Strategic Timing in Closed-End Fund Portfolio Holdings Disclosure

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January 2019

We would like to thank Andreas Charitou, Andreas Milidonis, Irene Karamanou, Marios Panayides and participants at the 2018 European Financial Management Association conference, the 2017 Paris Financial Management Conference, the 2017 Multinational Finance Society spring conference and the 2017 The International Journal of Accounting Symposium, for valuable comments and suggestions. Theodosis Kallenos (kallenos@ucy.ac.cy) and George Nishiotis (nishioti@ucy.ac.cy) are both from the Department of Accounting and Finance, School of Economics and Business, University of Cyprus and David Lesmond (dlesmond@tulane.edu) is from the Freeman School of Business, Tulane University.

Abstract

Using a sample of equity closed-end funds, we document significant portfolio holdings disclosure valuation effects and strategic disclosure timing by portfolio managers. An event study analysis reveals statistically significant positive (negative) abnormal returns associated with early (late) disclosure. We find that the returns of a long-short arbitrage strategy portfolio become statistically significant exactly when the implementation of such a strategy is facilitated by the timely disclosure of portfolio holdings. Our findings support the argument that managers of funds trading at high discounts are more likely to disclose earlier in order to reduce discounts and protect themselves from activist investor attacks. This is despite the documented strong motives for late disclosure stemming from copycatting and front running threats shared with open-end fund managers.

Keywords: Closed-End funds, Portfolio Holdings Disclosure, Arbitrage, Valuation effects, Front running, Copycatting

1. Introduction

In this paper we examine the disclosure practices of closed-end fund (CEF) managers. We document strong valuation effects associated with portfolio holdings disclosure as well as strong evidence of managerial strategic behavior associated with the disclosure timing. To our knowledge this is the first paper in the literature that performs this analysis for closed-end funds even though there exists an extensive literature regarding open-end funds (see Wermers, 2001; Frank *et al.*, 2004; Verbeek and Wang, 2013; Shive and Yun, 2013 among other).

CEFs differ significantly from open-end mutual funds in that after an initial public offering, the fund shares trade on a stock exchange just like any other stock. Consequently, unlike open-end funds that stand ready to create new shares or redeem existing shares at the Net Asset Value (NAV) of their underlying assets, the price of CEFs is determined by supply and demand forces and can vary significantly from their NAV.[1] The unique institutional features of CEFs warrant a separate investigation of their disclosure practices from that of open-end funds.

First, the existence of a CEF price allows for direct pricing tests to evaluate investor reaction to timely and late disclosures, something that is not feasible in the open-end fund disclosure literature.[2] Second, the presence of high discounts in fund prices relative to their NAVs gives rise to significant additional disclosure motives for CEF managers relative to those of open-fund managers.

[1] In fact, these premiums/discounts in CEF prices constitute a long-standing puzzle in the finance literature. See Dimson and Minio-Kozerski (1999) and Cherkes (2012) for extensive surveys of the closed-end fund puzzle literature.

[2] The open-end fund literature uses money flows to investigate investor reaction on disclosure. For example Ge and Zheng (2006) examine the relation between disclosure frequency and new money flows to study whether investors are attaching a greater value to more frequent portfolio disclosure.

To identify these additional motives, we need to analyze how discounts affect CEF managers' benefits. While the manager's fee compensation, typically specified as a percentage of the fund's total net assets, is not directly affected, the manager's job security is likely affected by large discounts. Managers of high discount funds risk to be terminated through investor pressure or activist investors liquidating the fund. Activist investors pressure management to open-end or liquidate the fund holdings (Bradley et al., 2010). Cherkes, Sagi and Wang (2014) argues that fund managers of high discount funds are more likely to adopt shareholder value enhancing managed distribution policies (MDP) as a defense mechanism from activist investors[3] attempts to takeover and liquidate the fund. Johnson, Lin and Roy Song (2006) argue that CEF adopt explicit policies committing them to pay minimum dividend yields as deliberate attempts to reduce CEF discounts.

We argue that timely disclosure offers an alternative or complimentary managerial action that could potentially have positive fund valuation effects reducing discounts. These positive valuation effects could arise from two sources. First, by facilitating arbitrageurs to compete with activist investors through the reduction of the cost and risk of implementing arbitrage strategies to take advantage of fund discounts. Second, through the positive valuation effects of disclosure quality argued in the corporate finance and accounting literatures.[4]

The open-end fund literature offers arguments against frequent and timely portfolio holdings disclosure suggesting that it could lead to several threats that would harm the

[3] Cherkes, Sagi and Wang (2014) state that "… holdings of CEF shares are generally dispersed and not held by institutions so that control contests tend to arise through block-holder activism (U.S. law prohibits the hostile acquisition of one investment firm by another)".

[4] In this respect our paper is related to the corporate finance and accounting disclosure literature, where increased disclosure improves firm performance (see for example Karamanou and Nishiotis, 2009 and references therein).

institutions. More specifically, such threats could arise from professional traders that seek to exploit portfolio information by engaging in predatory trading practices such as copycatting and front running. An extensive literature examines issues related to mutual fund holdings disclosures ranging from the ability of information in holdings disclosures to predict future fund returns (Collin-Dufresne and Fos, 2015; Kacperczyk, Sialm and Zheng, 2008), the profitability of copycat strategies (Phillips, Pukthuanthong and Rau, 2014; Verbeek and Wang, 2013; Brown and Schwarz, 2013; Frank *et al.*, 2004), and the threat of front runners (Shive and Yun, 2013; Chen *et al.* , 2008). Christoffersen, Danesh and Musto (2015) examine copycat and front running threats as well as concealing voting power as motives for institutions to delay their portfolio holdings disclosure through 13F filings.

We derive and test five empirical hypotheses. The first two hypotheses relate to the early disclosure motives stemming from the CEF manager's efforts for self-preservation. First, early disclosure is associated with positive valuation benefits. Second, the higher the discount the more likely CEF managers are to disclose early. This early disclosure motive competes with the motives to delay disclosure that are shared with open-end fund managers and include the potential negative effects of free-riding by copycatters and front runners, in light of the tendency of closed-end funds to hold illiquid assets (see Cherkes, Sagi and Stanton, 2009; Lee, Shleifer and Thaler, 1991 and Lesmond and Nishiotis, 2018). This leads to hypotheses 3-5 of the paper. Third, managers that possess valuable information that is reflected in their trading activity are more motivated to delay the disclosure of their portfolio holdings to protect their information and avoid copycatting behavior by competitors. Fourth, managers who plan to actively trade immediately after the filing report period are more likely to delay disclosure of their portfolio holdings to avoid the threat of front running. Fifth, the

illiquidity of the underlying assets heightens the cost of front running because of the high price impact of trading illiquid assets (Amihud, 2002). The illiquidity of underlying assets also increases the cost of an activist attack reducing its threat and the managerial benefit from early disclosure. Therefore, the higher the illiquidity of the underlying assets the more likely it is for the manager to delay disclosure to avoid front running.

We empirically test our hypotheses using a hand collected sample of detailed portfolio holdings of 54 equity CEF from 1995-2010 used in Lesmond and Nishiotis (2018), and the filing dates of their disclosure reports.[5] We define filing distance as the time between the report period-end date and the filing date. Our descriptive statistics indicate that the filing distance variable exhibits substantial variation both within funds and across funds. The within fund standard deviation ranges from a low of 3.42 days for the Templeton Dragon Fund to a high of 25.38 days for the Thai Capital fund. The average filing distance across funds is 57.83 days with a cross-fund standard deviation of 8.2 days.

An event study analysis reveals statistically significant positive (negative) abnormal returns associated with early (late) portfolio holdings disclosure. These results hold for pure portfolio holdings disclosures without further accounting information, providing support for the arbitrage strategy facilitation argument as a source of the positive early disclosure valuation benefits. We find that a portfolio that is long the discount funds and short their NAV returns (underlying assets) yields a significant alpha exactly when

[5] We collect portfolio disclosure information from the following SEC filing forms: N-30D, N-30B-2, N-Q, N-CSR, and N-CSR(S).

the implementation of such a strategy is facilitated by the timely disclosure of portfolio holdings.

Consistent with the event study results of early disclosure positive valuation benefits, both multivariate regression and logit analyses show that managers of funds trading at high discounts are more likely to disclose earlier in order to reduce discounts. We also find that both protection from copycatters and protection from front runners are strong motives to delay portfolio holdings disclosure. Finally, funds with more illiquid holdings delay disclosure more, indicating that illiquidity increases the costs of early disclosure.

Our study is the first to study the disclosure practices of closed-end fund managers providing an important inside into a significant dimension of portfolio manager behavior and contributing to an extensive CEF literature. The documented significant valuation effects reveal the importance of fund disclosures to investors.

The structure of the study is as follows: In the next section we present the institutional background of CEF disclosures. In section 3 we review the literature and develop our empirical hypotheses. The data and descriptive statistics are presented in section 4 and the methodology is described in section 5. We present and analyze our results in section 6. The conclusion and a summary of key findings are presented in section 7.

2. Institutional Background of Closed-End Fund Disclosures

In this section we review the regulatory background of investment companies' portfolio holdings disclosures.[6] Different types of filing forms are used by fund managers for

[6] The majority of the information cited in this section can be found in both the proposed and final rule of the SECs "Shareholder Reports and Quarterly Portfolio Disclosure of Registered Management Investment Companies".

portfolio holdings disclosure throughout the period covered in this study. These forms are listed in the appendix along with what information is contained in each report type, the filing frequency and the maximum filing delay allowed by the regulatory authorities.

Prior to May 2004 all registered investment companies were required to report their complete portfolio holdings in the reports delivered to their shareholders twice a year within 60-days from the period-end date. These semiannual filings had to be filed with the SEC within 10 days from the transmission to the shareholders. The N-30D form[7] was filed until January of 2003, and the N-CSR and N-CSR(S) forms[8] are filed from January 2003 onwards. Some funds occasionally voluntarily filed quarterly disclosures through form N-30B-2, which being voluntary, had no file timing requirements.

On May 10th, 2004, following a debate between members of the fund industry that asked for an improved disclosure regime for better monitoring[9] and fund groups arguing that increased disclosure would expose funds to the predatory practices of professional traders, the Security and Exchange Commission adopted a new rule[10] regarding portfolio holdings disclosure. One of the main new requirements of the rule is the mandatory quarterly disclosure of portfolio holdings of every registered management investment company within a 60-day period from the period-end date.

[7] Covered under Rule 30e-1 of the Securities Exchange Act of 1934.
[8] Covered under Section 30 of the Investment Company Act of 1940 and Sections 13 and 15(d) of the Securities Exchange Act of 1934. Investment Companies with fiscal annual and semiannual period ending on or before March 31, 2003 could choose either to file their holdings using form N-CSR or to continue to comply with the certification requirements of Form N-30D for that period.
[9] Specifically, proponents of improved disclosure argued that an increase in the frequency of portfolio disclosure would give investors the possibility to be more informed about the funds' portfolio holding changes, and as a result make more informed asset allocation decisions. In addition, the petitioners argued that more frequent disclosure would expose style drift and potential forms of portfolio manipulation.
[10] Final rule: Shareholder Reports and Quarterly Portfolio Disclosure of Registered Management Investment Companies https://www.sec.gov/rules/final/33-8393.htm#IIB

More specifically, as stated in the rule, a fund is required to file its complete portfolio schedule for the second and fourth fiscal quarters on Form N-CSR, and for the first and third fiscal quarters on new Form N-Q, within 60 days of the end of the quarter. As in the case of Form N-CSR, Form N-Q must be filed with the Commission on E.D.G.A.R.. On the other hand, it is not required for Form N-Q to be delivered to the shareholders, but it is available on the Commission's website for disclosure purposes.

The aforementioned rules and changes in regulation apply to fund level disclosures. A different disclosure regime exists for investment company level disclosures (13F filings). Agarwal *et al.* (2015) argue that investment company level disclosure is less informative relative to fund level disclosure, as the latter offers much more detailed information about the investments of mutual funds than that provided by the 13F form, which aggregates information for all funds held by a mutual fund company. Furthermore, form 13F is only filed by large investors, while fund level filings are filed by all funds. As a result, examining disclosure at the fund level allows for a much more detailed and in-depth analysis.

3. Literature Review and Hypothesis Development

The potential costs and benefits of timely disclosure in the fund industry are extensively examined in the literature typically in the context of open-end funds. In this section we develop new arguments stemming from the unique institutional features of CEF along with the arguments in the open–end fund literature to derive testable empirical hypotheses on the motives of closed-end fund managers to time portfolio holdings disclosure within the flexibility provided by disclosure regulation. Our objective is twofold. First, and more important, analyzing the disclosure practice of CEF managers

and the corresponding investor reaction has unique interest for the broader CEF literature, which is dominated by the closed-end fund puzzle, one of the longest standing anomalies in finance. Second, we aim to shed new light to the general fund disclosure literature.

To uncover possible disclosure motives arising from CEF pricing, we turn to CEF literature to analyze how premiums or discounts affect the CEF manager's actions. The manager's fee compensation, which is typically specified as a percentage of the fund's total net assets, is not directly affected by the premiums/discounts. However, the manager's job security is likely affected by large discounts. Managers of high discount funds risk to be terminated through investor pressure or activist investors liquidating the fund. As a result, Cherkes, Sagi and Wang (2014) argues that fund managers of high discount funds are more likely to adopt shareholder value enhancing managed distribution policies (MDP) as a defense mechanism from activist investors[11] attempts to takeover and liquidate the fund. Johnson, Lin and Roy Song (2006) also argue that CEF adopt explicit policies committing them to pay minimum dividend yields as deliberate attempts to reduce CEF discounts. We argue that timely portfolio holdings disclosure offers an alternative or complimentary managerial action that could potentially have positive fund valuation effects reducing discounts.

We offer two potential sources of valuation benefits arising from more timely disclosure of portfolio holdings. The first, is the reduction in the cost and risk of implementing arbitrage strategies to take advantage of the high discounts. Pontiff (1996) shows how costly arbitrage affects the discount/premium in CEF prices. Arbitrage strategies rely

[11] Cherkes, Sagi and Wang (2014) state that "… holdings of CEF shares are generally dispersed and not held by institutions so that control contests tend to arise through block-holder activism (U.S. law prohibits the hostile acquisition of one investment firm by another)".

on simultaneously purchasing the discounted fund and shorting its underlying assets. A big distance between the report date and filing date would make the disclosure of portfolio holdings obsolete and hamper the implementation of such a strategy. On the other hand, the closer the disclosure date is to the report date the more implementable such an arbitrage strategy is, other things equal. Both arbitrageurs and activist investors try to take advantage of the large discounts in CEF. However, there are critical differences in the type of information needed to implement each strategy and its impact on CEF managers' utility. Unlike the arbitrageur's strategy, the initiation of the activist investor's strategy does not critically depend on the prior knowledge of the exact portfolio holdings as it involves first taking control of the fund and then liquidating its underlying assets. At the initiation stage of such a strategy it is enough to know the discount and perhaps aggregate info on the underlying assets like whether the fund tends to hold liquid or illiquid assets. The impact of the two investment strategies on the manager's utility is also drastically different. The arbitrageur's strategy does not impact the manager's compensation and could significantly reduce the discount, thus making a detrimental investor activist attack less attractive.

The second source of potential valuation benefits from timely disclosure comes from the positive effects of disclosure and transparency in the corporate finance and accounting literatures. Easley and O'Hara (2004) show that in equilibrium the quantity and quality of information affect asset prices. Verrecchia (2001) argues that commitment to greater disclosure over a long window is linked to reduced information asymmetry and a decrease in a firm's cost of capital. While the more timely disclosure of CEF portfolio holdings constitutes an improvement of information quality, the discretion that the manager maintains for future disclosures does not represent a solid

commitment that this practice will continue in the future. Botosan (1997) shows a negative relation between voluntary disclosure and firms cost of capital.

The aforementioned discussion leads to our two main empirical hypotheses.

H1: Early[12] disclosure is associated with positive CEF valuation benefits.

and

H2: The higher the CEF discount the more likely CEF managers are to disclose early.

Existing literature on open-end fund portfolio holdings disclosure as well as industry responses to regulation changes involving more timely disclosures, identify copycatting and front running as two major threats fund managers face when they disclose early. Closed-end fund managers could potentially be influenced by these motives for disclosure timing as well, and we therefore account for them in our empirical tests. Front running refers to professional investors and speculators trading before an expected trade of an institution thus obtaining a better price. Wermers (2001) argues that more frequent portfolio disclosure arms front runners with more timely and comprehensive information and gives the ability to take the right position in anticipating the fund's trades. As a result, the fund faces higher prices when the manager plans to invest in new securities, and lower prices when the manager plans to sell securities. These higher trading costs result in lower returns for the fund and its shareholders.

Christoffersen, Danesh and Musto (2015) use inflows and outflows to examine the impact of front running on the fund manager's decision to delay its 13F filings. Their findings suggest that institutions delay more after large outflows than inflows. Shive

[12] In our empirical analysis we use two alternative definitions of early disclosure: filing is within the 60-day regulation requirement, or filing is in the first quartile of the filing distance variable.

and Yun (2013) find that institutions trade on, and profit from, the predictability of mutual fund flow-induced trading. Coval and Stafford (2007) show that front-running anticipated trades by distressed mutual funds is a profitable strategy, while Chen et al. (2008) provide evidence that Hedge Funds take advantage of this strategy. Similarly Ge and Zheng (2006) findings, indicate a cost to disclosure from front runners.

Copycatting is another freeriding action usually taken by outside investors. Similar to front running, copycatting is also driven by the information disclosed by funds or investment companies. More specifically, copycatting a fund is free riding on the choice of its portfolio by mimicking the investment strategy of the fund. As a result, outside investors benefit from the fund's research and investment strategies without incurring the costs.

Brown and Schwarz (2013) find that securities disclosed by target funds experience abnormal trading volume and positive returns immediately after hedge funds' 13-F filings disclosure, suggesting that market participants attempt to take advantage of hedge fund disclosures. Their findings show limited evidence that copycatters benefit from this strategy and that target funds might benefit from copycatting. Phillips, Pukthuanthong, and Rau (2014), on the other hand, find that the performance of the target fund reverses following copying initiation. Frank *et al.* (2004) findings suggest that copycat funds earn statistically indistinguishable and possibly higher returns than actively managed funds. Similarly Verbeek and Wang (2013) find that on average copycat strategies perform similar to their targets. They also show that the success increased significantly after 2004 and the mandatory quarterly disclosure rule by SEC.

Copycatting and front running threats are expected to affect closed-end fund managers as well. We argue that the more valuable information a CEF manager has the more

likely he/she is to delay portfolio holdings disclosure to protect his/her information reflected in the holdings of his portfolio from copycatters.

H3: The more valuable information a CEF manager has the more likely he/she is to delay portfolio holdings disclosure.

To empirically test this hypothesis, we use two different reporting period trading activity measures to proxy for the level of information a manager possesses. First, we use the return gap measure of Kacperczyk, Sialm and Zheng (2008), which is defined as the difference of the actual closed-end fund (NAV) performance from the performance of a hypothetical portfolio that invests in the previously disclosed fund holdings. This is a measure of the impact of unobserved actions by the fund manager on the fund NAV return during the reporting period. The more positive this impact is, the more likely it is that the manager processes valuable information that she would want to protect and copycatters would want to imitate. We also use the total turnover measure, used in Christoffersen, Danesh and Musto (2015), as an alternative measure. Total turnover is estimated using the end of period holdings relative to the previous period reported holdings. Total turnover captures a manager's trading activity during a certain period based only on the beginning and ending positions. The average return gap captures this activity on a continuous basis and also measures whether this activity adds value to the portfolio.

Front running involves trading in front of an expected trade of an investment company seeking to trade at a lower price. CEF managers would likely be more concerned about front running if they are in the middle of implementing a new investment strategy and thus plan to have significant trading activity after the end of the reporting period. In

this case they would likely hold off from reporting their end of period position fearing that they might reveal their next moves.

H4: CEF managers are more likely to delay portfolio holdings disclosure if they are in the middle of implementing a new trading strategy.

We use the return gap measure estimated between the report date and the filing date as a direct proxy of the actual trading activity of the fund in the post report period. This measure captures situations where CEF managers are more likely to be in the middle of implementing a new trading strategy. The higher the return gap measure immediately after the report period-end the more likely it is that the manager is in the middle of implementing a new investment strategy and thus the concern about front running will be heightened, while the manager will be less concerned about copycatting.

Another important dimension in the analysis of portfolio holdings disclosure in the fund industry is the effect of holdings illiquidity. Fund managers dealing with illiquid positions tend to employ sequential trading strategies to avoid a large price impact. The longer it takes to complete taking a position the higher the likelihood of free riders trading prior to the completion of the target funds position.[13] As a result, investing in illiquid securities may result in an amplification of the negative effects of front running[14] leading fund managers to seek to delay the disclosure of illiquid positions.

Examining the effect of holdings illiquidity on the timing of CEFs disclosure is essential given the fact that, CEFs tend to hold illiquid assets.[15] We argue that the illiquidity of CEFs underlying assets has a direct impact on the threat of front running. If the fund

[13] See Keim and Madhavan (1997) and Shi (2017).
[14] See Parida (2016) and Aragon, Hertzel and Shi (2013).
[15] See for example, Cherkes, Sagi and Stanton (2009), Lee, Shleifer and Thaler (1991) and Lesmond and Nishiotis (2018).

investment strategy is concentrated on illiquid assets, then the negative effects of potential front running are heightened as the price impact of the front runners' activity could prove devastating to the manager's strategy.

H5: The more illiquid the assets the more likely a CEF manager is to delay portfolio holdings disclosure.

To empirically identify the effect of holdings illiquidity on the CEF managers' disclosure timing decision, we use the holdings spread, which is the average bid-ask spread of the fund's holdings in the month of the report.

4. Data

Our analysis focuses on all-equity closed-end funds included in the 'Equity' and 'International Equity' categorizations by MorningStar, with an initiation date prior to 2000. Our sample consists 2500 SEC filings filed by 54 closed-end funds trading on the U.S. stock exchange for the period 1995-2010[16]. The source of the holdings reports of each closed-end fund, is the U.S. Securities and Exchange Commission (S.E.C.) and Electronic Data Gathering Analysis and Retrieval System (E.D.G.A.R.) websites. We focus on the period between the beginning of 1995 (the starting date of E.D.G.A.R.) and the end of 2010. We use information from various fund-level report filings including the following: Form N-30D, form N-CSR, form N-CSRS, and forms N-Q and N-30B-2. The information used from these reports includes the reporting and the filing period dates, company names, industry, country, number of shares held and the value at the reporting date.

[16] See Lesmond and Nishiotis (2018) for more details on the sample.

We used the same procedure used in Lesmond and Nishiotis (2018) to match the holdings data. The matching process was particularly challenging since there was no code identifier for the vast majority of the holdings, other than the company name. Datastream was the primary source used for the necessary data on the holdings. Funds that have been subject to a merger were excluded due to the very long periods of holdings disclosure delay and several inconsistencies in their E.D.G.A.R. filings during the merger period. Our final sample consists of 16 funds focused on investing in US equities (U.S funds) and 38 funds focused on international equities (International Funds).

We use the reporting period for each fund to determine the total turnover, which is the percentage change in the shares traded across quarters, scaled by the total number of shares held in the prior reporting period. Bid and ask quotes for the funds and the U.S. equity holdings are taken from the Trade and Quote (TAQ) database and for foreign equity holdings from Datastream. Proportional bid-ask spreads are then calculated and averaged over the month.

The Center for Research in Security Prices (CRSP) database provides the closing price and number of shares outstanding used to determine the market capitalization of each closed-end fund. Datastream was used to gather the market index data. We collect the 12-month dividend yield from Bloomberg. We calculate the premium using daily NAV data from Lipper.

$Fdistance_{it}$ is the filing distance variable that measures the distance, in days, between the report period-end date and the filing date of the report. The Late filing dummy variable ($LateF_{it}$) dummy takes the value of 1, if the filing date is greater than 60 days

after the report date, which is the period required by the SEC for public disclosure[17], and 0 otherwise. We also define an Early filing dummy variable ($EarlyF_{it}$) that takes the value of 1 if the filing is in the first quartile of the *Fdistance* variable and 0 otherwise.

$Average\ Discount_{it}$ is the average daily discount in the period between the report date and one day before the filing date.[18] $Discount\ Dummy_{it}$ takes the value of 1 if the $Average\ Discount_{it}$ is hıgher than the median discount over all events and 0 otherwise.[19] We use the $Average\ Discount_{it}$ and $Discount\ Dummy_{it}$ to capture the effect of high discounts on the manager's decision regarding the timing of holdings disclosure. $Holdings\ Spread_{it}$ is the average bid-ask spread of the CEF holdings in the month of the report and is used as a measure of the liquidity of the holdings. $Frequency(D)_{it}$ is a dummy variable taking the value of 1 if the distance between holdings filings is a quarter and zero otherwise. Given that quarterly disclosure became mandatory from 2004 onwards, the frequency dummy variable captures both the effect of the regulation change and the effect of voluntary quarterly filings prior to the change. $Book\ Information(D)_{it}$ is a dummy variable that takes the value of 1 if the report contains additional information such as a statement of assets and liabilities, cash flow information and an income statement.[20] $Foreign\ Fund(D)_{it}$ is a dummy variable that takes the value of 1 if the fund is an international equity fund and 0 otherwise. $Fund\ Liquidity_{it}$, is the monthly bid-ask spread of the fund in the month of the report

[17] 60 days for N-30D and N-CSR type forms to be transmitted to the shareholders and 60 days for N-Q forms to be filed with the SEC. Observations where the 60-day period end falls on a non-trading day and the fund disclosed its portfolio holdings on the next available trading day, take the value of 0.
[18] When the NAV is only reported on a weekly basis take the average over weekly discounts.
[19]The Median Discount is 10.40%.
[20] These are N-CSR, N-CSR(S) and N-30D, while in some cases N-30B-2 also include balance sheet and income statement information.

date, the $Number\ Of\ Holdings_{it}$ is the logarithm of the fund's number of unique holdings in a given report.

We also construct the average return gap measure, to capture the effect that unobserved portfolio changes have on the decision to delay or speed-up portfolio holdings disclosure, following Kacperczyk, Sialm and Zheng (2008). Return Gap is measured as the difference between the reported fund return and the return on a portfolio that invests in the previously disclosed fund holdings. We create two variables estimated over two distinct periods. Our first measure is the average return gap between two reports ($Average\ Return\ Gap(RR)_{it}$) and the second is the average monthly return gap between the report and the filing date ($Average\ Return\ Gap(RF)_{it}$).[21]

For the purpose of calculating abnormal returns in our event study we assign an index to each fund in our sample depending on the geographic region that the holdings of the fund are focused on. U.S. funds are assigned the S&P 500 index, on the other hand each foreign holdings fund is assigned the corresponding index, based on their holdings country of origin.[22]

4.1 Descriptive Statistics

Table 1 Panel A presents the filing distance descriptive statistics for each of the filing forms used in this study. Prior to the 2003 adoption of N-CSR forms (N-CSR and N-CSR(S)) for semiannual filings, funds were filing their required forms in a timelier manner (2nd and 4th quarters). The average filing distance of N-30D (older forms) filings is 59 days, while N-CSR filings (new forms) have an average filing distance

[21] We include the filing month return gap in the calculation if the filing takes place in the second half of the month.
[22] We use the corresponding MSCI indices for 36 out of 38 foreign holdings funds, while for the Greater China Fund and the Taiwan Fund, we use the corresponding FTSE index.

greater than 62 for 2nd quarter filings and greater than 64 for 4th quarter filings. The standard deviation on the other hand is higher in the case of N-30D filings. First and third quarter filings (N-Q), adopted in May 2004, have a lower average filing distance since the maximum allowed from the SEC is 60 days, while for the semiannual filings, funds are expected to file the forms within 10 days from the transmission to the shareholders, allowing for a maximum of 70 day period.[23] Around 6% of N-CSR filings, 2.2% of N-CSR(S) 7% of N-30D are filed after the 70 day period. On the other hand, 3.3% of N-Q filings exceed the 60-day period allowed by the regulation. N-30B-2 are voluntary filings and as a result are not subject to a filing distance regulation. More than 60% of N-30B-2 filings are filed with a filing distance higher than 60 days and 12.5% with a filing distance higher than 70 days.

Panel B of Table 1 reports filing distance descriptive statistics for different groups. As indicated by the average *Fdistance* across funds, U.S. funds tend to report earlier (53 days) than international funds (61 days). The standard deviation of mean *Fdistance* across the filings of U.S. funds is around 16 days, greater than the standard deviation of international funds, which is 10 days. The large standard deviations across events especially in the case of U.S. funds is an indication that institutions tend to follow different strategies regarding the timing of their filings.

Reports containing additional information such as financial statements, (mainly N-CSR, N-CSR(S) and N-30D reports) appear to delay almost 8 days more than reports that include just holdings information (i.e. N-Q filings).

Also, it appears that, after the change in reporting regulations, funds tend to delay their filings less relative to the period before the change. This is probably driven by the fact

[23] Given that transmission to the shareholders takes place on the last day allowed.

that the new quarterly filing forms (N-Q) are reported with less filing distance than the filings prior to the new regulation, as shown in Panel A.

Table 2, Panel A, reports filing distance descriptive statistics for each of the U.S. CEF in our sample, while Panel B, presents the same statistics for foreign CEFs.

The figures presented in Table 2 indicate substantial variation in the timing of CEF filings, both within and across funds. The across fund average variation for US funds is 9 days, while for International funds it is 8 days. The within standard deviation of *Fdistance* ranges from 22 days for the Eagle Capital Growth fund to 5 days for the Latin America Discovery fund. Furthermore, for 47 out of 54 funds the *Fdistance* variable exhibits a negative autocorrelation indicating variation in the filing distance of consecutive periods. Finally, only 4 funds never delayed filing beyond 60 days.

Table 3 Panel A displays the pairwise correlation coefficients of several variables used in the regression analysis.

Fdistance is negatively correlated with *Average Discount*. This suggests that the higher the discount the greater the probability a fund manager discloses earlier. This is consistent with our second hypothesis (H2). Consistent with our third hypothesis (H3), *Total Turnover*, and *Average Return Gap(RR)* are positively correlated with *Fdistance*.

Fdistance is also positively correlated with *Average Return Gap(RF)* consistent with our fourth hypothesis (H4) that managers are more likely to delay disclosure if they are in the process of implementing a new strategy.

Higher holdings illiquidity as measured by the *Holdings Spread* is also positively correlated with *Fdistance*. As mentioned earlier front running could be significantly costlier for the fund in the case of illiquid holdings, while copycatting could be

beneficial (H5). The positive correlation between illiquidity of holdings and *Fdistance* indicates that managers are more concerned about the potential losses from front running rather than any gains associated with copycatting. Panel B of Table 3 presents the descriptive statistics of the main variables used to test the hypotheses.[24] The average *Fdistance* across all events is around 58 days with a standard deviation of around 13 days. The mean *Average Discount* is positive at 8.34%, while the median is at 10.4%. The mean total turnover is 0.4 while the mean of *Average Return Gap(RF)* and *Average Return Gap(RR)* is 0 and 0.01, respectively. Finally, the *Holdings Spread* average across funds is 1.95 with a minimum of 0.07 and a maximum of 11.68.

5. Methodology

In this section we discuss the empirical models used in our analysis.

5.1 Pricing Effects Event Study

We begin our empirical analysis with an event study to capture the effects of disclosure on closed-end funds' returns and test our first main hypothesis (H1), that timely holdings disclosure is associated with positive CEF valuation benefits. We apply a short horizon event study analysis using the market model. We use daily fund, and local stock market index returns along with the filing dates of E.D.G.A.R. reports.

We regress each funds' returns on the relative stock market index over an estimation window of [-260, -11] relative to event day 0. We use the coefficient estimates from those regressions to calculate the expected returns around the event (period [-10, +10]). Abnormal returns for the period [-10, +10] are then calculated as the difference between

[24] *Fdistance* is winsorised at the top 1% while all remaining variables have been winsorised at the top and bottom 1%.

actual returns and expected returns. We use abnormal returns to calculate average abnormal returns and cumulative average abnormal returns for different windows.

We proceed to split our sample into early and late disclosure events and follow the same procedure. Late disclosure events are defined as events with filing distance greater than 60 days. We use two different classifications of early disclosures: the first includes events with a filing distance less than or equal to 60 days and the second includes events in the first quartile of the *Fdistance* variable.[25] We also run the analysis for filings that only include portfolio holdings disclosures and no additional balance sheet information.[26] This analysis allows for testing the valuation effects of pure portfolio holdings disclosures without any potential influence from disclosures of other accounting information.

We test for statistical significance using the Kolari and Pynnönen (2010) test that allows for both event-induced variance and cross-correlation across events simultaneously.[27]

5.1.1 Returns to long-short portfolio strategy around portfolio holdings disclosure

We proceed to investigate the performance of a portfolio going long the discounted fund and short its' underlying assets (NAV) around the early holdings disclosure. This analysis tests for significant CEF price returns over and above the corresponding NAV returns, which can also be interpreted as a reduction in the discount. Furthermore, the returns to this long-short portfolio represent the potential returns to an arbitrage strategy

[25] The number of events for the whole sample is 2500, of which 1176 are in the late filing sample and 1324 are in the early filing sample. The number of events in the first quartile of *Fdistance* is 708.

[26] We run this analysis only for the two early disclosure categories since very few holdings only filings are disclosed later than 60 days. For example, as shown in Table 1 only 3.28% of the N-Q filings are disclosed later than 60 days.

[27] For a more descriptive analysis of the procedure used for the event study see the appendix of Michaelides et al. (2015).

that takes advantage of fund discounts. We argue that managers strategically disclose early to facilitate such arbitrage strategies that could reduce discounts as a defense to potential activist investor actions that could prove detrimental to their survival. We therefore expect that the returns to the long-short portfolio will increase significantly after the portfolio holdings disclosure indicating a reduction in the discount. We apply an event study analysis around each filing and calculate the returns of the long-short portfolio in the [-10, +10] event window. The long-short strategy is facilitated after the disclosure of the most recent holdings at the event date (day 0), thus we focus our analysis in the post event period.[28]

For the purpose of this analysis we focus on the early disclosure events using our two different definitions of "early disclosure" defined above and only use the sample of events with daily NAV reporting around the event. In addition, we include only events for which $Average\ Discount_{it}$ is higher than 0, $t$hat is funds that trade at a discount.[29]

Daily long-short returns (LSR) for event *i* and event day *t* are calculated using the following formula:

$$LSR_{it} = R_{it} - R_{it}^{NAV} \quad (3)$$

Where, R_{it} is the CEF return of event *i* on day *t* of the event window and R_{it}^{NAV} is the corresponding NAV return.

Cumulative Long Short Returns (CLSRs) for different sub periods $[t_1,t_2]$ are obtained by adding up the corresponding Long Short Returns over the event window.

[28] Our sample contains international funds whose underlying assets trade at different time zones, thus we also look at post event windows starting at day +1, to control for time zone differences.
[29] This results to a sample of 748 events. Out of the 898 events with daily NAV data and timely disclosure only 150 events have an average discount less than or equal to 0.

$$CLSR_i[t_1, t_2] = LSR_{it_1} + \cdots + LSR_{it_2} \quad (4)$$

For the statistical significance of average CLSRs we use the cross-sectional variation of LSRs in the event window under the assumption that LSR_{it} is independently and identically distributed following a normal distribution with mean zero (under the null) and variance σ^2. We use s_t as an estimator for σ (N=number of events) to define our test statistic based on $CALSR_i$:

$$Z = \sqrt{N}\frac{CALSR_i[t_1,t_2]}{s} \sim N(0,1), \quad (5)$$

where the cumulative average long short return is

$$CALSR[t_1, t_2] = \frac{1}{N}\sum_{i=1}^{N} CLSR_i[t_1, t_2], \quad (6)$$

and the standard deviation is

$$s = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(CLSR_i[t_1, t_2] - CALSR[t_1, t_2])^2} \quad (7)$$

5.2 Explaining Disclosure Timing

We proceed with the examination of the factors that affect the choice of a fund manager the timing of portfolio holdings disclosure. We use filing distance at time t, the *LateF*, and *EarlyF* dummies as dependent variables in our statistical analysis. The following multivariate and a logistic regression models are used to test our hypotheses (H2-H5) regarding strategic disclosure timing.

(1) $$Fdistance_{it} = \beta_0 + \beta_1\, Discount_{it} + \beta_2 Manager's\ Information_{it} + \beta_3 New\ Strategy_{it} + \beta_4 Holdings\ Liquidity_{it} + \beta_5 Fund\ Liquidity_{it} + \beta_6 Fdistance_{it-1} + \beta_7 Frequency(D)_{it} + \beta_8 Book\ Information(D)_{it} + \beta_9 Number\ Of\ Holdings_{it} + \beta_{10} Dividend\ Yield_{it} + \beta_7 Foreign\ Fund_{it} + \varepsilon_{it}$$

(2) $$\Pr(LateF_{it})\ /Pr(EarlyF_{it}) = F(\beta_0 + \beta_1\, Discount_{it} + \beta_2 Manager's\ Information_{it} + \beta_3 New\ Strategy_{it} + \beta_4 Holdings\ Liquidity_{it} + \beta_5 Fund\ Liquidity_{it} + \beta_6 LateF_{it-1}(EarlyF_{it-1}) + \beta_7 Frequency(D)_{it} + \beta_8 Book\ \ Information(D)_{it} + \beta_9 Number\ Of\ Holdings_{it} + \beta_{10} Dividend\ Yield_{it} + \beta_7 Foreign\ Fund_{it} + \varepsilon_{it})$$

The linear regression equation sheds light on cross-sectional characteristics which are important in explaining filing distance. We complement this analysis with a multivariate logit model, used to examine what factors affect the choice of filing late or filing early.

We use $Average\ Discount_{it}$ in the linear regressions and $Discount\ Dummy_{it}$ in the logit regressions to test our second hypothesis (H2).[30] Given our second hypothesis that greater discounts are associated with lower filing distance, we expect the coefficient for $Average\ Discount_{it}$ to be negative in the linear regression and the coefficient for $Discount\ Dummy_{it}$ to be positive in the $EarlyF_{it}$ logit regression and negative in the $LateF_{it}$ logit regression.[31] According to hypothesis H3, we expect the manager's information to be associated with greater filing distance and late filing. We use two

[30] For the second hypothesis (H2) we also used the $Discount\ Dummy_{it}$ as an alternative to the $Average\ Discount_{it}$ in equation (1) and vice versa for equation (2). In all cases the results are the same in terms of both sign and significance.

[31] Since some of the other explanatory variables are used in the literature to explain the discount, in unreported estimations we estimate equation (1) without $Average\ Discount_{it}$ and (2) without $Discount\ Dummy_{it}$. We find that the results for the rest of the variables remain significant and in the same direction.

different proxies to estimate the effect of the manager's information on both $Fdistance_{it}$ and the probability to disclose late or early. These are $Total\ Turnover_{it}$, and $Average\ Return\ Gap(RR)_{it}$.

According to hypothesis H4 if a manager is in the middle of implementing a new strategy, we expect a positive impact on the decision to delay holdings disclosure as the manager wants to avoid front running. We use the average return gap variable, $Average\ Return\ Gap(RF)_{it}$, for the period between the report period end and the filing date as a proxy for $New\ Strategy_{it}$. Finally, holdings illiquidity is proxied by the $Holdings\ Spread_{it}$, and according to hypothesis H5, the filing distance is expected to increase with holdings illiquidity.

We use several controls in all models. These include: the lagged value of the dependent variable, the dividend yield, the fund's price bid-ask spread, the number of the fund's holdings, the foreign fund dummy variable, the filing frequency dummy, capturing the effect of quarterly instead of semiannually disclosure and the book information dummy variable capturing the effect of filings with additional information such as balance sheet, income statement and cash flow information.

6. Results

In this section we present the findings of our empirical analysis. We first present the empirical findings of our event study analysis, which provide a direct test for hypothesis H1. We then present the results from the estimation of our linear and logistic regressions that provide empirical tests for our hypotheses H2-H5.

6.1 Valuation Benefits of timely disclosure

We use an event study analysis to test our first hypothesis (H1) on whether timely disclosure is associated with valuation benefits for closed-end funds. Table 4 presents the cumulative average abnormal returns (CAARs) over different event windows for: the whole sample, the sample of events in the first quartile of *Fdistance*, the sample of events with filing distance less than or equal to 60 days and the sample of events with filing distance more than 60 days.

The results for the whole sample show insignificant CAARs in almost all windows. In fact, only CAAR(0,10) is negative and statistically significant at the 90% level. The results, when we condition on timely disclosure, are much more telling and can explain the insignificance of our findings for the whole sample as they are in opposite direction for early and late disclosures. More specifically, we re-estimate the event study for three groups of events, which include the two early disclosure samples, based on our two alternative definitions, and the late disclosure sample: events in the first quartile of *Fdistance*, events with filing distance less than or equal to 60 days and finally, events with filing distance more than 60 days. CAARs for the early disclosure samples (first and second groups) are positive and statistically significant for windows (0,1) (0,4) and (0,7) revealing the valuation benefits of early disclosure. Interestingly, CAARs are negative and significant in the pre-event window (-10,-1) indicating that managers might be reacting to deteriorating price returns associated with increasing discounts. On the other hand, CAARS for the late filing sample are negative and significant for event windows (0,4) (0,7) and (0,10).

This specific pattern is observed graphically in Figure 1, which presents the CAARs for the three groups around the event. We observe that after the announcement, early

disclosure, represented by First Quartile events and events with *Fdistance* less or equal to 60 days, is associated with positive CAARs and an upward trend following the announcement, while delayed disclosure is associated with negative CAARs and a negative trend following the announcement.

To isolate the investors reaction to the effects of portfolio holdings disclosures we repeat the event study analysis using filings that only include portfolio holding disclosure without additional accounting information. Table 4, Panel B, presents the results of this analysis for the two groups of early disclosure. The CAARs for both categories are positive and significant for event windows (0,1), (0,4) and (0,7) and negative and significant for the pre-event window (-10,-1).

To summarize our results, first we find that using the whole sample there appear to be no significant valuation effects associated with portfolio holdings disclosure. However, conditioning our event study analysis on timely disclosure by splitting the sample into events with early disclosure and events with late disclosure reveals opposing statistically significant valuation effects. We document significant positive abnormal returns following the event for the timely disclosure samples and significant negative abnormal returns for the late filing sample. Our results confirm our hypothesis that closed-end fund portfolio holdings disclosure has significant pricing effects (H1) with the direction of the valuation effect significantly dependent on disclosure timing. We further show that our documented valuation benefits hold for pure portfolio holdings disclosures without other accounting information, providing further support for the arbitrage strategy facilitation argument.

6.1.1 Returns to long-short portfolio strategy around timely holdings disclosure

After establishing significant positive CEF abnormal returns associated with early disclosure of fund portfolio holdings, we proceed to investigate how a portfolio going long the discounted fund and short its' NAV performs around the early holdings disclosure as described in the methodology section 5.1.1.

Table 5 presents the cumulative average long-short strategy portfolio returns (CALSRs) over different event windows for our new sample[32] for the two different definitions of early disclosure described in section 5.1, while a graphic representation of CALSRs is presented in Figure 2. The CALSRs for windows (0,1) (0,4) and (0,7) and (0,10) are positive and statistically significant for both groups, while in the first quartile category the CALSR for window (-1,1) is negative and statistically significant. On the other hand, all pre-event windows exhibit statistically insignificant CALSRs. The findings are consistent with our expectations since the returns of the long-short strategy portfolio become statistically significant exactly when the implementation of such a strategy is facilitated by the timely disclosure of portfolio holdings.[33] This is in line with our argument that managers strategically disclose early to facilitate such arbitrage strategies that could reduce discounts and thus act as a defense mechanism to potential activist investor actions.

[32] The samples here include only funds trading at a discount with NAV reporting at a daily basis. The positive and significant abnormal returns associated with early disclosure documented in the previous section are maintained when we re-run the analysis using this sample.

[33] Results for windows (1,4) and (1,7) and (1,10), controlling for time zone differences in international funds, are also positive and statistically significant for both groups.

6.2 Explaining Disclosure Timing

Table 6 presents two versions of the linear regression model explaining the delay of portfolio holdings disclosure.[34]

The first version (1) of equation 1 uses *Total Turnover* as a proxy for manager's information and *Average Return Gap(RF)* as a proxy for implementing a new strategy. The second version (2) uses *Average Return Gap(RR)* as a proxy for manager's information and excludes *Average Return Gap(RF)* due to the high correlation between the two measures. Each version is estimated with and without year fixed effects.

Average Discount has a negative and statistically significant effect on *Fdistance* in all versions of the equation. This indicates that the higher the discount the more likely the managers are to disclose early. This finding along with our documented early disclosure valuation benefits and discount reduction findings in section 6.1 provide strong support for our hypothesis that CEF managers of funds trading at high discounts strategically disclose early to reduce discounts and protect themselves from activist investor attacks.

We document strong evidence in support of the third hypothesis (H3) since both variables used to proxy a manager's information, *Total Turnover* and *Average Return Gap(RR),* have a positive and significant effect on *Fdistance.* This result suggests that the greater the information a manager has, the more likely the manager will choose to delay the holdings filings, as a protection from copycat threats.

[34] We also account for the fact that our dependent variable is a count variable and as the econometric theory suggests a Poisson or a Negative Binomial regression may be more appropriate. As a result, we run the same estimation using Poisson and Negative Binomial regressions. The results (not reported) are the same both in terms of direction and statistical significance of the coefficients.

We also find evidence in support of our fourth hypothesis (H4) that managers are more likely to delay holdings disclosure to avoid front running if they are in the middle of implementing a new strategy. *Average Return Gap(RF)*, measuring the trading activity between the report date and the filing date, is positive and statistically significant. This indicates that the manager delays portfolio holdings disclosure to avoid front running in cases of higher planned trading activity between the report date and the filing date.

Illiquidity of holdings is positive and significant in our time fixed effects regressions, suggesting that illiquid holdings are associated with higher filing distance. This is consistent with a strong aversion on the part of CEF managers to the high costs of front running (H5).

Turning now to our control variables, illiquid funds, as measured by the fund's bid-ask spread, tend to report earlier than more liquid funds. The lagged *Fdistance* variable has a positive and significant coefficient in both equation versions as does the Frequency variable. Reports containing book information are associated with more delay as do international funds relative to US funds. Finally, both dividend yield and Number of Holdings have a positive effect on the filing distance.

Table 7 uses the same explanatory variables as Table 6 in logit regressions with *LateF* in Panel A and *EarlyF* in Panel B as the dependent variables, except that in this case we use the *Discount Dummy* to test our second hypothesis. *LateF* takes the value of 1 if filing distance is greater than 60 days, and 0 otherwise. *EarlyF* takes the value of 1 if the filing is in the first quartile of filing distance and 0 if filing distance is greater than 60 days. There is significant difference in the interpretation of the results of the two econometric equations. Equation 1 (Table 6) tests for the factors that affect the

magnitude of delay, while equation 2 (Table 7) tests for the factors that affect the choice to file late or early.

Results in Table 7, like those in Table 6, are consistent with our second hypothesis as the $Discount\ Dummy_{it}$ has a negative and significant effect on the probability to file late (*LateF*) and a positive and significant effect on the probability to file early (*EarlyF*) in all versions of the model in both panels A and B. These indicate that the higher the discount the more likely the managers are to disclose early. Marginal effects at means calculations indicate that the discount is both statistically and economically significant as CEFs with high discount ($Discount\ Dummy_{it}$=1) have an 8.2% lower probability of delaying more than 60 days, relative to filing within 60 days from the period-end date, and a 6.7% to 7.6% higher probability to file within the first quartile of *Fdistance* relative to delaying more than 60 days.

Total Turnover is positive and significant in the *LateF* estimations (Panel A) and negative and significant in the *EarlyF* estimations (Panel B). *Average Return Gap(RR)* is positive and significant in Panel A, but insignificant in Panel B. The significant coefficient estimates are consistent with the CEF manager being more likely to delay disclosure to avoid copycatting when she has valuable information (H3).

The positive significant coefficient of *Average Return Gap(RF)* in Table 7 Panel A and the negative significant coefficient in Panel B indicates that a manager being in the middle of implementing a new strategy, and as a result more concerned about front running threats, is more likely to choose to delay disclosure (H4).

Illiquidity of holdings has a positive and significant effect on the probability of a late filing (*LateF*) and a negative and significant effect on the probability of filing early (*EarlyF*) consistent with hypothesis H5. Finally, all the control variables of Panel A

are significant and in the same direction as in Table 6 and as one would expect, significant, but in the opposite direction in Panel B.

The marginal effects reveal that one instant change in Total Turnover has an 8.9 and -10.1 percentage points impact on the probability of late disclosure and the probability of early disclosure, respectively. Also, one instant change in the *Average Return Gap(RF)* has a 49 and a -96 percentage point impact on the two probabilities respectively. The *Average Return Gap(RR)* marginal effect is 104 percentage points on *Pr(LateF)* and -54 on *Pr(EarlyF)* respectively. The *Holdings Spread* marginal effect is approximately 2% on *Pr(LateF)* and -2% on *Pr(EarlyF).*

In summary, the results indicate that managers of funds trading at high discounts are more likely to disclose earlier in order to reduce discounts and protect themselves from activist investor attacks even in the presence of strong motives to delay disclosure because of copycatting and front running concerns. This finding corroborates the valuation benefits findings and the long-short arbitrage strategy findings in section 6.1.

7. Conclusion

In this paper we extend the literature on fund industry disclosure by examining the timing of closed-end fund (CEF) manager's portfolio holdings disclosure decisions. We first exploit the uniqueness of CEF that provide a fund price separate from their NAV, by conducting an event study and revealing significant valuation benefits associated with timely portfolio holdings disclosure and negative valuation effects for late disclosures. We show that the valuation benefits are not driven by the early disclosure of accounting information as they are documented for pure portfolio holding disclosures. Furthermore, we find that the returns of a long-short portfolio strategy to exploit fund discounts become positive and statistically significant exactly after the

implementation of such a strategy is facilitated by the timely disclosure of portfolio holdings.

We build an argument that managers strategically disclose early to protect themselves from activist investor attacks in the presence of high discounts. In this regard early portfolio holdings disclosure acts as an alternative and/or supplement to other value enhancement actions, like managed distribution policies (MDP), as a defense mechanism against activist investors. This is despite the strong motives for late disclosure stemming from copycatting and front running threats shared with open-end fund managers.

Appendix

Forms used for portfolio holdings disclosure between 1995 and 2010

This table presents a list of the filing forms used for portfolio holdings disclosure throughout the period covered in this study along with the information contained in the reports, the rules each filing is covered by, the filing frequency, the period each form was used, and the maximum filing distance allowed by the regulatory authorities. The source for the information is the Security and Exchange Commission (SEC) Website.

Form	Description	Information in Reports	Regulation	Frequency	Period Used	Maximum Filing Distance
N-30D	An annual and semi-annual report mailed to shareholders. Filed by registered investment companies	Schedule of Investments, letter to stockholders, statement of assets and liabilities, statement of operations, statement of changes in Net Assets, financial highlights, changes in portfolio securities, historical financial statistics, dividend payments schedule and the automatic dividend reinvestment plan	Covered under Rule 30e-1 of the Securities Exchange Act of 1934	Filed twice a year (semi-annual)	Until January 22, 2003	Must be transmitted to the shareholders within 60 days after the close of the period. Must be filed within 10 days of the transmission
N-30B-2	Periodic and interim reports mailed to shareholders. Filed by registered investment companies.	In some cases, it contains the information included in N-30D filings and in other cases it includes only the schedule of investments	Covered under rule 30b2-1(b) of the Securities Exchange Act of 1934	Voluntary	-	-
N-CSR and N-CSR(S)	Certified shareholder report	• A copy of the report to stockholders (Schedule of Investments, letter to stockholders, statement of assets and liabilities, statement of operations, statement of changes in Net Assets, financial highlights, changes in portfolio securities, historical financial statistics, dividend payments schedule and the automatic dividend reinvestment plan). • A copy of the firm's code of ethics. • The name of the firm's audit committee financial expert. • Disclosure of principal accountant fees and services for the previous two fiscal years. • Disclosure of audit committee of listed registrants or reason for exemption. • Disclosure of proxy voting policies	Covered under Section 30 of the Investment Company Act of 1940 and Sections 13 and 15(d) of the Securities Exchange Act of 1934	Filed at the end of the second and fourth fiscal quarters	Since January 22, 2003	Must be transmitted to the shareholders within 60 days after the close of the period. Must be filed within 10 days from the transmission
N-Q	Quarterly schedule of portfolio holdings	Schedule of Investments	Covered under Section 30(b) of the Investment Company Act of 1940 and Sections 13(a) and 15(d) of the Securities Exchange Act of 1934	Filed at the end of the first and third fiscal quarters	From May 10, 2004 onwards	Must be filed not later than 60 days after the close of the first and third quarters of each fiscal year

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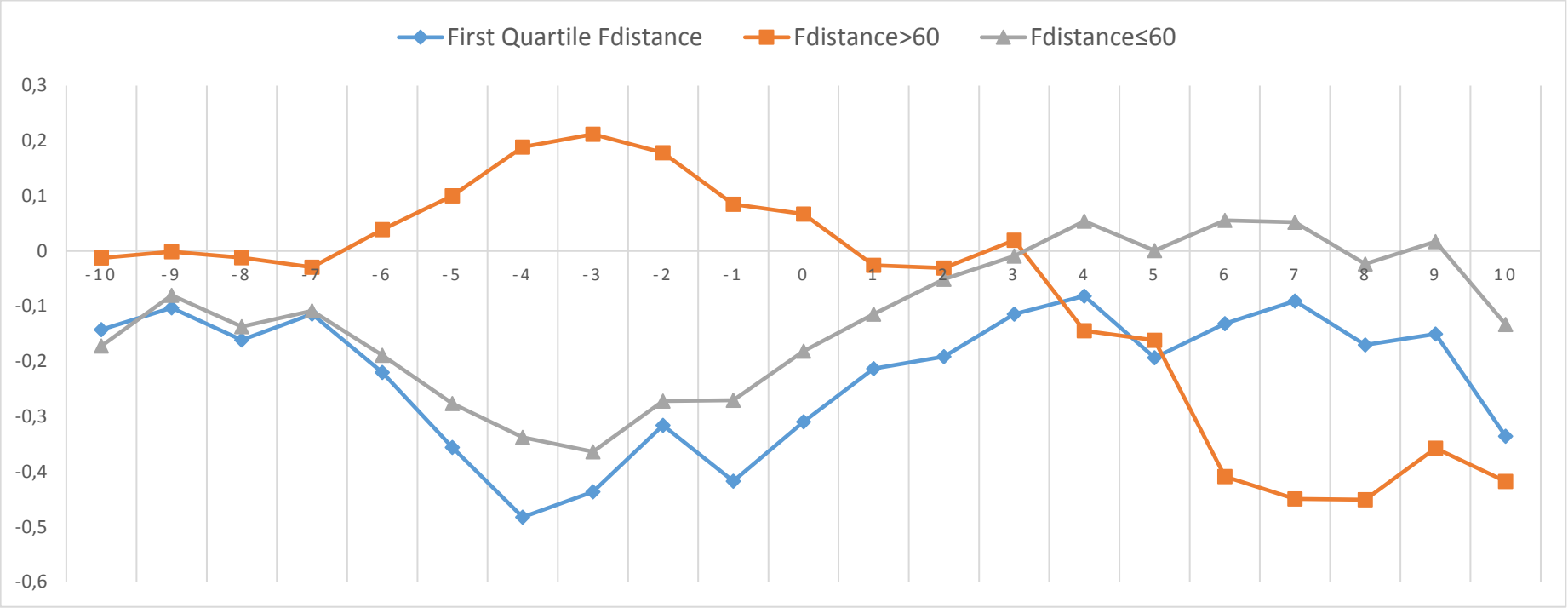

Figure 1: Cumulative average abnormal returns by filing distance. Depicted are the cumulative average abnormal returns for the [-10, +10] event window for 708 events within the first quartile of filing distance (Fdistance), 1176 events with filing distance more than 60 days (Fdistance>60) and 1324 events with filing distance within 60 days (Fdistance≤60). Fdistance is the difference, in days, between the report period-end date and the filing date.

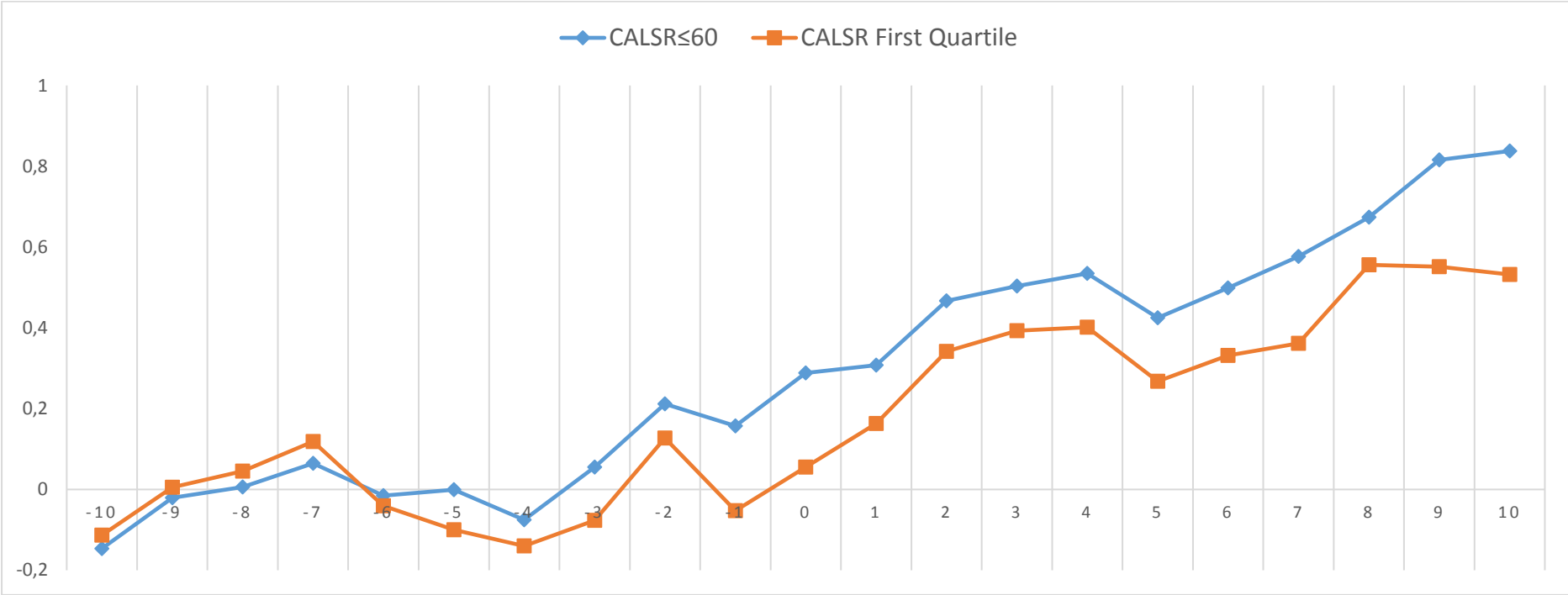

Figure 2: Cumulative average long-short portfolio returns. The graph shows cumulative average long-short portfolio returns for the sample that consists of 429 events where holdings were disclosed within the first quartile of filing distance (CALSR First Quartile) and the sample of 748 events with Fdistance being within 60 days (CALSR≤60). In both cases NAV reporting around the event is daily and Average Discount is greater than zero.

Table 1: Filing Distance descriptive statistics for each filing form

Table 1, Panel A, presents the descriptive statistics for each of the forms used in this study. The number of observations, the mean Fdistance in days, the standard deviation of Fdistance, the minimum Fdistance, the 25% and 75% quantiles of Fdistance, the median and the maximum Fdistance for each form. Fdistance is the difference, in days, between report period-end and filing dates. Fdistance is winsorised at the top 1%. The last 3 columns present the percentage of events with filing distance greater than 60 days, between 60 and 70 days, and greater than 70 days, respectively. Panel B reports filing distance descriptive statistics for different groups. Statistics are presented over events for U.S. holdings and foreign holdings CEFs, all events before and after the new rule for quarterly reporting. We also present the statistics for reports with and without additional accounting (book) information (such as balance sheet information). Source: SEC E.D.G.A.R. CEF filings

Panel A: For Each Filing Form

Form	Observations	Mean	S.D.	Min	0.25	Mdn	0.75	Max	% Fdistance>60	%Fdistance 61 to 70	% Fdistance>70
N-CSR	456	64.1	8.35	12	62	67	69	78	80.04	74.12	5.92
N-CSRS	358	62.41	9.68	16	61	65	68	78	79.05	76.82	2.23
N-Q	670	51.51	13.16	12	51	57	60	70	3.28	3.28	0
N-30D	769	59.11	11.86	12	57	61	66	78	54.72	47.61	7.12
N-30B-2	247	58.68	14.01	14	56	63	67	78	61.29	48.79	12.5
Panel B: By type											
U.S. Funds	764	53.06	15.95	5	44	59	65	78	39.48	35.42	4.05
Foreign Funds	1736	60.72	10.03	4	58	61	67	78	54.2	49.02	5.17
Holdings Information	747	52.9	12.66	4	52	57	60	78	8.69	7.09	1.6
Book Information	1747	60.71	11.92	9	59	64	68	78	67.22	61.05	6.17
Before the New Rule	1126	59.46	12.2	9	57	62	67	78	58.09	50.31	7.78
After the New Rule	1374	57.5	12.94	4	56	60	67	78	42.79	40.39	2.4

Table 2: Descriptive Statistics for Distance between filing and report date

The table presents the descriptive statistics of filing distance (winsorised at the top 1%), measured as the distance between the report period-end date and the filing date. N stands for the number of observations, St.Deviation is the standard deviation, min is the minimum and max is the maximum value. % over 60 is the percentage of events with Fdistance greater than 60 days. AC is the autocorrelation of Fdistance. Panel A presents the data for U.S. Based Holdings CEFs, while Panel B presents the data for Foreign Holdings CEFs. Source: E.D.G.A.R. CEF filings

Panel A: U.S. Based Holdings Closed-End Funds

Closed-End Fund	N	Average Fdistance	St. Deviation	min	median	max	% over 60	AC
Adams Express	60	25.35	12.23	13	21	59	0.00	-0.31
Blue Chip Value	45	55.82	13.75	25	60	71	37.78	0.14
Boulder Total Return	35	60.09	8.40	42	59	70	40.00	-0.40
Central Securities	38	31.39	5.66	20	33	41	0.00	-0.35
Cornerstone Strategic Value	53	59.45	6.80	43	60	71	41.51	-0.41
Eagle Capital Growth	10	31.30	21.64	5	33.50	58	0.00	-0.69
Gabelli	61	63.05	8.68	35	65	78	67.21	-0.09
General American Investors	61	29.61	5.84	19	28	44	0.00	-0.53
Liberty All Star Equity	49	64.91	6.65	51	65	78	73.47	0.05
Liberty All Star Growth	47	64.48	7.98	34	65	78	72.34	0.08
Royce Focus Trust	45	59.67	6.27	45	61	70	55.56	-0.41
Royce Micro Cap	45	60.11	6.01	45	61	70	57.78	-0.43
Royce Value Trust	45	59.62	6.81	38	61	70	57.78	-0.35
Source Capital	44	56.07	5.77	45	55	70	18.18	-0.04
Tri Continental	63	60.19	8.86	32	60	76	47.62	-0.29
Zweig	63	56.35	10.98	34	59	72	34.92	0.49
Across Funds Average	16	52.34	8.89	32.88	52.91	67.25		-0.22

Table 2. Continued:

Panel B: Foreign Holdings Closed-End Funds

Closed-End Fund	N	Average Fdistance	St. Deviation	min	median	max	% over 60	AC
Asia Pacific	40	63.18	7.27	36	63	72	62.50	-0.12
Asia Tigers	45	55.66	9.76	35	58	78	24.44	-0.15
Central Europe Russia	42	61.09	9.26	28	60	78	42.86	-0.04
European Equity	40	62.70	5.24	55	62	78	52.50	-0.44
Morgan Stanley Asia Pacific	61	65.25	4.90	55	67	77	73.77	-0.16
Morgan Stanley Eastern Europe	54	64.94	5.08	55	66	78	70.37	-0.19
Morgan Stanley Emerging Markets	61	65.13	4.93	55	67	78	73.77	-0.18
Templeton Dragon	48	61.40	3.42	56	61	71	52.08	0.08
Templeton Emerging Markets	47	61.28	3.91	55	61	76	53.19	0.03
Templeton Russia Eastern European	43	61.70	3.62	56	61	71	60.47	0.09
Aberdeen Australia	46	63.52	10.05	9	65	78	60.87	-0.07
Japan Equity	42	45.60	21.12	4	55	71	23.81	-0.42
Japan Smaller Cap	35	57.09	12.29	12	60	74	48.57	-0.30
New Germany	40	62.63	5.28	55	61	78	50.00	-0.45
New Ireland	57	61.72	6.38	50	60	78	40.35	-0.10
Spain	45	64.33	5.37	54	65	74	68.89	-0.34
Swiss Helvetica	53	58.66	7.41	43	59	70	35.85	-0.09
Argentina	13	54.92	7.89	46	51	71	23.08	0.00
Brazil	25	60.24	5.85	51	59	71	32.00	-0.18
Aberdeen Chile	45	61.16	6.09	45	63	68	66.67	-0.57
China	44	61.27	5.81	44	60	74	40.91	-0.43
Greater China	43	64.30	4.76	55	65	73	69.77	-0.25
India	45	57.20	9.60	36	59	75	42.22	-0.45
Aberdeen Indonesia	41	61.07	6.24	45	62	68	65.85	-0.60
JF China Region	42	61.88	6.08	42	62	72	57.14	-0.57
Korea Equity	37	56.35	12.54	28	60	73	48.65	-0.51
Korea	45	61.56	5.52	47	61	71	53.33	-0.41
Latin America Discovery	60	64.95	4.56	55	66	77	73.33	-0.26
Malaysia	60	65.20	4.86	55	67	77	73.33	-0.18
Mexico Equity Income	43	60.27	9.21	29	60	78	48.84	-0.53
Mexico	59	59.78	5.98	42	60	76	44.07	-0.06
Morgan Stanley India	60	65.10	4.97	55	66	78	73.33	-0.19
Singapore	40	45.15	21.12	4	55	70	22.50	-0.41
Taiwan Greater China	41	58.98	7.86	44	58	71	43.90	-0.54
Taiwan	43	62.02	6.78	30	61	72	53.49	-0.24
Thai Capital	34	42.53	25.38	6	58	72	35.29	-0.70
Thailand	60	65.20	5.95	55	67	78	73.33	-0.16
Turkey	57	60.70	8.16	29	59	77	45.61	-0.29
Across Funds Average	38	60.15	7.91	40.95	61.21	77.26		-0.27

Table 3: Pairwise Correlations and Descriptive Statistics

Table 3, Panel A, presents the pairwise correlation coefficients between the variables used to test the main hypotheses of this study. Panel B presents the descriptive statistics for the same variables. The descriptive statistics include the number of observations, the mean, the standard deviation, the minimum, the median and the maximum for each variable. Fdistance is the difference, in days, between report period-end and filing dates, collected from E.D.G.A.R. reports. Average Discount is the average discount over the period between the report date and one day before the filing date. Total Turnover is the proportion of the fund's holdings that altered that quarter (reporting period) with both buys and sells. Holdings Spread is the average bid-ask spread of the fund's holdings for the month of the report. Average Return Gap (RR) is the average monthly return gap between the report dates and Average Return Gap (RF) is the average monthly return gap between the report date and filing date. Fdistance has been winsorised at the top 1% while all remaining variables have been winsorised at the top and bottom 1%.

Panel A: Correlation coefficients of main variables

Variable	Fdistance	Average Discount	Total Turnover	Average Return Gap(RF)	Average Return Gap(RR)	Holdings Spread
Fdistance	1					
Average Discount	-0.0894	1				
Total Turnover	0.1237	0.0901	1			
Average Return Gap(RF)	0.0084	-0.0096	-0.0435	1		
Average Return Gap(RR)	0.0421	-0.0440	-0.0317	0.2786	1	
Holdings Spread	0.1676	-0.0210	0.0820	0.0297	-0.0168	1

Panel B: Descriptive statistics of main variables

Variable	N	Mean	S.D.	Min	Median	Max
Fdistance	2500	58.38	12.65	4	60	78
Average Discount	2500	8.34	11.42	-27.79	10.4	28.10
Total Turnover	2453	0.4	0.33	0.01	0.31	1.74
Average Return Gap(RF)	2427	0	0.05	-0.19	0	0.17
Average Return Gap(RR)	2435	0.01	0.03	-0.13	0	0.11
Holdings Spread	2494	1.95	2.07	0.07	1.4	11.68

Table 4: Cumulative Average Abnormal Returns

The table presents the cumulative average abnormal returns for different windows around the event along with their corresponding test statistics. Panel A presents the results for the whole sample, early and late filing samples. First quartile contains results for events with filing distance in the first quartile of Fdistance. Within 60 days contains events with Fdistance less than or equal to 60 days, while more than 60 days contains events with Fdistance greater than 60 days. Panel B presents the events with filings that include only holdings information for the two early reporting categories. ***, ** and * indicates significance at 99%, 95% and 90% level, respectively. We test for significance using the Kolari and Pynnönen (2010) test.

Panel A: CAARs for whole sample, early and late filing samples

Event Window	Whole Sample		First Quartile		Within 60 days		More than 60 days	
	CAAR	TestKP	CAAR	TestKP	CAAR	TestKP	CAAR	TestKP
(-10,-1)	-0.1033	-0.6916	-0.4174***	-2.6526	-0.2706**	-2.2079	0.085	1.1688
(-7,-1)	-0.0249	0.1267	-0.2562*	-1.7106	-0.1334	-1.1095	0.0973	1.188
(-4,-1)	-0.004	0.3831	-0.0614	-0.888	0.006	-0.0804	-0.0152	0.5987
(-1,0)	-0.0044	0.8531	0.0066	-0.0253	0.0907	1.3187	-0.1115	-0.0415
(-1,1)	-0.0126	0.4731	0.1031	1.0633	0.1576	0.1363	-0.2043	-0.1451
(0,1)	0.0305	1.1878	0.2044***	2.6117	0.1560**	2.2875	-0.1109	-1.1243
(0,4)	0.064	0.6244	0.3359***	3.0617	0.3246***	3.2416	-0.2293**	-2.0431
(0,7)	-0.0804	-1.006	0.3268**	2.2439	0.3228**	2.378	-0.5344***	-3.2136
(0,10)	-0.1640*	-1.7066	0.0816	0.5186	0.1372	0.6165	-0.5031***	-2.8855
Events	2500		708		1324		1176	

Panel B: CAARs for early disclosures of holdings only information

Event Window	First Quartile		Within 60 days	
	CAAR	TestKP	CAAR	TestKP
(-10,-1)	-0.7066***	-3.2682	-0.4853***	-2.5788
(-7,-1)	-0.4555	-2.1417	-0.2623	-1.4451
(-4,-1)	-0.141	-1.0506	0.0245	0.1404
(-1,0)	0.0202	0.177	0.0896	0.8226
(-1,1)	0.0683	0.7607	0.1852	1.5986
(0,1)	0.1851**	1.8609	0.2132**	2.153
(0,4)	0.3269**	2.4332	0.3889***	2.9303
(0,7)	0.4766**	2.5315	0.4818***	2.7146
(0,10)	0.1672	0.8045	0.1344	0.3647
Events	500		698	

Table 5: Cumulative Average Long Short Returns

The table presents the cumulative average long short returns, from day -10 of the event window to day 10, their standard errors and the test statistic. The samples used consist of events where holdings were disclosed within the first quartile of filing distance from the period end (First Quartile) and events where holdings were disclosed within 60 days from the period end (Earlier or equal to 60 days). In both cases NAV reporting around the event is daily and Average Discount is more than zero. ***, ** and * indicates significance at 99%, 95% and 90% level, respectively.

Event Window	First Quartile		Earlier or equal to 60 days	
	CALSR	Test Statistic	CALSR	Test Statistic
(-10,-1)	-0.0528	-0.3399	0.1569	1.2234
(-7,-1)	-0.0981	-0.6706	0.1509	1.1925
(-4,-1)	0.0474	0.3604	0.1574	1.3971
(-1,0)	-0.072	-0.7386	0.0767	1.0736
(-1,1)	-0.1799*	-1.9374	-0.0548	-0.8828
(0,1)	0.2159**	2.4019	0.1510**	2.2885
(0,4)	0.4542***	2.9479	0.3778***	3.573
(0,7)	0.4143**	2.456	0.4198***	3.5327
(0,10)	0.5849***	3.1619	0.6810***	4.456
Events	429		748	

Table 6: Factors Affecting the Filing Distance of Holdings filings

The table presents cross-sectional regressions using Fdistance (filing distance winsorised at the top 1%) as a dependent variable. Fdistance is the difference, in days, between the report period-end date and the filing date. Lagged Fdistance is the filing distance of the previous reporting period. Frequency (D) takes the value of 1 if the period between reports of the same fund (t and t-1) is a quarter (or less) and 0 otherwise. Average Discount is the average discount over the period between the report period-end date and one day before the filing date. Total turnover is the proportion of the fund's holdings that altered that quarter (reporting period) with both buys and sells. Holdings Spread is the average bid-ask spread of the fund's holdings for the month of the report. Fund Liquidity is the average bid-ask spread of the fund itself for the month of the report. The Dividend Yield is the 12-month average dividend yield from the prior 12 months. Book Information takes the value of 1 if the report filed contains extra information such as a balance sheet. Foreign Fund is an indicator variable taking the value of 1 if the fund is foreign and 0 otherwise. Log number of firms is the logarithm of the fund's number of unique firms for which the fund holds stocks in a given report. Average Return Gap(RF) is the average monthly return gap between the report and the filing date. Return Gap is measured as the difference between the reported fund return and the return on a portfolio that invests in the previously disclosed fund holdings. Average Return Gap(RR) is the average monthly return gap between two reports. We use robust standard errors in both columns of (1) and (2) and time fixed effects in the second column of (1) and (2). ***, ** and * indicates significance at 99%, 95% and 90% level, respectively. P-Values are in parentheses.

	(1)		(2)	
	Fdistance	Fdistance	Fdistance	Fdistance
Average Discount	-0.0715***	-0.0508***	-0.0708***	-0.0511***
	(0.000)	(0.002)	(0.000)	(0.002)
Total Turnover	1.453**	1.406**		
	(0.035)	(0.042)		
Average Return Gap(RF)	8.466*	7.922*		
	(0.067)	(0.082)		
Average Return Gap(RR)			21.60***	20.50***
			(0.000)	(0.000)
Holdings Spread	0.112	0.209**	0.0961	0.213***
	(0.180)	(0.011)	(0.242)	(0.009)
Fund Liquidity	-0.679***	-0.0932	-0.689***	-0.0170
	(0.000)	(0.757)	(0.000)	(0.955)
lagged Fdistance	0.521***	0.522***	0.511***	0.513***
	(0.000)	(0.000)	(0.000)	(0.000)
Frequency(D)	3.313***	2.465***	2.827***	1.865***
	(0.000)	(0.000)	(0.000)	(0.001)
Dividend Yield	0.0597**	0.0620**	0.0565**	0.0641**
	(0.035)	(0.036)	(0.040)	(0.026)
Foreign Fund(D)	5.063***	4.715***	5.463***	5.114***
	(0.000)	(0.000)	(0.000)	(0.000)
Book Information (D)	13.25***	13.59***	13.36***	13.79***
	(0.000)	(0.000)	(0.000)	(0.000)
Number of Holdings	1.638***	1.811***	1.706***	1.896***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	6.284***	5.081***	7.202***	5.783***
	(0.001)	(0.008)	(0.000)	(0.003)
Year Fixed Effects	NO	YES	NO	YES
N	2389	2389	2421	2421
Adjusted R^2	0.405	0.408	0.407	0.411

Table 7: Factors affecting disclose timing

The table presents logistic regressions using LateF (=1 if Fdistance >60, 0 otherwise) and EarlyF (=1 if the filing is in the first quartile of Fdistance and 0 if Fdistance>60) as a dependent variables in Panels A and B, respectively. Fdistance is the difference, in days, between the filing date and the report period-end date. Lagged LateF (Panel A) and lagged EarlyF (Panel B) are the values of the dependent variables in the previous reporting period. Frequency (D) takes the value of 1 if the period between reports of the same fund (t and t-1) is a quarter (or less) and 0 otherwise. Discount dummy takes the value of 1 if average discount is higher that the median discount and 0 otherwise. Average discount is the average discount over the period between the report date and one day before the filing date. Total turnover is the proportion of the fund's holdings that altered that quarter (reporting period) with both buys and sells. Holdings Spread is the average bid-ask spread of the fund's holdings for the month of the report. Fund Liquidity is the average bid-ask spread of the fund's price for the month of the report. The Dividend Yield is the 12-month average dividend yield from the prior 12 months. Book Information takes the value of 1 if the report filed contains additional accounting information such as balance sheet information. Foreign Fund is an indicator variable taking the value of 1 if the fund is foreign and 0 otherwise. Log number of firms is the logarithm of the fund's number of unique firms for which the fund holds stocks in a given report. Average Return Gap(RR) is the average monthly return gap between two reports. Average Return Gap(RF) is the average monthly return gap between the report and the filing date. Return Gap is measured as the difference between the reported fund return and the return on a portfolio that invests in the previously disclosed fund holdings. We use robust standard errors in all columns and time fixed effects in the second column of both (1) and (2). In the third column of each of the two versions, marginal effects at means are presented for the year fixed effects models. ***, ** and * indicates significance at 99%, 95% and 90% level, respectively. P-Values are in parentheses.

Panel A: Probability to file later than 60 days vs within 60 days (LateF)

	(1)			(2)		
	Pr(LateF)	Pr(LateF)	Marginal Effects	Pr(LateF)	Pr(LateF)	Marginal Effects
Discount Dummy	-0.468***	-0.345***	-0.0821	-0.444***	-0.343***	-0.0824
	(0.000)	(0.002)	(0.002)	(0.000)	(0.002)	(0.002)
Total Turnover	0.362**	0.372**	0.0886			
	(0.048)	(0.048)	(0.048)			
Average Return Gap(RF)	2.138*	2.047*	0.4876			
	(0.062)	(0.070)	(0.071)			
Average Return Gap(RR)				4.684***	4.365***	1.0482
				(0.003)	(0.005)	(0.005)
Holdings Spread	0.0686***	0.0900***	0.02111	0.0649**	0.0900***	0.0216
	(0.008)	(0.001)	(0.001)	(0.010)	(0.000)	(0.000)
Fund Liquidity	-0.114**	-0.0258		-0.116**	-0.00192	
	(0.015)	(0.686)		(0.013)	(0.976)	
lagged LateF	0.896***	0.886***		0.889***	0.898***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Frequency(D)	1.061***	1.029***		0.960***	0.870***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Dividend Yield	0.0179*	0.0224**		0.0152	0.0216**	
	(0.078)	(0.037)		(0.128)	(0.044)	
Foreign Fund(D)	1.143***	1.162***		1.192***	1.214***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Book Information (D)	4.394***	4.487***		4.427***	4.575***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Number of Holdings	0.648***	0.688***		0.653***	0.698***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Constant	-8.161***	-8.001***		-8.000***	-7.424***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Year Fixed Effects	NO	YES	YES	NO	YES	YES
N	2389	2389		2421	2421	
Pseudo R^2	0.3253	0.3405		0.3289	0.344	

Table 7 continued:

Panel B: Probability to file in the first quartile of Fdistance vs later than 60 days (Early F)

	(1)			(2)		
	Pr(EarlyF)	Pr(EarlyF)	Marginal Effects	Pr(EarlyF)	Pr(EarlyF)	Marginal Effects
Discount Dummy	0.434***	0.341**	0.0756	0.378**	0.306**	0.0671
	(0.003)	(0.026)	(0.026)	(0.010)	(0.043)	(0.043)
Total Turnover	-0.437*	-0.452*	-0.1001			
	(0.062)	(0.059)	(0.058)			
Average Return Gap(RF)	-4.414**	-4.346**	-0.9632			
	(0.012)	(0.013)	(0.013)			
Average Return Gap(RR)				-2.814	-2.508	-0.5488
				(0.179)	(0.240)	(0.240)
Holdings Spread	-0.0725**	-0.0968***	-0.0215	-0.0683**	-0.0979***	-0.0214
	(0.021)	(0.002)	(0.003)	(0.028)	(0.002)	(0.002)
Fund Liquidity	-0.0488	-0.133		-0.0342	-0.142	
	(0.511)	(0.258)		(0.641)	(0.228)	
lagged EarlyF	-0.369**	-0.361*		-0.352*	-0.342*	
	(0.047)	(0.071)		(0.056)	(0.084)	
Frequency(D)	-0.970***	-0.822***		-0.859***	-0.671***	
	(0.000)	(0.001)		(0.000)	(0.004)	
Dividend Yield	-0.0225**	-0.0241**		-0.0210*	-0.0239**	
	(0.037)	(0.042)		(0.053)	(0.040)	
Foreign Fund(D)	-0.838***	-0.776***		-0.880***	-0.817***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Book Information (D)	-4.524***	-4.674***		-4.531***	-4.699***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Number of Holdings	-0.646***	-0.662***		-0.651***	-0.675***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Constant	7.038***	6.612***		6.801***	6.564***	
	(0.000)	(0.000)		(0.000)	(0.000)	
Year Fixed Effects	NO	YES	YES	NO	YES	YES
N	1859	1859		1891	1891	
Pseudo R^2	0.4321	0.4499		0.4318	0.4495	