

Fact Sheet: Investor Returns

Investor Benefits

- ▶ Complements total return and provides a different view of investors' experience in a fund.
- ▶ Reveals whether investors do a good job timing their fund purchases and sales.
- ▶ Indicates whether the fund is serving investors' long-term interests.

Morningstar now calculates investor returns for open-end and exchange-traded mutual funds. Investor returns (also known as dollar-weighted returns) measure how the typical investor in that fund fared over time, incorporating the impact of cash inflows and outflows from purchases and sales.

Background

Investors often suffer from poor timing and poor planning. Investors know they should hold diversified portfolios, but many chase past performance and end up buying funds too late or selling too soon. For example, many investors abandoned their value funds and purchased growth funds in the late 1990s right before the market bubble burst. The tide turned and value stocks outperformed growth stocks in the subsequent years.

A fund's published total return reflects a buy and hold strategy. This information is widely available on fund family websites, in marketing material and from independent sources such as Morningstar. But, not all investors buy and hold. Investors move their money in and out of funds as they search for the best return, and the net assets of funds rise and fall over time.

In contrast to total returns, investor returns account for all cash flows into and out of the fund to measure how the average investor performed over time. In a classic example, a fund receives a great inflow of assets right after a period of good performance and right before a period of poor performance. Investor returns capture these flows and place more weight on the months with higher assets. In this example, investor returns are lower than total returns because more investors participated in the losses.

Consider an example of a person who invests \$100 in a fund at the beginning of the year. At a \$10 net asset value, the investor purchases ten shares. After six months, the net asset value increases to \$20, and the person invests another \$100 (five more shares). At the end of the year, the net asset value falls back to \$10 and the fund investor sells all fifteen shares.

Total return measures the percentage change in price for a fund, assuming the investor buys and holds the fund over the time period, reinvests distributions, and does not make any additional purchases or sales. In this example, the one-year total return is 0%, because the fund price was the same at the beginning and end of the year and there were no distributions.

However, the total return of 0% does not reflect what this investor experienced. This investor contributed a total of \$200 to yield a net of \$150 at the end of the year.

In this case, a better measure of investor experience is investor return, which shows how the typical dollar fared over time, factoring in the cash flows from purchases and sales. In the example above, the six-month investor return is -17.71%, and the annualized one-year investor return is -32.29%. These are the constant rates of return that reconcile the initial investments with the ending amount. Imagine the initial \$100 investment losing 32.29% over twelve months, dropping to \$67.71, and the \$100 June investment losing 17.71% over six months, dropping to \$82.29. These six- and 12-month losses explain the investor's balance of \$150 at the end of the year.

What It Means for Investors

Investor returns measure the experience of the average investor in a fund. It is not one specific investor's experience, but rather a measure of the average return on all dollars invested. Investor returns are not a substitute for total returns but can be used in combination with total returns.

The gap between investor return and total return indicates how well investors timed their fund purchases and sales. When investor return is less than total return, it means that investors didn't participate equally in the fund's monthly returns—more investors participated in the downside returns and less in the upside returns. This sometimes happens when investors chase returns and assets flow into a fund at its peak of performance. This effect can be exacerbated when investors aim to break even and refuse to sell a losing fund.

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When investor return is greater than total return, it means that more investors participated in the fund's upswing and less in the downswing. This can happen when investors are committed to a diversification strategy and continue to invest new monies into a fund, even when its style of investing has gone out of favor.

In addition to revealing patterns of investor behavior, investor returns can also shed light on how well fund families are preserving the investor experience. Fund families have a responsibility to produce effective funds and to promote sound investment strategies. If these companies encourage short-term trading and trendy funds, they may not be looking out for the investors' long-term interests. Fund families that advertise short-term returns and promote high-risk funds will likely have funds with low investor returns relative to total returns.

Investor returns are most useful over longer time periods (five and ten year returns) since there is more return and net asset history available and these periods span a variety of market conditions. Investor returns are also helpful for high-volatility and sector funds to assess whether investors have timed those purchases well.

Investor returns can vary quite a bit for different trailing time periods (three-year vs. 10-year) as well as

for different points in history. For example, investor returns calculated up to the peak of the market in 2000 look very different than investor returns through 2006. Depending on what was happening in the market, there may be greater disparities between investor returns and total returns.

Methodology

In order to calculate investor returns, Morningstar first calculates the monthly cash inflows and outflows for each fund. The cash flow estimate for a month (C) is simply the difference in beginning and ending total net assets (TNA) that cannot be explained by the monthly total return (r).

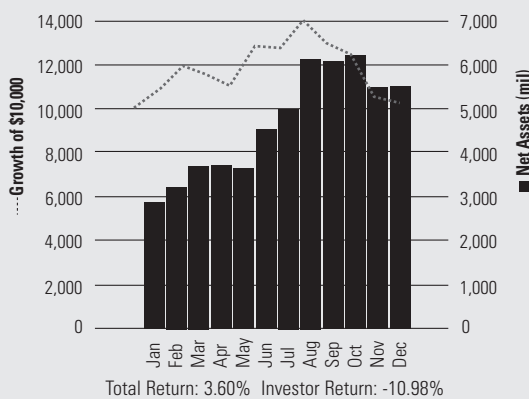
$$C_t = TNA_t - TNA_{t-1} (1+r_t)$$

Once monthly cash flows are available for the period in question, investor returns can be derived with an iterative process. As with an internal rate of return calculation, investor return is the constant monthly rate of return that makes the beginning assets equal to the ending assets with all monthly cash flows accounted for. The monthly investor return is annualized for display purposes.

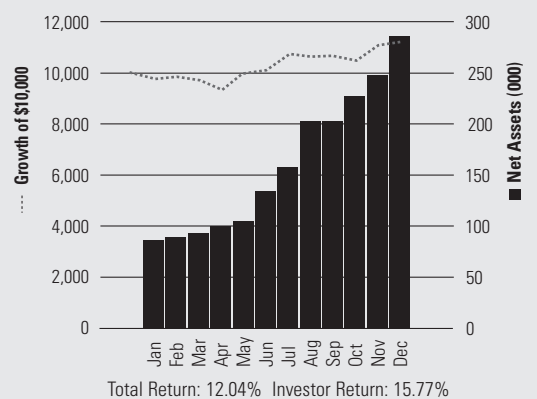
When and Where

Investor returns were introduced in the fourth quarter of 2006 and are available in numerous Morningstar products. ■■

Examples



These two charts illustrate two different patterns of investor behavior. For the fund on the left, the net assets grew rapidly and peaked when the growth of \$10,000 hit its high at \$14,170. Since then, the fund suffered consecutive months of losses. Investors who purchased this fund in August did not have the same experience as those who



purchased the fund in January, and the lower investor returns illustrate that effect. In contrast, the fund on the right exhibits steady growth in net assets and returns. Investors who purchased the fund in August had a fairly similar experience as investors who purchased the fund in January.