

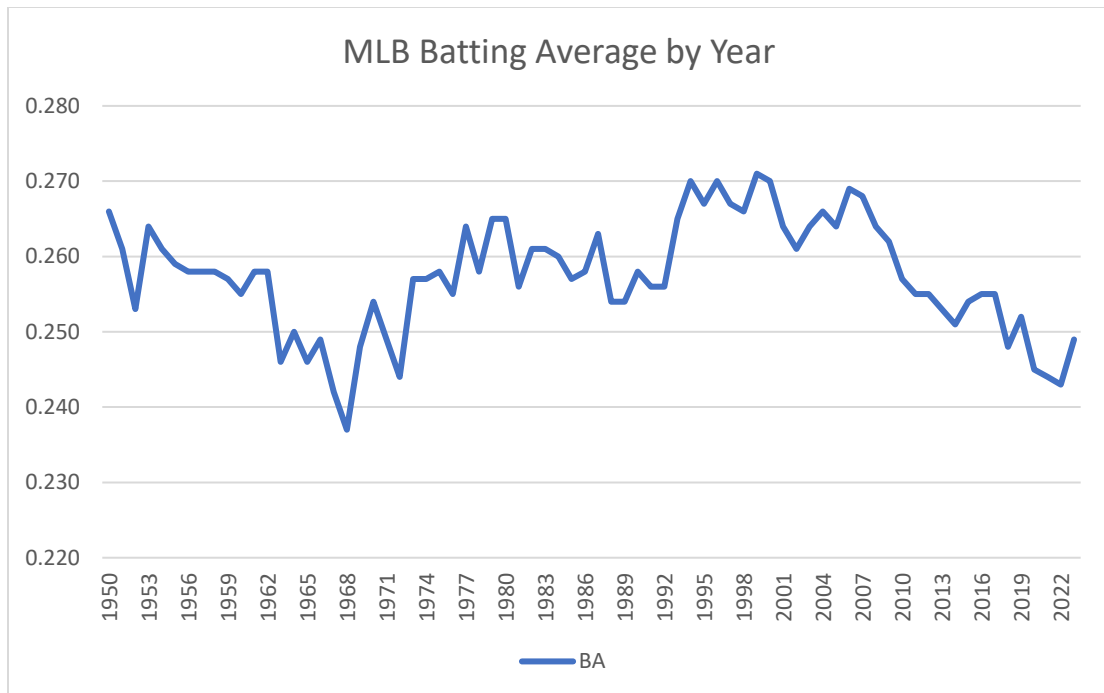
What's your investing paradigm?

This is perhaps the most exciting time of the year. Where I live, the temperatures have climbed back out of the wintry 60s, and the hills are green from rain. Life abounds everywhere, as flowers are starting to bloom. But maybe most exciting of all is that baseball is back. Coming off their convincing World Series victory somehow won with only two uninjured starting pitchers, my Dodgers are even stronger this year, and look to challenge the 2016 Mariners for the most wins in a season. As a lifelong (so far) baseball fan, I find the changes in the game very interesting.

Baseball fans have lived through big changes in how performance is tracked. For generations, Batting Average was probably the most important statistic for a hitter, followed by home runs and Runs Batted In (RBI). Nothing came close to those three. Players competed for the batting title (except in the 80's when everyone already knew Tony Gwynn and Wade Boggs would win for their respective leagues.) A slightly lower honor was to become the home run champ. And every once in a while, someone would make a run for the triple crown – leading the league in all three major categories. Evaluating hitters was simple, except for the rare occasion when someone had a particularly low batting average, but prodigious power and the trade-off was unclear. Along came data analytics, first deployed by Billy Beane and his team, of [Moneyball](#) fame. They analyzed what actually led to run production and found that On-Base Percentage (the percentage of the time a hitter successfully reached base) was more important than Batting Average. Players who were good at drawing walks were systematically undervalued, because a walk did not improve a hitter's batting average. The surprising success of Beane's low-budget Oakland A's spurred the rise in [Sabermetrics](#), which was only enhanced by Statcast – the system that measures everything that happens on the baseball diamond. Other changes to the game such as [the greater size and strength of players](#), have led to lower batting averages, more strikeouts and a greater reliance on home runs to score runs. Batting average has given way to On Base plus slugging (OPS) as the best single data point to measure the effectiveness of a hitter. As such, some current players with batting averages that would have been considered disgraceful in the past are rightly recognized as highly productive hitters due to a combination of elite power and an exceptional ability to draw walks.¹ Changes in the game, advanced measurement capabilities and the application of extensive data analytics have revolutionized the baseball world's paradigm of what to look for in a player and how to put a team together.²

¹ Kyle Schwarber is a great example. In 2022, he was an All Star, won a Silver Slugger award and finished 16th in MVP voting despite a .218 batting average, and a league-leading 200 strikeouts. He led the National League with 46 home runs and drew enough walks to have a league average OBP, despite his batting average being 12.5% below average.

² 2022 saw the lowest average MLB batting average since The Year of the Pitcher, 1968. This is probably partially due to the increased difficulty of getting hits off of today's more effective pitchers, and partially due to sluggers with lower batting averages but higher power numbers being allowed to play more. 2024 equaled the 2022 BA.



Source: <https://www.baseball-reference.com/leagues/majors/bat.shtml>, RIM

Burgeoning scientific learning and the application of data analytics has changed more than just sports. Take something as simple as eating. The USDA’s Food Pyramid used to be ubiquitous. Now there are a lot of nutrition paradigms. Ultimately, it’s all about getting the right balance (whatever that might be) of macronutrients – protein, carbohydrates and fat, and micronutrients – vitamins and minerals. While there is widespread disagreement on what is the optimal diet, everyone seems to agree that the food pyramid is no longer the gold standard.

This brings us to the world of investing. Perhaps related to the success of the Food Pyramid, the [Investment Pyramid](#) became a popular paradigm to think about one’s portfolio. The base of the pyramid called for a large helping of safe investments, such as cash and equivalents and government bonds. The middle of the pyramid holds riskier assets, such as high yield bonds, stocks and stock funds and real estate. The top of the pyramid is the smallest part, by far, and can be invested in very risky investments such as options, futures and collectibles. The biggest advantage of this paradigm is that it is easy to understand. It makes some intuitive sense. Start by generating some income and having reliable assets that can be used for needs or goals. Move on to prudent growth investments, and only once both categories are generously used should pure speculative investments be introduced to create more potential upside. The Mutual Fund industry thrived on the pyramid. From most conservative to most aggressive, this includes: Money market funds, tax-exempt bond funds, taxable bond funds, balanced funds, equity-income funds, growth and income funds and growth funds. An investor can easily build out a pyramid based on the descriptions.

While the mutual fund industry embraced the pyramid, finance academics look at investing differently. Investments are divided into [asset classes](#), such as US large company stocks, US mid

company stocks, US small company stocks, International developed markets, real estate, government bonds, high grade corporate bonds, high yield corporate bonds and cash. There is a little variation in exactly what people consider the menu of asset classes. This approach has been widely adopted in industry – particularly among institutional investors, but the pyramid is still being used by some individuals. Which is the best way to think about a portfolio? To answer this question, we need to consider measurement statistics.

Different investors have different goals for a portfolio, but measuring success is important for all investors. Just like batting average was the primary metric used to judge hitting performance, investment return is the primary metric for investing performance. Astute investors understand that risk is also important, so portfolios are commonly judged by historical return, volatility (a measure of risk) and [Sharpe Ratio](#), which combines return and risk into one number that shows how well risk was compensated. The [diversification benefit](#) of holding multiple asset classes means that a properly constructed portfolio will have a Sharpe ratio higher than the weighted average Sharpe ratio of its components. This is a result of lower risk, as some asset classes will do better when others are at their worst.

While simplicity is the quality that makes the Investment Pyramid attractive, it is also what limits its usefulness. It forces some diversification, but is nonspecific about what assets to hold in each layer. It ignores the diversification benefit of holding assets that are uncorrelated to each other, and instead assumes risk is reduced by including a large helping of “low-risk” assets. A government bond portfolio lacks the diversification of other asset classes and is loaded up on interest rate risk and inflation risk, for instance. The approach is not easily measured, as it is not well-defined. Nor is the paradigm easily adaptable to different needs. The pyramid fails to account for which risks matter to the investor. A young investor with a high savings rate increases shortfall risk by loading up on government bonds instead of assets more likely to appreciate. The pyramid is also confusing, as investors may think “growth” investments means growth stocks, even though growth stocks tend to have a lower return than the broad stock market. Finally, the pyramid assumes that riskier investments will earn a higher return, but this is often not the case. Small cap growth stocks, for instance, have historically had a lower return than large cap value stocks, despite carrying much higher risk. Most new businesses fail. Buying call options is very risky, and investors can expect to have a negative return. Lottery tickets are the ultimate high-risk gamble, with a very negative return on average. Rather than focusing on total portfolio return for a given level of portfolio risk, the pyramid suggests using a lot of “safe” assets regardless of return, and only risking a small part of the portfolio. Investors may do better by eliminating the top layer and shrinking the base to focus on the middle layer, if that is where the best risk-adjusted return lies.

An asset class, or asset class and style approach to portfolio construction moves beyond the vague notions of risk and return in the Pyramid. It estimates, based on historical data³, return, volatility

³ When we look at statistics, we are looking at a historical record of what did happen. Last year’s MVP may not be a great player this year. Advanced metrics increase predictability, but there are still a lot of variables that can affect performance. Still, players with high Wins Above Average (WAR) in one season can be expected to be productive players in the next season. Not so with investing. Cyclicity and mean reversion cause short-term outperformers to be more likely to underperform in the next year. Investors should be careful to use very long-term trends to develop long-term expectations, and to avoid speculating on what will happen in the next year. By

and correlation to other asset classes. Asset classes (and styles) can then be blended to maximize return for any given level of risk, taking into account the dampening effect on volatility of diversification. This is called the Efficient Frontier in [Modern Portfolio Theory](#). Assets are weighted based on their risk-adjusted contribution to the portfolio. The portfolio can be built to the risk level of the client, who understands that for that given level of risk, a maximum expected return⁴ is attained. Even this is an oversimplification because it only considers market risk. Financial planners realize that clients have other risks, such as liquidity risk (can they get to their money when needed?), interest rate risk, inflation risk and shortfall risk (the risk that their portfolio does not earn a sufficient return to fund their needs.)

The Investment Pyramid has doubtless helped many individual investors to spread out their investments and gain a sense of comfort with their portfolio. It is not useless, but it is deeply flawed. While the mutual fund industry still uses it for its simplicity and ability to sell products, the academics and institutional investors have a better paradigm. Asset class and style diversification enables portfolios to target specific risk levels based on individual client needs while maximizing expected returns for that risk level.

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using long-term asset class statistics – return, risk and correlation – investors can develop expectations over what reasonably should happen on average over time.

⁴ We can only build a portfolio for *expected* risk and return, as we do not know what the future holds. If we knew the actual return, there would be no risk.