

MONTHLY

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INVESTOR ACTIVITY & RETURNS

Introduction

Investors are provided with a great deal of information about market returns from a variety of sources. However, many investors have difficulty reconciling the changes in their account balances with the market returns that have been reported. One reason for this disconnect is that investors often change their investment strategies or move money into or out of their portfolios. These changes can dramatically alter how market returns impact their own personal wealth. In this monthly we will discuss how some well known practices can lead to divergences be-

tween market returns and changes in investor wealth. We also introduce a measure to quantify the effects of money movement on portfolio results.

Measuring the Effects

Mutual funds and investment managers report performance by linking daily or monthly returns through time. This conventional measure is known as the time-weighted return. The measure includes the effect of compounding, but excludes the effects of contributions to or redemptions from investment portfolios. Managers are required to report time-weighted returns, since they do not con-

trol when investors buy and sell their funds.

To explain how investment returns translate into wealth for investors, a different return calculation is needed. This measure, known as the asset-weighted return, incorporates not only investment returns, but also accounts for the movement of assets. Figure 1 contrasts how the time-weighted returns reported by an equity portfolio affect the wealth of two separate investors who each invest a net amount of \$1.2 million in this US equity portfolio. The difference in the results for these investors can be seen by

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CURRENT TOPIC

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Strategy

- We made no strategy changes during the month of November
- Portfolio strategies remain overweight developed equity markets and credit

Figure 1 - US Equity Portfolio (Annualized Returns)

	Time-Weighted Returns	Asset-Weighted Returns			
		Fixed Withdrawals		Fixed Contributions	
		Contributions	Balance	Contributions	Balance
2004	11.91%	\$1,400,000	\$1,400,000	\$1,000,000	\$1,000,000
2005	6.12%	-\$50,000	\$1,516,740	\$50,000	\$1,169,100
2006	15.71%	-\$50,000	\$1,754,572	\$50,000	\$1,543,410
2007	5.14%	-\$50,000	\$1,794,757	\$50,000	\$1,672,741
2008	-37.31%	\$1,200,000	\$1,125,133	\$1,200,000	\$1,048,641
	-1.96%		-1.18%		-2.91%

“ASSET-WEIGHTED RETURN IS A BETTER MEASURE TO USE WHEN ANALYZING INVESTMENT RESULTS FOR INDIVIDUALS WHO MOVE MONEY IN AND OUT OF THEIR PORTFOLIOS”

INVESTOR ACTIVITY & RETURNS - CONT'D

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comparing the wealth for each at the end of the 5-year period. Since the two investors hold the same portfolio over the same time period, their time-weighted returns are identical. However, the asset-weighted returns for each differ, with lower returns corresponding to the investor with the lower ending balance. This simple example illustrates why asset-weighted return is a better measure to use when analyzing results for individuals who move money in and out of their portfolios.

The Herd Effect

We have written in the past about how herd behavior negatively impacts returns for investors. By measuring market returns after periods of large mutual fund inflows and outflows we showed that investors tended to chase returns and hurt their long-term performance. Herd mentality describes how investors reposition their portfolios in response to return momentum. Generally, it results in selling shares after

the market declines and buying shares after the market advances.

Other studies have been done using different methodologies and have reached the same conclusion. One of these studies was recently published by John Bogle, the founder of the Vanguard Group, in his book *Enough*. To show the effects of investor behavior, he compared time-weighted returns to asset-weighted returns for equity mutual funds over a 25-year time period (1981 – 2005). During that time, the funds reported an average annualized return of 10.0% (time-weighted). However on an asset-weighted basis, investors only realized a 7.3% return, a shortfall of 2.7%. This study provides more evidence of how herd behavior has negatively affected investor returns over time.

Dollar Cost Averaging

Dollar cost averaging is a common practice used by many investors. With dollar cost averaging, investors purchase a fixed dollar amount of

an investment periodically. An example of dollar cost averaging is an employee using payroll deductions to purchase shares of a mutual fund in a 401K account. The primary benefit of this investment strategy for investors who are accumulating assets, is that it allows them to build wealth over time through savings.

There is a secondary benefit to dollar cost averaging, as investors achieve a lower average purchase price than the average price for the asset they are accumulating over the same time period. This is because as asset prices fluctuate, the same dollars will buy more shares when prices are low and fewer shares when prices are high. Figure 2 illustrates this effect by showing that the investor's average purchase price was \$55.72, while the simple average over the same period was \$60.

It is important to note that dollar cost averaging tends to detract from performance when it is used to justify spreading out the investment of a large fixed amount in smaller increments over

time. Intentionally holding cash back from an investment that produces greater returns over time generally will reduce long-term investment results.

Outflows

Many investors use their investment portfolio to fund future cash outlays, like retirement, college education for their children, bequests, or charitable donations. To gauge whether they have sufficient assets to meet their future obligations, investors make assumptions about what returns their investment portfolios will achieve between now and when the funds will be used. Based on the mix of assets in their investment portfolio, investors will assume an average long-term rate of return at which their wealth will grow over time.

Since future investment returns are uncertain, we recommend looking at a range of possible outcomes around an assumed long-term average return. This gives investors a better understanding of

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Figure 2 - Dollar Cost Averaging

Share Price	Investment	Shares
\$50.00	\$100,000	2,000.00
\$70.00	\$100,000	1,428.57
\$40.00	\$100,000	2,500.00
\$80.00	\$100,000	1,250.00
\$60.00	\$400,000	7,178.57

Investor's Average Purchase Price = \$55.72

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About Stairway Partners, LLC

Stairway Partners was formed to provide our clients (starting with ourselves) with an effective and comprehensive solution for managing their wealth. Our disciplined and rigorous approach comes from our collective knowledge in serving large institutional clients over many years.

Our core investment belief is that asset allocation is the single most important determinant of success in any investment plan. The dominant amount of risk and return comes not from your choice of individual investments but from your asset class mix. Stairway Partners focuses our resources on risk management and asset allocation. This includes building your custom blueprint (investment policy and benchmark) and aligning your portfolio with our investment strategy utilizing the global capital markets.

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how different outcomes can affect their financial plans. A common method for estimating future return possibilities is to analyze historical data and statistically produce a distribution of likely results. When graphed by how frequently portfolio returns occur, the distribution of historical outcomes often takes on the shape of a bell – a bell curve, with returns most often being observed around the average and fewer returns being observed farther away from the average. The blue line in Figure 3 shows a distribution of time-weighted returns for a con-

servative investment portfolio (50% Equities & 50% Bonds) that was run through a 25 year simulation of market returns 1,000 times. 90% of the time, the annualized return is between 2.2% and 7.7%, with the average being 4.9%.

As was the case with dollar cost averaging, time-weighted returns do not fully reflect how market returns impact investors with portfolios that experience periodic outflows. Applying the same 1,000 simulated market returns to a portfolio that starts with \$2 million and has periodic fixed redemptions for 25 years produces a worse

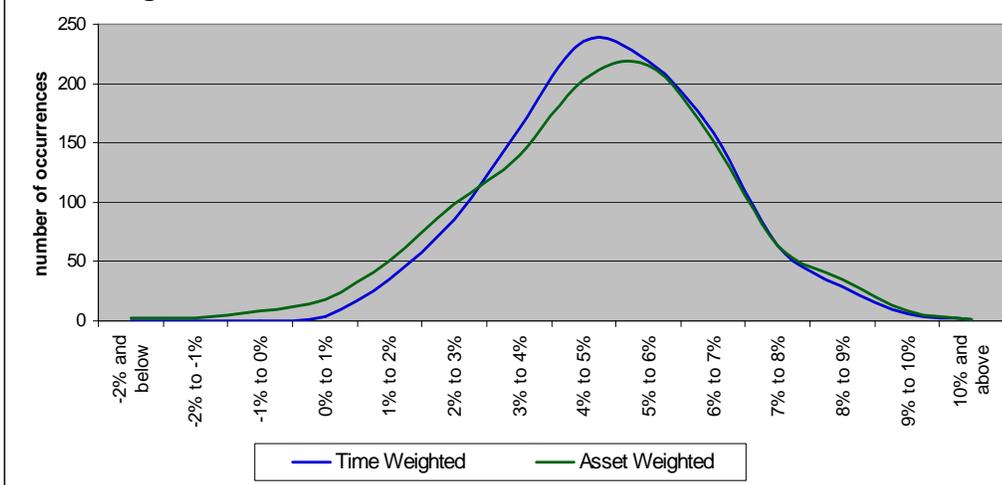
distribution of potential outcomes. The average asset-weighted returns are 0.2% lower than the time-weighted market returns, and the range of outcomes for 90% of the occurrences is 1.5% to 7.8%. The green line in Figure 3 illustrates the bias toward lower asset-weighted returns. In fact, asset-weighted returns tend to be lower than time-weighted returns for all portfolios that experience outflows over time. This is because the forces that benefit portfolios with regular inflows through the effects of dollar cost averaging, have the opposite effect on portfolios with regu-

lar outflows.

Conclusion

Investors often do not fully understand how market returns affect their investment portfolios. This can be due to investors changing investment strategies or moving money into or out of their accounts over time. The use of asset-weighted returns can help investors better quantify their own investment experience. In addition, a more inclusive measurement of investment results, which accounts for activity, can help investors better understand how the range of potential market outcomes will affect their own portfolio.

Figure 3 - Distribution of Returns for Portfolio with Fixed Outflows



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Source: Stairway Partners

Note: Simulation is based on proprietary Monte Carlo model

Strategy

Asset Class	Expected Return	Hurdle Return	Strategy Exposure	Comment
Equities				
US	16.2%	5.8%	over	Exposure above benchmark weight due to attractive pricing
Non-US Developed			over	Asset class remains attractive despite recent rally
Eurozone	21.8%	5.8%		
Japan	18.1%	4.4%		
UK	16.1%	6.1%		
Emerging	3.7%	10.3%	neutral	Asset class is close to fair value
Fixed Income				
US Treasury Bonds			under	Treasuries expensive, but non-Treasury sectors are more attractive
2-Year	0.5%	2.7%		
5-Year	0.3%	3.4%		
10-Year	0.7%	4.2%		
30-Year	0.8%	4.8%		
US Municipal Bonds			under	In most maturities, municipal bonds are modestly overpriced
2-Year	0.7%	2.1%		
5-Year	0.9%	2.7%		
10-Year	2.2%	3.4%		
30-Year	8.5%	4.5%		
US High Yield	5.1%	4.3%	over	Sector is attractive
Non-US Government Bonds			under	Yields remain below fair levels
Euro 10-Year	0.9%	4.1%		
Japan 10-Year	-0.5%	1.8%		
UK 10-Year	1.1%	4.5%		
Emerging Markets Debt	2.7%	4.6%	under	Other asset classes offer better value
Cash	2.6%	---	minimal	
			10-Year	
	Expected	Equity	Bond Return	
	FX Change	Return with	with	
		Currency	Currency	
Currencies				
Euro	-9.7%	12.1%	-8.7%	Euro is overpriced
Japanese yen	-4.7%	13.4%	-5.2%	Yen is moderately overpriced
UK pound	-1.3%	14.7%	-0.2%	Pound is near fair value

Notes:
As of: November 30, 2009

The expected return is our estimate of the annualized return likely to be generated over a 3-year horizon.

The expected returns are expressed in local currencies (e.g., Japanese equity return is stated in yen terms).

The hurdle rate represents the annualized return that an asset needs to generate in order to cover its risk.

Equity Return with Currency (in Currencies section) is the annual return we would expect a US dollar investor to earn from holding foreign equity markets.

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