Capital Preservation vs Capital Growth

A Comparative Portfolio Risk Analysis

1. Introduction

Investment performance is often evaluated through returns alone, yet the magnitude and frequency of losses play a critical role in long-term outcomes. Large drawdowns can impair compounding, delay recovery, and increase behavioural risk for investors.

This project examines the trade-off between **capital growth** and **capital preservation** by comparing portfolios with varying equity and bond allocations. The objective is to evaluate how downside risk, drawdowns, and recovery behaviour differ across portfolio strategies, and how these differences affect long-term portfolio trajectories.

2. Data & Methodology

- **Data Frequency:** Monthly
- **Time Period:** 2010–2026
- **Equity Proxy:** Broad U.S. equity market ETF
- **Bond Proxy:** Broad U.S. bond market ETF
- **Starting Capital:** $10,000
- **Rebalancing:** Implicit monthly rebalancing via fixed weights
- **Returns Used:** Monthly total returns derived from adjusted prices

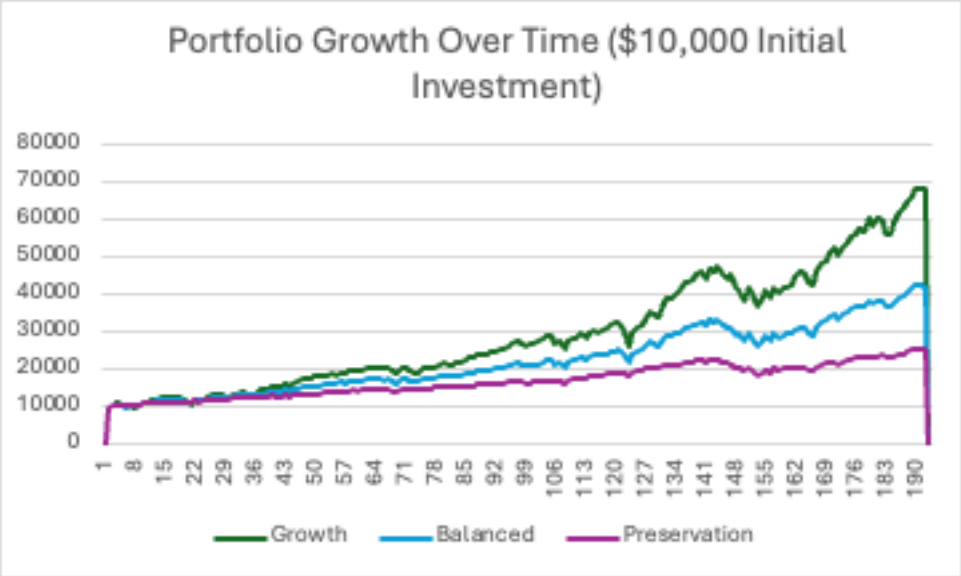
All analysis excludes taxes, transaction costs, and management fees to isolate pure portfolio behavior.

3. Portfolio Construction

Three portfolios were constructed using static asset allocations:

Portfolio	stocks	Bonds	Main Goal
Growth	90%	10%	Maximize Growth
Balanced	60%	40%	Balance risk & return
Preservation	30%	70%	Minimize loss

Results:



The growth portfolio achieved the highest terminal value but exhibited significantly greater volatility. The preservation portfolio demonstrated a smoother growth path with smaller fluctuations, while the balanced portfolio remained between the two extremes.

Drawdown Analysis

Maximum drawdown was calculated as the largest peak-to-trough decline experienced by each portfolio.

Portfolio	Max Drawdown
Growth	-13.03%
Balanced	-9.16%
Preservation	-5.82%

Risk Insights

The growth-oriented portfolio experienced the deepest drawdowns, reflecting its higher equity exposure. While this portfolio ultimately delivered stronger upside performance, the magnitude of its losses introduces higher volatility and longer recovery periods during market stress.

In contrast, the capital preservation portfolio limited drawdowns to under 6%, resulting in a smoother compounding path and faster recoveries following declines. Although its terminal value was lower, the reduced downside risk materially improved portfolio stability.

The balanced portfolio displayed intermediate characteristics, confirming that asset allocation plays a central role in controlling downside risk while still participating in market growth.

Limitations

- No taxes or transaction costs were included
- Portfolios assume static allocations and monthly rebalancing
- Historical performance does not guarantee future results
- Analysis focuses on U.S. markets only

These limitations were accepted to maintain clarity and isolate the impact of asset allocation on drawdowns and compounding.

Conclusion

This analysis demonstrates that long-term investment outcomes are shaped not only by returns, but by the severity of losses endured along the way. While growth-oriented portfolios maximize upside potential, capital preservation strategies meaningfully reduce drawdowns and volatility, offering a smoother investment experience.

For investors sensitive to risk, recovery time, or behavioral pressures, minimizing severe drawdowns may be as important as maximizing returns. Asset allocation therefore remains a primary tool for managing the balance between growth and stability.