

GLOBAL BALANCED PORTFOLIO

Investment Analysis Report

Client Profile	Moderate Risk, Long Term (10+ years)
Strategy	Global Diversified, Multi-Asset
Analysis Period	January 2012 - April 2025
Report Date	1 May 2026
Prepared by	Marco Ceriani

This report presents a comprehensive analysis of a globally diversified multi-asset portfolio constructed for a moderate risk profile investor with a long-term investment horizon. The analysis includes portfolio construction rationale, historical backtesting, Monte Carlo simulation, and Markowitz efficient frontier optimization.

Client

43 years old, senior professional, based in Milan. Investment capital: €350,000.

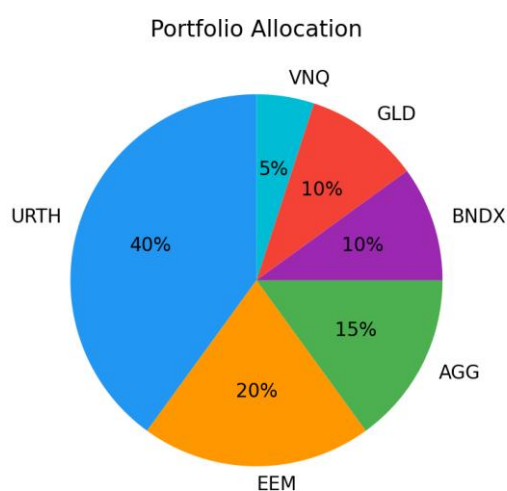
Objective: long-term wealth accumulation for retirement at age 65. No immediate liquidity needs.

Comfortable with short-term fluctuations provided capital is preserved over the full horizon.

1. Portfolio Construction

The portfolio is built around six core asset classes to achieve broad global diversification consistent with a moderate-to-dynamic risk profile. The allocation targets 65% equity exposure for long-term growth, 25% fixed income for stability and income, and 10% gold as an inflation hedge and safe-haven asset. The portfolio targets annual rebalancing to maintain the intended risk profile over time.

Ticker	ETF Name	Asset Class	Weight
URTH	iShares MSCI World	Global Developed Equity	40%
EEM	iShares MSCI Emerging Markets	Emerging Markets Equity	20%
AGG	iShares Core US Aggregate Bond	US Fixed Income	15%
BNDX	Vanguard Total Intl Bond	Global Fixed Income	10%
GLD	SPDR Gold Shares	Commodities / Hedge	10%
VNQ	Vanguard Real Estate ETF	Real Estate (REIT)	5%



Asset Statistics (2012–2025)

Ticker	Annual Return	Annual Volatility	Sharpe Ratio
URTH	11.41%	17.16%	0.67
EEM	6.81%	20.28%	0.34
AGG	2.08%	5.03%	0.41
BNDX	2.38%	3.87%	0.62
GLD	10.34%	16.05%	0.64
VNQ	7.85%	19.69%	0.40

2. Portfolio Analysis

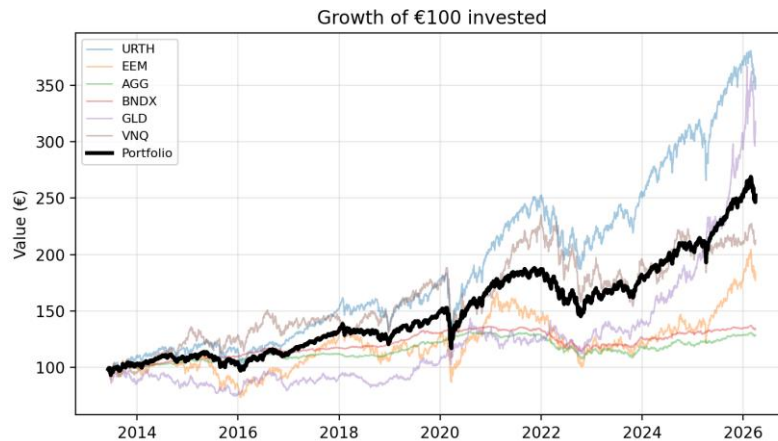
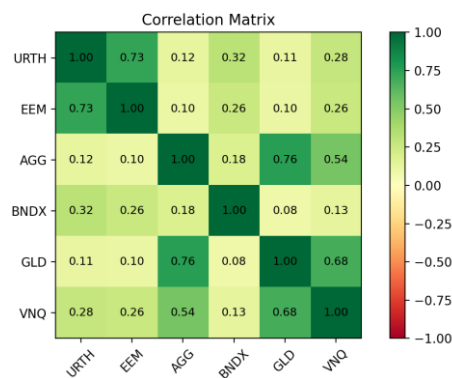


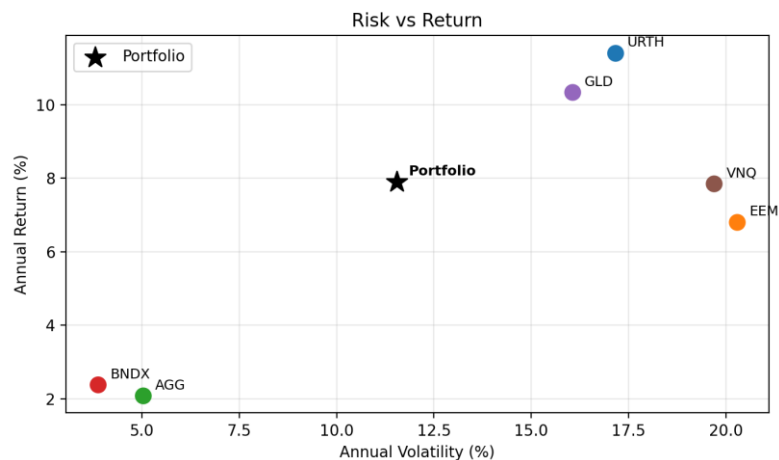
Figure 1: Portfolio overview — growth of €100 invested, asset allocation, correlation matrix, and risk/return scatter plot.

Key Observations

- Correlation Matrix:** URTH and EEM show high correlation (0.79), confirming they move together as equity assets. GLD shows low correlation with equities (~0.21), validating its role as a portfolio hedge.



- Risk/Return:** The portfolio (star) sits in an efficient position, higher return than bonds with significantly lower volatility than pure equity.



- Diversification effect:** Portfolio volatility (11.55%) is materially lower than the weighted average of individual asset volatilities, demonstrating the benefit of combining low-correlated assets.

3. Backtest Results (2012–2025)

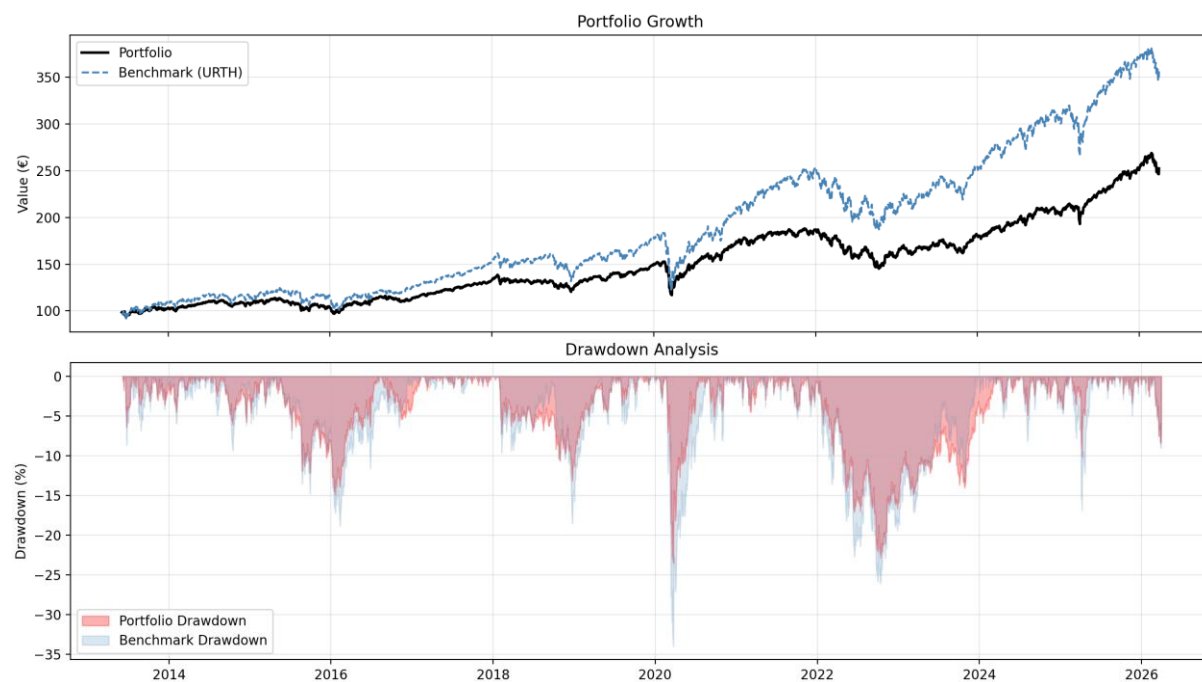


Figure 2: Portfolio vs Benchmark (URTH): cumulative growth and drawdown analysis.

Performance Summary

Metric	Portfolio	Benchmark (URTH)
Annual Return	7.90%	11.41%
Annual Volatility	11.55%	17.16%
Sharpe Ratio	0.68	0.67
Max Drawdown	-23.54%	-34.01%
Calmar Ratio	0.34	0.34

The portfolio delivers comparable risk-adjusted returns to the benchmark (Sharpe 0.68 vs 0.67) while significantly reducing maximum drawdown (-23.54% vs -34.01%). During the COVID-19 crash of March 2020 and the 2022 Fed rate hike cycle, the diversified allocation provided meaningful downside protection, consistent with the client's moderate risk profile.

4. Monte Carlo Simulation

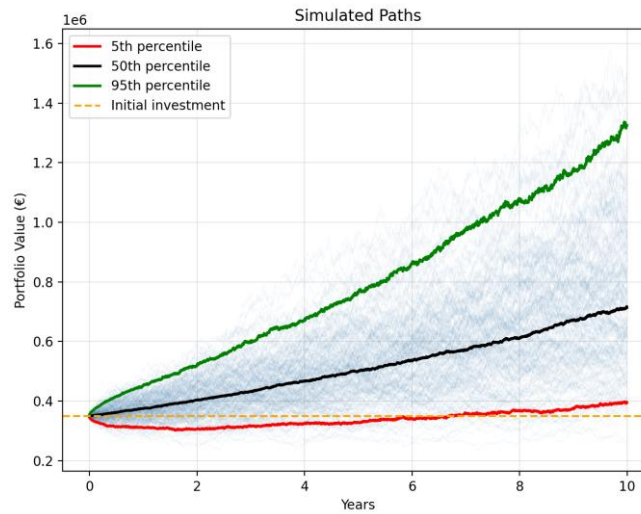
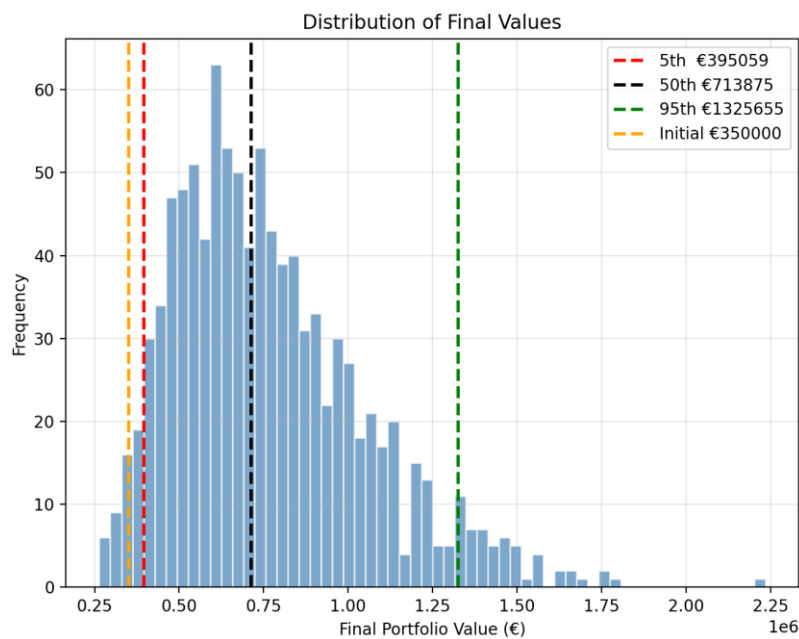


Figure 3: 1,000 simulated portfolio paths over 10 years with percentile bands and final value distribution.

Simulation Results

Scenario	Final Value	Total Return	Probability
Worst Case (5th pct)	€395,059	+13%	5%
Base Case (50th pct)	€713,875	+104%	50%
Best Case (95th pct)	€1,325,655	+279%	5%
Probability of Loss	< €350,000	Negative	2.6%

Across 1,000 simulations over a 10-year horizon, the portfolio demonstrates a 97.4% probability of capital preservation. The median scenario projects a doubling of the initial investment, while even the 5th percentile scenario (worst 5% of outcomes) shows modest positive returns, a strong result for a moderate risk investor.



5. Efficient Frontier & Optimization

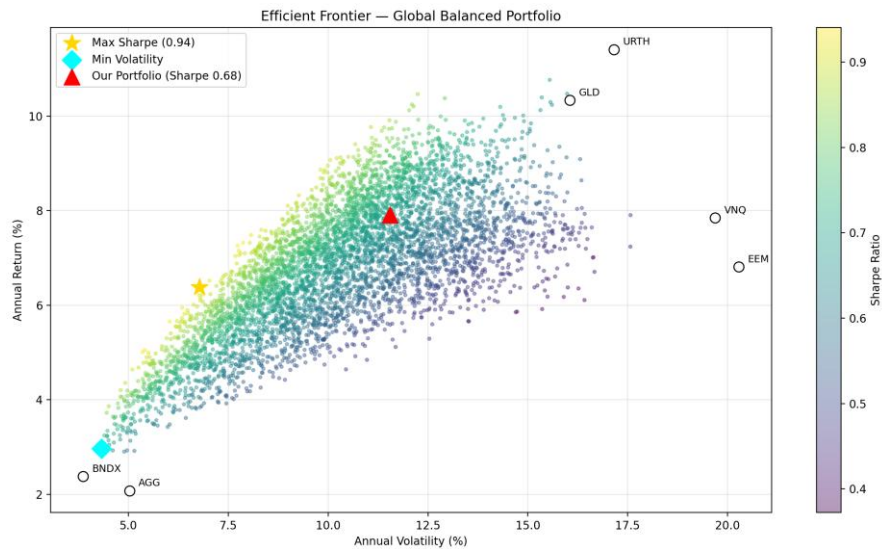


Figure 4: Markowitz Efficient Frontier: 5,000 randomly generated portfolios colored by Sharpe Ratio.

Optimal Portfolios Comparison

Portfolio	Annual Return	Volatility	Sharpe
Max Sharpe	6.38%	6.78%	0.94
Min Volatility	2.96%	4.33%	0.68
Our Portfolio	7.90%	11.55%	0.68

Our portfolio lies on the efficient frontier, confirming its mathematical validity. While the Max Sharpe portfolio achieves a superior risk-adjusted return (0.94), it concentrates 47.5% in Emerging Markets, an impractical allocation for a moderate risk client. Our portfolio deliberately accepts a slightly lower Sharpe in exchange for better diversification, higher absolute returns (7.90% vs 6.38%), and real-world implementability.

6. Conclusion

The Global Balanced Portfolio successfully achieves its core objectives:

- **Diversification:** Six asset classes across geographies and risk profiles reduce portfolio volatility to 11.55% vs 17.16% for pure equity exposure.
- **Risk-adjusted performance:** Sharpe Ratio of 0.68 matches the benchmark with materially lower drawdown (-23.54% vs -34.01%).
- **Capital preservation:** Monte Carlo analysis confirms 97.4% probability of positive returns over a 10-year horizon.
- **Efficiency:** The portfolio sits on the Markowitz Efficient Frontier, confirming the allocation is mathematically sound.
- **Client suitability:** The allocation remains appropriate for the client's current life stage and risk tolerance, with a potential gradual shift toward fixed income as the investment horizon shortens beyond year 5. A formal annual review is recommended, with a first allocation review suggested at age 55.

Disclaimer: This report is for educational purposes only and does not constitute financial advice. Past performance is not indicative of future results.