How to Assess Portfolio Risk Across Stocks, ETFs, and Funds

Why a single number is not enough

Risk in a portfolio is never just one figure. A stock may swing wildly on earnings news, an ETF might hide concentrated sector bets, and a mutual fund could drift from its stated mandate. To understand what you actually own, you need to look at risk from several angles at once. This article walks through a practical sequence for evaluating portfolio risk, whether your holdings are individual stocks, ETFs, or funds.

Step 1: Measure volatility and maximum drawdown

Volatility tells you how much a holding's returns bounce around. Standard deviation is the common measure, but it only captures the size of the swings, not their direction. Pair it with maximum drawdown, which shows the worst peak-to-trough decline over a period. A fund with low volatility but a deep drawdown might be hiding a concentrated bet that collapsed and then recovered slowly. Look at both numbers over one, three, and five years to see if the pattern is consistent.



What to watch

If a stock has low volatility but a very high drawdown, check for a large dividend that masks price drops, or a period where the stock was halted. For ETFs, compare the drawdown to the index it tracks. A wider gap suggests tracking error or illiquid holdings. For funds, a drawdown that is much deeper than the category average could mean the manager took concentrated positions that backfired.

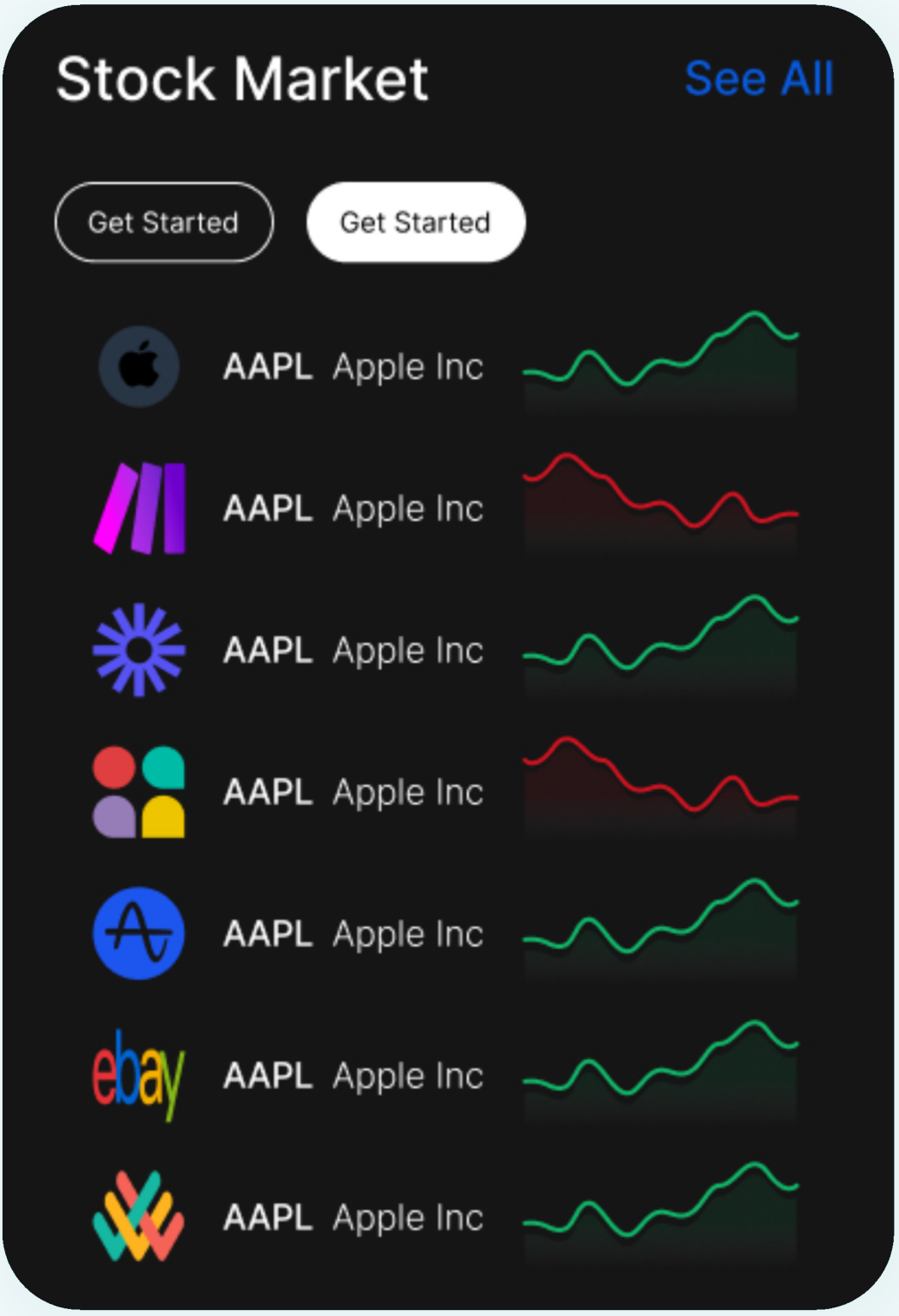
Step 2: Check correlation among holdings

Diversification only works when assets do not move in lockstep. Correlation coefficients run from +1 (perfectly together) to -1 (perfect opposites). In practice, most equities cluster between +0.3 and +0.8. If every stock and ETF in your portfolio shows correlations above 0.7, a market downturn will hit all of them nearly as hard as if you owned one stock.

What to watch

ETFs that appear diversified can have high correlations because they hold the same large-cap names. A "small-cap value" ETF and a "mid-cap blend" ETF might share 60% of their holdings.

Use a correlation matrix or a simple spreadsheet to compare every pair. If the average correlation is above 0.6, consider adding an asset class that behaves differently, such as government bonds, commodities, or a low-correlation strategy like managed futures.



Step 3: Evaluate beta and systematic risk

Beta measures how much a holding moves relative to the overall market. A beta of 1.2 means the stock tends to rise or fall 20% more than the market. Beta is useful for understanding your portfolio's exposure to broad economic forces, but it has limits. It is backward-looking and assumes the past relationship will hold. For stocks with a short history or frequent corporate events, beta can be misleading.

What to watch

If your portfolio's average beta is above 1.3, you are taking on extra market risk. That may be fine if you are comfortable with larger swings, but check whether the higher beta is compensated by better risk-adjusted returns. Compare the Sharpe ratio of each holding to its category. A stock with a high beta and a low Sharpe ratio is giving you more volatility without proportionally more return.

Step 4: Examine sector exposure and portfolio weighting

Concentration in one sector is a common hidden risk. A portfolio of ten "diversified" ETFs could still be 40% technology if each ETF has a heavy tech weighting. The same applies to individual stocks: five different semiconductor companies are not diversification. Use a tool that shows the sector breakdown of each holding and then aggregate them. Pay special attention to overlap in financials, energy, and consumer discretionary, which tend to be cyclical.

What to watch

Funds may drift over time. A fund that was labeled "healthcare" five years ago might now hold a quarter of its assets in tech stocks. Check the latest quarterly holdings or sector allocation. If the fund's sector exposure has shifted more than 10% from its category average, the manager may be making active bets that you did not sign up for.

Step 5: Analyze risk-adjusted return

Raw return numbers do not tell you whether the risk was worth it. Risk-adjusted return metrics like Sharpe ratio, Sortino ratio, and Treynor ratio help you compare how much return you got per unit of risk. The Sharpe ratio uses total volatility, while Sortino focuses only on downside volatility. Treynor uses beta, so it is more relevant for portfolios that are already well diversified.



What to watch

a fund with a high Sharpe ratio but a low Sortino ratio may have large upside swings that inflate the Sharpe number, while the downside risk is still high. For a more complete picture, look at both ratios together. If a holding has a lower risk-adjusted return than a broad market index over five years, question whether it adds value to your portfolio.

Step 6: Run a portfolio risk analysis across all holdings

Once you have gathered data on volatility, drawdown, correlation, beta, sector exposure, and risk-adjusted return, combine them into a single assessment. A thorough portfolio risk analysis should weigh each element according to your own risk tolerance. For example, if you are close to retirement, you might care more about maximum drawdown and less about short-term volatility. If you are a long-term investor, beta and risk-adjusted return might matter more.

This is also the point to check if any single holding dominates the portfolio's risk. A stock that is 15% of the portfolio but has twice the volatility of other holdings could account for a third of the total risk. Similarly, an ETF that tracks a narrow index might look safe on its own but add concentrated risk when combined with your other holdings.

Step 7: Adjust and rebalance

The final step is to act on what you found. If correlation is too high, add an asset class that moves differently. If sector exposure is skewed, trim the overweight areas. If a fund's risk-adjusted return is poor, replace it with a more efficient option. Rebalancing should be done at least once a year, or whenever a holding's weight drifts more than 5% from your target.



What to watch

Do not over-optimize. Small tweaks to improve a Sharpe ratio by a few basis points may not be worth the trading costs or tax consequences. Focus on the big risks: a single stock that is 20% of your portfolio, a sector that makes up half your holdings, or a fund that has changed its strategy. Those are the moves that matter.

Regular portfolio risk analysis keeps your investments aligned with your goals. Markets change, funds drift, and your own tolerance for risk evolves. By working through these steps each quarter or after a major market move, you catch problems before they become losses.