

Model Portfolios Need a Modern Makeover

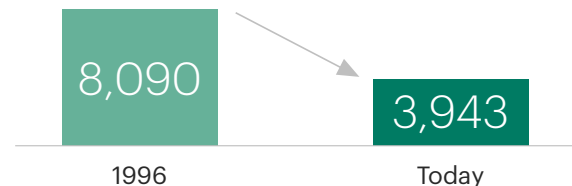
Public markets now represent a shrinking slice of the real economy. So why do most model portfolios still look the same? In this new Apollo series, we explore how private markets can enhance portfolio outcomes, using historical data and insights to reveal their potential impact in shifting the efficient frontier.

Traditional Portfolios Haven't Kept Up with the Changing Economy

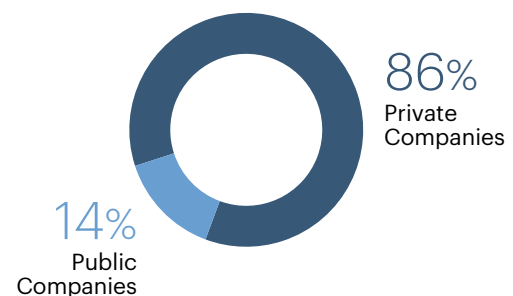
For decades, the 60/40 portfolio allocation model has been top-of-mind for long-term investors. This mix of public equities and fixed income was designed to balance growth and stability and provide the diversification benefits of assets with low correlation to each other. However, as more lending and credit creation take place in private markets, the traditional 60/40 model is becoming outdated. Now, a handful of mega-cap stocks drive public equity returns, while the rising correlation between public stocks and bonds has practically eroded the diversification benefits of the traditional 60/40 portfolio, leaving investors more exposed to systemic risks.

Public Markets Are Shrinking

of US-Listed Companies Continues to Decline



More Private than Public Companies



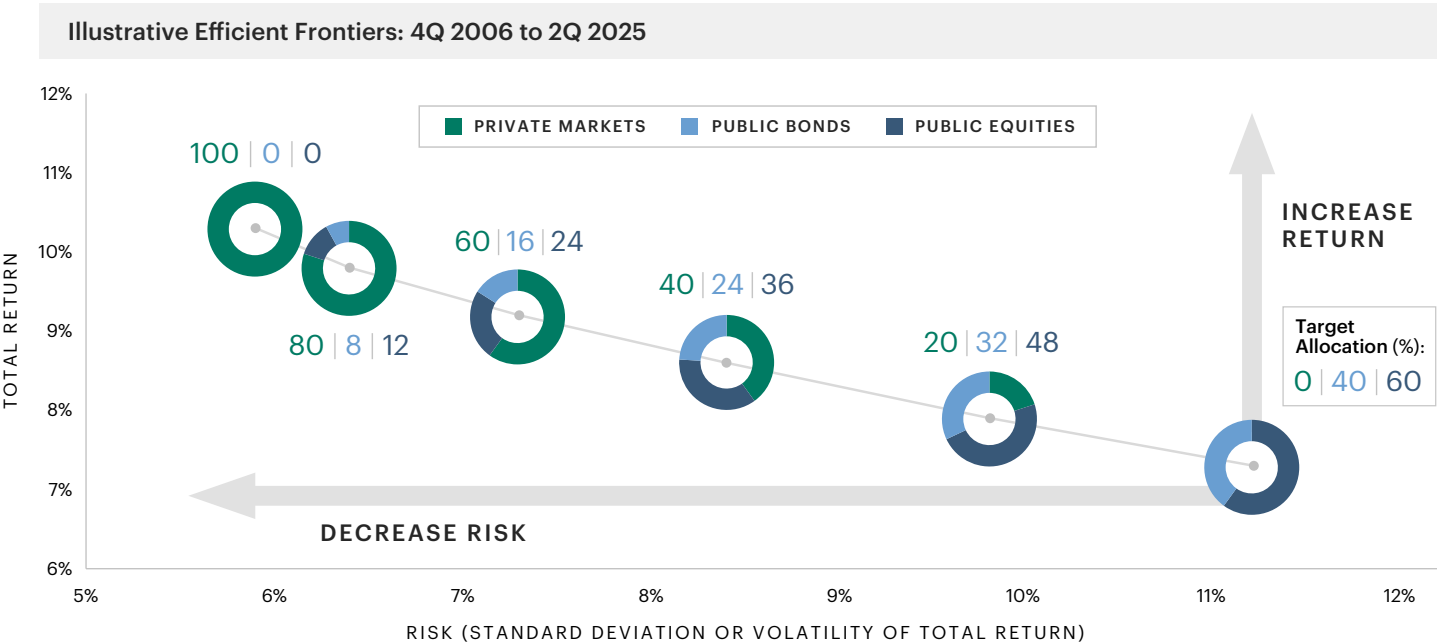
Sources: (Top) World Federation of Exchanges, World Bank as of June 30, 2025. Represents companies in the United States, Europe and Asia with LTM revenues greater than \$100 million. (Bottom) WFE, PitchBook and World Bank as of December 2024.

Allocations to Private Markets Can Help Improve Outcomes

We believe the strategic inclusion of private markets is the next evolution of model portfolios. Our analysis shows that by incorporating private market investments, model portfolios have the potential to demonstrate improved risk-adjusted outcomes and diversification benefits all the while meeting a range of investment goals.

From 4Q06 to 2Q25, a traditional 60/40 portfolio of public stocks and bonds returned just 7.3% on an annualized basis. Adding private markets to this 60/40 portfolio incrementally increased returns and lowered risk over this same time period, with a portfolio of 100% private markets delivering a 10.3% annualized return.

Shifting the Efficient Frontier with Private Markets



The Power of Private Markets in a Model Portfolio:

- 1 Risk Reduction and Diversification
- 2 Opportunity for Return Enhancement
- 3 Access to Unique Investment Opportunities

For illustrative purposes only. Past performance is not indicative of future results. The returns referenced above do not reflect any actual portfolio. Diversification does not ensure or protect against loss. This analysis uses indices from 4Q 2006 to 2Q 2025 (rebalanced quarterly). Public Equities include S&P 500, Russell 2000, and MSCI ACWI ex-US IMI. Public Bonds include Bloomberg US Aggregate Index, Bloomberg Corporate High Yield, and Morningstar LSTA Levered Loan Index. Private Markets include Prequin Private Equity, Prequin Secondaries, Prequin Infrastructure, Prequin Real Estate, Prequin Private Debt, and Cliffwater CDLI. Nothing herein is intended to imply that investments in private markets are considered “conservative,” “safe,” “risk free,” or “risk averse.” Please see the disclosures at the end of this document for more information about the model portfolio methodology.

ABOUT THE AUTHOR



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Mr. Lvoff joined Apollo in 2025 as Managing Director and Lead Cross-Asset Client Portfolio Manager within Global Wealth Management. Mr. Lvoff was previously President and Co-Chief Investment Officer at Strategic Investment Group, a boutique OCIO firm. Prior to that, Mr. Lvoff was a Managing Director and Senior Portfolio Manager in the Multi-Asset Solutions team at Goldman Sachs Asset Management. Prior to that, Mr. Lvoff was an Actuarial Associate at Towers Perrin (now Willis Towers Watson).

Mr. Lvoff has worked with clients including family offices, endowments, foundations, retirement plans, financial intermediaries, and sovereign institutions to provide investment support across asset allocation, manager selection, and portfolio construction.

Mr. Lvoff holds a B.S. in Economics from the Wharton School at the University of Pennsylvania with concentrations in Actuarial Science and Accounting. He is a CFA charterholder, member of the New York Society of Security Analysts, and an Associate of the Society of Actuaries (ASA).

Important Disclosure Information

All information contained in this material is as of December 2025 unless otherwise indicated.

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The Standard & Poor's 500 Index (S&P 500) is a market-capitalization weighted index of the 500 largest US publicly traded companies and one of the most common benchmarks for the broader US equity markets. Index performance and yield data are shown for illustrative purposes only and have limitations when used for comparison or for other purposes due to, among other matters, volatility, credit or other factors (such as number of investments, recycling or reinvestment of distributions, and types of assets). It may not be possible to directly invest in one or more of these indices and the holdings of any strategy may differ markedly from the holdings of any such index in terms of levels of diversification, types of

securities or assets represented and other significant factors. Indices are unmanaged, do not charge any fees or expenses, assume reinvestment of income and do not employ special investment techniques such as leveraging or short selling. No such index is indicative of the future results of any strategy or fund.

Investing involves risk including loss of principal. Alternative investments often are speculative, typically have higher fees than traditional investments often include a high degree of risk and are appropriate only for eligible long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase volatility and risk of loss.

References to downside protection are not guarantees against loss of investment capital or value.

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Past performance is not necessarily indicative of future results.

Additional information may be available upon request.

Important Note on Index Comparisons

Index performance and yield data are shown for illustrative purposes only and have limitations when used for comparison or for other purposes due to, among other matters, volatility, credit or other factors (such as number of investments, recycling or reinvestment of distributions, and types of assets). It may not be possible to directly invest in one or more of these indices and the holdings of any strategy may differ markedly from the holdings of any such index in terms of levels of diversification, types of securities or assets represented and other significant factors. Indices are unmanaged, do not charge any fees or expenses, assume reinvestment of income and do not employ special investment techniques such as leveraging or short selling. No such index is indicative of the future results of any strategy or fund.

"Leveraged Loans" represented by the Morningstar LSTA US Leveraged Loan 100 Index, which is designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market-value weighted, subject to a single loan facility weight cap of 2%.

"High Yield Corporate" represented by the ICE BofA US High Yield Index, which is market capitalization weighted and is designed to measure the performance of U.S. dollar denominated below investment grade (commonly referred to as "junk") corporate debt publicly issued in the U.S. domestic market. The index includes securities rated below investment grade (based on an average of Moody's Investors Service, Inc., Fitch, Inc., and S&P Global Ratings) with at least 18 months remaining to final maturity at the time of issuance and at least one-year remaining term to final maturity as of the Index's rebalancing date. In addition, individual securities of qualifying issuers must have a fixed coupon schedule and a minimum amount outstanding of \$250 million.

"US Investment Grade Corporate" represented by the Bloomberg US Corporate Index, which measures the investment grade, fixed rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility, and financial issuers. The index is a component of the US Credit and US Aggregate Indices, and provided the necessary inclusion rules are met, US Corporate Index securities also contribute to the multi-currency Global Aggregate Index. The index includes securities with remaining maturity of at least one year.

After 60/40: Modern Portfolio Allocation Across Private and Public Markets

Preqin Private Equity – Preqin's Private Equity Index was created to track the quarterly performance of private equity closed-end funds globally, serving as time-weighted return index, including global and regional indices, for all private equity strategies.

Preqin Secondaries – Preqin's Secondaries indices track the performance of funds focused on secondaries investments within the private equity market.

Preqin Private Debt – Preqin's Private Debt indices track the performance of private debt funds.

Preqin Secondaries – Preqin Infrastructure indices track the performance of infrastructure funds.

Preqin Real Estate – Preqin's Real Estate indices track the performance of private real estate funds.

Preqin Venture Capital – Preqin's venture Capital indices track the performance of venture capital funds.

Preqin Private Capital – Preqin's Private Capital Index was created to track the quarterly performance of private capital closed-end funds globally, serving as time-weighted return index, including global and regional indices, for all asset classes and key strategies.

Cliffwater Direct Lending Index – The Cliffwater Direct Lending Index (CDLI) seeks to measure the unlevered, gross of fees performance of US middle market corporate loans, as represented by the underlying assets of Business Development Companies (BDCs), including both exchange-traded and unlisted BDCs, subject to certain eligibility requirements. The CDLI is asset-weighted and calculated quarterly.

Model Portfolio Methodology

The model portfolio historical results are calculated assuming quarterly rebalancing back to defined target weights as defined below over the longest common time period.

Series Name	Index Start Date	Index End Date	Category	Asset Class	Subasset Class	Public 60/40	60/40 with 20% Private	60/40 with 40% Private	60/40 with 60% Private	60/40 with 80% Private	60/40 with 100% Private
S&P 500 TR USD	3/31/90	6/30/25	Public	Equity	Public Equity U.S. Large Cap	40%	32%	24%	16%	8%	0%
Russell 2000 TR USD	3/31/90	6/30/25	Public	Equity	Public Equity U.S. Small Cap	5%	4%	3%	2%	1%	0%
MSCI ACWI Ex USA IMI NR USD	9/30/94	6/30/25	Public	Equity	Public Equity Global ex-U.S.	15%	12%	9%	6%	3%	0%
Bloomberg US Agg Bond TR USD	3/31/90	6/30/25	Public	Fixed Income	Public Fixed Income U.S. Aggregate	30%	24%	18%	12%	6%	0%
Bloomberg US Corporate High Yield TR USD	3/31/90	6/30/25	Public	Fixed Income	Public Fixed Income U.S. High Yield	5%	4%	3%	2%	1%	0%
Morningstar LSTA US LL TR USD	3/31/97	6/30/25	Public	Fixed Income	Public Fixed Income U.S. Leveraged Loans	5%	4%	3%	2%	1%	0%
Preqin Private Equity	3/31/01	6/30/25	Private	Private Equity	Buyout, Growth, Venture, Other	0%	7%	14%	21%	28%	35%
Preqin Secondaries	3/31/01	6/30/25	Private	Private Equity	Secondaries	0%	3%	7%	11%	14%	18%
Preqin Private Debt	3/31/01	6/30/25	Private	Private Debt	Private Debt	0%	6%	11%	17%	22%	28%
Cliffwater Direct Lending Index	12/31/04	6/30/25	Private	Private Debt	Direct Lending	0%	3%	5%	8%	10%	13%
Preqin Infrastructure	12/31/06	6/30/25	Private	Private Real Assets	Infrastructure	0%	1%	1%	2%	2%	3%
Preqin Real Estate	3/31/01	6/30/25	Private	Private Real Assets	Real Estate	0%	1%	1%	2%	2%	3%
Preqin Real Estate – Value Added	3/31/01	6/30/25	Private	Private Real Assets	Real Estate Value Added	0%	0%	0%	0%	0%	0%
TOTAL	12/31/06	6/30/25				100%	100%	100%	100%	100%	100%

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