



<https://pininvest.com>

Financial tools to facilitate investor decisions, in an intuitive and affordable way

1.

Stock market data are structured by industry and by theme making sense of peer comparisons

2.

Contributions of portfolio constituents to performance and to risk are ranked

3.

Exposure to potential losses is evaluated by assigning Value-at-Risk probability to the portfolio

4.

Impact of projected investments on the portfolio's performance, risk and diversification is simulated

5.

Optimization of the investor's choices relies on reputed algorithms

1.

Stock market dynamics are accounted for in three ways

- ▶ **Individual assets (equities and ETF funds)** are charted daily on dedicated interfaces accessed by name or by ticker
Key ratios, fundamental accounting data for equities and fact sheets of each asset, are up-to-date
- ▶ **Themes** allow ratio comparisons between assets, highlight performance, risk (volatility, max drawdown, Sharpe) and momentum
Themes support informed strategic or tactical decisions and provide insights on market trends and niche industries
Theme constituents can be bookmarked or assigned to portfolios according to the investor's interests and risk appetite
- ▶ **Portfolio Models** posted on the platform – **by strategy or by risk profile** – provide *foundational* selections to support portfolio construction
Aligning with market trends or with investor interest, strategies cover an array of styles – Value, Growth, Profitability, Quality or Momentum
Strategies are updated dynamically to reflect changes in asset prices (daily) and in accounting data (according to quarterly publication)
Portfolio selections based on risk profiles (low, medium and high) are determined by annual volatility of the constituents

2.

Portfolio construction – alternatives to passive market trackers

Economic and monetary uncertainties prompt investors to consider alternatives to passive market indices

Diversification and asset decorrelation might cushion possible market reversals

- Niche industries, international equities and cross-sectional themes will complement index-driven ETFs in a portfolio
- A broad range of investment themes is suggested on the Pininvest platform

▶ **Portfolios** - constructed virtually – need to be fine-tuned step-by-step over time to test novel investments

Assets can be inserted from bookmarks, from themes or directly from portfolio models

▶ **Asset contributions to performance** are evaluated in the portfolio's setting

- **Fundamental ratios** are compared between peers
- **Contributions** to performance are updated daily
- **Performance attribution** against a benchmark ranks sectors and individual assets
- **Factor analysis** evaluates the sensitivity of individual assets to market factors

▶ **Portfolio exposure to market risk** is derived from selected assets and from their correlation

Asset contributions to volatility are updated daily

Marginal Value-at-Risk is indicative of each asset's contribution to the portfolio's probability of loss

3.

Value-at-Risk, how likely is a loss?

Value-at-Risk (VaR) is a statistical estimate of the likelihood of portfolio loss, based on historical data of the portfolio constituents or on a Monte Carlo simulation, of special relevance for derivative positions

► **Portfolio P&L History** lays the groundwork for VaR computations

The chart highlights the distribution of the profits and losses (P&L) day by day over one, two or three years, allowing analysis of cumulative P&L bandwidths over any period

Value at Risk (VaR) charts the probability of a potential portfolio loss at the chosen threshold, but ignores extreme loss exposure (with very low probability)

► **Conditional VaR (CVaR)** is a weighted average of the probability of *extreme losses*

In the tail of the distribution. CVaR controls for less stable asset classes, beyond the VaR threshold confidence interval

► **Marginal VaR** singles out the contribution of each asset to VaR

Marginal VaR computes portfolio risk exposure without the targeted asset

A lower portfolio VaR, computed by ignoring any one asset, implies higher contribution of that specific asset to risk, accounting for correlation across the portfolio

4.

Testing investment ideas – “What if?”

New investments may contribute to higher performance in the portfolio but also create more uncertainty

Projected investments may lower portfolio risk by contributing to diversification but could actually increase portfolio risk exposure as well

► **New investments** reconfigure the portfolio

The portfolio will be reshuffled in terms of weightings, performance, risk exposure and diversification by planned asset investments, or by optimized allocation of the portfolio positions

Before validating the investment decisions, their potential impact in reshaping the portfolio can be evaluated

► **Getting a grip on potential impact**

Charts of the investment’s potential impact will provide useful insights in investment decisions by highlighting...

- how portfolio performance, risk exposure and distribution would realign – based on price history and against a chosen benchmark
- how *individual* assets contribute to changes in portfolio performance and risk

Based on past price data series, impact projections cannot be expected to forecast future market trends but, by accounting for asset correlation, they are an important contribution in portfolio construction

5.

Optimization – in the context of the investor’s existing portfolio

Diversification can be evaluated by simulating potential impact of new investments in a virtual setting with the right mix of performance and risk

► Optimizing asset allocations

The investor may choose between multiple trade options (buying and selling) to improve on current portfolio performance and risk exposure

- *screening* new assets selected for potential investment
- *optimizing* current asset positions according to the investor’s preferences, setting constraints regarding the number of trades allowed, assets excluded from trades, mini-max weights by asset or cash amount to be traded

The algorithm will recommend selling down *some* current positions to free the cash for the new acquisitions, or to reweight portfolio positions

► The efficient frontier

Bounded by the efficient frontier, which defines portfolios with the highest returns at a given level of risk, the space is seeded with a very large number of alternative asset allocations, prioritizing:

- performance,
- risk exposure,
- or diversification

► Deciding on the right balance

The decision to target one priority over the two others – or to seek a balance between performance and risk exposure – is up to the investor
Optimization is indicative of ways to improve the investor’s current portfolio by seeking a trade-off between those distinct benefits



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