profit.