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Understanding Risk, Returns and Rebalancing

ACADEMIC PERSPECTIVE

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At Avantis Investors, we are big believers in the power of sound financial advice. Investing means accepting some level of uncertainty for the prospect of having more in the future—the oft-mentioned risk/return trade-off. So far, 2020 has brought plenty of uncertainty and market volatility, and investors have naturally had questions about both the risk and return components of this concept.

Expectations, regret and rebalancing all play vital roles. We asked Professor Sunil Wahal about investor expectations, volatility and rebalancing in the context of a long-term financial plan.

Let's start with the basics. Why is setting expectations so important for investors?

If we don't set expectations, the opportunity for disappointment increases significantly. This isn't unique to investments. Anchors with some unit of measurement are instrumental in almost any transaction. Think about trying to agree on a restaurant with someone you just met. They tell you they don't care what cuisine you choose, so long as it isn't too expensive.

Well, what if expensive to you means $30 entrées, so you pick a restaurant with that in mind. But when you sit down and your dinner companion opens the menu, you find out expensive to them means $15 entrées? Not great, right?

You can imagine a similar dilemma within the investment realm. High return or low return, or high risk or low risk, simply isn't good enough without some degree of quantification. With investment returns, there is additional opportunity for confusion because the returns to stocks aren't the same as the returns to stock investors.

To see why this is the case, it's useful to understand precisely what is reported versus what is earned. Investment publications typically report buy-and-hold returns. For example, an annual total return is computed by compounding total monthly returns (including distributions). The annual return to a stock isn't necessarily the annual return earned by an investor. This is because investors allocate cash at different points in time.

Dichev (2007) provides a simple illustration.[1] He describes an investor who buys 100 shares of a company at $10 at the beginning of period 1; at the end of period 1, the stock price doubles to $20. Then the investor buys another 100 shares. At the end of period 2, the stock price falls back to $10. The buy-and-hold return over these two periods is zero. But the investor's return, computed as the internal rate of return (IRR) of the investment and often referred to as a dollar-weighted return, is -26.8%.

So, both the makeup of the investments and the timing of cash flows have an impact on returns for investors. What about volatility—what role does it play?

Volatility also plays a role. It's not uncommon to see investors flee from stocks during periods of high volatility. Earlier this year, we witnessed more than $1 trillion fly into money market funds during late February and March. Now, while that's anecdotal, capital flow has also been studied more broadly.

Dichev and Zheng (2020) find that investors contribute capital to equity markets after low past volatility and just before future high volatility.[2] This volatility mistiming causes the true volatility borne by investors to be larger than the typical standard deviation of returns reported in financial publications. The magnitude varies, with realized volatility ranging from 10% to 75% more than reported buy-and-hold volatility. The bottom line is that investors face the potential for a double whammy: Their true dollar-weighted returns are lower, and they bear greater risk than advertised.

This seems like a bleak picture. Lower returns and higher risk. Is everyone susceptible to this?

Humans really aren't wired to be good long-term investors. But despite these aggregate effects, not every investor has to be disappointed. Disappointment is a function of expectations and outcomes. Advisors can help investors by sensibly influencing both.

Adjusting expectations is important because an investor may not be disappointed if expectations are set correctly via education. Simply showing investors my previous example could be sufficient to help them understand that their personal returns are likely to be lower than returns shown in the financial press, particularly for shorter holding periods, purely because of dollar weighting. A little information and explanation can go a long way.

It's probably best that this is done early on, right?

Yes, absolutely. Connecting back to our earlier dining example, you don't want to have to address it when the bill comes.

OK, so having a plan and being on the same page both help. What about rebalancing?

Rebalancing is related to changing the mix of assets in your portfolio, such as selling stocks and using the proceeds to buy bonds. But it isn't random, it's about maximizing returns for an agreed level of risk, or minimizing risk given a desired level of return. It brings the current allocation back to an already established allocation. That context is critical and sometimes overlooked. The asset allocation was already agreed upon at one point in time, presumably for good reason—either in pursuit of achieving a particular goal or to align with a certain level of risk tolerance. Rebalancing is critical to achieving goals or managing risk.

What impact can rebalancing have on returns?

Sensible rebalancing procedures influence investment outcomes. Rebalancing processes that chase past asset class returns are doomed to lower future dollar-weighted returns because of the embedded mistiming.[3] Properly done, rebalancing is optimal because it maintains the risk-return profile investors desire; it "adds value" in the sense that it keeps investors closely aligned to their risk-return objectives. This is true when returns are unpredictable (or in the jargon of statistics, independent and identically distributed). If returns are predictable because they are linked to valuation ratios, then properly executed rebalancing is even more valuable.[4] This is because rebalancing to target weights is a value strategy, allocating more dollars after prices have fallen.

Advisor guidance and thoughtful rebalancing in an effort to maintain desired risk profiles can go a long way in narrowing the gap between expectations and realizations—helping investors help themselves.

SUNIL WAHAL

Sunil Wahal, Ph.D., is the Jack D. Furst Professor of Finance and Director of the Center for Investment Engineering at the W.P. Carey School of Business, Arizona State University. Before joining the ASU faculty in 2005, Dr. Wahal served on the faculty at Emory University and Purdue University.

His research focuses on short- and long-horizon investment strategies (momentum, profitability and others), trading issues (trading algorithm design, trading costs and high-frequency trading), and delegated portfolio management and asset allocation for large institutional investors. His work covers public equities, fixed income and private equity. He has published extensively in *The Journal of Finance*, *Journal of Financial Economics*, *The Review of Financial Studies* and numerous other journals.

He serves as a consultant to Avantis Investors and was previously a consultant to Dimensional Fund Advisors (2005-2019) and AJO Partners. He sits on the investment committees of several registered investment advisors. He is also a regular speaker at academic and practitioner conferences and has given numerous presentations to sovereign wealth funds, endowments, foundations, family offices, defined-benefit plans, defined-contribution plans, and registered investment advisors.

GLOSSARY

Standard deviation. Standard deviation is a statistical measurement of variations from the average. In financial literature, it's often used to measure risk when risk is measured or defined in terms of volatility. In general, more risk means more volatility, and more volatility means a higher standard deviation—there's more variation from the average of the data being measured. In this context, reducing risk means seeking lower standard deviation.

ENDNOTES

[1]Ilia D. Dichev, "What Are Stock Investors' Actual Historical Returns? Evidence from Dollar-Weighted Returns," *American Economic Review* 97, no. 1 (March 2007): 386-401. http://doi.org/10.1257/aer.97.1.386.

[2]Ilia D. Dichev and Xin Zheng, "The Volatility of Stock Investor Returns," (July 29, 2020). Available at SSRN: https://ssrn.com/abstract=3663350.

[3]Ang, Goyal and Ilmanen show investors often have "bad habits" in the sense they rebalance at precisely the wrong times. See Andrew Ang, Amit Goyal and Antti Ilmanen, "Asset Allocation and Bad Habits," *Rotman International Journal of Pension Management* 7, no. 2 (September 17, 2014), Columbia Business School Research Paper no. 14-42. Available at SSRN: https://ssrn.com/abstract=2497510.

[4]The evidence on predictability in aggregate returns linked to valuation ratios, especially aggregate dividend yields, is enormous. Notably, the predictability is stronger at longer horizons. See, for example, John Y. Campbell and Robert J. Shiller, "Stock Prices, Earnings, and Expected Dividends," *The Journal of Finance* 43, no. 3 (July 1988): 661-676. https://doi.org/10.1111/j.1540-6261.1988.tb04598.x.

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