Investing for Successful Retirement

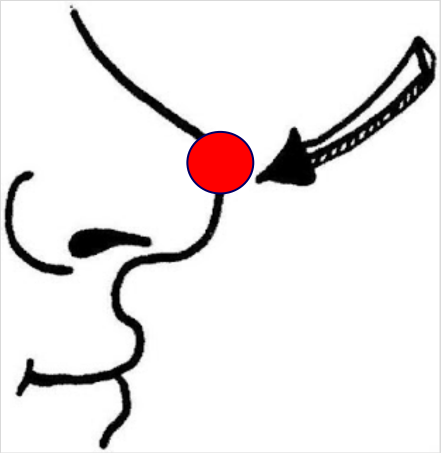
UD Osher – OLLI

Fall 2025

- Rajeev A. Vaidya
- Ron Materniak

Disclaimer in plain language

Disclaimer – in plain language:



Opinions are like noses, everyone has one !

You are going to see mine in this course !!

We are simply sharing our perspective.

This is not investment advice or recommendation.

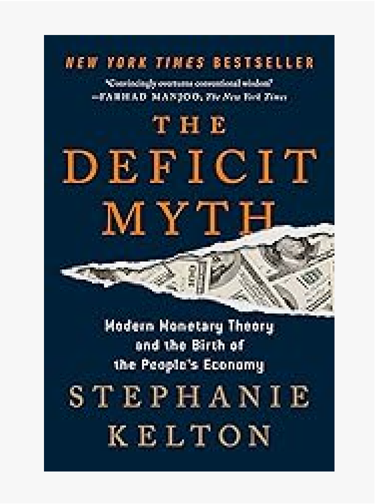
Ron, and I are not a financial advisors.

This course is for educational purposes only.

Form your own opinion, make your own investment decisions.

Learned something while I was away

Modern Monetary Theory



- The difference between budgeting for a currency user vs. a currency maker
- Deficits in the primary currency of the country matter less and if used correctly can lead to maximal GDP growth.
  - Federal job guarantees – public sector jobs that serve the people.
  - Out of phase with private sector growth
  - Used to promote GDP growth and M2V acceleration.
- More that economics – Money in the hands of astute leaders who do good for the country.
- Inflation and currency valuation are the control points

Twelfth Class – Nov. 19th

- Market Update
- Asset Allocation
- Asset Location
- Questions

https://markets.jpmorgan.com/research/open/latest/publication/9002054

Consumer spending

J.P.Morgan

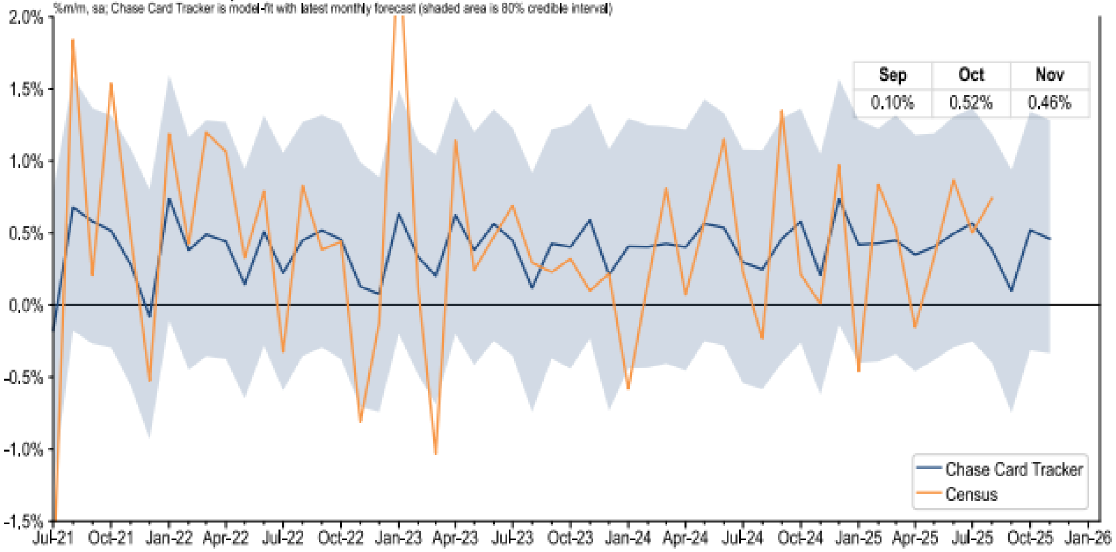
Dan Weitzenfeld (646) 299-1400
dan.weitzenfeld@jpmorgan.com

Daily consumer spending tracker

- As of 11 Nov 2025, our Chase Consumer Card spending data (unadjusted) was 5.2% above the same day last year.
- Based on the Chase Consumer Card data through 11 Nov 2025, our estimate of the US Census September control measure of retail sales m/m is 0.10%.

Retail sales control, Census and Chase Card Tracker

%m/m, sa; Chase Card Tracker is model-fit with latest monthly forecast (shaded area is 80% credible interval)



Source: J.P. Morgan, select Chase credit and debit card transaction data. The US census defines Retail Control as Total Retail Sales less spending at motor vehicle dealers, gasoline stations, and building material & supply stores. Our model constructs a similar category using the Chase card data, applies an estimate of seasonal adjustments, and generates a retail control forecast by regressing the actual monthly growth on the card-based proxy.

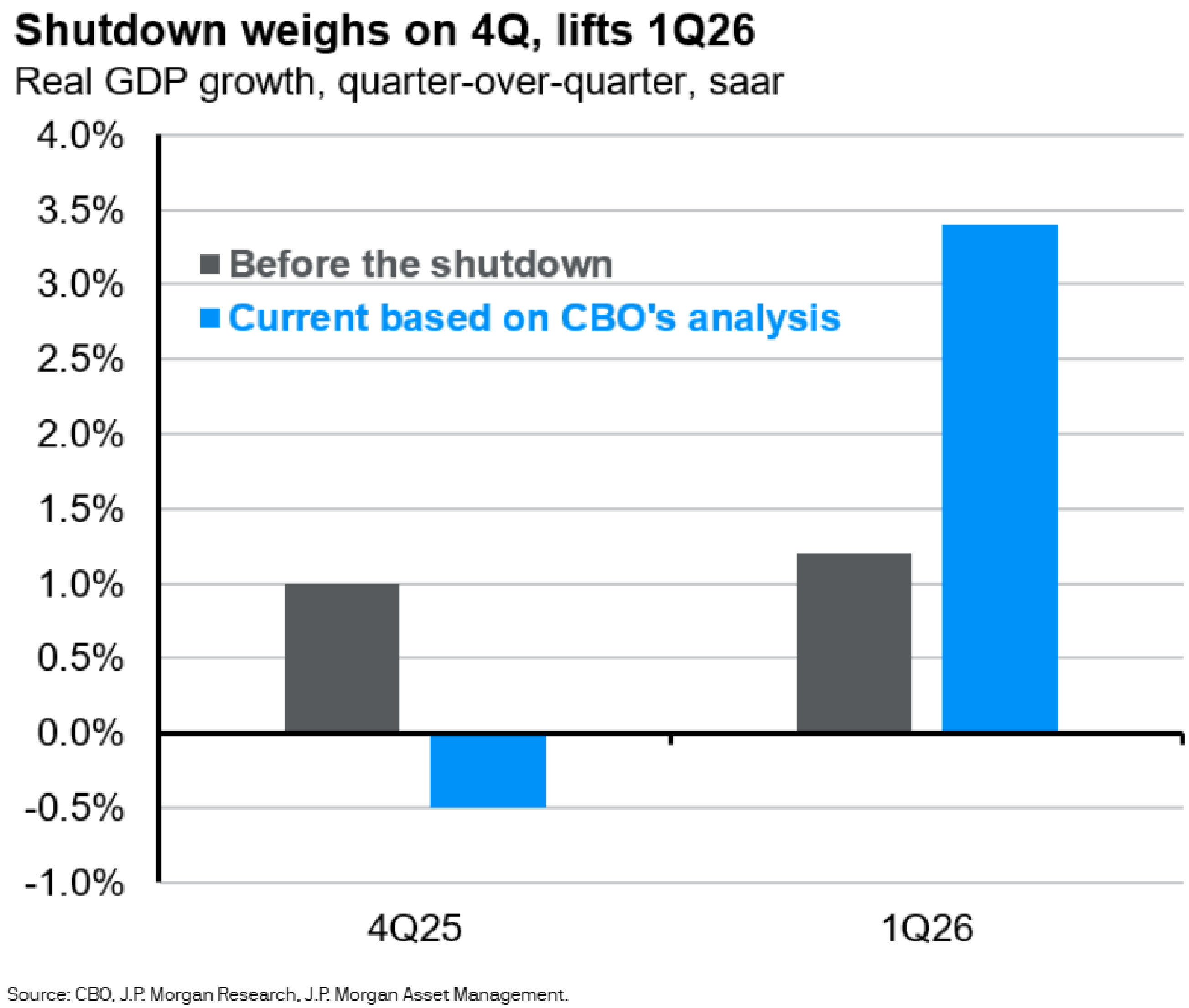
Retail sales, Census and Chase Card Tracker

m/m, sa	Jun	Jul	Aug	Sep
Total Retail Sales & Food Services				
Census	0.97	0.61	0.63	
Chase Card Tracker	0.44	0.53	0.23	-0.15
Retail Control				
Census	0.87	0.50	0.74	
Chase Card Tracker	0.50	0.57	0.38	0.10
Gasoline Stations				
Census	0.68	0.92	0.52	
Chase Card Tracker	-0.97	-0.59	1.35	0.47
Food Services & Drinking Places				
Census	0.84	-0.09	0.73	
Chase Card Tracker	1.04	0.20	0.49	-0.29

For months with Census data, Chase Card Tracker reflects in-sample fit. Card data through 2025-11-11.

- Government reopen after longest shutdown lasting just over 6 weeks.

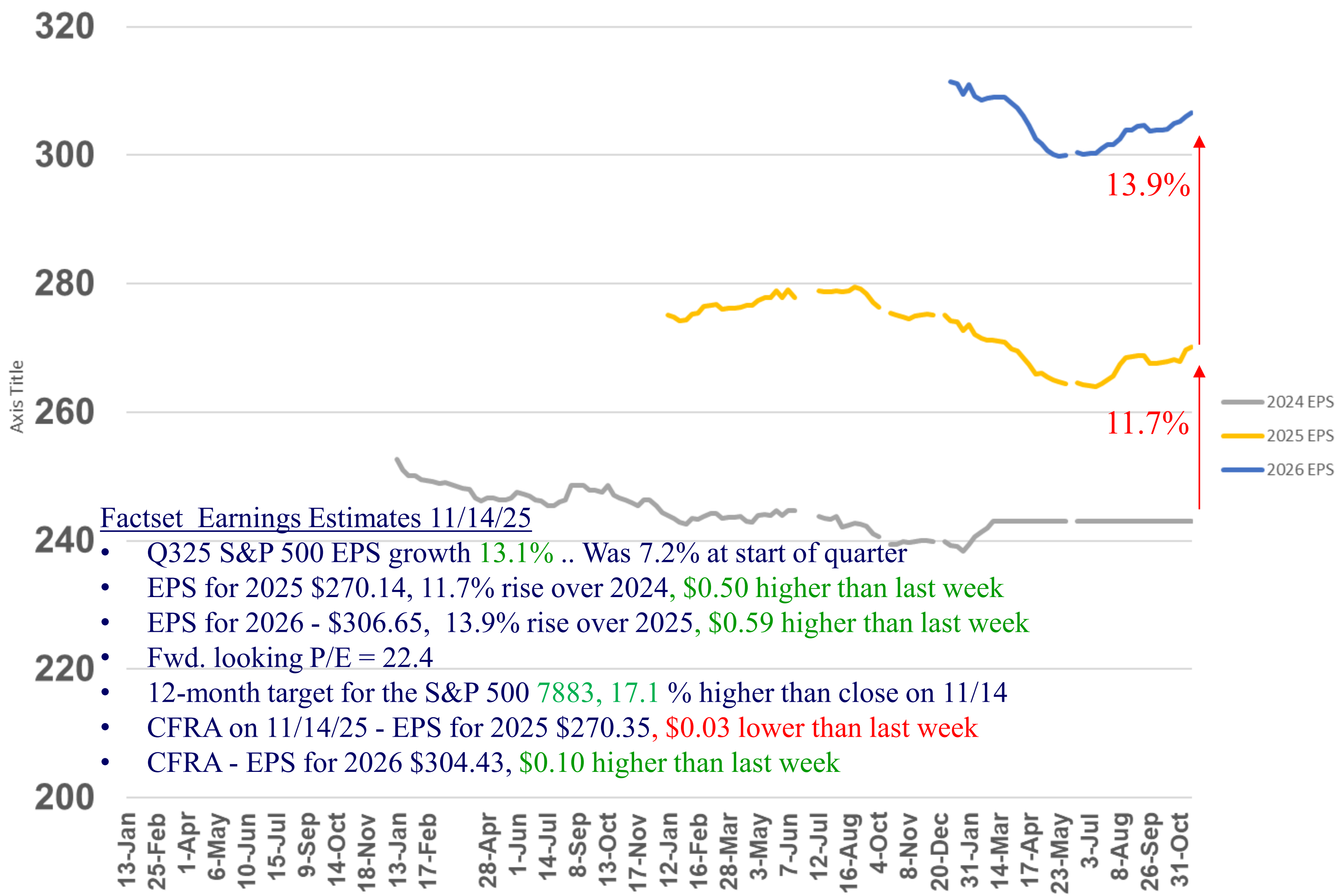
https://am.jpmorgan.com/us/en/asset-management/adv/insights/market-insights/market-updates/weekly-market-recap/



CBO estimates $15B cumulative lower GDP through 1Q26. Currently running at about $7.5t per quarter.

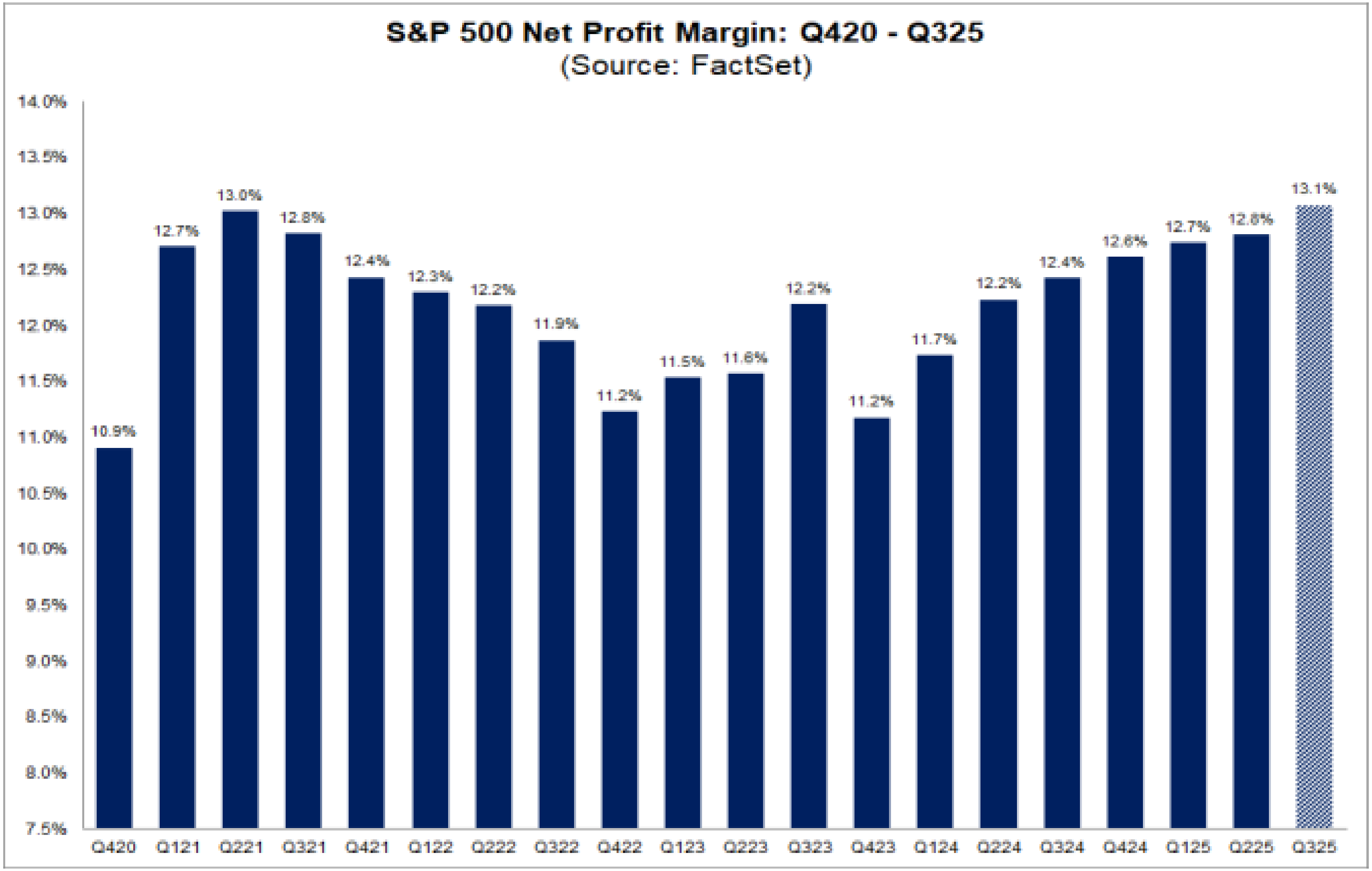
Factset(R) - S&P 500 Calendar year earnings forecast

https://advantage.factset.com/hubfs/Website/Resources%20Section/Research%20Desk/Earnings%20Insight/EarningsInsight_111425.pdf



Factset Earnings Estimates 11/14/25

- Q325 S&P 500 EPS growth 13.1% .. Was 7.2% at start of quarter
- EPS for 2025 $270.14, 11.7% rise over 2024, $0.50 higher than last week
- EPS for 2026 - $306.65, 13.9% rise over 2025, $0.59 higher than last week
- Fwd. looking P/E = 22.4
- 12-month target for the S&P 500 7883, 17.1 % higher than close on 11/14
- CFRA on 11/14/25 - EPS for 2025 $270.35, $0.03 lower than last week
- CFRA - EPS for 2026 $304.43, $0.10 higher than last week



S&P 500 Net Profit Margin: Q420 - Q325
(Source: FactSet)
14.0%
13.5%
13.0%
12.5%
12.0%
11.5%
11.0%
10.5%
10.0%
9.5%
9.0%
8.5%
8.0%
7.5%
10.9%
12.7%
13.0%
12.8%
12.4%
12.3%
12.2%
11.9%
11.2%
11.5%
11.6%
12.2%
11.2%
11.7%
12.2%
12.4%
12.6%
12.7%
12.8%
13.1%
Q420
Q121
Q221
Q321
Q421
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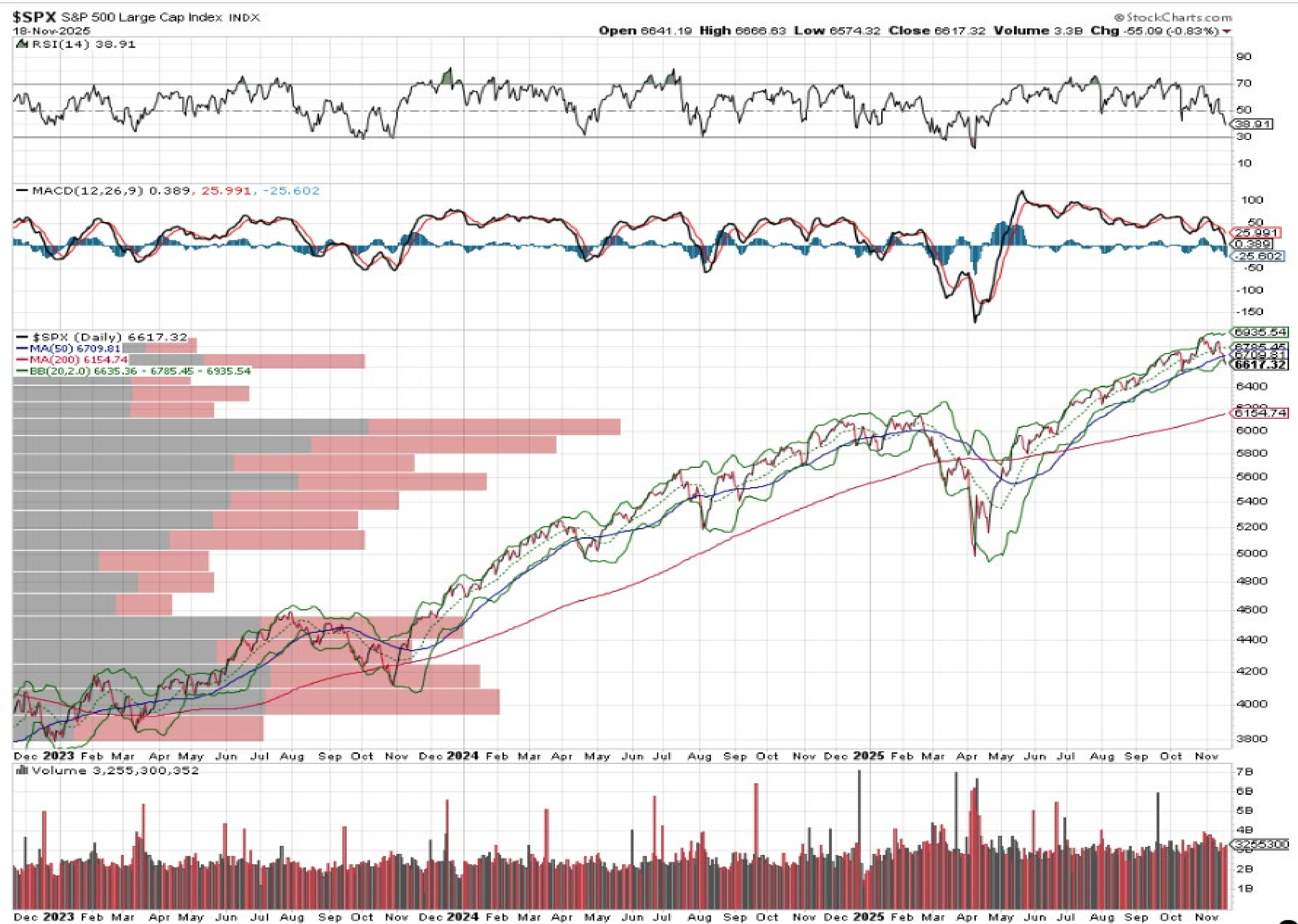
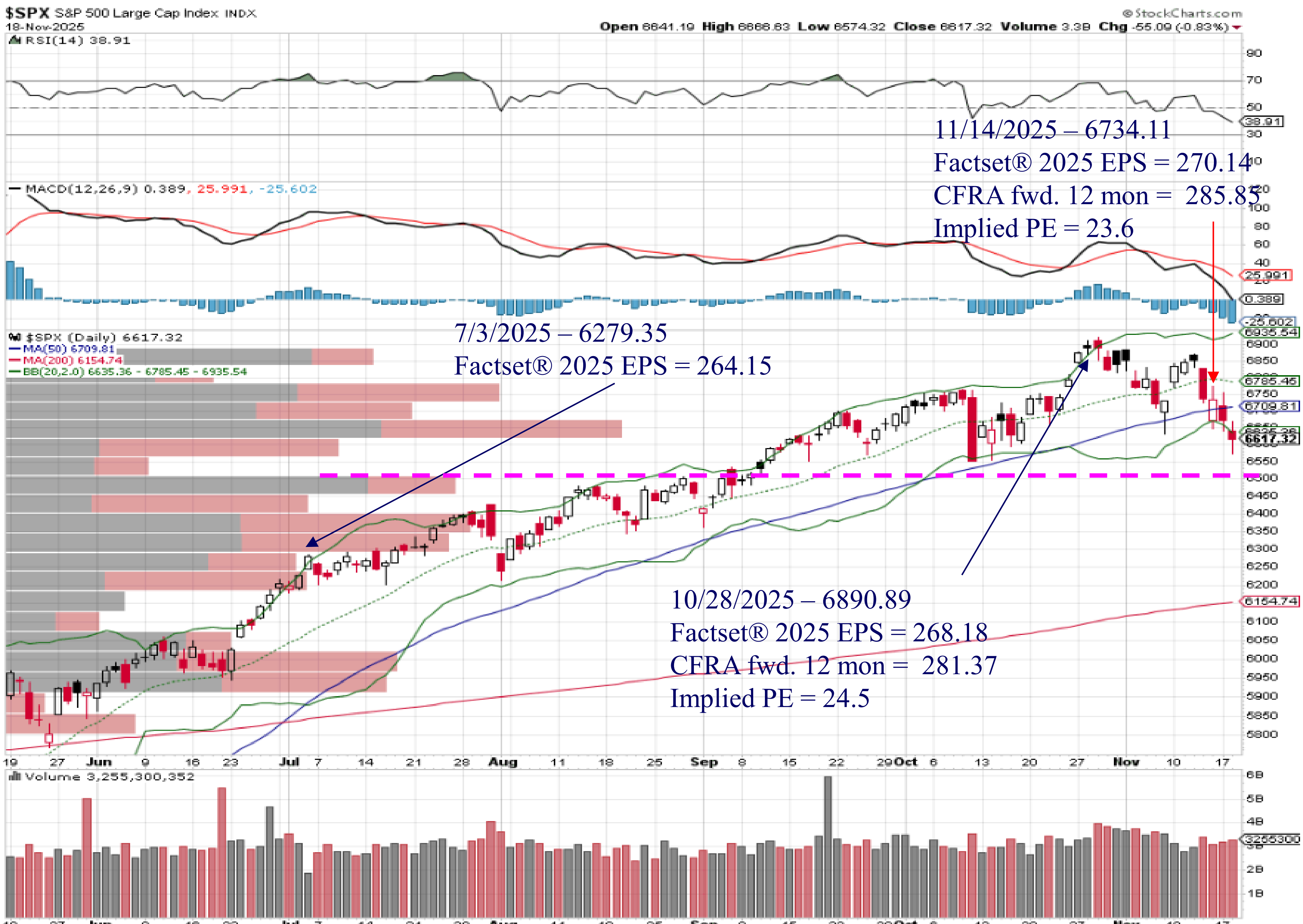
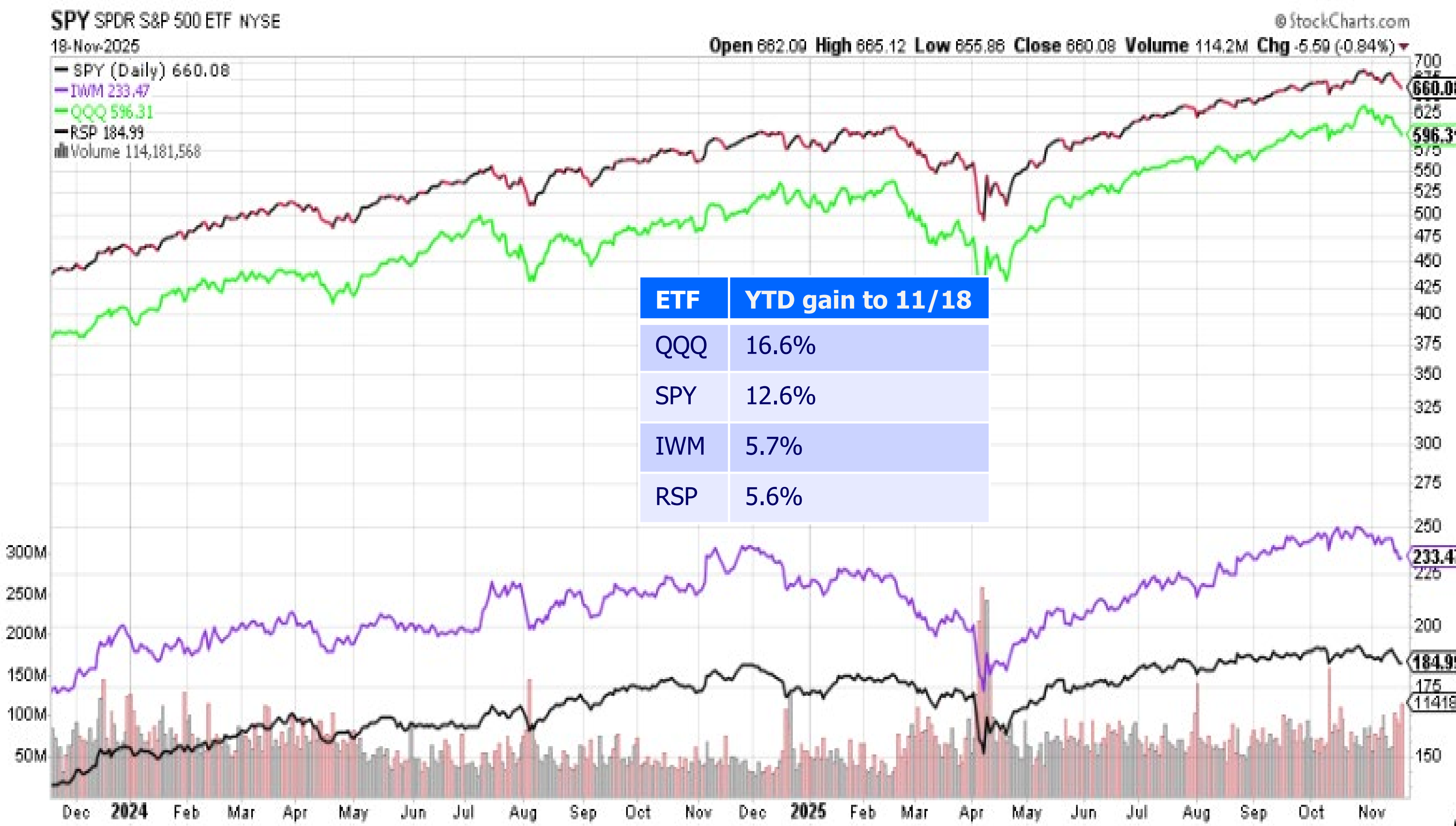
Q324
Q424
Q125
Q225
Q325

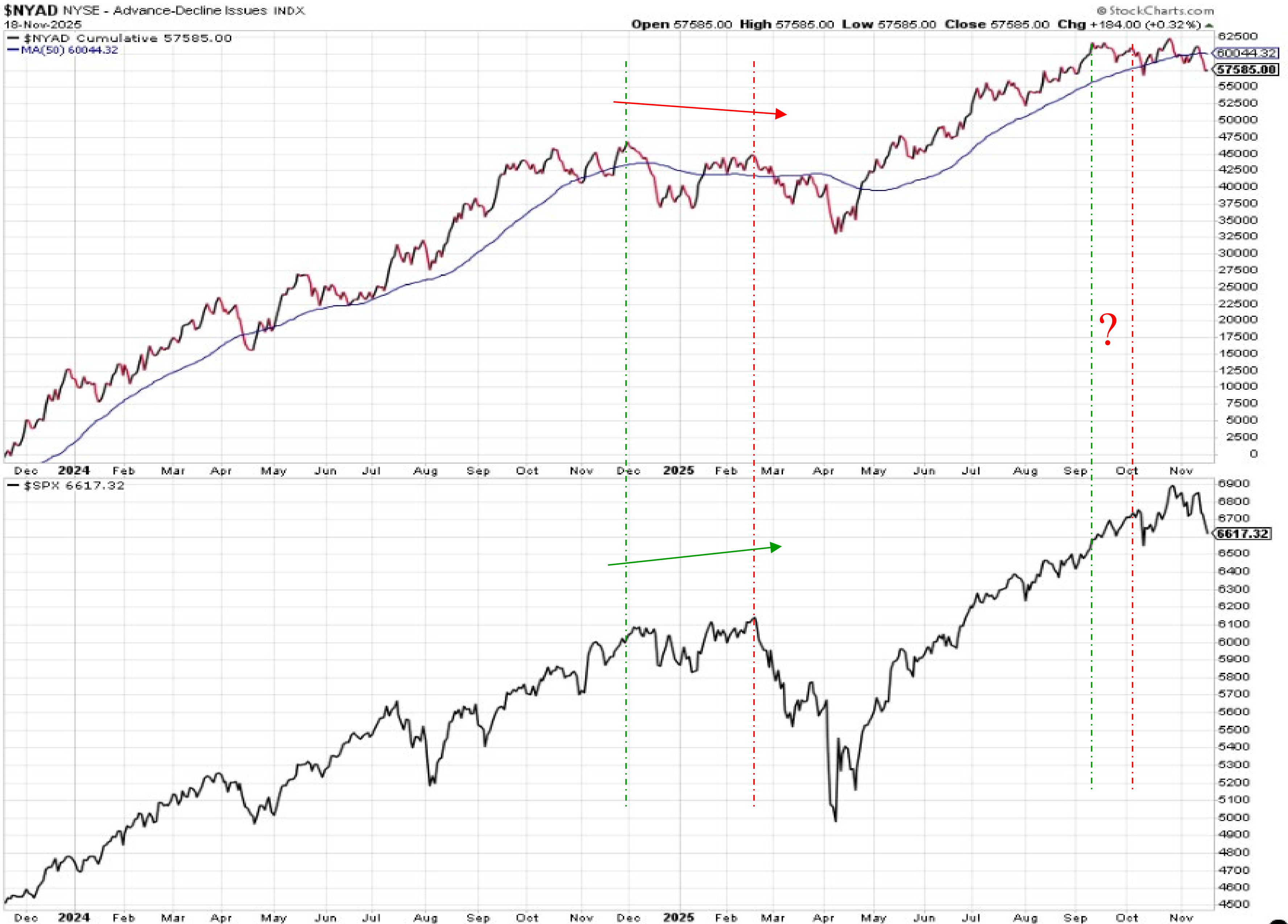

$SPX S&P 500 Large Cap Index INDX
18-Nov-2025
@StockCharts.com
Open 6641.19 High 6666.63 Low 6574.32 Close 6617.32 Volume 3.3B Chg -55.09 (-0.83%)
RSI(14) 38.91
MACD(12,26,9) 0.389, 25.991, -25.602
$SPX (Daily) 6617.32
MA(50) 6709.81
MA(200) 6154.74
BB(20,2.0) 6635.36 - 6785.45 - 6935.54
Volume 3,255,300,352
Dec 2023 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2024 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2025 Feb Mar Apr May Jun Jul Aug Sep Oct Nov


$SPX S&P 500 Large Cap Index INDX
18-Nov-2025
©StockCharts.com
Open 6641.19 High 6668.63 Low 6574.32 Close 6617.32 Volume 3.3B Chg -55.09 (-0.83%)
RSI(14) 38.91
MACD(12,26,9) 0.389, 25.991, -25.602
$SPX (Daily) 6617.32
MA(50) 6709.81
MA(200) 6154.74
BB(20,2.0) 6635.36 - 6785.45 - 6935.54
Volume 3,255,300,352
11/14/2025 – 6734.11
Factset® 2025 EPS = 270.14
CFRA fwd. 12 mon = 285.85
Implied PE = 23.6
7/3/2025 – 6279.35
Factset® 2025 EPS = 264.15
10/28/2025 – 6890.89
Factset® 2025 EPS = 268.18
CFRA fwd. 12 mon = 281.37
Implied PE = 24.5

Market Breadth – another way



ETF	YTD gain to 11/18
QQQ	16.6%
SPY	12.6%
IWM	5.7%
RSP	5.6%


$NYAD NYSE - Advance-Decline Issues INDX
18-Nov-2025
@StockCharts.com
Open 57585.00 High 57585.00 Low 57585.00 Close 57585.00 Chg +184.00 (+0.32%)
$NYAD Cumulative 57585.00
MA(50) 60044.32
?
$SPX 6617.32

https://www.marketinout.com/chart/market.php?breadth=advance-decline-line

https://www.marketinout.com/chart/market.php?breadth=advance-decline-line

US govt bonds – TLT & SGOV

SGOV – Short term 0 to 3 month US treasuries

U.S. Dollar

11% depreciation in the US dollar in YTD 2025
Next support is 6 to 8% lower.

<u>A drop in the dollar</u>

- Positive for Big tech
- Negative for reducing inflation from commodities
- Headwind for foreign investors in US equities
- Tailwind for US investors to invest abroad.

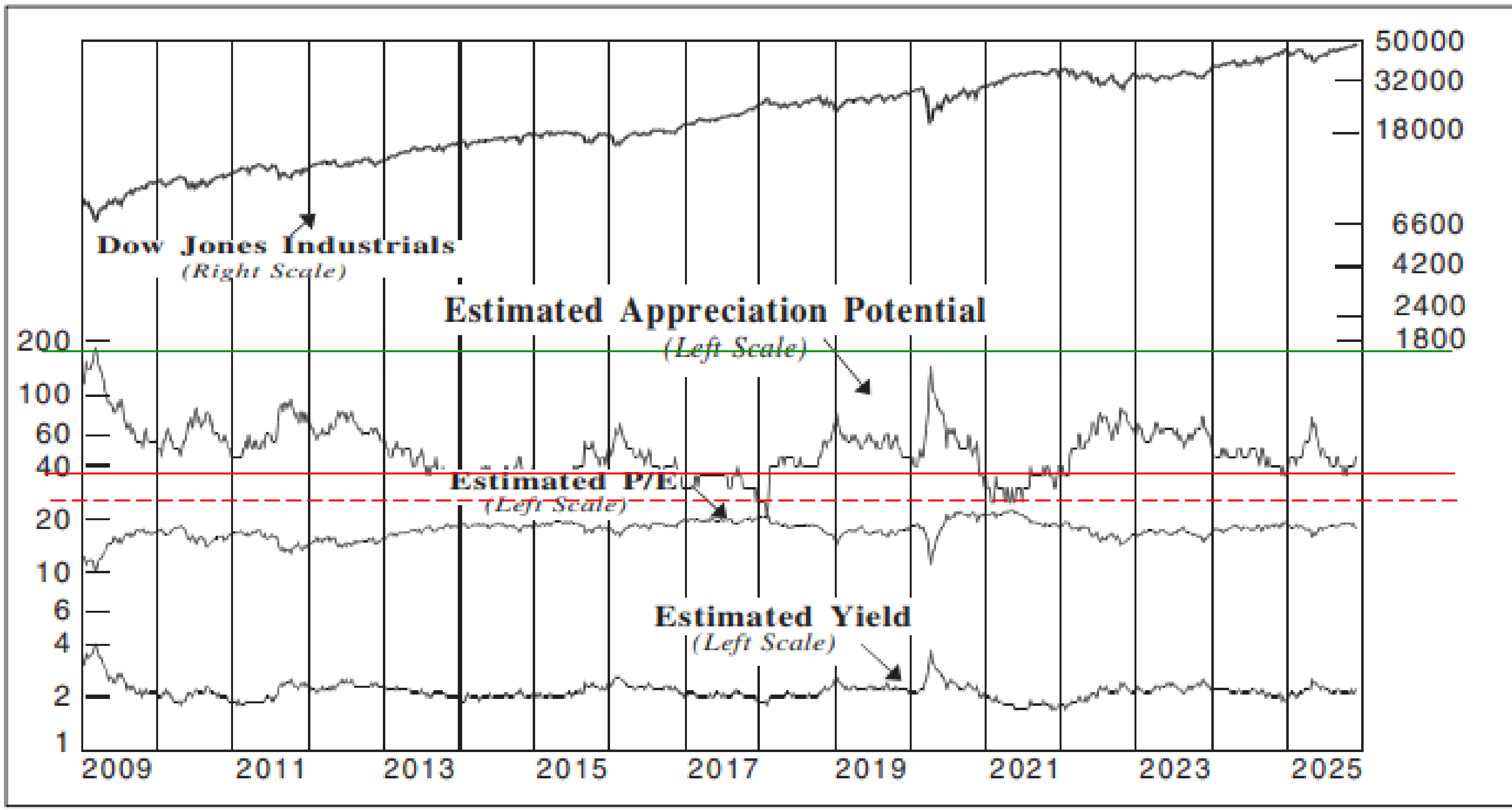
The Value Line Investment Survey

ISSUE 3
Pages 1997-2008

Value Line

Part 2 File in page order in the *Selection & Opinion* binder. | SELECTION & OPINION | November 21, 2025

VALUE LINE ESTIMATED P/E, YIELD, APPRECIATION POTENTIAL VERSUS DOW JONES INDUSTRIALS
(January 2, 2009–November 10, 2025)



Weekly Market direction

guywerner@verizon.net

COLUMNS C,D,E BY DAVE (IN THE NORTH) SMITH			DIST DAYS		DOW AVERAGE						S&P 500 TRIPLE SCREEN						NASDAQ TRIPLE SCREEN					
	DATE	MARKET PULSE (IBD)	S&P 500	NASDAQ	-20 EM	MACD	RSI	CLOSING	Δ	%CHANGE	3-20 EMA	MACD	RSI	CLOSING	Δ	%CHANGE	3-20 EMA	MACD	RSI	CLOSING	Δ	%CHANGE
SAT	11/01/25	FOR THE WEEK							355	0.75%					49	0.72%					520	2.24%
SUN	11/02/25	YTD							5,018	11.79%					959	16.31%					4,414	22.86%
MON	11/03/25	CONFIRMED UP (80% -100%)	5	1	P	P	P	47,336	-226	-0.48%	P	P	P	6,851	11	0.16%	P	P	P	23,834	110	0.46%
TUE	11/04/25	CONFIRMED UP (80% -100%)	5	1	P	P	P	47,084	-252	-0.53%	P	0	P	6,771	-80	-1.17%	P	P	P	23,348	-486	-2.04%
WED	11/05/25	CONFIRMED UP (80% -100%)	5	1	P	P	P	47,311	227	0.48%	P	F	P	6,796	25	0.37%	P	P	P	23,499	151	0.65%
THUR	11/06/25	CONFIRMED UP (60% -80%)	7	2	P	F	P	46,912	-399	-0.84%	P	F	F	6,720	-76	-1.12%	P	F	F	23,053	-446	-1.90%
FRI	11/07/25	CONFIRMED UP (60% -80%)	6	2	P	F	P	46,987	75	0.16%	P	F	F	6,728	8	0.12%	P	F	F	23,004	-49	-0.21%
SAT	11/08/25	FOR THE WEEK							-575	-1.21%					-112	-1.64%					-720	-3.03%
SUN	11/09/25	YTD							4,443	10.44%					847	14.40%					3,694	19.13%
MON	11/10/25	CONFIRMED UP (60% -80%) DEMS CAVED	6	2	P	F	P	47,368	381	0.81%	P	F	P	6,832	104	1.55%	P	F	P	23,527	523	2.27%
TUE	11/11/25	CONFIRMED UP (60% -80%)	6	2	P	0	P	47,927	559	1.18%	P	F	P	6,846	14	0.20%	P	F	P	23,468	-59	-0.25%
WED	11/12/25	CONFIRMED UP (60% -80%)	6	3	P	P	P	48,254	327	0.68%	P	F	P	6,850	4	0.06%	P	F	P	23,406	-62	-0.26%
THUR	11/13/25	UPTREND UNDER PRESSURE (40% - 60%)	6	4	P	0	P	47,457	-797	-1.65%	P	F	F	6,737	-113	-1.65%	P	F	F	22,870	-536	-2.29%
FRI	11/14/25	UPTREND UNDER PRESSURE (40% - 60%)	6	4	P	0	P	47,147	-310	-0.65%	P	F	F	6,734	-3	-0.04%	F	F	F	22,900	30	0.13%
SAT	11/15/25	FOR THE WEEK							160	0.34%					6	0.09%					-104	-0.45%
SUN	11/16/25	YTD							4,603	10.82%					853	14.50%					3,590	18.59%
MON	11/17/25	UPTREND UNDER PRESSURE (40% - 60%)	7	4	P	F	F	46,590	-557	-1.18%	F	F	F	6,672	-62	-0.92%	F	F	F	22,708	-192	-0.84%
TUE	11/18/25	UPTREND UNDER PRESSURE (40% - 60%)			F	F	F	46,091	-499	-1.07%	F	F	F	6,617	-55	-0.82%	F	F	F	22,432	-276	-1.22%

Market Summary – Stockcharts®

Stockcharts.com → Main Screen → Market Analysis

New feature – Market Summary

KELLER MARKET MODELS

Charts

MACRO MODEL | STOCKS MODEL

	ST	MT	LT
Stocks (SPY)	↓	↑	↑
Bonds (TLT)	↓	↑	↑
Commodities (DBC)	↑	↑	↑
US Dollar ($USD)	↑	↑	↓

KELLER MARKET MODELS

Charts

MACRO MODEL | STOCKS MODEL

	ST	MT	LT
S&P 500 (SPY)	↓	↑	↑
S&P 400 (MDY)	↓	↓	↑
Russell 2000 (IWM)	↓	↑	↑
NASDAQ 100 (QQQ)	↓	↑	↑

Twelfth Class – Nov. 19th

- Market Update
- Asset Allocation
- Asset Location
- Questions

Nobel Prize 1990 - Modern Portfolio Theory

Buying Good Investments Is Not Enough

"A good portfolio is more than a long list of good stocks and bonds.

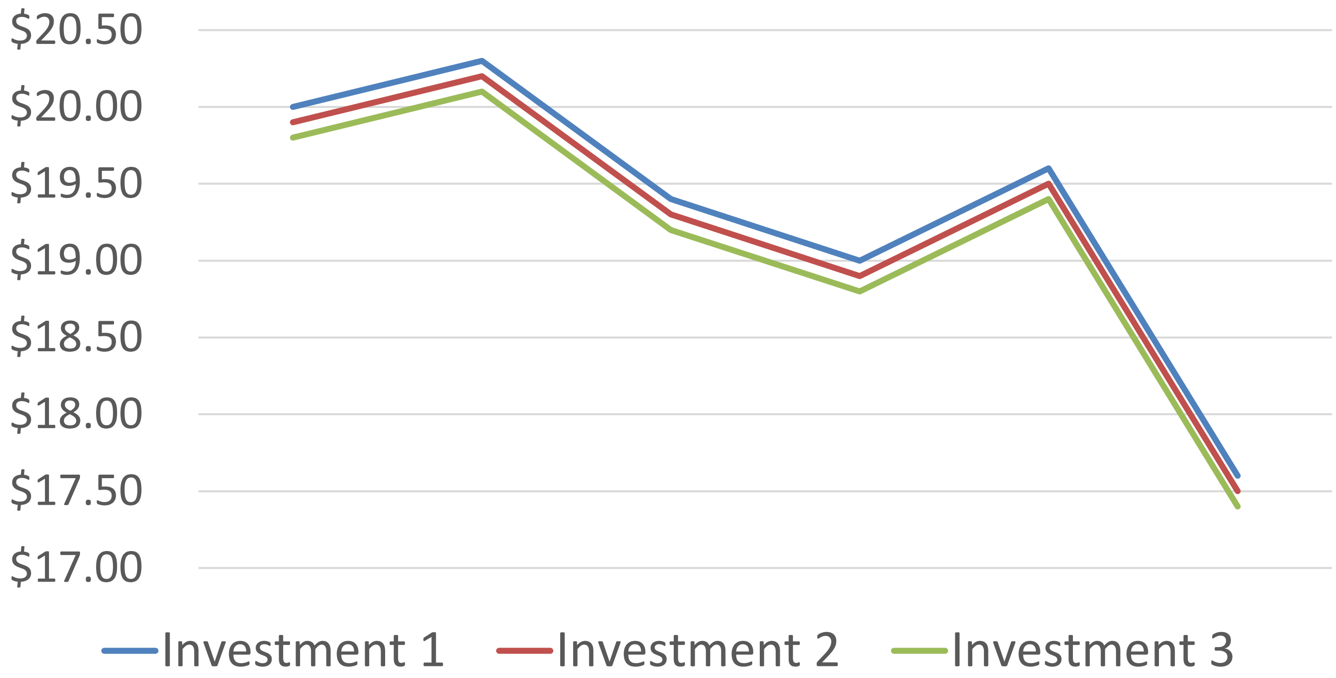
It is a balanced whole, providing the investor with protections and opportunities with respect to a wide range of contingencies."

- Harry Markowitz

From Prof. Rich Jakotowicz - UD

Investments That Behave THE SAME Do Not Lower Volatility

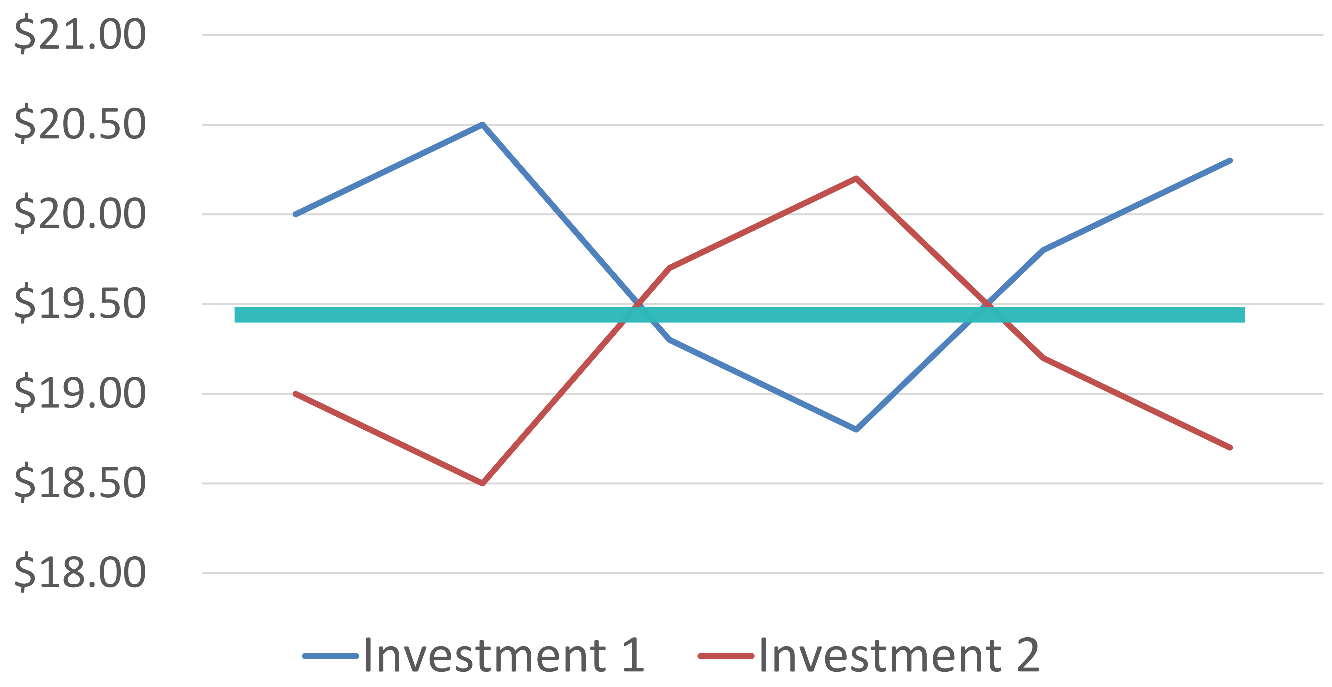
Positively Correlated



From Prof. Rich Jakotowicz - UD

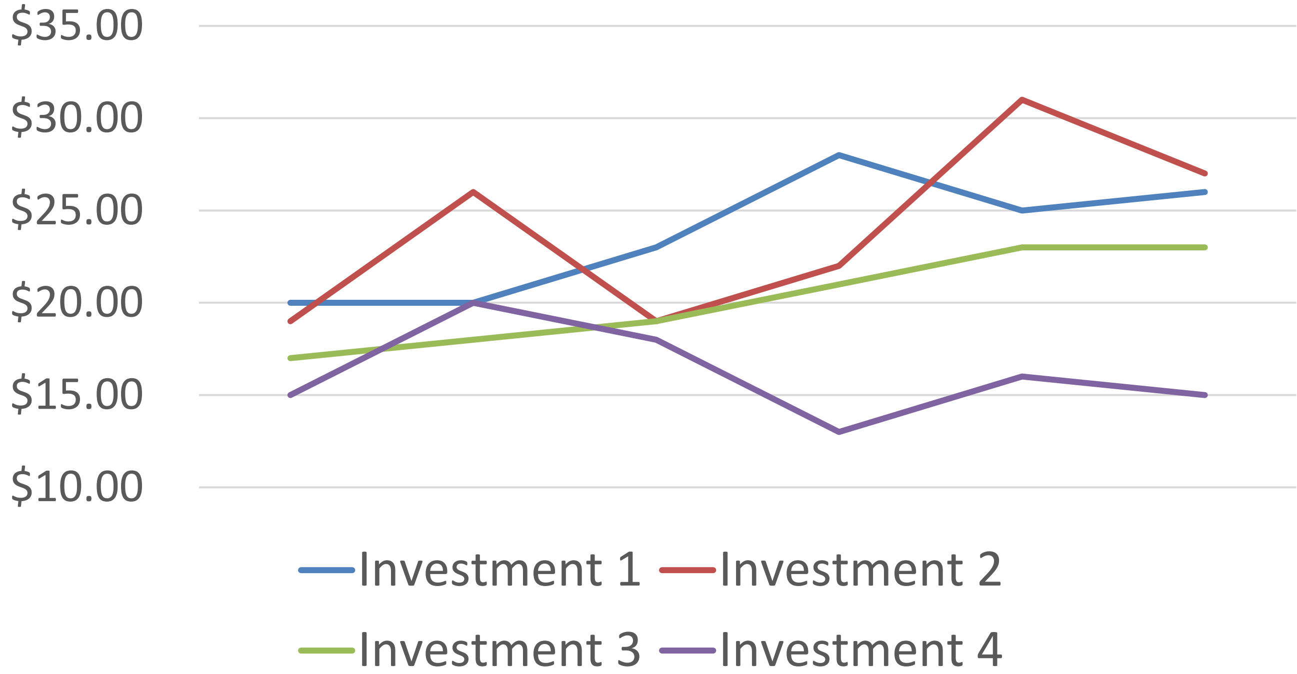
Investments That Behave **THE OPPOSITE** Eliminate Volatility

Negatively Correlated



From Prof. Rich Jakotowicz - UD

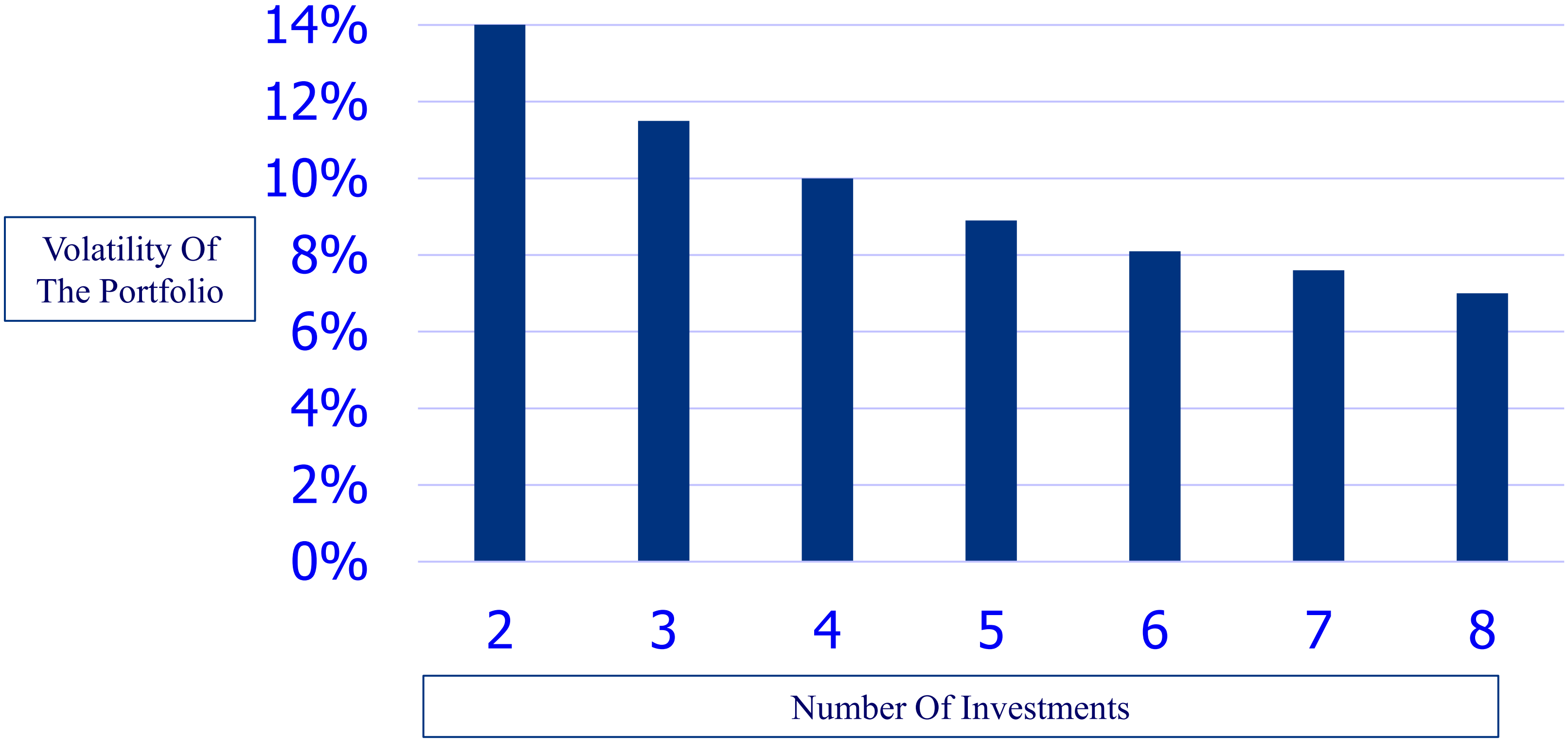
Investments That Behave <u>INDEPENDENTLY</u>
No Correlation = Holy Grail



Reduce, But Don't Eliminate Volatility.

From Prof. Rich Jakotowicz - UD

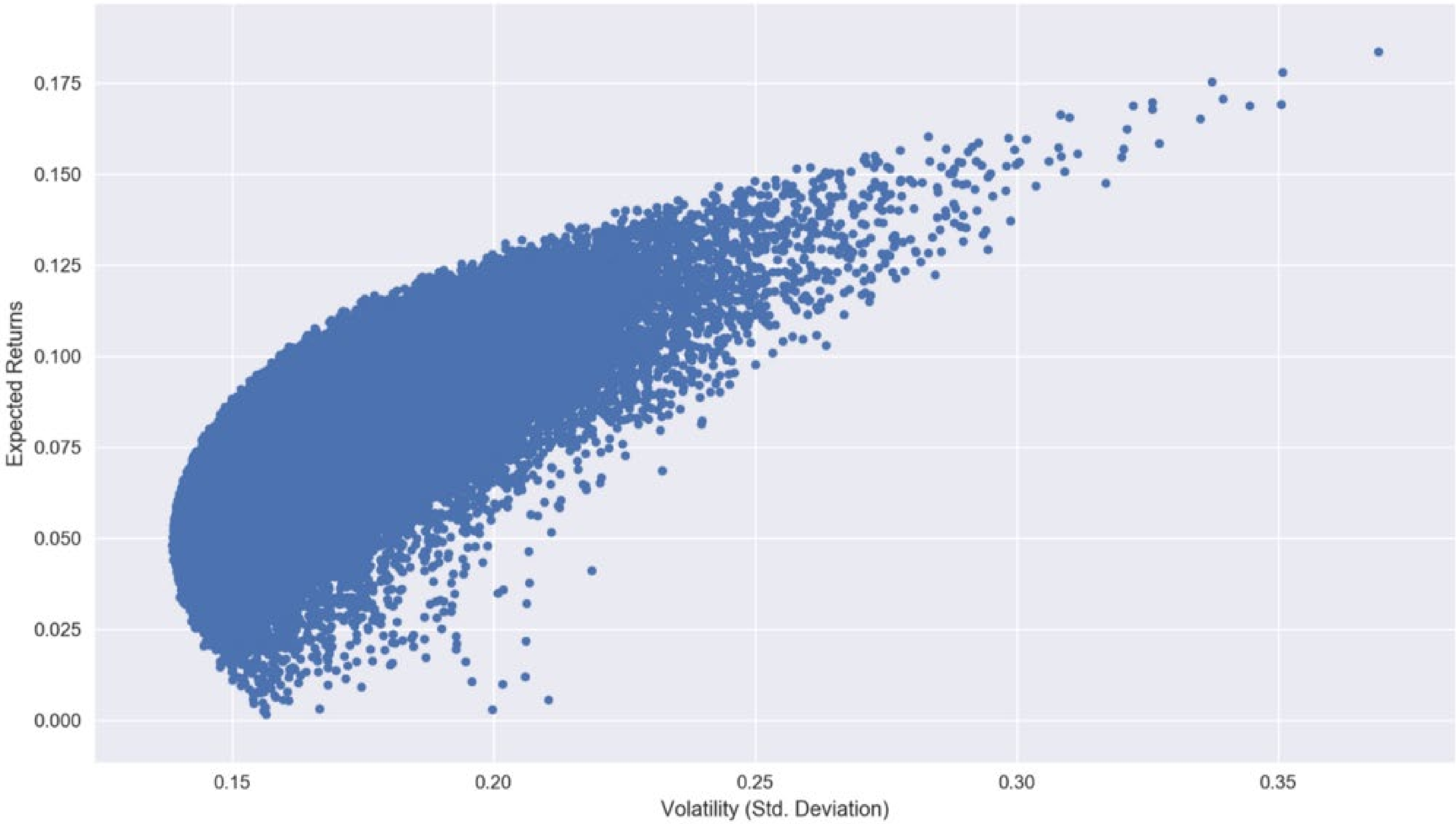
Each Investment Has 20% Volatility BUT No Correlation To Each Other



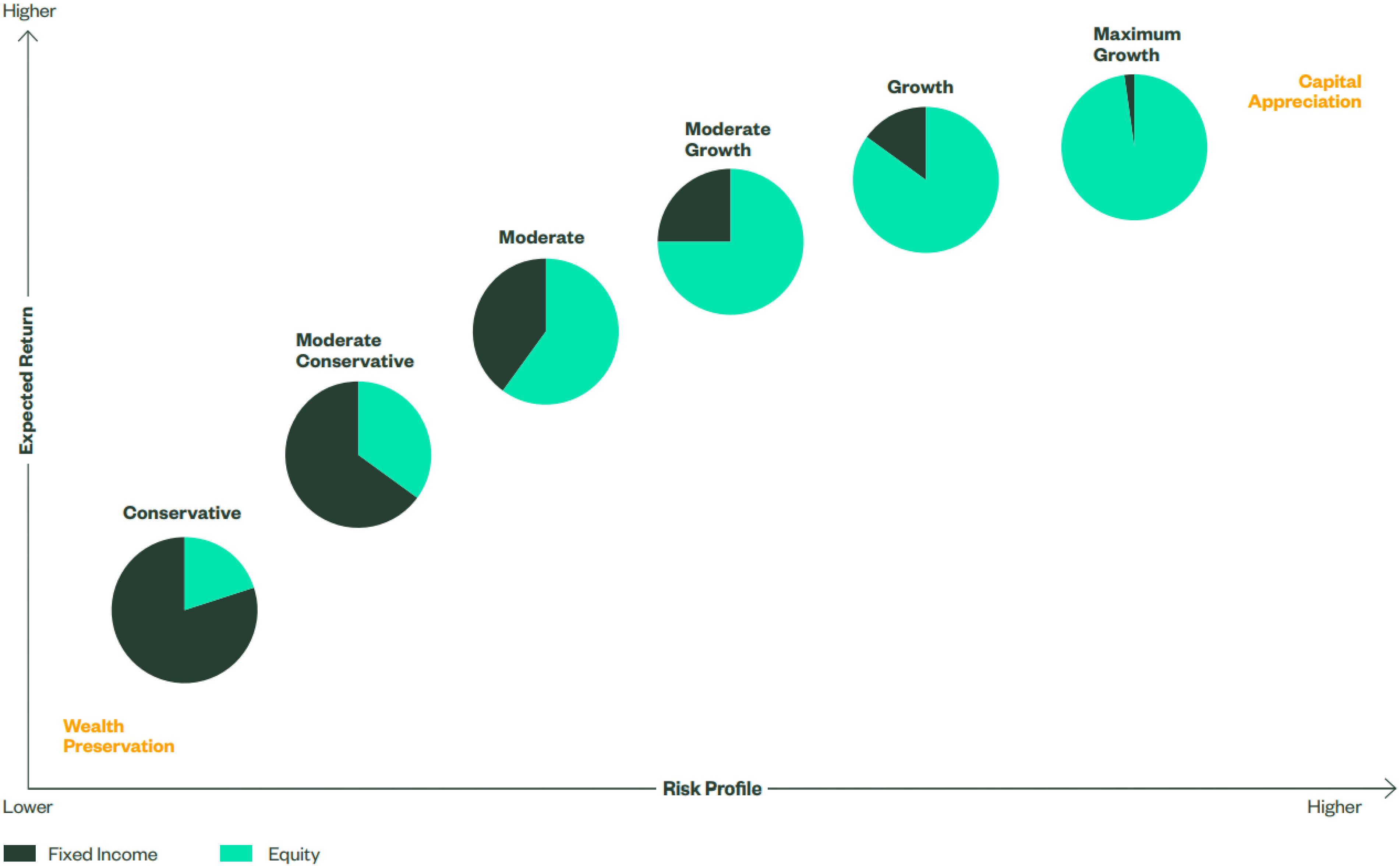
Owning Investments That Are Not Correlated Lowers Risk

From Prof. Rich Jakotowicz - UD

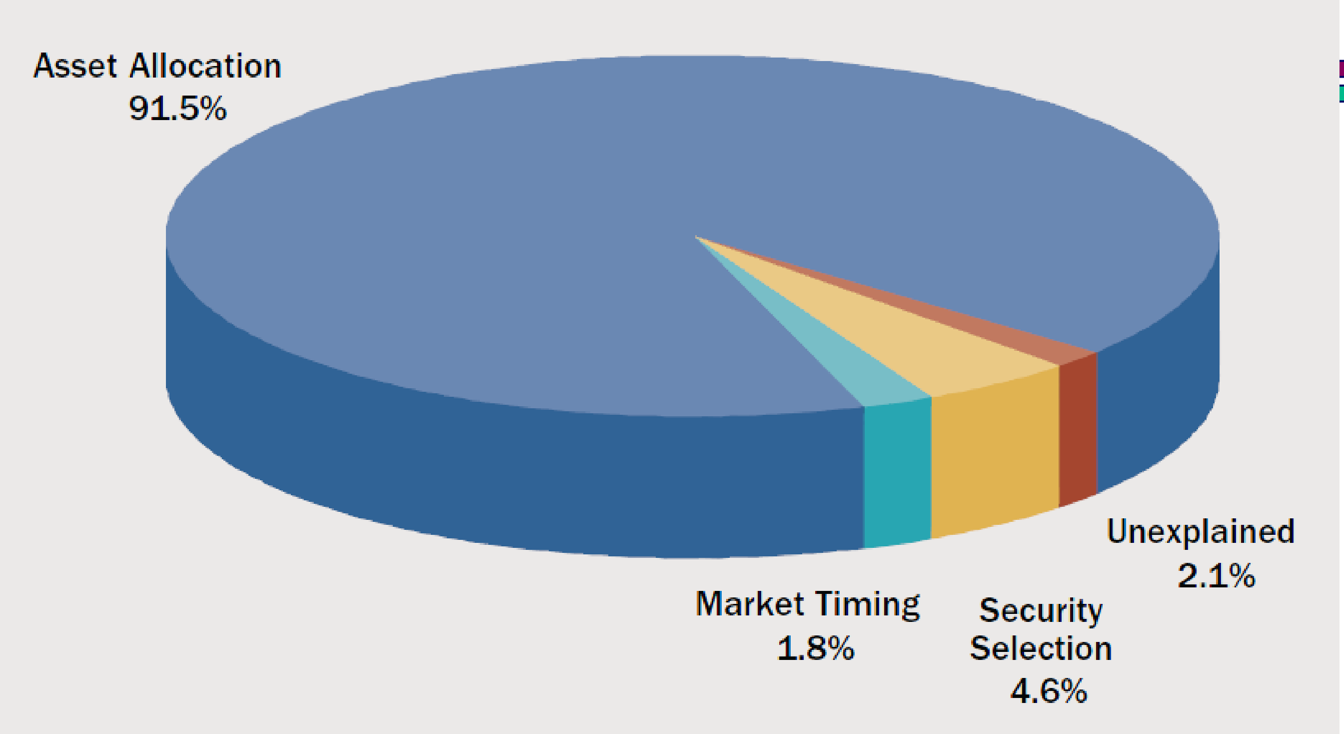
The Efficient Frontier



The Efficient Frontier



Determinants Of Portfolio Return Variation



Research has shown that asset allocation has a far greater effect on the variability of returns than picking the right stock/mutual fund or timing the market.

Source: Ibbotson Associates, Chicago

From Prof. Rich Jakotowicz - UD

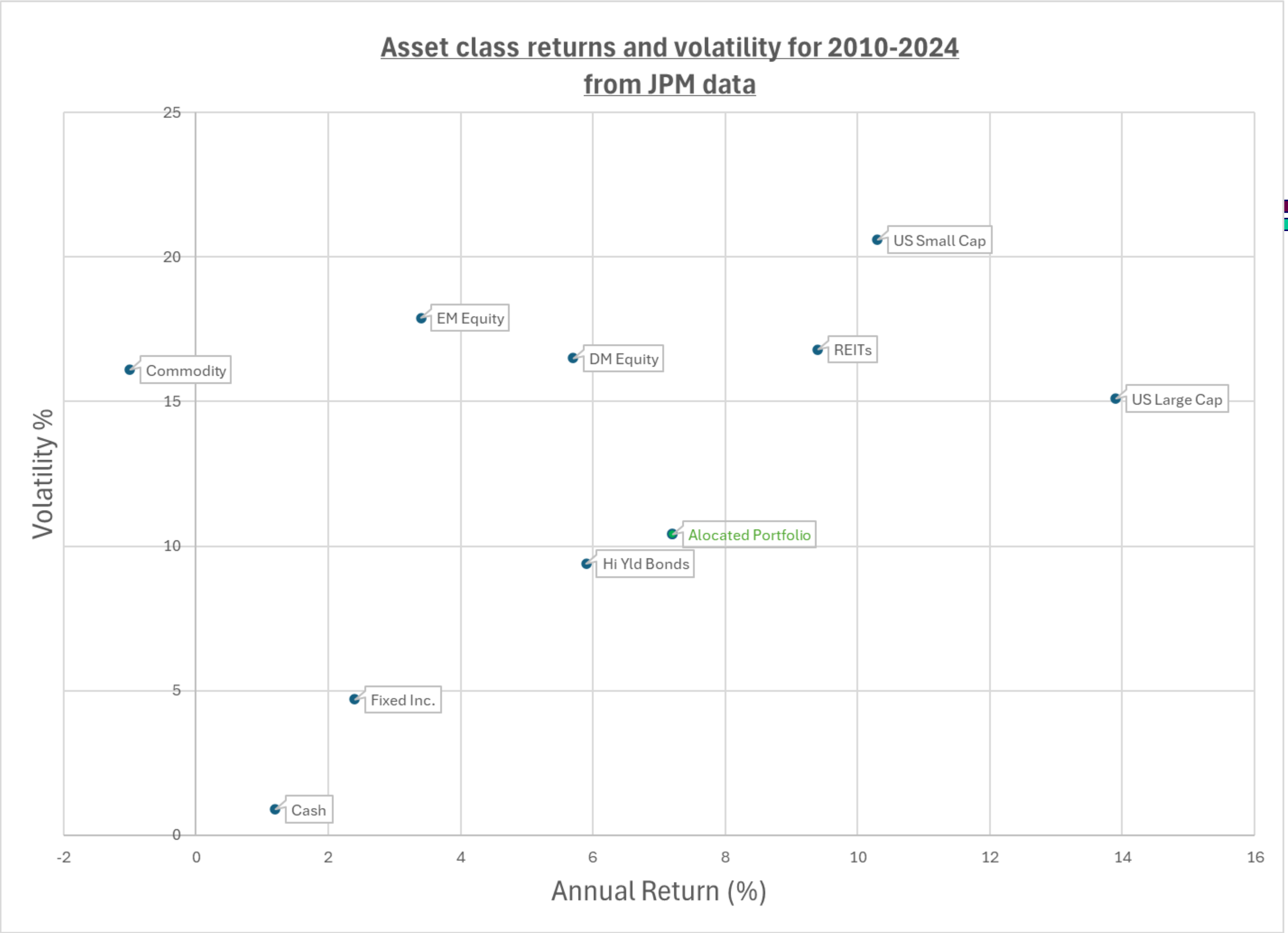
Asset class returns

GTM | U.S. | 56

2010 - 2024																	
Ann.	Vol.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD
Large Cap 13.9%	Small Cap 20.6%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	REITs 28.0%	REITs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Cash 1.8%	Large Cap 31.5%	Small Cap 20.0%	REITs 41.3%	Comdty. 16.1%	Large Cap 26.3%	Large Cap 25.0%	EM Equity 33.6%
Small Cap 10.3%	EM Equity 17.9%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Fixed Income 0.0%	REITs 28.7%	EM Equity 18.7%	Large Cap 28.7%	Cash 1.5%	DM Equity 18.9%	Small Cap 11.5%	DM Equity 27.2%
REITs 9.4%	REITs 16.8%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	REITs -4.0%	Small Cap 25.5%	Large Cap 18.4%	Comdty. 27.1%	High Yield -12.7%	Small Cap 16.9%	Asset Alloc. 10.0%	Large Cap 17.5%
Asset Alloc. 7.2%	DM Equity 16.5%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	High Yield -4.1%	DM Equity 22.7%	Asset Alloc. 10.6%	Small Cap 14.8%	Fixed Income -13.0%	Asset Alloc. 14.1%	High Yield 9.2%	Asset Alloc. 14.5%
High Yield 5.9%	Comdty. 16.1%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Large Cap -4.4%	Asset Alloc. 19.5%	DM Equity 8.3%	Asset Alloc. 13.5%	Asset Alloc. -13.9%	High Yield 14.0%	EM Equity 8.1%	Comdty. 12.5%
DM Equity 5.7%	Large Cap 15.1%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	Asset Alloc. -5.8%	EM Equity 18.9%	Fixed Income 7.5%	DM Equity 11.8%	DM Equity -14.0%	REITs 11.4%	Comdty. 5.4%	Small Cap 12.4%
EM Equity 3.4%	Asset Alloc. 10.4%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	Small Cap -11.0%	High Yield 12.6%	High Yield 7.0%	High Yield 1.0%	Large Cap -18.1%	EM Equity 10.3%	Cash 5.3%	High Yield 10.4%
Fixed Income 2.4%	High Yield 9.4%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Comdty. -11.2%	Fixed Income 8.7%	Cash 0.5%	Cash 0.0%	EM Equity -19.7%	Fixed Income 5.5%	REITs 4.9%	Fixed Income 6.8%
Cash 1.2%	Fixed Income 4.7%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	DM Equity -13.4%	Comdty. 7.7%	Comdty. -3.1%	Fixed Income -1.5%	Small Cap -20.4%	Cash 5.1%	DM Equity 4.3%	Cash 3.6%
Comdty. -1.0%	Cash 0.9%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -14.2%	Cash 2.2%	REITs -5.1%	EM Equity -2.2%	REITs -24.9%	Comdty. -7.9%	Fixed Income 1.3%	REITs 2.2%

Source: Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.
Large Cap: S&P 500, Small Cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Global HY Index, Fixed Income: Bloomberg U.S. Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg 1-3m Treasury. The "Asset Allocation" portfolio is for illustrative purposes only and assumes annual rebalancing with the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg U.S. Aggregate, 5% in the Bloomberg 1-3m Treasury, 5% in the Bloomberg Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Annualized (Ann.) return and volatility (Vol.) represents the period from 12/31/2009 to 12/31/2024. Please see the disclosure page at the end for index definitions. All data represent total return for stated period. Past performance is no guarantee of future results.
Guide to the Markets – U.S. Data are as of October 31, 2025.

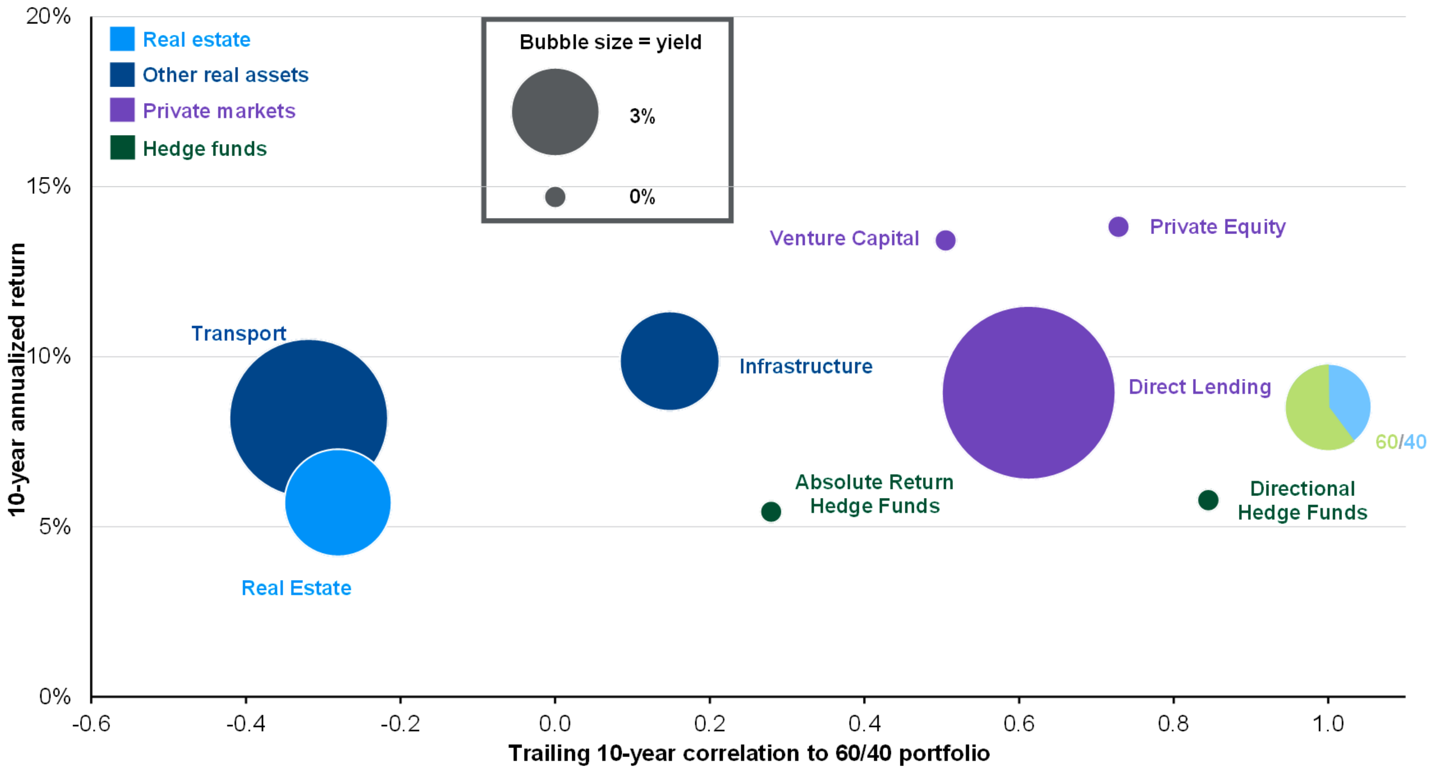
J.P.Morgan ASSET MANAGEMENT


Asset class returns and volatility for 2010-2024
from JPM data
Volatility %
Annual Return (%)
25
20
15
10
5
0
-2
0
2
4
6
8
10
12
14
16
US Small Cap
EM Equity
Commodity
DM Equity
REITs
US Large Cap
Alocated Portfolio
Hi Yld Bonds
Fixed Inc.
Cash

Alternatives: Correlations, returns and yields

Correlations, returns and yields

10-year correlations and 10-year annualized total returns, 2Q15 - 1Q25



Source: Burgiss, Cliffwater, FactSet, MSCI, PivotalPath, J.P. Morgan Asset Management.
All categories are global, except Direct Lending, which is U.S. Correlations are based on quarterly returns over the time period indicated. A 60/40 portfolio is comprised of 60% stocks and 40% bonds. Stocks are represented by the S&P 500 Total Return Index. Bonds are represented by the Bloomberg U.S. Aggregate Total Return Index. 10-year annualized returns are calculated based on the time period indicated. "Absolute Return Hedge Funds" represent asset-weighted returns from the PivotalPath Global Macro and Relative Value indices. "Directional Hedge Funds" represent asset-weighted returns from the PivotalPath Credit, Equity Diversified and Event Driven indices. Direct Lending uses yields from the Cliffwater Direct Lending Index. All other indices and data used for alternative asset class returns and yields are as described on pages 12 and 16 of the *Guide to Alternatives*. Yields are based on latest available data as described on page 12 of the *Guide to Alternatives*. Transportation returns are shown on an unlevered basis and returns can be enhanced by adding leverage. Past performance is no guarantee of future results.
This slide comes from our *Guide to Alternatives*.
Guide to the Markets – U.S. Data are as of October 31, 2025.

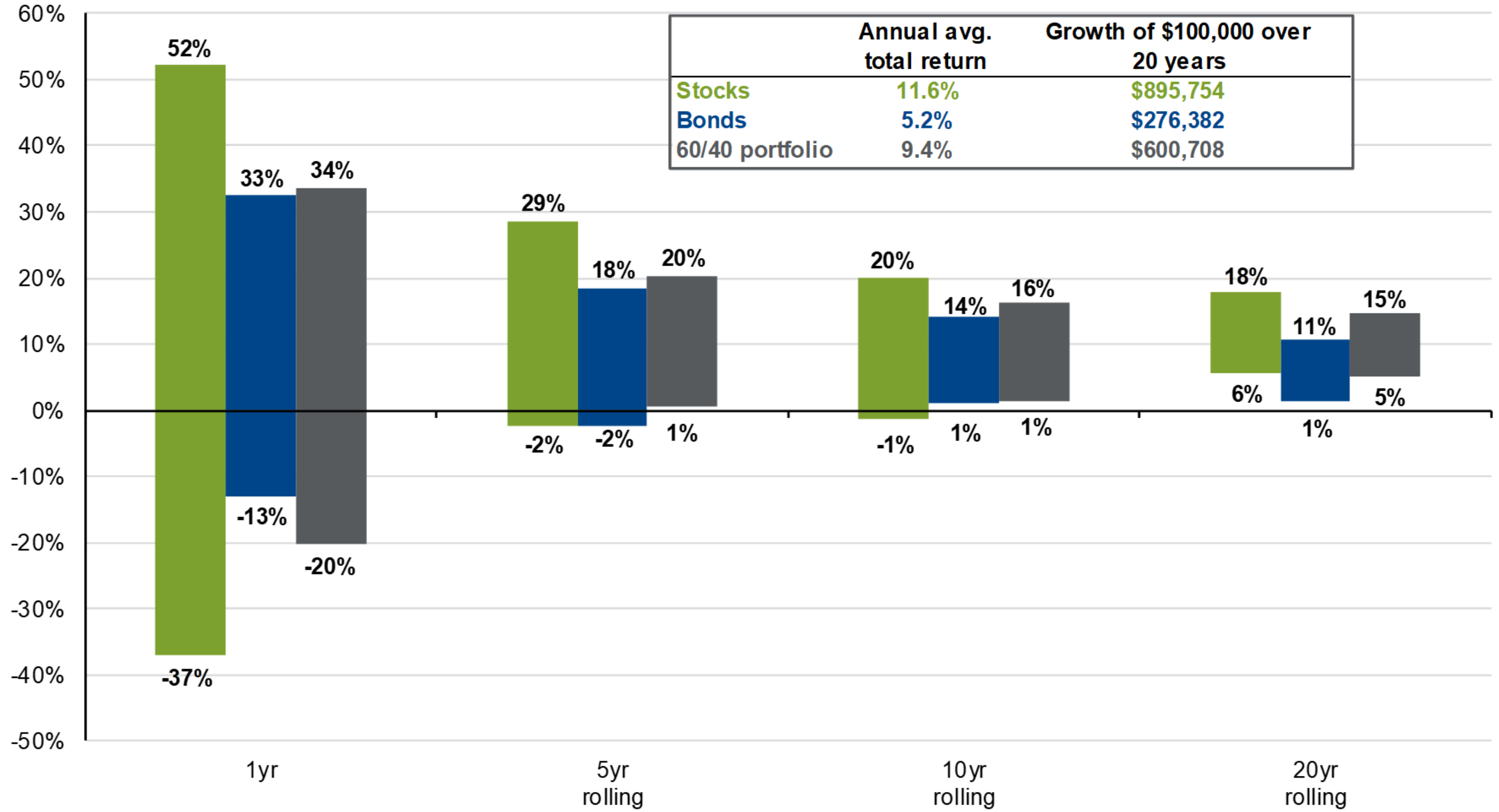
J.P.Morgan
ASSET MANAGEMENT

Alternatives

Time, diversification and the volatility of returns

Range of stock, bond and blended total returns

Annual total returns, 1950 - 2024



	Annual avg. total return	Growth of $100,000 over 20 years
Stocks	11.6%	$895,754
Bonds	5.2%	$276,382
60/40 portfolio	9.4%	$600,708

Source: Bloomberg, FactSet, Federal Reserve, Standard & Poor's, Strategas/Ibbotson, J.P. Morgan Asset Management.
Returns shown are based on calendar year returns from 1950 to 2024. Stocks: S&P 500; Bonds: Strategas/Ibbotson for periods prior to 1976 and the Bloomberg U.S. Aggregate thereafter. Growth of $100,000 is based on annual average total returns from 1950 to 2024.
Guide to the Markets – U.S. Data are as of October 31, 2025.

J.P.Morgan ASSET MANAGEMENT

Investing Principles

So What Is The Best Allocation For Your Portfolio?

		BlackRock	State Street	Vanguard
Stocks	US Large	30%	25%	29%
	US Mid & Small	7%	7%	6%
	Developed International	20%	12%	19%
	Emerging Markets	5%	5%	5%
	Real Estate	3%	9%	
	Commodities		5%	
Bonds	US Treasuries	9%	11%	12%
	US Investment Grade	14%	19%	17%
	US High Yield	2%	7%	
	International	10%		12%
		100%	100%	100%

As of 4/2018

Vanguard

VANGUARD ETF® STRATEGIC MODEL PORTFOLIOS

CRSP

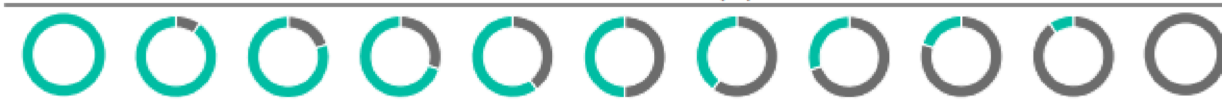
The Center for Research in Security Prices (CRSP) index series

A total-return model series serving up broad-market global equities and fixed income exposure, with the U.S. equities component using ETFs built around CRSP indexes.

- Broad-market equity and investment-grade[1] fixed income exposure, encompassing more than 27,000 global stocks and bonds.
- Diversified index investments that can help alleviate active manager risk in portfolios through lower return variability and low turnover.
- ETFs for potential tax efficiency, transparency, and low costs.
- Remarkably low costs, with weighted average expense ratios at 0.04%, enabling investors to keep more of their returns.
- Vanguard's 50 years of experience in portfolio construction and indexing.

Strategic asset allocation by product
As of September 30, 2025

Asset allocation (%)[2] ● Equity / ● Fixed income



VANGUARD ETF	TICKER	0/100	10/90	20/80	30/70	40/60	50/50	60/40	70/30	80/20	90/10	100/0
Domestic equity												
Growth	VUG	0.0%	3.1%	6.2%	9.3%	12.4%	15.5%	18.6%	21.7%	24.8%	27.8%	30.9%
Value	VTV	0.0%	2.1%	4.3%	6.4%	8.6%	10.7%	12.9%	15.0%	17.2%	19.3%	21.5%
Small-Cap	VB	0.0%	0.7%	1.3%	1.9%	2.5%	3.2%	3.8%	4.5%	5.0%	5.8%	6.4%
International equity												
FTSE Developed Markets	VEA	0.0%	2.8%	5.7%	8.5%	11.3%	14.1%	17.0%	19.8%	22.6%	25.4%	28.3%
FTSE Emerging Markets	VWO	0.0%	1.1%	2.1%	3.3%	4.4%	5.5%	6.5%	7.6%	8.8%	9.9%	10.9%
Domestic fixed income												
Short-Term Bond	BSV	27.9%	25.1%	22.3%	19.5%	16.7%	14.0%	11.2%	8.4%	5.6%	2.8%	0.0%
Inter-Term Bond	BIV	13.5%	12.2%	10.8%	9.5%	8.1%	6.8%	5.4%	4.1%	2.7%	1.4%	0.0%
Long-Term Bond	BLV	13.5%	12.0%	10.8%	9.4%	8.2%	6.6%	5.3%	4.0%	2.7%	1.3%	0.0%
Mortgage-Backed Sec	VMBS	13.7%	12.4%	11.0%	9.6%	8.2%	6.9%	5.5%	4.1%	2.7%	1.4%	0.0%
International fixed income												
Total International Bond	BNDX	29.4%	26.5%	23.5%	20.6%	17.6%	14.7%	11.8%	8.8%	5.9%	2.9%	0.0%
Cash		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Weighted average expense ratio		0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%

STATE STREET GLOBAL ADVISORS SPDR®

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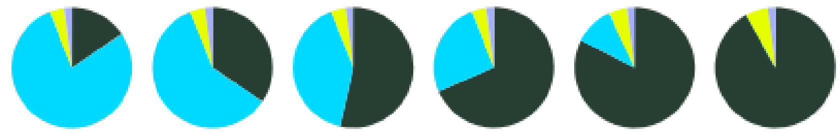
Portfolio Allocations



Ticker	Asset Class	Conservative (%) 20/80	Moderate Conservative (%) 40/60	Moderate (%) 60/40	Moderate Growth (%) 75/25	Growth (%) 90/10	Maximum Growth (%) 98/2
	Equity	**15.5**	**34.5**	**53.5**	**68.5**	**82.5**	**92.0**
SPLG	SPDR® Portfolio S&P 500® ETF	7.5	17.5	27.0	32.5	39.0	42.0
SPDW	SPDR® Portfolio Developed World ex-US ETF	4.0	7.5	13.0	17.0	20.5	21.0
SPEM	SPDR® Portfolio Emerging Markets ETF	2.0	4.5	6.5	8.5	10.5	13.0
SPMD	SPDR® Portfolio S&P 400™ Mid Cap ETF	1.0	1.5	2.5	3.8	4.5	6.0
SPSM	SPDR® Portfolio S&P 600™ Small Cap ETF	1.0	1.5	2.5	3.8	4.5	6.0
GWX	SPDR® S&P® International Small Cap ETF	0.0	2.0	2.0	3.0	3.5	4.0
	Fixed Income	**78.5**	**59.5**	**40.5**	**25.5**	**10.5**	**0.0**
SPAB	SPDR® Portfolio Aggregate Bond ETF	51.0	44.5	26.5	14.5	5.0	0.0
TIPX	SPDR® Bloomberg 1-10 Year TIPS ETF	6.0	4.5	2.0	0.0	0.0	0.0
EMHC	SPDR® Bloomberg Emerging Markets USD Bond ETF	4.5	3.5	3.0	2.0	0.0	0.0
SRLN	SPDR® Blackstone Senior Loan ETF	4.5	3.5	2.5	2.0	0.0	0.0
SPSB	SPDR® Portfolio Short Term Corporate Bond ETF	4.0	0.0	0.0	0.0	0.0	0.0
SPTS	SPDR® Portfolio Short Term Treasury ETF	4.0	0.0	0.0	0.0	0.0	0.0
EBND	SPDR® Bloomberg Emerging Markets Local Bond ETF	2.5	2.0	1.5	1.0	0.0	0.0
SPHY	SPDR® Portfolio High Yield Bond ETF	2.0	1.5	1.0	1.0	0.0	0.0
SPTL	SPDR® Portfolio Long Term Treasury ETF	0.0	0.0	4.0	5.0	5.5	0.0
	Real Assets	**4.0**	**4.0**	**4.0**	**4.0**	**5.0**	**6.0**
CERY	SPDR Bloomberg Enhanced Roll Yield Commodity Strategy No K-1 ETF	2.0	2.0	2.0	2.0	2.0	2.0
RWO	SPDR® Dow Jones® Global Real Estate ETF	2.0	2.0	2.0	2.0	3.0	4.0
	Cash	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**
	Cash	2.0	2.0	2.0	2.0	2.0	2.0
Weighted Average Expense Ratio		**0.10**	**0.09**	**0.08**	**0.08**	**0.06**	**0.07**

Example: 70/30 Allocation
Maintain 70/30 Allocation In All Accounts

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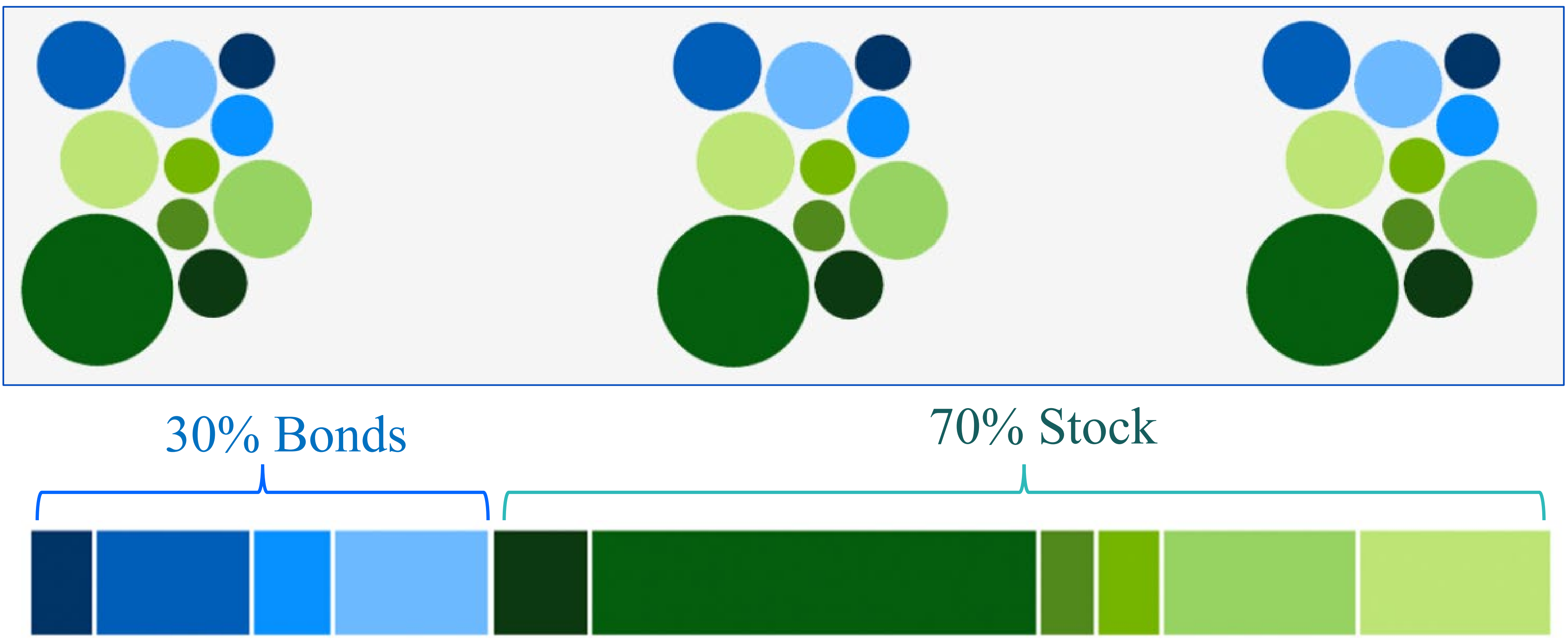
Taxable Brokerage Account | Traditional IRA | ROTH IRA



Asset Location

Maintain 70/30 Allocation Overall

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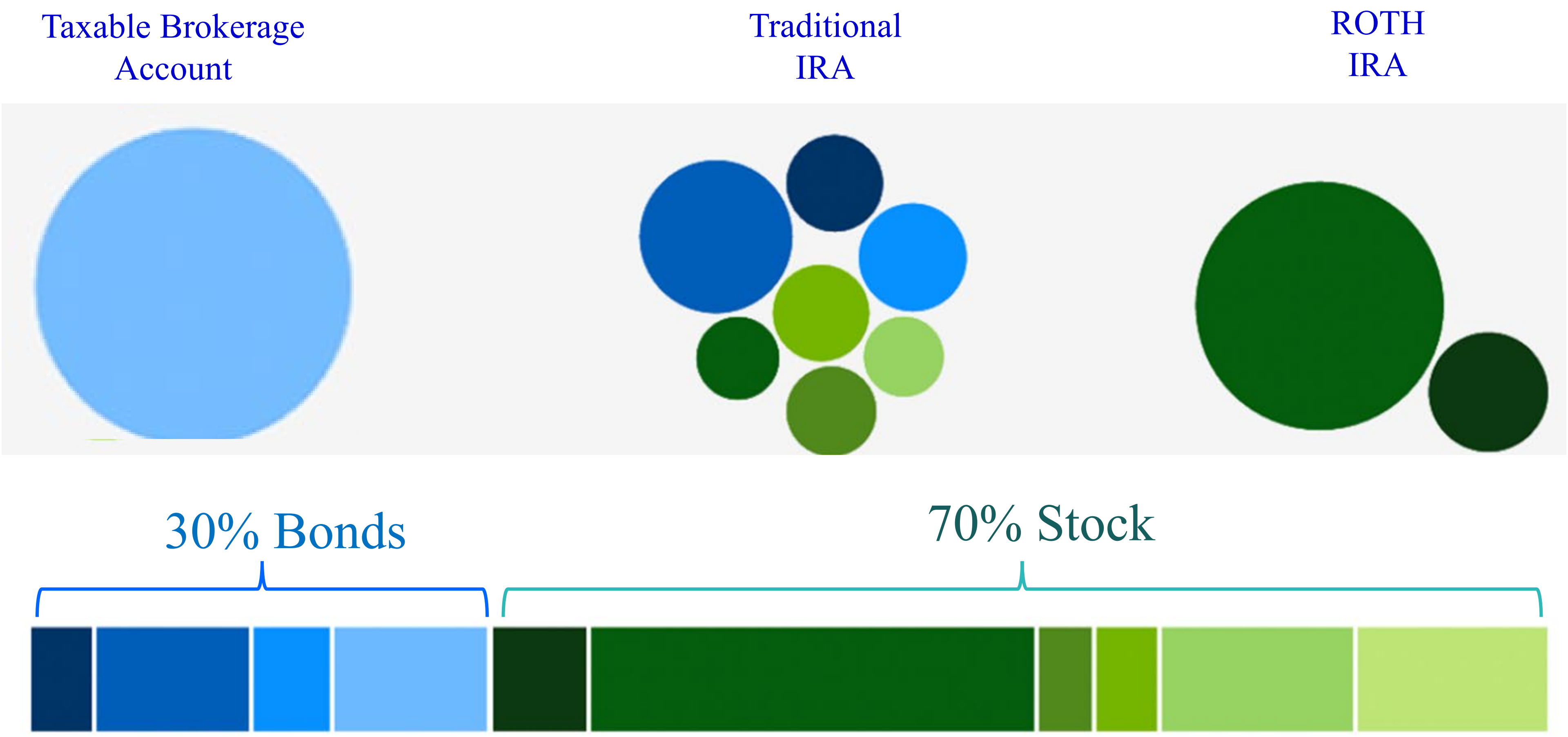

Asset Location Based On Time

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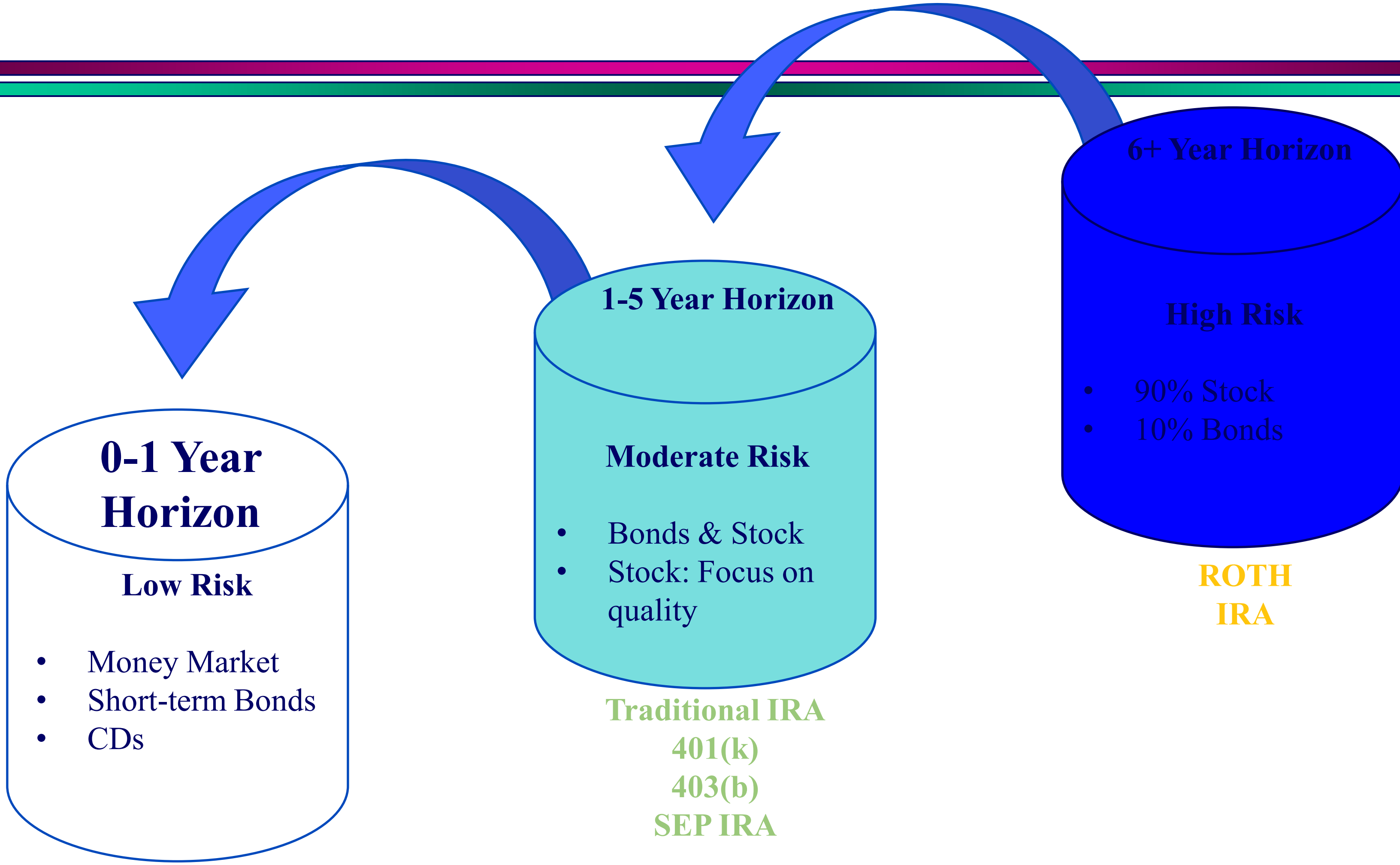

Taxable Brokerage Account

The allocations shown above are for illustrative purposes only.
Each investor has a different tolerance for time horizon and risk.

Last Class – Dec. 6th

- No class next week – Happy Thanksgiving
- Current State of the Markets
- Open Microphone session – Questions
- Class Closing and Feedback

Thanks !!

- Happy Investing !!
- **My EMail**
  - diyinvst@udel.edu
- **Class website**
  - http://udel.edu/~diyinvst