

Frequency of Mutual Fund Disclosure and Investor Behavioral Inefficiencies *

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ABSTRACT

Does more frequent mutual fund disclosure cause investors to trade inefficiently and ultimately hurt their own portfolio? This study aims to address this question through an investigation into the return gap experienced by the average investor in equity based mutual funds partitioned by frequency of disclosure. The findings highlight that, on average, investors in high disclosure mutual funds suffer a 0.35% per annum greater loss in returns as compared to low disclosure mutual funds. The results have strong implications for regulatory rules regarding mutual fund frequency of disclosure.

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I Introduction

Often investors assume that greater transparency and more disclosure by their mutual fund manager can only help them in their personal investing decisions and add to their own personal returns.

This study aims to address this issue through an investigation into the average ‘return gap’ an investor suffers, partitioned by the degree of mutual fund disclosure. Examining the full universe of U.S. based mutual funds across different dimensions of fund disclosure highlights that investors in funds that disclose most frequently actually suffer the widest ‘return gap’ and the greatest degree of poor returns due to excess trading and behavioral biases. Investors in funds that disclose less frequently on the other hand actually don’t move in and out of positions as much, don’t try to time the market to nearly the same degree, and overall do less damage to their portfolio through poor trading.

To explore how investors are doing damage to their own portfolio by trading inefficiently, the ‘return gap’ is a proven measure to detail just such a phenomenon. This measure captures the difference between the average return for a fund and what the average investor actually experiences in returns within that fund (i.e. an internal rate of return that factors in fund inflows and outflows). Because most investors tend to pull their money out at the bottom of the market in times of panic (when they should actually be buying cheap equities) and pile more money into the market at the top in times of exuberance (when they should be exiting) the average investor will have a positive ‘return gap’.

Comparing the investor return gap between funds that voluntarily disclose their holdings and asset turnover frequently (on a monthly basis to investors and Morningstar) to those funds that disclose their data infrequently (on a quarterly basis to investors and Morningstar), shows that disclosure isn’t always a good thing for an investor’s bottom line.

For investors who hold U.S. domestic equity mutual funds that disclose their data on a

monthly basis, the median return gap over the past 5 years was 0.95% per annum. This means that investors in such funds lose 0.95% in returns per year by timing the market inefficiently and trading excessively in these U.S. domestic equity funds. Yet, for investors who hold U.S. domestic equity mutual funds that disclose their data less frequently on a quarterly basis, the median return gap over the past 5 years was 0.60% per annum. This means that investors in these less frequent disclosure funds only lose 0.60% per year in returns due to poor trading and market timing.

The difference in these two investor return gaps amounts to 0.35% per annum. In other words, investors could possibly save 0.35% per year in returns by going with the mutual fund that discloses holdings and portfolio info less frequently as opposed to the high disclosure option.

We see this difference in the return gaps in other types of mutual fund types as well. This not only manifests itself in mutual funds focused on international equities, but also for U.S. index funds. For U.S. mutual funds that track indices, the difference in the return gap between high and low disclosure funds amounts to 0.29% per year over a 5 year period. This implies that even for passive investors fund disclosure may play a role in the behavioral biases which cause individuals to trade abnormally and lose money.

These greater return gap differences not only show up in the returns but also the volatility of the funds. Following disclosure months (i.e. a month when a fund discloses), we see higher rates of inflows and outflows (higher flow volatility), which contributes to the tax efficiency (or lack of it) of these mutual funds as well. Disclosure and transparency may not always be a good thing for an investor even though they may clamor to have more of it. More frequent information, it appears, may on average cause an investor to trade more often, time the market inefficiently and overall hurt their long run returns.

This paper proceeds as follows. Section II highlights the data construction and empirical analysis. Section III concludes the paper.

II Data Construction and Empirical Analysis

In this section, I first detail the construction of the dataset used in this investigation and provide summary statistics. Following this, I summarize the empirical methodology and results.

A Construction of the Data

The dataset used in the proceeding analysis was produced via the Morningstar Direct database. From the Morningstar platform, information on all equity focused mutual funds trading in the U.S. (U.S. dollar based mutual funds) was pulled. This initial list of mutual funds included all open-end funds (currently active or defunct) with assets under management listed as non-zero at anytime from 1988 and forward.

From Morningstar information on each fund's objective was pulled, as well as, information on its AUM, monthly returns, and volatility. To categorize each fund by its style, funds were partitioned into groups that focused on small cap stocks, large cap stocks, growth, value stocks, international equity, and REITs. Each of these fund types are again partitioned by actively managed funds and those that are passive (index).

Next, using the Historical Portfolio Date field in Morningstar, each fund is partitioned by its reporting frequency. This amounts to a partition based on a monthly reporting frequency or a quarterly reporting frequency.

B Empirical Analysis

Next, with these partitions define, I look at returns to each fund over one, three, and five year horizons. I pulled two sets of returns over these horizons: the annualized return for each fund and the investor return for each fund.

Morningstar Investor Return (also known as dollar-weighted return) measures how the

average investor fared in a fund over a period of time. Investor return incorporates the impact of cash inflows and outflows from purchases and sales and the growth in fund assets.

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. Investor return is calculated in a similar manner as internal rate of return. Investor return measures the compound growth rate in the value of all dollars invested in the fund over the evaluation period. Investor return is the growth rate that will link the beginning total net assets plus all intermediate cash flows to the ending total net assets.

B.1 Return Gap

With these two measures of returns, I calculate the ‘return gap’ for each fund over time. The ‘return gap’ is measured as the difference between the mutual fund’s stated return and the investor return. This captures trading and timing inefficiencies by investors in each corresponding fund.

Below in the first chart is the annualized return difference between High Frequency Mutual Funds and Low Frequency Mutual Funds’ return gaps. The return gap for each subsets are presented and then the difference in return gaps is also denoted (all in percentage points).

Mutual Fund type	More Frequent Reporting		Less Frequent Reporting		1 yr Difference in Return Gaps	5 yr Difference in Return Gaps
	1 yr Return Gap	5 yr Return Gap	1 yr Return Gap	5 yr Return Gap		
US Large Cap Equity	0.797	0.95145	0.72971	0.60165	0.06729	0.3498
International Equity	0.51745	0.548325	0.33475	0.36039	0.1827	0.187935
US Small Cap Equity	1.02517	0.989844	0.79432	0.95435	0.23085	0.035494

Figure 1: Annualized return difference between High Frequency Mutual Funds and Low Frequency Mutual Funds’ Return gaps

Below in the second chart is the annualized return difference between High Frequency Mutual Funds and Low Frequency Mutual Funds' return gaps, only isolating index funds. The return gap for each subsets are presented and then the difference in return gaps is also denoted.

Mutual Fund type	More Frequent Reporting		Less Frequent Reporting		1 yr Difference in Return Gaps	5 yr Difference in Return Gaps
	1 yr Return Gap	5 yr Return Gap	1 yr Return Gap	5 yr Return Gap		
US Index Funds (large cap)	0.399225	0.5012	0.33246	0.20713	0.066765	0.29407

Figure 2: Annualized return difference between High Frequency Index Funds and Low Frequency Index Funds' Return gaps

B.2 Turnover Analysis and Endogeneity

Next, to address two additional concerns with the data I look at the fund flows into and out of high and low disclosure mutual funds and when they occur.

Isolating the low frequency mutual fund disclosure subset, following disclosure months (i.e. a month when a fund disclosures), we see higher rates of inflows and outflows (higher flow volatility). This holds across all mutual fund types presented in Figure 1 and 2, and the average increase in flow volatility amounts to 15% (see figure attached in supplemental tables).

In addition, since there is a concern about the endogeneity of results, I repeat the analysis for a sample of mutual funds that were acquired. These 74 mutual funds were acquired and had their reporting schedules exogenously shifted from low disclosure to high disclosure (in 40% of the cases).

Investigating how the return gap shifts for these exogenous acquisition mutual fund cases paints a similar story. Following a shift from low disclosure to high disclosures, on average the return gap goes up 9% for equity funds in a two-year period following the acquisition (results attached in supplemental table).

III Conclusion

This study aims to address the issue of mutual fund disclosure's effect on investors' trading activities through an investigation into the return gap experienced by the average investor in equity based mutual funds partitioned by frequency of disclosure. The findings highlight that, on average, investors in high disclosure mutual funds suffer a 0.35% per annum greater loss in returns as compared to low disclosure mutual funds.

These results highlight that frequency of disclosure for mutual funds is not always a good thing for investors. Investors may take this increased info and trade on it more frequently, which on average diminishes their long-run returns due to market mistiming and other phenomena. In total, the results have strong implications for regulatory rules regarding frequency of disclosure.