

# UNDERSTANDING RISK

## What is Standard Deviation and Why it Matters for Your Investment Portfolio

If *Time* magazine were to name a “word of the year” for 2025, the clear winner would be “uncertainty.” Whether you tune into the news, radio, or podcasts, you’ll hear “uncertainty” echoing through discussions about the current economic and political climate in the United States. It’s hard to recall a time when “uncertainty” has been more frequently mentioned.

Most investors define risk as uncertainty — the possibility of

adverse outcomes. According to Wikipedia, “risk involves uncertainty about the effects/implications of an activity with respect to something that humans value (such as health, well-being, wealth, property or the environment), often focusing on negative, undesirable consequences.”

Although the future has always been uncertain, it has been somewhat predictable in the sense of there is a set of common governing principles for individuals, families, businesses, and governments. When these principles are altered, and uncertainty is heightened, anxiety levels rise. When financial anxiety levels rise, humans may tend to make irrational decisions. Isthmus understands risk, and our philosophy and process help investors in the decision-making

process to better manage outcomes. Risk can be managed, but not eliminated. By establishing an Investment Policy Statement (IPS) with our clients, all parties are aligned with a clear purpose and objectives; including acceptable risk and return parameters, along with portfolio asset allocation and performance measurement.

### What is Standard Deviation?

When it comes to investing, risk is a word that gets thrown around a lot. But what does it really mean, and how is it measured? One of the most common ways to assess risk is through standard deviation.

At its core, standard deviation is a way to measure how much something moves away from the average. Think of it as a yardstick for volatility. We’ll use standard

### STANDARD DEVIATION IN INVESTMENT PORTFOLIOS



deviation and volatility interchangeably throughout as they are the same.

Let's use an example to better understand standard deviation:

#### IMAGINE TWO INVESTMENT PORTFOLIOS:

PORTFOLIO A	PORTFOLIO B
6%	6%
earned average return per year	

Sounds the same,  
but here's the catch...

- Portfolio A: Yearly returns are steady at 5%, 6%, 7%, 6%, & 6%
- Portfolio B: Yearly returns are all over the place at 2%, 10%, -1%, 15%, & 4%

Even though they both average 6%, Portfolio B is clearly much more unpredictable. That unpredictability — the variation from the average — is what standard deviation measures.

### Why Should You Care?

Standard deviation is important because it gives you consistency of your returns. The higher the standard deviation, the "bumpier" your investment ride might be. A lower standard deviation means you will have a much smoother experience.

While higher volatility might mean the potential for higher returns, it also means there is more potential for losses too. You need to balance your comfort level with uncertainty and your financial goals.

### Historical Perspective

In the COVID onset year of 2020, markets had an intra-year low return of

(-33.8%) and an intra-year high return of +70.2%. Think of this as the change in price from valley to peak over the course of the year. The annualized return in 2020 was +18.4%. As we know, it's harder to make up losses than it is to produce gains. For example, in order to make up for a 50% loss, one needs to produce a 100% gain.

Over a longer period of time, from 2015 to 2024 for example, the S&P 500 Index had an annualized return of +14.4%. However, within that ten-year period, the S&P 500 Index had an annualized high of +31.5% in 2019 and a low of (-18.1%) in 2022. When each year's annualized return is factored, the volatility of returns, or standard deviation of those returns is calculated to be +15.7%. For simplicity, if the standard deviation of +15.7% is added and subtracted from +14.4%, it provides a range of returns from +30.1% to (-1.3%).

In a normal distribution, approximately 95% of the data falls within two standard deviations of the mean. This series provides an expected framework for the range of returns over that ten-year period. While the expected high of +30.1% is quite close to the actual high of +31.5% that was reached in 2019, the expected low of (-1.3%) is very different

from the actual low of (-18.1%) reached in 2022. What happened? One may recall that 2022 was quite challenging as the Federal Reserve Board of Governors raised its fed funds rate five times in an effort to offset inflation. These actions resulted in much lower stock valuations and caused havoc in the bond market. 2022 was the most active year for the Fed since 1982.

### Managing Risk with Standard Deviation

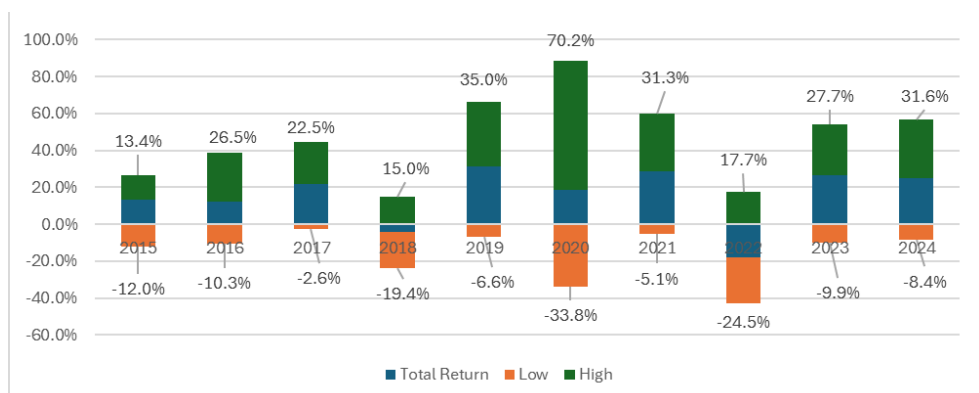
Standard deviation is a tool to help you understand how "predictable" your investment performance may be. In a world where markets can be uncertain, it helps to have a clear picture of your potential ups and downs and how that difference could impact your ability to achieve your financial goals.

Understanding standard deviation helps you better manage your portfolio in a few key ways:

#### 1. Diversification

The age-old advice to avoid putting "all of our eggs in one basket" is particularly relevant in finance. This principle emphasizes the importance of diversification, not concentrating investments in a single area. By diversifying assets—choosing

Historical S&P 500 Index Returns (2015-2024)



Source: FactSet - Intra-year high, low and end of year total return S&P 500 data (2015-2024).

investments that behave differently or are non-correlated in various market conditions, we can reduce portfolio volatility. This approach leads to more stable returns over time.

## 2. Risk Tolerance

Understanding oneself and collaborating with an Isthmus team who truly comprehends your needs is crucial for long-term success. It's widely accepted that short-term capital market returns are influenced by investor sentiment, while long-term returns are driven by corporate and economic fundamentals. Unfortunately, the media often sensationalizes daily market behavior



to capture audience attention, creating an implied "call to action" that can spur unnecessary activity. By assessing a client's risk tolerance and capacity, along with their short- and long-term goals, we aim to filter out the "noise" of short-term fluctuations and build high-quality portfolios that align with our client's risk tolerance and provide downside protection during volatile market periods.

## 3. Performance Context – Stocks, Bonds & Cash

OK, so we know stocks are inherently volatile and a group of stocks are volatile too. What about bonds and cash? How do those compare?

While they can provide income and

potentially total return, cash, and bonds pale in comparison from a risk standpoint to stocks, but they are not without risk. While cash can be almost risk-free, (FDIC insured bank deposits or US Government Money Market funds), bonds differ in credit quality as well as maturity. A US Government bond, maturing in five years, backed by the full faith and credit of the US Government and its taxing authority, is very different from a low quality (junk bond) corporate debt obligation from cryptocurrency company, Coinbase (COIN), that will mature in 2050.

Much like stocks, when grouped together in an index, bond volatility can also be measured. For example, the Bloomberg US Aggregate Bond Index, which tracks the performance of US investment grade bonds, has a standard deviation of 6.68%, or roughly a half of that of the S&P 500 Index.

While cash is less risky than bonds and bonds are less risky than stocks, how can a combination of various allocations be measured for risk? While not precisely predictive of the future, reviewing past risk/return performance periods provides a sense of future performance.

Below is an example of a portfolio's annualized return along with its standard deviation (risk) over the course of ten

years – 2015 to 2024 (50% fixed income and 50% domestic equity (S&P 500):

		Return	Volatility
Fixed	50%	1.5%	6.7%
Equity	50%	14.4%	15.7%
<b>Portfolio</b>	<b>100%</b>	<b>8.0%</b>	<b>11.2%</b>

From these numbers, we can surmise that the portfolio's annualized returns should range from (-3.2%) to +19.2%, 68% of the time, or one standard deviation (8.0% return +/- 11.2% risk).

By adjusting other various combinations of the noted asset classes, model risk/return portfolios can be created. These models can in turn help us to match clients' risk tolerance and long-term return objectives with an appropriate portfolio.

Outlined below are other models with fixed income allocations ranging from 80% to 20%. The annualized rate of return is found on the Y axis (vertical) while the annualized volatility, or standard deviation is the x axis (horizontal). A lower volatility score/standard deviation corresponds with a lower return and higher risk score corresponds with a higher return. Obviously, a lower standard deviation is better if one is looking for less volatility or risk.



The portfolios above range from expected risk/return scores of 4.1% return/8.5% risk on the far left to 11.8% return/14.0% risk on the far right. Source: FactSet Research Systems, Inc.

## Bottom Line: The Importance of Financial Planning and Ongoing Advice and Guidance

We believe that the best way to combat investment volatility and financial anxiety is through customized financial planning. This process involves managing your financial resources to meet your goals. Understanding one's personal risk tolerance is foundational to effective financial planning.

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Understanding how much risk one has experienced is as important as the return history of the portfolio.

We work with clients to design and tailor a portfolio that not only matches their tolerance and capacity for risk, but also allows for growth opportunities to meet their goals and notably offset inflation. While placing clients in an appropriate portfolio allocation does not make their investment immune from volatility, it does set the stage for what investors can expect and limits surprises when capital markets experience turbulence as they are prone to do.

## Peace of Mind During Turbulent Markets: How Does Isthmus Partners Help Clients?

At Isthmus Partners, we leverage generations of experience and innovative tools to stress test client portfolios before, during, and after implementation. During our planning discussions with prospective clients, we illustrate how client portfolios would have performed in extreme market environments, such as the 2008-09 financial crisis. We also evaluate how their portfolios would have met income needs during various extreme periods over the past 100+ years.

Importantly, we also believe that matching assets with forecasted future liabilities is the optimal way in which to bypass near-term market turbulence. This conservative approach not only dampens volatility, but it also provides clients with peace of mind, knowing their near-term obligations are covered and they won't typically have to sell into a down market, thus buying time for the equities to recover. Given the unpredictability of market returns, this spending policy helps mitigate sequence of return risk.

While we recognize that risk is omnipresent and we continuously seek to identify it, we also view risk as an opportunity. By looking beyond the immediate uncertainty, we aim to capitalize on the temporary impairment of high-quality investments.

With decades worth of data, we have the ability to pair both investment return performance data and annualized volatility/standard deviation information for most clients. We believe that understanding how much risk one has experienced is as important as the return history of the portfolio.

While standard deviation is a key element for making an informed investment decision, it is just one part of a broader picture. Having a financial plan and the ongoing advice and guidance from a trusted partner is critical to your financial success. For nearly four decades, we have steered irreplaceable wealth through the best and worst of times and we are here to help you too.