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Launching for the "Greater Good": Spillover Effect of ESG Funds

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Abstract

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Keywords: ESG, mutual fund family, spillover effect, fund flows, affection-based judgement, fund proliferation
JEL Classification: G10, G20, G23

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1. Introduction

One of the most significant recent trends in finance is the growing interest in ESG investing. Starks (2023), in her AFA presidential address, emphasizes the importance of distinguishing between investors' *value* versus *values* motivations in analyzing this trend. The rapid expansion of ESG investing, however, results from a dynamic interplay between investor demand and provider incentives. While finance scholars have extensively studied the motivations of investors in ESG investing, less attention is given to understanding what drives financial intermediaries to offer investment products with explicit ESG mandates. To shed light on the supply-side factors in shaping the evolution of the ESG investment landscape, our study examines mutual fund families, pivotal players in the financial market, to uncover the reasons behind their incorporation of ESG funds into the product offerings.

ESG investing is often perceived as a potential source of lucrative revenue for mutual fund families[1]: The proliferation of ESG funds attracts substantial capital flows[2] , and ESG funds are shown to command higher fees compared to non-ESG counterparts (Baker, Egan, and Sarkar, 2022). However, a comparative analysis spanning from 1992 to 2022 reveals a different picture. Revenue generated by ESG funds persistently falls short in comparison to non-ESG counterparts, as shown in Figure 1. A newly launched ESG fund generates an average monthly revenue of $0.25 million, compared to $0.81 million for non-ESG funds. This revenue gap suggests that the anticipated revenue gains from new ESG funds alone may not fully account for fund families' enthusiasm in launching these products, indicating other contributing factors to their proliferation.

In this paper, we propose that one contributing factor to the proliferation of ESG funds could be the positive demand spillover they generate onto other funds in the family. This effect can be attributed to two main factors. First, investors often concentrate their investments within one fund family to

[1] E.g., Michael Wursthorn, "Tidal Wave of ESG funds Brings Profit to Wall Street," Wall Street Journal (March 16, 2021 https://www.wsj.com/articles/tidal-wave-of-esg-funds-brings-profit-to-wall-street-11615887004).
[2] Source: "Sustainable Funds U.S. Landscape Report," Morningstar Investment Research (Feb. 21, 2023 https://www.morningstar.com/lp/sustainable-funds-landscape-report).

minimize search and transaction costs, a behavior known as "shopping at one store" (e.g., Massa, 2003; Gavazza, 2011). By offering ESG funds, a fund family can attract investors with an ESG preference and potentially lead them to invest in other non-ESG funds in the family. Second, the launch of ESG funds may create a "halo effect" (Thorndike, 1920) among investors. Specifically, if investors, especially those with a strong ESG preference, perceive fund families with ESG offerings as superior to those without, adding ESG funds to the product lineup can enhance the overall reputation and appeal of the fund family, resulting in increased capital inflows across all funds within the family. It is important to recognize that the launch of new products also risks cannibalizing demand for existing ones, unless the new product is carefully differentiated. In the context of ESG funds, we expect that their non-financial attributes will facilitate product innovation and differentiation, thus minimizing the risk of demand cannibalization.

Using a sample of the U.S. equity mutual funds for the period from 1992 to 2022, we study the impact of launching ESG funds on the capital flows to other non-ESG funds in the same fund family. In a panel regression with both fund and month fixed effects, we find that the launch of ESG funds in the preceding 12 months is associated with a 0.329 percentage points increase in the monthly flows to the non-ESG sibling funds. Importantly, the positive flow spillover is independent of the "star fund effect" documented by Nanda, Wang, and Zheng (2004). Furthermore, our analysis does not identify any significant spillover effects associated with the launch of non-ESG funds.

Next, we explore the potential factors that contribute to the observed spillover effect. First, we examine whether launching ESG funds coincides with the adoption of sustainable investing policies at the fund family level, thereby attracting ESG-conscious investors to these families. If this is the case, one would expect to observe an improvement in the ESG performance of the non-ESG sibling funds subsequent to the introduction of ESG funds. However, our empirical findings appear to contradict this hypothesis. We observe that neither the ESG scores of the portfolio holdings nor the return sensitivity to ESG indexes of the sibling funds changes significantly following the launch of ESG funds. This

evidence indicates that the flow spillover is unlikely to be driven by fundamental changes in the ESG strategies of the sibling funds.

Another potential source for the spillover effect could be attributed to investors' expectations that non-ESG fund managers would learn from their ESG-focused counterparts and subsequently apply this knowledge to improve the financial performance of their funds. However, we do not find that launching ESG funds is associated with a significant improvement in risk-adjusted returns for the sibling non-ESG funds. Moreover, we observe that the spillover effect is stronger among the passive sibling funds compared to the active ones, the latter of which is more likely to benefit from information sharing and learning within fund families. These findings rule out the possibility that flow spillover is driven by an enhancement in the financial performance of the sibling non-ESG funds.[3]

Taken together, the launch of ESG funds brings a significantly positive externality to the member funds in the family, and this effect is unlikely to be credited to the sibling funds' improving ESG profiles or abnormal returns. We therefore posit that the spillover is largely attributed to the marketing success of the fund family. Specifically, fund families carefully strategize the introduction of ESG funds, taking into account the information frictions and limited rationality of individual customers (i.e., investors), to profit from the increasing investor attention toward ESG issues. We investigate this hypothesis in three folds.

First, we analyze the variation of flow spillover among investor clienteles. Retail investors, in contrast to their institutional counterparts, tend to engage in "shopping at one store" behavior due to a higher level of search and transaction costs. Additionally, they are also more susceptible to the "halo effect" stemming from perception biases. These characteristics render retail investors more responsive to the marketing efforts of fund families. Our empirical analysis supports this notion, demonstrating

[3] We acknowledge that our choice to analyze realized abnormal returns instead of directly surveying investors' beliefs leaves open the possibility that the observed spillover effect could be associated with investors holding a wrong belief that fund families with ESG funds can generate superior abnormal returns. We address this alternative interpretation in Section 4.2.

that the spillover effect is concentrated among retail funds, thus offering compelling evidence in favor of the marketing hypothesis.

Second, we investigate whether flow spillovers are absent in cases where fund families rebrand an incumbent fund to incorporate an ESG theme. While such "green rebranding" reflects fund families' intention to profit from ESG investing, it typically involves minimal marketing effort since rebranding often takes place for underperforming funds.[4] Therefore, we expect to observe no flow spillovers in the cases of rebranding. Indeed, our findings align with this expectation, underscoring the pivotal role of fund families' marketing endeavors in generating flow spillovers.

Third, we conduct further heterogeneity tests to examine whether the efficacy of marketing efforts is enhanced when investors pay more attention to the launch of ESG funds. We find that the spillover effect is more pronounced when the ESG initiatives of fund families receive greater media coverage and during periods when ESG issues attract greater societal attention. Furthermore, a stronger spillover effect is evident for larger fund families and those with greater marketing expenditures. Collectively, these findings further support the notion that the observed spillover effect is primarily driven by the marketing success of fund families.

We further demonstrate that the flow spillovers are unlikely to result from omitted variables, such as demand shocks that simultaneously affect a fund family's tendency to launch ESG funds and capital flows to its existing funds. To address this endogeneity concern, we employ an instrumental variable to isolate the effect of ESG fund launches—specifically, natural disasters occurring near fund family headquarters. Our analysis indicates that families with higher exposure to environmental disasters are more inclined to launch ESG funds in the subsequent year, and flow spillovers persist robustly even after instrumenting the launching decision in a two-stage least squares (2SLS) regression.

[4] Our analysis suggests that newly launched funds attract considerable media attention, whereas rebranding initiatives do not. More precisely, we note a substantial surge in the volume of news articles focusing on ESG-related subjects subsequent to the introduction of more ESG funds by a fund family. However, our findings do not reveal a statistically significant correlation between ESG news coverage and instances of ESG rebranding.

Utilizing our spillover analysis, we evaluate the overall incentives for fund families to introduce ESG products. Over the 1992-2022 sample period, the estimated flow spillover effect translates into a monthly revenue gain of approximately $0.36 million for fund families. This estimation is based on an average of seven sibling funds per family, consistent with the methodology employed by Nanda, Wang, and Zheng (2004). Combining this with the monthly revenue from new ESG funds themselves yields a total benefit of around $0.61 million, comparable to non-ESG fund launches averaging $0.81 million. Notably, our examination reveals a convergence in the total revenue gains between launching ESG and non-ESG funds in more recent years. Post-2004, the monthly revenue from a new ESG fund is estimated at $0.70 million, with $0.40 million attributed to spillover effects, while the corresponding revenue for a new non-ESG fund stands at $0.73 million. These findings underscore the significant contribution of flow spillover effects to the incentives for fund families to offer ESG products, particularly in recent years characterized by heightened investor awareness of ESG-related issues.

Finally, we conduct two additional analyses. First, we examine the impact of introducing anti-ESG funds on fund flows within the same family. Our analysis reveals a negative flow spillover effect following the launch of anti-ESG funds. This adverse spillover appears unlikely to stem from rational investor decisions with informational and transactional frictions, thereby underscoring the heuristic nature of investors' ESG preferences. Second, we explore the dynamic interplay between spillover effects and fund proliferation. Our findings suggest that newly introduced ESG funds tend to exhibit a higher degree of product differentiation compared to non-ESG counterparts. Furthermore, flow spillover is more pronounced when a new ESG fund significantly deviates from existing offerings. These findings indicate that the potential benefits of spillover effects may incentivize fund families to diversify their product offerings, thereby contributing to the increased proliferation of ESG investment products.[5]

[5] ESG investment products can exhibit substantial and growing variation in their features. For instance, the investment strategies of an ESG fund can range from excluding specific stocks or sectors (i.e., negative screening) to incorporating

Our paper contributes to the growing body of literature on socially responsible investing. While several studies suggest that ESG investing is primarily driven by investors' prosocial preferences (e.g., Riedl and Smeets, 2017; Hartzmark and Sussman, 2019; Barber, Morse, and Yasuda, 2021; Bauer, Ruof, and Smeets, 2021; Heeb et al., 2023), others present evidence suggesting that some investors may prioritize financial performance (Giglio et al., 2023; Gantchev, Giannetti, and Li, 2024). Most of the existing research in this domain relies on field surveys and experiments to understand the nature and determinants of ESG investing. Our paper provides insights into the *value* versus *values* motivation using the real-world setting of mutual fund investments. Our empirical findings reveal that the launch of ESG funds generates significant flow spillovers to other funds within the same family, and this effect cannot be attributed to an improvement in the financial performance of the sibling funds. This suggests that retail investors' investment choices are more likely driven by their prosocial preferences rather than financial considerations, emphasizing the importance of *values* in steering ESG investing. On the other hand, our estimations also suggest that flow spillover generates nearly as much monetary incentive as ESG funds themselves, providing a significant *value* motivation for fund families to offer such investment options. In this regard, our paper strongly resonates with the cause marketing model proposed by Krishna and Rajan (2009). The positive externality we document represents an important, yet often overlooked, supply-side factor contributing to the growth and proliferation of ESG investment products. This insight adds to the existing literature on product proliferation and differentiation in the mutual fund industry (e.g., Massa, 1998; Khorana and Servaes, 1999; Massa, 2003; Hortacsu and Syverson, 2004; Khorana and Servaes, 2012; Kostovetsky and Warner, 2020; Ben-David et al., 2023).

Furthermore, our research sheds light on the connection between ESG investing and affect-based judgment, which refers to decision-making based on emotional responses to stimuli rather than rational

ESG risks and opportunities (i.e., ESG integration). The investment themes within ESG investing display even more variety, with some funds adopting a broad-based definition of ESG issues while others prioritize specific dimensions such as climate change or female leadership.

analysis (e.g., Finucane et al., 2000; Slovic et al., 2005, 2007). While it is well-established that affect-based judgment influences financial decisions (e.g., Kuhnen and Knutson, 2011; MacGregor et al., 2000; Ma, Noussair, and Renneboog, 2022), the role of affection in ESG investing remains less explored. As exceptions, recent studies by Hartzmark and Sussman (2019) and Heeb et al. (2023) suggest that the heuristic affect drives investors' valuation and willingness-to-pay for sustainable investments. Our paper specifically focuses on one noteworthy form of affect-based judgment, known as the halo effect, which occurs when affection toward one aspect of an entity extends to influence people's broader judgment of its overall character. By examining the halo effect, we contribute to a better understanding of how positive perceptions of ESG investments can extend beyond individual funds, impacting the demand for other funds within the same fund family.

Last, this paper contributes to the literature on the importance of family membership in the mutual fund industry. Most studies in this literature recognize that fund families manage multiple funds in a manner much similar to how product manufacturers operate multiple product lines. Therefore, despite the fact that all mutual funds are legally independent, the management of these funds under the same family umbrella introduces interesting and important interactions among the member funds (e.g., Massa, 2003; Gaspar, Massa, and Matos, 2006; Cohen and Schmidt, 2009; Bhattacharya, Lee, and Pool, 2013; Choi, Kahraman, and Mukherjee, 2016; Eisele et al., 2020; Dannhauser and Spilker, 2023). Our paper is probably most related to Nanda, Wang, and Zheng (2004), who find a strong positive spillover effect of star funds in the family. However, our study distinguishes itself by focusing on the introduction of ESG funds, which are unique and differentiated products compared to the alpha-driven traditional portfolio. We show that our findings are not driven by fund performance and therefore contribute a non-performance metric that generates a substantial spillover effect to other funds in the family.

2. Data, variables, and descriptive statistics

2.1 Data

We obtain data from several sources. Our primary data source is the CRSP Survivor-Bias-Free US Mutual Funds database, which includes a comprehensive list of U.S. open-end mutual funds and provides information on fund names, inception dates, fund returns, assets under management (AUM), expense ratios, turnover ratios, investment objectives, fund family names, and other fund characteristics. We focus on funds that primarily invest in US common stocks and use a sample period from 1992, when monthly AUM data became available, to 2022. Following Elton, Gruber, and Blake (2001), Chen et al. (2004), and Pástor, Stambaugh, and Taylor (2015), we exclude funds with less than $15 million in total net assets (TNA). To address the incubation bias documented in Evans (2010), we drop the first three years of return history for every fund in our sample. For funds with multiple share classes, we compute fund-level variables by aggregating across different share classes. Specifically, we calculate fund size as the sum of assets and the other fund characteristics as the value-weighted average across all share classes.

Our second data source is Thomson Reuters Mutual Fund Holdings database, formerly known as CDA/Spectrum S12 database. It contains the quarterly or semiannual equity holdings of U.S. open-end mutual funds. Following Wermers' (2000) methodology, we merge the Thomson Reuters database with the CRSP database using MFLINKS tables.

Recognizing the well-documented challenges related to the divergence of ESG ratings across various ESG rating agencies (Berg, Kölbel, and Rigobon, 2022), we employ three distinct data sources to assess the ESG profile of portfolio holdings, aiming to mitigate the limitations inherent in relying exclusively on one data provider. These data sources include the MSCI KLD database, MSCI ESG Ratings, and Morningstar Sustainability Rating. MSCI's KLD database, which contains, from 1991 to 2018, firms' ESG performance ratings in seven qualitative issue areas: community, corporate governance, diversity, employee relations, environment, human rights, and products. KLD separately

rates positive indicators (strengths) and negative indicators (concerns) of corporate ESG performance for each of these dimensions; MSCI ESG Ratings, which has been available since 2007, analyzes companies' environmental, social, and governance issues, and rates companies on an AAA-CCC scale relative to industry peers for ESG issues; Morningstar Sustainability Rating was launched by Morningstar on March 1, 2016, and was designed to provide "a reliable, objective way to evaluate how investments are meeting environmental, social, and governance challenges." Within the framework of the Morningstar Sustainability Rating System, mutual funds are classified into a simple rating between one and five globes.

Next, we obtain data on climatic disasters from the Spatial Hazard Events and Losses Database for the United States (SHELDUS) at Arizona State University. This database contains natural hazards information on the event date, event location, and corresponding direct losses such as property losses and fatalities, at the county level in the U.S. For completeness, we select all hazard types.[6]

Finally, we extract news articles from Factiva.com, an online database which provides access to news archives from around the world. For each fund family that launches at least one ESG fund in our sample, we retrieve articles by querying a set of tags related to ESG topics in the launching year.

2.2 Variables

2.2.1 ESG funds. Lacking a single definition, an ESG Fund is a broad term used to describe any investment vehicle where fund managers use environmental, social, and governance (ESG) criteria to inform its composition and asset allocation. As our paper focuses on the behavior of investor flows, where investor awareness is a key driver, we identify ESG funds based on ESG or sustainability-related terms in fund names.[7] To examine whether our sample of ESG funds indeed exhibits better ESG

[6] There are in total 18 types of hazards in SHELDUS, including avalanche, coastal, drought, earthquake, flood, fog, hail, heat, hurricane/tropical storm, landslide, lightning, severe thunderstorm, tornado, tsunami/seiche, volcano, wildfire, wind, and winter weather.

[7] In particular, we start by searching the following keywords in fund names, including sustain, social, esg, pax, green, responsi, clean, impact, water, environm, catholic, parnassus, aquina, women, alternative energy, equality, wind energy, fossil, low carbon, amana, ecolog, eco, epiphany, solar, climate, better world, gender, just, sri, community,

performance, we conduct a comparative analysis of the MSCI ESG scores of holdings between ESG and non-ESG funds during the initial six months since launch. The results, as shown in Internet Appendix Table IA1, reveal a notable distinction, with the average MSCI ESG score of the ESG funds being significantly higher than that of their non-ESG counterparts.

In total, there are 710 ESG funds offered by 219 fund families in our sample, of which 122 funds were rebranded as ESG funds while the remaining 588 were newly introduced to the market. Note that 572 funds were launched during our sample period of 1992-2022. For each of these 572 funds, we record the exact month of fund inception and flag all its sibling funds (i.e., non-ESG funds offered by the same family) in the same month. We create an indicator variable, *ESG Launch*, for these sibling funds during the subsequent year. Specifically, *ESG Launch* equals one if at least one new ESG fund has been launched by the fund family during the past 12 months, and zero otherwise. In a similar approach, we pinpoint the specific month in which each fund underwent a "green rebranding", and introduce an indicator variable, *ESG Rebrand*, for non-ESG sibling funds. In particular, *ESG Rebrand* equals one if at least one incumbent fund within the family was rebranded as an ESG fund in the preceding 12 months, and zero otherwise.

2.2.2 ESG ratings. We measure funds' ESG performance utilizing three distinct ESG data sources. First, we calculate the adjusted KLD score for each firm-year following Deng et al. (2013). This methodology addresses concerns regarding variations in the number of performance metrics within each of the seven dimensions (community, corporate governance, diversity, employee relations, environment, human rights, and product quality and safety) across different years. Consequently, the adjusted KLD scores are standardized, ensuring comparability across both years and dimensions. Then, we aggregate the adjusted KLD score at the fund-quarter level using the fund holding data. Specifically,

and diversity, following the recent studies of Michaely, Ordonez-Calafi, and Rubio (2021) and Cremers, Riley, and Zambrana (2023). We then manually review each of these funds and exclude those that are not ESG funds (such as the "Global X Social Media ETF").

we calculate the value-weighted average adjusted KLD score for all the stocks in a fund's portfolio at the end of each quarter. Second, we adjust the MSCI ESG Ratings to a scale ranging from 1 (CCC) to 7 (AAA) following Bizjak et al. (2022), and aggregate it at the fund-quarter level. Recognizing that both KLD and MSCI ESG ratings cover only a subset of portfolio firms, we follow Borgers et al. (2015) and exclude funds with rating coverage of less than 75% of the portfolio value or fewer than 25 stocks from the regression sample. Lastly, we convert the Morningstar Sustainability Rating into a scale ranging from 1 (one globe) to 5 (five globes).

2.2.3 Net flows. We follow Nanda, Wang, and Zheng (2004) to construct the net capital flow measures for both the fund and the family. Specifically, for each fund-month observation in our sample, we first calculate the new capital by the following formula, where TNA is the total net assets and R is the net-of-fee return of the fund.

$$New\ Capital_{i,t} = TNA_{i,t} - TNA_{i,t-1} \times \left(1 + R_{i,t}\right). \quad (1)$$

We then normalize the new money growth by TNA at the beginning of the month to have the net flows measured at the fund level:

$$Net\ Flows_{i,t} = \frac{New\ Capital_{i,t}}{TNA_{i,t-1}}. \quad (2)$$

2.2.4 Fund performance. We measure fund performance using the Carhart (1997) four-factor model. Specifically, using 36-month rolling windows, we estimate the following regression to get the risk exposures to the market, size, book-to-market, and momentum factors:

$$R_{i,t} - R_{f,t} = \alpha_i + \sum_{k=1}^{4} \beta_{i,k,t} f_{k,t} + \varepsilon_{i,t}. \quad (3)$$

Here, $R_{i,t} - R_{f,t}$ is the net return of fund *i* in month *t* minus the risk-free rate, $f_{k,t}$ refers to the four factors in Carhart (1997). We then compute four-factor alpha for each fund-month observation as follows:

$$Alpha_{i,t} = R_{i,t} - R_{f,t} - \sum_{k=1}^{4} \beta_{i,k,t-1} f_{k,t}. \qquad (4)$$

We also construct alpha using alternative asset pricing models including Fama-French's three-factor Model and Capital Asset Pricing Model.

2.2.5 Other variables. We include a set of additional variables to control for fund- and family-specific characteristics. *Fund Size* is the sum of assets under management across all share classes; *Family Size* is the aggregated fund sizes in the same family; *Fund Return* is the monthly raw net return; *Fund Age* is the number of months that the oldest share class has been traded; *Expense Ratio* is calculated by dividing the fund's operating expenses by the average dollar value of its assets under management; *Turnover Ratio* is defined as the minimum of sales or purchases divided by the TNA of the fund; Following Nanda, Wang, and Zheng (2004), we define a *Star Fund* as one with the previous 12 months' three-factor adjusted returns ranking among the top 5 percent of all funds in that month; For any given month, a fund family is defined as a *Star Family* if it has at least one star fund under management.

2.2.6 Instrumental variable. We employ an instrumental variable approach to gauge the propensity of fund families towards launching ESG funds, leveraging the perceived significance of environmental concerns. Specifically, we calculate the natural logarithm of one plus the number of natural disasters occurring within a 100-mile radius of each fund family's headquarters in each year, denoted as *Log(Num_Hazards+1)*. A surge in hazards around family headquarters is likely to heighten the perceived urgency of environmental protection and potentially leads to an accelerated introduction of ESG products. Since natural disasters cannot be perfectly foreseen and are beyond the control of fund families, our instrumental variable is unrelated to the demand for fund family's sibling products among investors.

2.3 Descriptive statistics

Our final sample consists of 6,360 unique equity funds from 1,081 fund families, covering 677,617 fund-month observations from January 1992 to December 2022. As shown in Figure 2, there is a clear increasing trend for both the number of newly launched ESG funds and the cumulative number of total ESG funds each year in the sample period. The rising trend becomes more evident after several major events, such as the United Nations Global Compact formally proposing the concept of ESG in 2004 and the Paris Agreement being sealed in 2016, which significantly evoked public awareness of ESG issues.

[Insert Figure 2 about here]

Table 1 Panel A presents the descriptive statistics of all key variables used in the empirical analysis. These variables are all similar in magnitude to those documented in earlier literature. In particular, a typical fund in our sample has approximately $1.60 billion in AUM, an average four-factor alpha of -0.13%, an expense ratio of 0.98%, a turnover rate of 70.63%, and net flows of 0.53%.

Panel B lists the number of ESG and non-ESG fund launches, as well as number of funds that rebrand to ESG-themed products. On average, the likelihood of launching an ESG fund in each month is 1.2%, while the monthly launching rate of non-ESG funds is 10.9%. The average rate of funds undergoing ESG rebranding is 0.2%.

[Insert Table 1 about here]

3. Main results

3.1 Flow spillover

In this section, we examine the potential spillover effect of launching an ESG fund on the non-ESG member funds in the family. The sample, therefore, contains only non-ESG funds. Our analysis begins by estimating the following panel regression:

$$FundFlow_{i,t} = \beta \times ESG\ Launch_{i,(t-12,t-1)} + \gamma' X_{i,t-1} + \alpha_i + \delta_t + \varepsilon_{i,t}. \qquad (5)$$

where *i* indexes a fund, *t* indexes a month, α represents fund fixed effects, δ denotes month fixed effects, and ε is the error term. The dependent variable is fund's net flows, as defined in Equation (2), in month *t*. Our key variable of interest is the dummy variable $ESG\ Launch_{i,(t-12,t-1)}$ that indicates the launch of ESG funds in the family during the past year. Both fund and time fixed effects are included to control for a fund's time-invariant characteristics and market-wide capital flows. We double cluster the standard errors at the fund family and month level.

Regarding the control variables, *X* is a vector of fund characteristics that include the average CAPM alpha of the fund during the past year and its square term (which captures the non-linear return-performance relationship), the natural logarithm of the fund size, fund age, the natural logarithm of the turnover ratio, and expense ratio. We also control for family scale and scope by including the natural logarithm of the family size. All control variables are measured as of the previous month-end.

To control for the star phenomenon documented in Nanda, Wang, and Zheng (2004), we include an indicator variable that equals one if the fund itself is a "Star" fund. Additionally, we consider the positive spillover effect of star funds in the family by incorporating an indicator variable called *Star Family* which equals one if there is a star fund in the family during the past year, and zero otherwise. Moreover, to account for the potential impact of non-ESG fund launches, we include an indicator variable $NonESG\ Launch_{i,(t-12,t-1)}$ that equals one if there is a new non-ESG fund established during the past 12 months and zero otherwise.

In this model specification, the coefficient β captures the flow spillover effect, which refers to the incremental monthly net flows for sibling non-ESG funds within one year following the launch of ESG funds in the fund family. We choose to focus on the one-year window following the approach of Nanda, Wang, and Zheng (2004), ensuring comparability in the magnitude of spillover effects. Another reason for the choice of one-year window is that we anticipate that the increase in fund flows is likely to be temporal rather than permanent. In other words, we do not expect the launch of ESG funds to result in

sustained growth in flows to the sibling funds indefinitely. As previously discussed, we anticipate a positive spillover effect, which leads to a positive and significant β.

Table 2 presents the estimation results. The estimates of β across all specifications are positive and statistically significant at the 1% level, indicating that launching an ESG fund has a positive spillover effect on the sibling funds within the family. The spillover effect is incremental to the effects of fund performance, star phenomenon, and other control variables, which we note have the same signs as those commonly reported in the literature (e.g., Nanda, Wang, and Zheng, 2004). This positive spillover translates into an increase of 0.329 percentage points (mean=0.53%) in the monthly net flows to non-ESG sibling funds. Conversely, we do not observe significant spillover effect for non-ESG fund inception. The coefficient estimate on *NonESG Launch* is 0.045 (*t*-stat. = 0.94), suggesting that the positive spillover is unique to ESG fund rollouts.

[Insert Table 2 about here]

For robustness, we repeat the baseline regression in Table 2 with alternative fixed effects, including Morningstar category fixed effects, category and month interacted fixed effects, and/or family fixed effects. The results of these alternative specifications are reported in Columns (1)-(4) of Internet Appendix Table IA2, where the coefficient estimates of *ESG Launch* remain positive and significant at the 5% level or lower. Additionally, our findings remain robust when we include additional control variables such as Morningstar Ratings (e.g., Del Guercio and Tkac, 2018), Morningstar Sustainability Ratings (Hartzmark and Sussman, 2019), and family-level marketing or distribution fee. These results alleviate the concern that the observed flow spillovers are driven by saliency effect at the family level. We report these results in Columns (5)-(7) in the Internet Appendix Table IA2.[8]

3.2 ESG performance

[8] The limited availability of these additional control variables significantly reduces the sample size. In Column (6), we exclude the fund fixed effect from the regression because the Morningstar Sustainability Rating is only available after 2019, resulting in a short sample period.

While the flow spillover clearly reflects investors' enthusiasm for ESG investing, the underlying sources of such enthusiasm are much less clear. In this section, we examine whether the flow spillover is driven by the fact that the ESG fund launches coincide with the adoption of sustainable investment policies at the fund family level, attracting increased capital flows from socially responsible investors. If this is the case, we would expect to find that the portfolio of non-ESG funds began to tilt toward "green" stocks and/or that these funds start to track the ESG indexes more closely.

First, we employ three ESG ratings to assess the ESG profile of the sibling funds. In particular, for each fund in our sample, we calculate the quarterly weighted average MSCI ESG and KLD scores of the holding firms, and obtain its monthly Morningstar Globe rating. Given that ESG performance tend to be quite persistent over time, we construct the quarterly/monthly change of the ESG measures as the dependent variable.[9] The regression specification resembles our baseline regression of Equation (5).

As shown in columns (1)-(3) of Table 3, we do not find any significant change in the non-ESG funds' ESG scores following the introduction of ESG funds in the family. This evidence does not support the argument that flow spillover effect is mainly driven by the sibling funds' improving ESG performance.

[Insert Table 3 about here]

One might argue that quarterly holdings do not adequately reflect the actual changes in the funds' ESG profiles. We thus further investigate whether the sensitivity of non-ESG fund returns to ESG index increases following ESG funds launches. We first estimate the return correlation of each non-ESG fund with the MSCI ESG Leaders Index over the past three years. We then regress the correlation on the dummy indicator of ESG fund launches in the family, by replacing the dependent variable of Equation (5) with the correlation measure. As shown in column (4) of Table 3, our findings reveal no significant spillover effect from the introduction of ESG funds on the return sensitivity of sibling funds

[9] Our results are robust to using the level of ESG performance as the dependent variable (untabulated).

to the ESG index. In sum, the evidence does not lend support to the hypothesis that the overall adoption of ESG principles at the fund family level is the driving force behind the observed positive flow spillover.

3.3 Financial performance

In this section, we investigate whether the flow spillover can be attributed to investors' expectations that non-ESG fund managers would learn from their ESG peers about ESG-related information and trading strategies and apply this knowledge to improve the financial performance of their funds. In other words, we study whether the flow spillover could result from investors' desire to leverage ESG factors and pursue superior financial performance.

To examine this possibility, we first analyze the impact of the launch of the ESG fund on the non-ESG sibling funds' abnormal returns by comparing their performance before and after the introduction. Specifically, we replace the dependent variable of the baseline regression (i.e., Equation (5)) with the monthly abnormal return calculated using the CAPM alpha, three-factor alpha, and four-factor alpha. As shown in Table 4, the introduction of ESG funds does not yield any statistically significant changes in the three performance measures for the sibling non-ESG funds. This evidence does not support the idea that launching ESG funds results in superior financial performance for the non-ESG sibling funds. Thus, even if the flow spillover arises from investors' intention to achieve abnormal returns through ESG factors, such belief is ultimately proven to be ex-post incorrect.

[Insert Table 4 about here]

Furthermore, if the flow spillover arises from investors' expectation of cross-learning regarding ESG-related information and trading strategies within the fund family, one would anticipate a more pronounced spillover effect on actively managed non-ESG funds in comparison to their passive counterparts. To examine this, in Table 5, we divide the sample into two groups based on whether a sibling non-ESG fund is actively or passively managed, and independently estimate our baseline

regression for each subset. The findings indicate that the flow spillover for passive funds exceeds that of active funds by more than double. This finding does not support the argument that the flow spillover is primarily driven by within-family cross-learning.

[Insert Table 5 about here]

3.4 Marketing success

Previous evidence suggests that the spillover effect is not driven by better social performance nor superior financial performance of sibling funds. We therefore posit that the spillover is primarily driven by the marketing success of the fund family. Specifically, fund families carefully strategize the introduction of ESG funds, taking into account the information frictions and limited rationality of individual investors, to actively promote these offerings and enhance the family's overall image. We investigate this hypothesis in this section.

To begin, we investigate whether the flow spillover is driven by institutional or retail investors. If institutional investors engage in socially responsible investing, they are likely to place greater emphasis on the underlying aspects of investment products, such as the ESG profiles of fund holdings and the integration of ESG factors into fund trading strategies. Retail investors, in contrast to their institutional counterparts, tend to engage in “shopping at one store” behavior due to a higher level of transaction and search costs. Additionally, they are also more susceptible to the “halo effect” stemming from perception biases. These characteristics render retail investors more responsive to the marketing efforts of fund families. Therefore, if the positive flow spillover is attributable to the marketing success of fund families, we anticipate that this effect will be more pronounced among retail investors as compared to institutional investors.

To test the above hypothesis, we separately examine the spillover effect on the institutional and retail funds. Specifically, we classify a fund as targeting institutional investors if the proportion of institutional capital consistently exceeds a predetermined threshold (e.g., 70%) during our sample

period, and the remaining funds as targeting retail investors. As shown in Table 6, we find that the flow spillover is only evident in the subsample of retail funds, which is consistent with the notion that the spillover effect is mainly driven by the unsophisticated investors who are receptive to the fund family's marketing effort. In untabulated tests, this result is robust to other thresholds in defining retail vs. institutional funds, such as 50% or 80%.

[Insert Table 6 about here]

Next, we investigate whether flow spillovers are absent when fund families rebrand existing funds to incorporate ESG themes. This approach, similar to launching new ESG funds, likely indicates the fund family's intent to leverage on the growing interest in ESG investing. However, rebranding typically involves little marketing effort from the fund family, as it's often undertaken by underperforming funds (e.g., Lynch and Musto, 2003). Therefore, we expect no flow spillovers in cases of rebranding.

We first confirm that fund families do not conduct extensive marketing campaigns when rebranding existing funds into ESG funds. In Appendix Table IA3, we report the regression of a family's ESG-related news coverage on both the number of newly launched ESG funds and the number of existing funds rebranded as ESG funds. The results show a significant and positive correlation between news coverage and the number of new ESG funds, but no significant correlation between news coverage and the number of rebranded ESG funds. This finding confirms that rebranding is not associated an increase in the fund family's marketing effort.

Furthermore, in Table 7, we demonstrate that there is no significant change in the capital flows of sibling funds following ESG-related rebranding. This evidence supports the hypothesis that the flow spillovers observed after the launch of new ESG funds are likely due to the marketing success of fund families, rather than fundamental changes in the trading strategies of sibling funds.

[Insert Table 7 about here]

4. Heterogeneity

We conduct a battery of heterogeneity analyses to deepen our understanding about the sources of the flow spillovers. Specifically, we examine (1) whether the spillover is amplified by increased investors' attention to the launch of ESG funds, (2) whether the spillover is affected by the past performance of ESG funds, (3) the interaction between launching ESG funds and signing the Principles for Responsible Investment (PRI) by the family, and (4) whether the spillover is different between independently managed funds and co-managed funds.

4.1 Investor attention

The efficacy of marketing efforts by fund families is likely enhanced when investors pay increased attention to the launching events of ESG funds. Consequently, we anticipate a more pronounced flow spillover following the introduction of ESG funds that attract greater investor attention. To investigate this hypothesis, we divide the dummy variable of *ESG Launch* in the baseline regression into two indicators for fund launches associated with high versus low levels of investor attention. We employ four proxies of investor attention and uncover the following results:

First, we gauge investor attention to the launching events using the number of ESG-related news articles associated with the fund family, adjusted for the number of ESG funds launched by the family in a given year. We classify a family-year as having high (low) news coverage if this measure exceeds (falls below) the median level. As presented in column (1) of Table 8, we observe that ESG fund launches associated with high news coverage generate a more substantial spillover effect, indicating that investor attention amplifies the spillover.

Next, to proxy for investors' attention to the fund family who launch the ESG funds, we employ two measures: family size and marketing expenses. Larger fund families typically command greater investor recognition, and those with higher marketing expenditures should benefit from enhanced brand visibility, thus yielding a larger spillover effect. We measure family size using the conventional

total assets under management by the family, and marketing expenses using the 12b-1 fee following Sirri and Tufano (1998) and Barber, Odean, and Zheng (2005). As revealed in columns (2)-(3) of Table 8, the positive spillover is predominantly evident in families with sizes and marketing expenses above the median level. These findings underscore the pivotal role of investor attention directed toward the fund family in driving the flow spillover effects.[10]

Finally, we measure societal attention to ESG issues by differentiating between ESG funds introduced before and after 2004, the year when the United Nations formally introduced the concept of "ESG". In column (4) of Table 8, we observe a positive spillover effect exclusively during the post-2004 period, coinciding with increased investor awareness and consideration of ESG issues. This indicates that the spillover effect becomes more prominent as public attention to ESG issues grows.

Collectively, the evidence presented above indicates a positive correlation between the strength of the flow spillover effect and increased investor awareness and attention toward ESG issues. This finding aligns with the notion that effective marketing efforts have played an important role in driving the observed flow spillovers.

[Insert Table 8 about here]

4.2 Past return of ESG funds

An alternative interpretation of our baseline findings is that investors may hold a *wrong* belief that fund families with ESG funds can generate superior abnormal returns. Although we cannot directly measure investors' beliefs, we posit that such a belief is more likely to form following a period when ESG funds demonstrated superior financial performance in the recent past. To investigate this hypothesis, we calculate the average CAPM alpha of all the ESG funds in the market over the past year, and categorize an ESG fund launching event as following high (low) performance of the "ESG

[10] It is noteworthy that the launch of an ESG fund has an additional impact on family flows to marketing expenses. Specifically, the baseline effect of flow spillover remains robust even when we control for the 12b-1 fee, as demonstrated in column (7) of Internet Appendix Table IA2.

sector" if the corresponding past alpha is above (below) the sample median. As presented in column (1) of Table 9, the spillover effect is observed following both high and low past performance of the "ESG sector", and the magnitude of the effect is comparable for both periods. This evidence does *not* support the *wrong* belief hypothesis.

Further, we consider another source of the *wrong* belief—return extrapolation. Investors might have been attracted to a fund family whose incumbent ESG funds have earned high return during the past period. If the fund family tends to take advantage of such a behavioral bias, the introduction of new ESG funds may be timed exactly following high returns of the incumbent ESG funds. This could have been manifested as the flow spillover effect we observe. However, column (2) of Table 9 demonstrates that the spillover effect is evident and of similar magnitude following both high and low levels of past performance of the incumbent ESG fund(s), which does not lend support to the return extrapolation argument.

Finally, if the flow spillover were indeed driven by investors' *wrong* belief in earning abnormal returns, one would expect a stronger effect following the introduction of active ESG funds compared to passive ESG funds. This expectation arises from the fact that passive ESG funds typically do not market themselves as vehicles for achieving superior financial returns; instead, they emphasize tracking ESG indexes to uphold social values. However, as shown in column (3) of Table 9, we observe a flow spillover with a similar magnitude and statistical significance for both the launches of passive and active ESG funds. This once again fails to corroborate the notion that the spillover is generated by investors' pursuit of better financial performance.

[Insert Table 9 about here]

4.3 Signing PRI

One concern with our current interpretation is that the flow spillover might be solely induced by other contemporaneous events that also enhance a fund family's social image, such as signing the

"Principles for Responsible Investment" (PRI). When fund families sign the PRI, they formally commit to be socially responsible financial institutions, and this commitment may be associated with an increasing tendency to introduce ESG funds. The previous literature, such as Kim and Yoon (2023), documents significant capital inflows after a fund family signs the PRI.

To address this concern, we examine the robustness of our baseline findings by controlling for the PRI effect. First, we validate the findings from Kim and Yoon (2023) that signing the PRI within our sample also leads to significant flows to the family. Furthermore, as shown in column (1) of Table 10, when we incorporate an additional indicator representing a family's PRI signature into the baseline regression, the positive and significant flow spillover effect persists. This indicates that the introduction of ESG funds is linked to supplementary marketing advantages beyond the family's PRI commitment.

Next, considering that ESG launches might coincide with the PRI signing event to signal a fund family's commitment to ESG principles, we examine whether the spillover effect of ESG fund launches is concentrated around the PRI signing event. As outlined in column (2) of Table 10, contrary to expectations, the flow spillover effect of ESG fund launches is notably more significant outside the one-year window surrounding the PRI commitment. This evidence suggests that while both ESG fund launches and PRI signing can enhance a fund family's social image, the former can generate a flow spillover effect that is independent of the latter's impact.

[Insert Table 10 about here]

4.4 Co-managed funds

Another potential explanation for the spillover effect is that ESG fund launches attract investor attention toward the management team, resulting in capital flows to their co-managed non-ESG funds. This concern is particularly relevant given the recent rise in the popularity of team-managed funds (e.g., Bliss, Potter, and Schwarz, 2008; Han, Noe, and Rebello, 2017; Patel and Sarkissian, 2017). To address this concern, we categorize the sibling funds into those share the management team with the new ESG

funds and those do not. As evidenced in Table 11, there are flow spillovers to both types of sibling funds, and the effects are of similar magnitude. This finding contradicts the hypothesis that team management alone can explain our results, thus setting our study apart from concurrent research conducted by Li et al. (2023), which specifically examines ESG and non-ESG funds managed by overlapping teams.

[Insert Table 11 about here]

5. Robustness and endogeneity

Our baseline specification resembles a staggered difference-in-difference setting, although we acknowledge that ESG fund launches may not be exogenous. Recent econometric literature highlights a limitation of this approach, suggesting that "already-treated units" may serve as effective comparison units, potentially reflecting treatment effects from previous events rather than untreated counterfactual trends for later-treated units (Baker, Larcker, and Wang, 2022). To address this concern, we conduct an additional test resembling the stacked difference-in-difference specification following Cengiz et al. (2019).

Specially, we regard each ESG fund launch as an event cohort. In each cohort, the treatment group comprises sibling funds of a launched ESG fund, while the control group consists of funds meeting specific matching criteria: (1) belonging to a family that has never launched an ESG fund; (2) being in the same fund category as the ESG fund; (3) having an age within two years of the ESG fund; and (4) having a size within 10% more or less than the ESG fund. Each event window spans 12 months before and after the events, with *ESG Launch* always equaling 0 for control group funds. We control for fund-cohort and time-cohort fixed effects, and standard errors are clustered at the fund-cohort and time-cohort levels.

In column (1) of Table 12, results from the stacked sample show that the interaction term of *Post* and *ESG Launch* is positive and statistically significant at the 1% level. This suggests that for each

launched ESG fund, capital flows to its sibling funds are significantly higher than those for funds in families that have never launched ESG funds. Importantly, the magnitude of flow spillover is even larger compared to the baseline setting, indicating the robustness of our findings against potential biases from the staggered treatment setting.

[Insert Table 12 about here]

Another concern with our baseline results is the potential influence of omitted variable to the fund family. It is plausible that an unobservable demand shock, omitted from our analysis, could exert an impact on both the family's decision to introduce ESG funds and the capital flows to the sibling funds. Consequently, this could result in the observed flow spillovers. To mitigate this particular type of endogeneity concern, we employ two analyses as outlined below.

First, employing the stacked DID approach outlined in Table 12, we identify the cohorts of ESG fund launches subsequent to two notable ESG events: the 2007 United Nations Climate Change Conference and the 2015 Paris Agreement. Since the timing of these events is unlikely to be correlated with demand shocks specific to individual fund families, the ESG fund launches following these events are largely immune to concerns regarding omitted variables. As shown in column (2) of Table 12, the spillover effects from ESG launches during 2007, 2008, 2016, and 2017 remain positive and significant. Moreover, the magnitude of these spillovers surpasses that of other years, as reported in column (3). These findings serve to mitigate concerns regarding omitted variable bias.

Second, we employ an instrumental variable to address potential endogeneity in the decision to launch ESG funds: the incidence of natural disasters surrounding the headquarters of fund families. Heightened occurrences of environmental disasters are expected to increase the perceived importance of environmental protections and ESG investing, thus motivating fund families to introduce ESG funds. Importantly, the timing and frequency of natural disasters are unlikely to be correlated with investors' demand for the family's other investment offerings, satisfying the exclusion restriction criterion. By leveraging this instrumental variable, we can more effectively isolate the causal impact of ESG fund

launches on capital flows to sibling funds, thereby mitigating potential biases stemming from omitted demand shocks.

Table 13 reports the results of our two-stage least squares regressions. In column (1), we find that a greater number of hazards within 100 miles of family headquarters significantly increases the likelihood of introducing ESG funds in the subsequent year. In column (2), the second stage, we continue to observe a positive and significant incremental flow to related funds following the launch of ESG funds. Columns (3)-(4) focus specifically on large fund families with greater capacity to respond promptly to environmental disasters, achieved by excluding family-month clusters with fewer than 20 observations. This refinement reveals a stronger predictive power of natural disasters in influencing ESG fund launch decisions in the first stage, alongside a robust positive flow spillover to related funds in the second stage. These findings indicate that omitted variables, such as demand shocks to fund families, are unlikely to be the primary drivers of our baseline results.

[Insert Table 13 about here]

We acknowledge that our identification strategy does not eliminate all potential endogeneity issues. For instance, the decision to launch an ESG fund could be influenced by the anticipation of positive flow spillovers. However, such a reverse causality concern does not undermine our main point that offering ESG funds generates positive externalities for the fund family. In fact, we will look into whether fund families' decision-making regarding ESG fund launches is indeed related to the expected benefit of flow spillovers in the next section.

6. Revenue gains of launching ESG funds

To begin with, we assess the comparative revenue potential of launching a new ESG fund within a fund family, considering both the standalone revenue and the revenue gains from flow spillover effects. First, we estimate the stand-alone monthly revenue for a new fund by multiplying its assets under management (AUM) by the expense ratio, focusing on the initial two years post-launch. As shown in Panel A of Table 14, our findings reveal that new ESG funds generate significantly lower

stand-alone revenue compared to non-ESG funds across nearly all subperiods. This revenue gap primarily stems from lower capital inflows to new ESG funds during the initial two-year period, as detailed in Panel B. Moreover, this flow pattern remains robust even after controlling for category fixed effects, year fixed effects, and fund characteristics such as the expense ratio. As reported in Table IA4, we regress fund flows on the dummy indicators of ESG fund, initial two period since launch, and their interaction. We find that the interaction term is negative and significant for both the entire sample and post-2004 periods, suggesting that the initial cash flow to new ESG funds is notably lower than that for non-ESG funds.[11]

[Insert Table 14 about here]

Second, we calculate the revenue gain from the flow spillover effect of ESG fund launches. As outlined in Table 15 (last column), we derive the spillover revenue for an average sibling fund by multiplying the estimated flow spillover effect (using the baseline regression coefficient of 0.329 percent) with the average value of assets under management ($1.597 billion) and expense ratio for non-ESG funds (0.98%). If we assume there are seven non-ESG funds in each family, which is the average family size as of 1998 (Nanda et al., 2004), the estimated total revenue spillover amounts to $0.36 million. Adding this to the stand-alone revenue of $0.25 million, we get a total revenue gain of $0.61 million from launching an ESG fund on average during our entire sample period. This figure is comparable to the stand-alone revenue of a new non-ESG fund, which does not generate flow spillovers, totaling $0.81 million (as reported in Panel A of Table 14). This comparison demonstrates that while launching an ESG fund may yield lower stand-alone revenue, the additional revenue from flow spillovers can narrow the gap with non-ESG funds, making ESG fund launches more attractive to fund families.

[11] From Table IA4, we also find that the ESG fund indicator is statistically insignificant in most periods, with the exception of the most recent period after 2016 as reported in Column (6). This suggests that ESG funds, both new and existing ones, do not attract significantly higher flows compared to non-ESG funds, except for recently.

Table 15 offers further insights into the estimated revenue generated from new ESG funds during different sample periods. Intriguingly, the data show that ESG funds launched before 2004 yielded slightly negative total revenue due to a negative spillover effect, suggesting that the introduction of ESG funds prior to 2004 may have been motivated largely by non-pecuniary benefits or prosocial preferences of the fund families, rather than financial incentives. However, after 2004, positive spillovers began to account for nearly half of the total revenue from launching ESG funds, with an average spillover revenue of $0.40 million and a total revenue of $0.70 million. This is quite close to the revenue gain from launching non-ESG funds, which was $0.73 million for the post-2004 period. If we account for the increase in fund family size and use the average number of non-ESG funds per family during each subperiod, the estimated spillover effect becomes even larger, resulting in a total revenue gain of $1.31 million for a new ESG fund launched after 2004.

These observations suggest that in recent years, launching ESG funds has created significant positive externalities for the entire fund family, driven by investors' increased focus on environmental and social issues. Fund families have received nearly equivalent monetary rewards from introducing ESG funds and non-ESG funds, offering a strong incentive for them to promote ESG investing. This shift in incentives may partly explain the increasing trend of ESG investing and the broader acceptance of ESG principles in the financial industry.

[Insert Table 15 about here]

Next, we investigate whether fund families' decision to offer ESG funds has taken into account the potential spillover effects. Given that the spillover effect is linked to an enhanced brand image of the fund family, we expect that the magnitude of the spillover will be greater for fund families with a stronger brand reputation. Our previous analysis also indicates a potentially larger spillover for families with a higher proportion of passive investors and retail investors, as well as for periods with greater public attention to ESG issues. We anticipate that all these factors will contribute to a greater incentive for fund families to launch ESG funds to the market.

We report our findings in Appendix Table IA5. First, we find that the propensity for a family to introduce ESG funds is positively correlated with three proxies for brand reputation: assets under management, participation in PRI, and the "greenness" of the family measured by the number of existing ESG fund offerings. Additionally, while ESG funds are more likely to be launched in families with a higher proportion of passive funds. Contrary to our expectations, there is no significant relationship with the dominance of retail investors in the clientele base. Furthermore, we observe a greater likelihood of ESG fund launches during periods when climate-related issues attract more public attention, as quantified by the MCCC index developed by Ardia et al. (2023). Interestingly, we do not find a statistically significant relationship between ESG fund launches and the period surrounding PRI signing or a fund family's general marketing expenses. These findings underscore the importance of market-wide attention to ESG issues as a primary driver for ESG fund's introduction, rather than family-specific ESG or marketing efforts.

Finally, we do not find a significant association between the decision to launch ESG funds and historical performance of ESG funds. Specifically, there is insignificant correlations between ESG fund launches and (1) the fund family's recent risk-adjusted performance (i.e., alpha), (2) the previous average returns of ESG funds in the market, and (3) the past performance of the family's existing ESG funds, all of which are consistent with the previous findings that the spillover effect is not mainly driven by investors' pursuit of superior financial performance.

7. Extensions

7.1 Anti-ESG funds

As discussed in the beginning of this study, the concept of socially responsible investing (SRI) has gained increasing popularity over the years. Nevertheless, a contrasting viewpoint continues to exist among a limited group of investors. Some funds, although few in number, focus exclusively on investing in "sin stocks" such as those associated with the firearms and tobacco industries. Additionally,

certain funds adhere to conservative values, vote against ESG-driven shareholder proposals, or invest in companies with low ESG scores, citing perceived undervaluation. These funds are commonly known as "anti-ESG funds".

In this section, we examine whether the introduction of anti-ESG funds generates a negative spillover effect among the sibling funds. This would be the case if investors, especially retail investors, form a negative view about the fund family's social image upon the launch of anti-ESG funds—a phenomenon known as the "reverse halo effect" or "devil effect".

Given that anti-ESG funds typically does not contain its anti-ESG theme in their fund names, we identify a sample of funds with exceptionally low ESG scores of their holding firms. In particular, we calculate the value-weighted MSCI ESG score of a new fund's top ten holdings during the first two quarters after their launching and denote a fund as "anti-ESG" if the average score is among the bottom quartile (see Appendix Table IA1 for the summary statistics of these funds' ESG scores).[12] In column (1) of Table 16, we find that the introduction of anti-ESG funds generates a negative spillover effect to the non-ESG (and non-anti-ESG) funds in the family. The magnitude of this negative spillover is smaller than that of the positive spillover from ESG funds, possibly due to the fact that fund families rarely market these anti-ESG funds aggressively. Moreover, in columns (2) and (3) of Table 16, where we distinguish the flows to the retail and institutional funds, the spillover effect is concentrated among the retail funds.[13]

It is important to emphasize that this negative spillover is unlikely to result from investors' rational choices under informational and transactional frictions, thereby highlighting the heuristic nature of investors' ESG behaviors.

[12] We focus on the top 10 holdings because they are most easily observable by investors. Our results are robust to identifying the anti-ESG funds based on the average ESG profile of all holding firms.

[13] The majority of anti-ESG funds were launched from 2013 to 2016, with such launches diminishing afterwards. This is likely due to the growing popularity of SRI, which could amplify the negative spillover effect of anti-ESG funds, discouraging fund families from introducing them.

[Insert Table 16 about here]

7.2 Proliferation of ESG funds

The positive spillover also has an important implication on the incentive of fund families in proliferating ESG funds. When a fund family introduces a new fund, the determination of the optimal degree of product differentiation is typically based on the following tradeoff. On one hand, a highly differentiated product can help mitigate the potential cannibalization effect, ensuring that new offerings do not overly compete with existing funds. On the other hand, there could be a limited demand for a highly specialized product, along with inherent uncertainty surrounding the market's reception of radically innovative offers. However, in the context of ESG funds, the advantages of proliferation are amplified by the presence of positive spillover, which in turn increases the optimal level of product differentiation. In other words, even if a new ESG fund exhibits limited investor demand, it can still generate a positive spillover effect to other funds within the family. Consequently, this encourages the fund family to introduce such differentiated offerings.

To investigate this implication, we assess the similarity of investment strategies between a new fund and all the other pre-existing funds of the same kind, i.e., ESG or non-ESG cohort of funds, using a return correlation proxy. Specifically, we calculate the average correlation between a newly introduced ESG fund and all pre-existing ESG funds, using monthly fund returns over the initial two years following the launch of the new fund. Similarly, for a newly introduced non-ESG fund, we calculate its average return correlation with all the non-ESG funds in the market during the initial 24 months. According to the argument presented earlier, we anticipate that new ESG funds should exhibit lower similarity when compared to new non-ESG funds.

In Figure 2, we illustrate the average degree of similarity among newly launched ESG and non-ESG funds for each four-year period following 2004. Our findings reveal that ESG funds exhibit a higher degree of product differentiation compared to non-ESG funds during each period. Moreover,

from 2005 to 2019, the dissimilarity of new ESG funds consistently increases. Both observations align well with our prediction that ESG funds should be associated with more proliferation in a stable equilibrium. However, the new ESG funds introduced after 2019 exhibit greater similarity to the existing ones compared to those launched before. This recent decrease in product differentiation of ESG funds could be driven by the fact that offering ESG funds has become a social norm during the recent period – a pure emphasis on social image dilutes the economic tradeoff that underpins proliferation decisions we previously discussed.

[Insert Figure 3 about here]

Finally, Table 17 reveals that new ESG funds with high differentiation from existing offerings are linked to a larger flow spillover effect to the entire fund family, likely due to an increased investor attention to the ESG offerings with novel or unique designs. This finding aligns with the hypothesis that flow spillover plays a key role in fund families' decisions regarding product differentiation and proliferation. It suggests that fund families might aim to create a diverse range of ESG products, leveraging the inherently multidimensional and subjective nature of ESG issues, to maximize the positive flow spillovers and, in turn, enhance their overall revenue and appeal.

[Insert Table 17 about here]

8. Conclusion

Investing in funds with environment, social, and governance (ESG) connotations has gained elevated attention in the investment society in recent years. While the potential for lucrative revenue from ESG investing has been widely perceived, our comparative analysis reveals that the actual revenue generated by ESG funds consistently lags behind non-ESG counterparts. This observation motivates us to examine the additional contributing factors in driving the proliferation of ESG products.

Our study highlights the concept of positive demand spillovers generated by ESG funds within mutual fund families. We demonstrate that the introduction of ESG funds can lead to increased capital

flows to other non-ESG funds within the same family, suggesting a significant marketing benefit associated with offering ESG investment products. This finding emphasizes the importance of considering supply-side dynamics in understanding the evolution of the ESG investment landscape. The spillover effect cannot be attributed to any fundamental changes of the sibling funds' ESG profiles. In addition, the spillover effect is not related to any changes in sibling funds' financial performance, which suggests that spillover is motivated mostly by investors' *values* as opposed to *value* considerations (Starks, 2023).

Overall, our study provides valuable insights into the intricate interplay between investor demand and provider incentives in driving the adoption and proliferation of ESG investment products. Our findings underscore the significant contribution of flow spillover effects to the incentives for fund families to offer ESG products, particularly in recent years characterized by heightened investor awareness of ESG-related issues. By shedding light on the supply-side factors shaping the ESG investment landscape, we advance understanding in this area and offer implications for both academic research and industry practice.

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Appendix: Variable Definitions

Variable Name	Definition
	Panel A: Fund Characteristics
FundFlow (%)	Computed as $\frac{FundSize_{i,t}-FundSize_{i,t-1}(1+FundReturn_{i,t})}{FundSize_{i,t-1}}$, where $FundSize_{i,t}$ denotes fund i's total net assets in month t and $FundReturn_{i,t}$ denotes fund i's raw net return in month t.
FundReturn (%)	A fund's monthly raw net-of-fee returns.
CAPM alpha (%)	Jensen (1968) one-factor alpha. We use three years of monthly returns to compute factor loadings and then use the last 12 months of realized fund and factor return data in this period to compute alphas.
Three-factor alpha (%)	Fama and French (1993) three-factor alpha. We use three-year rolling window of monthly returns to compute factor loadings and then use the last 12 months of realized fund and factor return data in this period to compute alphas.
Four-factor alpha (%)	Carhart (1997) four-factor alpha. We use three-year window of monthly returns to compute factor loadings and then use the last 12 months of realized fund and factor return data in this period to compute alphas.
FundSize (millions)	Sum of assets under management across all share classes for a fund.
FamilySize (millions)	Sum of assets under management across all funds in the family, excluding the fund itself.
FundAge (months)	Number of months that the oldest share class in the fund.
Turnover (%)	The lesser of purchases or sales divided by average net assets.
Expense (%)	Ratio of the fund's annual operating expenses to the average dollar value of its assets under management.
StarFund	An indicator of the funds that have ranked in the top 5 percent of all funds in the market in terms of their three-factor adjusted return within a given month over the past year, as defined by Nanda, Wang, and Zheng (2004).
StarFamily	An indicator of the presence of star funds in the fund family over the past year, as defined by Nanda, Wang, and Zheng (2004).
Institutional Percent	Percent of institutional capital in the fund.
Adj CSR Score	The value-weighted average *adjusted CSR Score*, calculated following Deng, Kang, and Low (2013), of all the portfolio firms within a fund for a given quarter.
MSCI ESG Rating	The value-weighted average *MSCI ESG Rating*, converted to a scale ranging from 1 (CCC) to 7 (AAA) following Bizjak et al. (2022), of all the portfolio firms within a fund for a given quarter.
MS Rating	A fund-level Morningstar Sustainability Rating is measured by converting the globe rating into a scale that spans from 1 (one globe) to 5 (five globes).
Return Sensitivity on ESG Index	The return correlation of a fund with the MSCI ESG Leaders Index over the past three years.
	Panel B: Key Independent Variables
ESG Launch	Binary variable that equals one if the fund family launches at least one ESG fund during the past 12 months, and zero otherwise.
ESG Rebrand	Binary variable that equals one if at least one fund within the family is rebranded as an ESG fund during the past 12 months, and zero otherwise.
NonESG Launch	Binary variable that equals one if the fund family launches at least one Non-ESG fund during the past 12 months, and zero otherwise.
	Panel C: Additional Family Characteristics
FamilyFlow	The value-weighted average *FundFlow* across all funds in the family.
FamilyAlpha	The value-weighted average of Four-*Factor Alpha* $_{(t-12,\ t-1)}$ across all funds in the family.

FamilyAge	The value-weighted average *FundAge* across all funds in the family.
Family 12b1-Fee	The value-weighted average fund's *12b1 Fee* across all funds in the family.
Passive%	Percent of assets under management in passively managed funds within the family.
Retail%	Percent of assets under management in retail funds (the proportion of institutional capital is lower than 70%) within the family.
# of Pre-existing ESG Fund	Number of incumbent-launched ESG funds in the family.
ESG Past Perf. (Market)	The average CAPM alpha of all the ESG funds in the market during the past year.
ESG Past Perf. (Incumbent)	The average CAPM alpha of the family's incumbent ESG funds during the past year.
Sign PRI	Binary variable that equals one if the fund family has signed PRI and zero otherwise.
PRI Sign Period	Binary variable that equals one if the current month is within a 12-month window around the time when a fund family signs PRI.
	Panel D: Other Variables
MSCI ESG Leaders Index	The MSCI ESG Leaders Indexes are designed to represent the performance of companies that have high Environmental, Social and Governance ("ESG") ratings relative to their sector peers.
MCCC Index	News Media and Climate Change Concerns Index from Ardia et al. (2023).
Num_Hazards	Number of climatic disasters occurred annually within 100-mile radius of a fund family's headquarters office. Climatic disasters information is from the Spatial Hazard Events and Losses Database for the United States (SHELDUS) at Arizona State University, from which all hazard types are selected.

Figure 1: Initial Stand-alone Revenue from Newly Launched Funds

This figure shows the average monthly revenue (in $Million), calculated as assets under management multiplied with the expense ratio, for ESG vs. Non-ESG new funds within the initial two years since their launches. The four groups of funds are classified according to their launching years. Detailed statistics are reported in Panel A of Table 14.

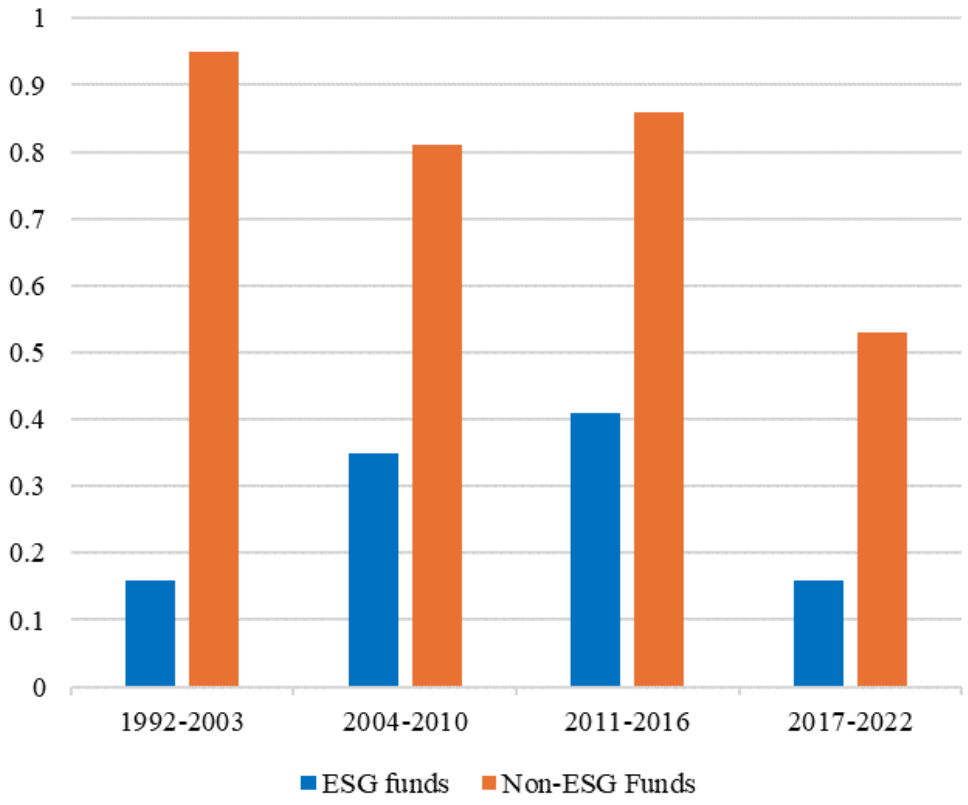

Figure 2. Number of ESG Funds by Year

This figure shows the number of new ESG funds launched annually (blue bar, right y-axis), the number of ESG funds with name change annually (orange bar, right y-axis), the number of total ESG funds annually (orange line, left y-axis), and the total number of fund families with ESG funds annually (gray line, left y-axis) between 1992 and 2022. The X-axis denotes the year. Significant ESG-related events during this period are displayed in the box above the corresponding year in which an event took place.

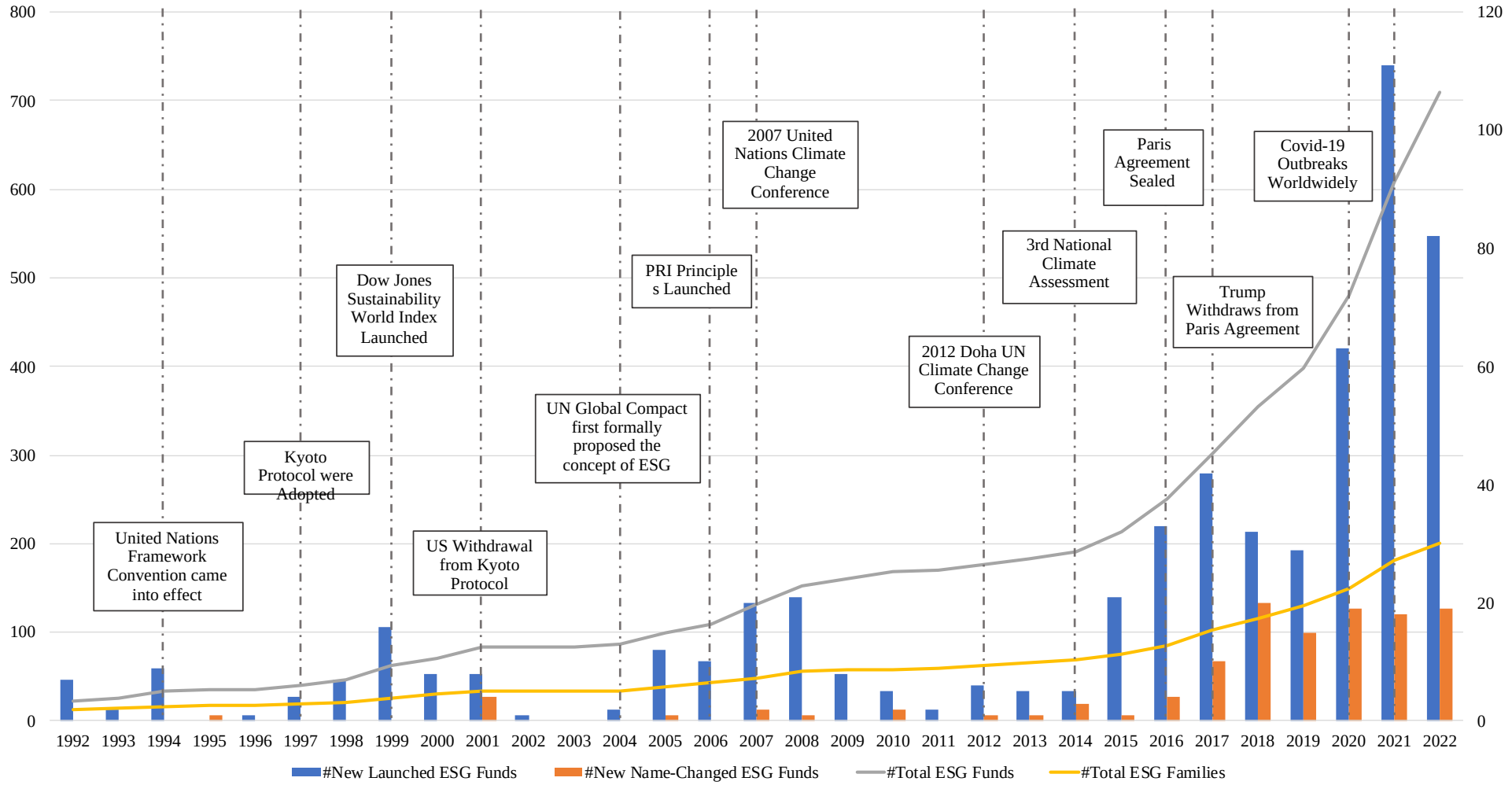

Figure 3. Initial Product Assimilation of ESG Funds

The blue bar shows the correlation of a new ESG fund's initial returns (within 2 years since fund launch) with the returns of other ESG funds in the market. The red bar shows the correlation of a new non-ESG fund's initial returns (within 2 years since fund launch) with the returns of other non-ESG funds in the market.

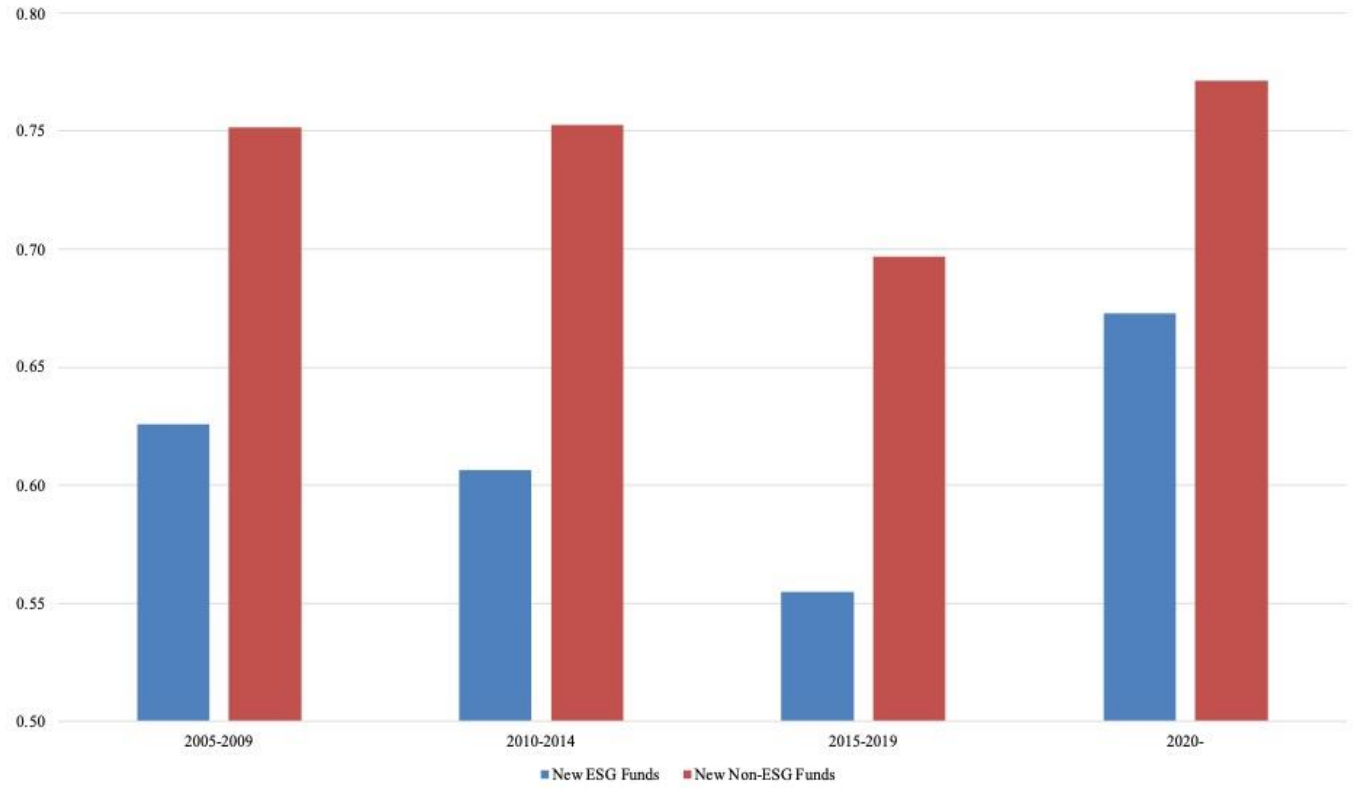

Table 1. Descriptive Statistics

This table presents descriptive statistics for the sample of fund-month observations over the period of 1992-2022. Panel A describes the number of observations, mean, standard deviation, the 1st percentile, median, and the 99th percentile for fund characteristics variables. Variable definitions are described in the Appendix. Panel B describes fund launch and name change variables. *(Non) ESG Launch*$_t$ equals one if the fund family launches at least one (Non-) ESG fund during the current month and zero otherwise. *ESG Rebrand*$_t$ equals one if the fund family changes at least one Non-ESG fund's name into ESG fund during the current month, and zero otherwise.

Panel A. Summary statistics

	Nobs	Mean	St. Dev.	1st Pctl.	Median	99th Pctl.
FundFlow (in %)	677,617	0.53	6.92	-14.67	-0.28	29.38
FundReturn (in %)	677,617	0.77	4.75	-13.94	1.06	13.62
CAPM alpha (in %)	646,949	-0.08	2.23	-7.55	-0.08	7.49
Three-factor alpha (in %)	646,949	-0.12	1.92	-6.86	-0.10	6.59
Four-factor alpha (in %)	646,949	-0.13	1.92	-7.01	-0.10	6.55
FundSize (in millions)	677,617	1,596.92	3,821.90	17.00	331.00	24,312.00
FamilySize (fund level, in millions)	677,617	153,078.36	362,302.97	0.00	17,449.60	2,015,000.00
FundAge (in months)	677,617	183.80	156.90	37.00	140.00	868.00
Turnover ratio (in %)	677,617	70.63	80.84	2.00	47.00	469.00
Expense ratio (in %)	677,617	0.98	0.50	0.03	1.00	2.25
StarFund	642,619	0.05	0.21	0.00	0.00	1.00
StarFamily	642,619	0.45	0.50	0.00	0.00	1.00

Panel B. Fund launch and rebrand

	Nobs.	Mean	Num. (=1)
ESG Launch$_t$	677,617	0.012	8,219
ESG Rebrand$_t$	677,617	0.002	1,273
NonESG Launch$_t$	677,617	0.109	73,813

Table 2. Fund Flow Spillover Effect

This table shows the spillover effect of an ESG fund on the monthly flows of non-ESG funds in the same family. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow		
	(1)	(2)	(3)
ESG Launch	0.334***	0.333***	0.329***
	(5.16)	(5.10)	(5.08)
Log(Fund Size+1)	-0.726***	-0.728***	-0.728***
	(-10.02)	(-10.05)	(-10.04)
Log(Family Size+1)	0.046*	0.042*	0.040
	(1.85)	(1.71)	(1.61)
CAPM alpha	0.770***	0.719***	0.719***
	(13.62)	(13.62)	(13.62)
CAPM alpha_Sq	0.063***	0.045**	0.046**
	(3.34)	(2.36)	(2.36)
Log(Fund Age+1)	-1.690***	-1.687***	-1.685***
	(-9.72)	(-9.66)	(-9.65)
Log(Turnover+1)	-0.041	-0.043	-0.043
	(-0.96)	(-1.02)	(-1.01)
Expense	-1.748***	-1.739***	-1.740***
	(-10.97)	(-10.89)	(-10.92)
StarFund		0.487***	0.486***
		(3.27)	(3.27)
StarFamily		0.075*	0.074*
		(1.84)	(1.83)
NonESG Launch			0.045
			(0.94)
Fund Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month
Nobs	633,541	633,541	633,541
Adj. R-squared	0.072	0.072	0.072

Table 3. ESG Performance of the Sibling Non-ESG Funds

This table shows the spillover effect of an ESG fund on the ESG profile of non-ESG funds in the same family. The dependent variables for the four columns are (1) quarterly change in the average MSCI ESG ratings of fund portfolio firms, (2) quarterly change in the average KLD CSR scores of fund portfolio firms, (3) the monthly change of MS Globe rating for mutual funds, and (4) the sensitivity of fund return to the MSCI ESG Leaders Index estimated using the monthly data over the past three years. The main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and quarter/month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	MSCI ESG Rating Chg.	*Adj CSR Score Chg.*	*MS Rating Chg.*	*Return Sensitivity on ESG Index*
	(1)	(2)	(3)	(4)
ESG Launch	0.001	-0.000	-0.001	-0.001
	(0.18)	(-0.02)	(-0.24)	(-0.18)
Log(Fund Size+1)	0.001	0.001	0.004	0.003
	(0.53)	(0.56)	(1.08)	(1.47)
Log(Family Size+1)	0.001	-0.001	0.002	0.004**
	(0.39)	(-1.11)	(1.31)	(2.53)
CAPM alpha	-0.008	-0.015	0.003	-0.049***
	(-1.55)	(-1.18)	(1.39)	(-10.52)
CAPM alpha_Sq	0.001	0.003	0.002*	0.005***
	(0.80)	(1.13)	(1.86)	(2.89)
Log(Fund Age+1)	-0.011	0.014**	-0.052	-0.022**
	(-0.82)	(2.54)	(-1.08)	(-2.50)
Log(Turnover+1)	0.002	-0.003	0.000	-0.004*
	(0.72)	(-1.45)	(0.14)	(-1.68)
Expense	-0.011**	0.001	0.076	0.000
	(-2.46)	(0.29)	(1.53)	(0.04)
StarFund	0.006	0.007	-0.007	0.019**
	(0.98)	(0.55)	(-0.85)	(2.36)
StarFamily	0.001	0.000	0.001	0.005***
	(0.35)	(0.15)	(0.26)	(3.08)
NonESG Launch	0.002	0.001	-0.002	0.003
	(0.95)	(1.03)	(-0.48)	(1.40)
Fund Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Quarter	Quarter	Month	Month
Nobs	41,484	42,782	80,944	543,487
Adj. R-squared	0.190	0.983	-0.002	0.790

Table 4. Return of the Sibling Non-ESG Funds

This table shows the spillover effect of an ESG fund launch on the non-ESG funds' monthly return in the same family. The dependent variables in columns (1) to (3) are *CAPM Alpha* (Jensen, 1968), *Three-Factor Alpha* (Fama and French, 1993), and *Four-Factor Alpha* (Carhart, 1997), respectively. The main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	CAPM Alpha	*Three-Factor Alpha*	*Four-Factor Alpha*
	(1)	(2)	(3)
ESG Launch	0.024	0.014	0.026
	(1.01)	(0.76)	(1.20)
Log(Fund Size+1)	-0.186***	-0.099***	-0.119***
	(-7.09)	(-5.20)	(-6.85)
Log(Family Size+1)	-0.017***	-0.005	-0.004
	(-2.91)	(-1.42)	(-1.22)
Log(Fund Age+1)	0.105*	0.052	0.070**
	(1.80)	(1.38)	(2.08)
Log(Turnover+1)	-0.063***	-0.049***	-0.057***
	(-4.09)	(-4.26)	(-5.52)
Expense	-0.234***	-0.192***	-0.170***
	(-4.04)	(-4.26)	(-3.85)
StarFamily	-0.003	0.005	-0.003
	(-0.23)	(0.48)	(-0.36)
FundFlow	-0.002	-0.001	-0.001
	(-1.27)	(-0.53)	(-0.89)
NonESG Launch	-0.003	-0.007	-0.002
	(-0.26)	(-0.70)	(-0.19)
Fund Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month
Nobs	633,541	633,541	633,541
Adj. R-squared	0.098	0.075	0.078

Table 5. Passive Funds vs. Active Funds

This table shows the subsample analyses of the spillover effect of ESG fund launch on sibling non-ESG funds that are passively versus actively managed. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow	
	(1)	(2)
	Passive Siblings	Active Siblings
ESG Launch	0.496***	0.190**
	(3.72)	(2.50)
Log(Fund Size+1)	-1.112***	-0.671***
	(-5.66)	(-11.02)
Log(Family Size+1)	0.109	0.017
	(1.27)	(0.66)
CAPM alpha	0.465***	0.775***
	(3.68)	(14.75)
CAPM alpha_Sq	0.035	0.036*
	(1.02)	(1.84)
Log(Fund Age+1)	-1.456***	-1.851***
	(-3.56)	(-13.78)
Log(Turnover+1)	0.288**	-0.114***
	(2.04)	(-3.19)
Expense	-1.853**	-1.766***
	(-2.18)	(-10.87)
StarFund	0.820**	0.449***
	(1.98)	(3.47)
StarFamily	0.149	0.051
	(1.32)	(1.25)
NonESG Launch	-0.033	0.069
	(-0.25)	(1.55)
Fund Fixed Effects	Yes	Yes
Time Fixed Effects	Month	Month
Nobs	123,759	507,093
Adj. R-squared	0.063	0.077

Table 6. Retail Funds vs. Institutional Funds

This table shows the subsample analyses of the spillover effect of ESG fund launch on the sibling non-ESG funds that predominantly target retail versus institutional investors. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow	
	(1)	(2)
	Retail Siblings	Institutional Siblings
ESG Launch	0.337***	0.145
	(4.78)	(0.74)
Log(Fund Size+1)	-0.735***	-0.688***
	(-9.60)	(-5.88)
Log(Family Size+1)	0.039	0.048
	(1.42)	(1.06)
CAPM alpha	0.709***	0.815***
	(12.88)	(9.00)
CAPM alpha_Sq	0.057***	-0.053
	(2.83)	(-1.13)
Log(Fund Age+1)	-1.579***	-2.806***
	(-8.61)	(-8.62)
Log(Turnover+1)	-0.047	-0.029
	(-1.02)	(-0.34)
Expense	-1.743***	-1.757***
	(-10.66)	(-3.57)
StarFund	0.469***	0.666***
	(2.95)	(2.85)
StarFamily	0.079*	0.057
	(1.87)	(0.50)
NonESG Launch	0.047	0.006
	(0.91)	(0.06)
Fund Fixed Effects	Yes	Yes
Time Fixed Effects	Month	Month
Nobs	569,351	63,764
Adj. R-squared	0.070	0.103

Table 7. Rebranding ESG Funds

This table shows the spillover effect of rebranding a fund as an ESG fund on the monthly flows of non-ESG funds in the same family. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of rebranding an ESG fund during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow		
	(1)	(2)	(3)
ESG Rebrand	0.044	0.052	0.052
	(0.29)	(0.33)	(0.34)
Log(Fund Size+1)	-0.721***	-0.724***	-0.724***
	(-9.98)	(-10.01)	(-10.01)
Log(Family Size+1)	0.050**	0.046*	0.043*
	(1.98)	(1.84)	(1.72)
CAPM alpha	0.771***	0.719***	0.719***
	(13.65)	(13.63)	(13.64)
CAPM alpha_Sq	0.063***	0.045**	0.045**
	(3.34)	(2.35)	(2.36)
Log(Fund Age+1)	-1.690***	-1.687***	-1.684***
	(-9.80)	(-9.75)	(-9.73)
Log(Turnover+1)	-0.040	-0.043	-0.042
	(-0.94)	(-1.00)	(-1.00)
Expense	-1.730***	-1.722***	-1.722***
	(-10.83)	(-10.75)	(-10.78)
StarFund		0.488***	0.488***
		(3.29)	(3.29)
StarFamily		0.076*	0.075*
		(1.88)	(1.87)
NonESG Launch			0.053
			(1.11)
Fund Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month
Nobs	633,541	633,541	633,541
Adj. R-squared	0.072	0.072	0.072

Table 8. Heterogeneity: Investor Attention to ESG Issues

This table shows the spillover effect of different types of ESG fund launches. The dependent variable is the net flow of the month. The main independent variables of interest are two split indicators from the original *ESG Launch* dummy based on (1) whether the launching family-year is associated with above-median level of ESG news coverage, (2) whether the size of launching family is above the median level, (3) whether the launching family-year is associated with above-median level of marketing expenses measured by the 12b1-fees, and (4) whether the launching year is after 2004, for columns (1)-(4), respectively. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow			
	(1)	(2)	(3)	(4)
	P1: High News Coverage vs. P2: Low News Coverage	P1: Large Families vs. P2: Small Families	P1: High Family-12b1-Fee vs. P2: Low Family-12b1-Fee	P1: Before 2004 vs. P2: After 2004
ESG Launch P1	0.398***	0.335***	0.359***	-0.172
	(4.95)	(5.17)	(4.94)	(-0.71)
ESG Launch P2	0.160	-0.244	0.107	0.344***
	(1.57)	(-1.12)	(0.45)	(5.42)
Log(Fund Size+1)	-0.729***	-0.729***	-0.729***	-0.729***
	(-10.05)	(-10.04)	(-10.04)	(-10.06)
Log(Family Size+1)	0.039	0.039	0.039	0.040
	(1.59)	(1.59)	(1.60)	(1.61)
CAPM alpha	0.718***	0.719***	0.718***	0.718***
	(13.62)	(13.62)	(13.61)	(13.62)
CAPM alpha_Sq	0.045**	0.045**	0.046**	0.045**
	(2.36)	(2.36)	(2.37)	(2.36)
Log(Fund Age+1)	-1.686***	-1.683***	-1.683***	-1.684***
	(-9.68)	(-9.64)	(-9.62)	(-9.64)
Log(Turnover+1)	-0.043	-0.043	-0.043	-0.043
	(-1.02)	(-1.02)	(-1.02)	(-1.01)
Expense	-1.743***	-1.739***	-1.739***	-1.738***
	(-10.92)	(-10.91)	(-10.91)	(-10.90)
StarFund	0.487***	0.487***	0.487***	0.487***
	(3.28)	(3.27)	(3.27)	(3.27)
StarFamily	0.076*	0.074*	0.074*	0.072*
	(1.88)	(1.83)	(1.83)	(1.80)
NonESG Launch	0.044	0.045	0.044	0.045
	(0.94)	(0.94)	(0.94)	(0.95)
Fund Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month	Month
Nobs	633,541	633,541	633,541	633,541
Adj. R-squared	0.072	0.072	0.072	0.072

Table 9. Heterogeneity: ESG Fund Returns

This table shows the spillover effect of different types of ESG fund launches. The dependent variable is the net flow of the month. The main independent variables of interest are two split indicators from the original *ESG Launch* dummy based on (1) whether the average CAPM alpha of all the ESG funds in the market during the past year is above sample median, (2) whether the average CAPM alpha of the family's incumbent ESG funds during the past year is above sample median, and (3) whether the new ESG fund being introduced is actively or passively managed, for columns (1)-(3), respectively. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow		
	(1)	(2)	(3)
	P1: High ESG Past Returns vs. P2: Low ESG Past Returns	P1: High Incumbent ESG Past Returns vs. P2: Low Incumbent ESG Past Returns	P1: Passive ESG Funds Launch vs. P2: Active ESG Funds Launch
ESG Launch P1	0.215**	0.471***	0.325***
	(1.97)	(5.20)	(3.58)
ESG Launch P2	0.407***	0.359***	0.426***
	(3.33)	(2.80)	(5.01)
Log(Fund Size+1)	-0.730***	-0.731***	-0.730***
	(-10.06)	(-10.09)	(-10.06)
Log(Family Size+1)	0.038	0.037	0.039
	(1.57)	(1.52)	(1.57)
CAPM alpha	0.718***	0.718***	0.718***
	(13.61)	(13.60)	(13.61)
CAPM alpha_Sq	0.046**	0.046**	0.046**
	(2.37)	(2.36)	(2.36)
Log(Fund Age+1)	-1.692***	-1.699***	-1.691***
	(-9.87)	(-9.94)	(-9.76)
Log(Turnover+1)	-0.045	-0.045	-0.044
	(-1.06)	(-1.06)	(-1.04)
Expense	-1.744***	-1.740***	-1.742***
	(-10.83)	(-10.86)	(-10.93)
StarFund	0.488***	0.491***	0.488***
	(3.29)	(3.30)	(3.29)
StarFamily	0.073*	0.070*	0.074*
	(1.80)	(1.75)	(1.81)
NonESG Launch	0.043	0.049	0.041
	(0.91)	(1.04)	(0.87)
Fund Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month
Nobs	633,541	633,541	633,541
Adj. R-squared	0.072	0.072	0.072

Table 10. Interaction with Signing PRI

This table shows the interplay of new ESG fund launch and signing PRI by the family. The dependent variable is the net flow of the month. The main independent variable of interest in column (1) is an indicator of ESG fund launch during the past year. The main independent variables of interest in column (2) are two split indicators from the original *ESG Launch* dummy based on whether the new ESG fund is introduced during a 12-months window around the family signing PRI. The control variables are defined in the Appendix and lagged by one period. In column (1), we also control the dummy variable of *Sign PRI* that indicates the months subsequent to the family signing PRI. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow	
	(1)	(2)
	Control for *Sign PRI*	P1: PRI Sign Period vs. P2: Not PRI Sign Period
ESG Launch	0.288***	
	(3.57)	
Sign PRI	0.233**	
	(1.97)	
ESG Launch P1		0.024
		(0.20)
ESG Launch P2		0.354***
		(5.39)
Log(Fund Size+1)	-0.729***	-0.728***
	(-10.03)	(-10.05)
Log(Family Size+1)	0.033	0.040
	(1.32)	(1.60)
CAPM alpha	0.718***	0.719***
	(13.60)	(13.62)
CAPM alpha_Sq	0.045**	0.046**
	(2.35)	(2.36)
Log(Fund Age+1)	-1.694***	-1.686***
	(-9.86)	(-9.68)
Log(Turnover+1)	-0.044	-0.044
	(-1.03)	(-1.03)
Expense	-1.738***	-1.740***
	(-10.89)	(-10.91)
StarFund	0.490***	0.488***
	(3.29)	(3.28)
StarFamily	0.073*	0.074*
	(1.79)	(1.83)
NonESG Launch	0.035	0.044
	(0.71)	(0.93)
Controls	Yes	Yes
Fund Fixed Effects	Yes	Yes
Time Fixed Effects	Month	Month
Nobs	633,541	633,541
Adj. R-squared	0.072	0.072

Table 11. Co-managed vs. Unrelated Funds

This table shows the subsample analyses of the spillover effect of ESG fund launch on two types of sibling non-ESG funds: those that have ever been managed by the same managers as the new ESG funds and the other unrelated funds. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flows	
	(1)	(2)
	Unrelated Siblings	Co-managed Siblings
ESG Launch	0.324***	0.345***
	(4.93)	(2.85)
Log(Fund Size+1)	-0.787***	-0.554***
	(-8.90)	(-7.13)
Log(Family Size+1)	0.063**	-0.044
	(2.29)	(-0.92)
CAPM alpha	0.716***	0.731***
	(12.54)	(9.74)
CAPM alpha_Sq	0.031	0.098***
	(1.53)	(3.18)
Log(Fund Age+1)	-1.661***	-1.781***
	(-8.29)	(-8.42)
Log(Turnover+1)	-0.050	-0.024
	(-0.98)	(-0.36)
Expense	-1.769***	-1.754***
	(-8.88)	(-6.66)
StarFund	0.475***	0.557**
	(3.10)	(2.09)
StarFamily	0.056	0.116
	(1.24)	(1.64)
NonESG Launch	0.072	-0.029
	(1.26)	(-0.44)
Fund Fixed Effects	Yes	Yes
Time Fixed Effects	Month	Month
Nobs	471,494	162,047
Adj. R-squared	0.073	0.069

Table 12. Stacked DID

This table shows the effect of launching an ESG fund on the capital inflows of non-ESG funds in the same fund family using a stacked difference-in-differences framework following Cengiz et al. (2019). Each ESG fund launch is regarded as an event cohort. In each cohort, the treatment group includes sibling funds of a launched ESG fund while the control group includes funds fulfilling the following matching requirements: (1) it has never been in the treatment group before; (2) it belongs to the same fund category as the treated fund; (3) its age is within one year of the treated fund's age; and (4) its size is within 10% larger or smaller than that of the treated fund. Each event window starts from 12 months before to 12 months after the event. *ESG Launch* is the indicator of treated funds. *Post* is the indicator of the period after event time for each cohort. Fixed effects of fund by cohort and month by cohort are included in the regression. Standard errors are clustered at both fund-by-cohort and time-by-cohort levels. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. Column (1) reports results using all the matched cohorts from our sample period, spanning 1992-2022. Column (2) reports results using cohorts of ESG funds launched in 2007, 2008, 2016, and 2017, years likely influenced by major ESG events. Column (3) reports results based on cohorts of ESG launches from the other years. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow		
	(1)	(2)	(3)
	Whole Sample	4 Peak Years	Other Years
ESG Launch × Post	0.715***	0.868***	0.689***
	(8.38)	(4.89)	(5.99)
Log(Fund Size+1)	-5.010***	-5.653***	-5.900***
	(-26.87)	(-12.13)	(-23.29)
Log(Family Size+1)	0.037	-0.166*	0.122*
	(0.71)	(-1.68)	(1.89)
CAPM alpha	0.671***	0.397***	0.743***
	(14.88)	(3.69)	(14.10)
CAPM alpha_Sq	-0.032	-0.012	-0.041
	(-1.35)	(-0.17)	(-1.56)
Log(Fund Age+1)	0.863	0.616	1.395
	(1.17)	(0.34)	(1.43)
Log(Turnover+1)	0.201***	-0.078	0.411***
	(3.12)	(-0.69)	(4.72)
Expense	-1.484**	-1.049	-2.464**
	(-2.09)	(-0.80)	(-1.99)
StarFund	0.406***	-0.606**	0.544***
	(2.99)	(-2.06)	(3.49)
StarFamily	0.126**	0.104	0.119
	(2.04)	(1.01)	(1.55)
Fund × Cohort Fixed Effects	Yes	Yes	Yes
Time × Cohort Fixed Effects	Month	Month	Month
Nobs	275,192	74,417	200,399
Adj. R-squared	0.118	0.117	0.128

Table 13. Two-stage Least Squared Regressions

This table shows the spillover effect of an ESG fund on the monthly flows of non-ESG funds in the same family using two-stage instrumental variable (IV) regressions. Columns (1) and (2) use the full sample, and columns (3) and (4) exclude observations in family-month clusters with less than 20 observations. Columns (1) and (3) presents the first-stage results from regressing the assumed endogenous variable, *ESG Launch*, on the IV, i.e., natural logarithm of one plus the number of hazards which occur annually within 100-mile radius of a fund family's headquarter office, and all control variables. Columns (2) and (4) presents the respective second-stage results from regressing the sibling funds' net flow on the predicted value of the main independent variable of interest, i.e., *ESG Launch*, and control variables. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	ESG Launch	*Fund Flows*	*ESG Launch*	*Fund Flows*
	(1)	(2)	(3)	(4)
Log(Num_Hazards+1)	0.077**		0.179***	
	(2.25)		(4.05)	
ESG Launch		1.575**		1.348***
		(2.19)		(2.76)
Log(Fund Size+1)	0.014***	-0.769***	0.009	-1.081***
	(3.20)	(-8.95)	(1.07)	(-7.00)
Log(Family Size+1)	0.010**	0.040	0.044	0.463***
	(2.05)	(1.25)	(1.30)	(3.59)
CAPM alpha	-0.001	0.721***	-0.002	0.541***
	(-0.65)	(12.69)	(-0.87)	(7.08)
CAPM alpha_Sq	-0.000	0.053**	-0.001	0.060**
	(-0.55)	(2.42)	(-0.51)	(2.23)
Log(Fund Age+1)	0.002	-1.694***	-0.022	-1.247***
	(0.09)	(-8.15)	(-0.44)	(-3.49)
Log(Turnover+1)	0.005	-0.057	-0.003	-0.069
	(1.01)	(-1.32)	(-0.42)	(-0.98)
Expense	0.046**	-1.922***	0.079*	-1.971***
	(2.19)	(-10.78)	(1.93)	(-5.46)
StarFund	0.005	0.511***	0.016***	0.374
	(1.44)	(3.17)	(2.61)	(1.36)
StarFamily	0.004	0.079	0.014	0.081
	(0.43)	(1.61)	(0.72)	(1.09)
NonESG Launch	0.026**	-0.003	0.043*	-0.023
	(2.54)	(-0.05)	(1.84)	(-0.24)
Fund Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month	Month
Cragg-Donald Wald F statistic	5475.61	-	9685.43	-
Sanderson-Windmeijer F statistic	5.07	-	16.42	-
Nobs	519,193	519,193	251,753	251,753
R-squared	-	0.015	-	0.012

Table 14. Initial Stand-alone Revenue and Flows of New Funds

This table presents summary statistics of the average monthly revenue from, or capital flows to, new funds within the first two years since their launch. Panel A reports the raw stand-alone revenues, calculated by multiplying assets under management by the expense ratio. Panel B reports the stand-alone capital flows. Each panel reports the mean values for the new ESG funds and non-ESG funds separately, along with the T-test statistics indicating their differences. Columns (1) to (5) show sub-period summary statistics within the sample period of 1992-2002, and column (6) presents the summary statistics for the entire sample period. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Time Period	1992-2003	2004-2010	2011-2016	2017-2022	2004-2022	1992-2022
Panel A: Initial Monthly Revenue of a New Fund ($Mil.)						
ESG Funds	0.155	0.352	0.411	0.164	0.306	0.252
Non-ESG Funds	0.951	0.810	0.856	0.527	0.728	0.807
Diff.	-0.796***	-0.458**	-0.445	-0.363**	-0.422***	-0.556***
	(-4.86)	(-2.92)	(-1.87)	(-3.75)	(-4.69)	(-6.35)
Panel B: Initial Monthly Flows to a New Fund (%)						
ESG Funds	7.633	6.470	5.024	5.925	5.886	6.510
Non-ESG Funds	7.533	9.582	8.274	7.878	8.651	8.251
Diff.	0.100	-3.112**	-3.250**	-1.953	-2.764**	-1.741**
	(-0.08)	(-2.74)	(-3.38)	(-0.73)	(-2.83)	(-2.16)

Table 15. Total Monthly Revenue from Launching New ESG Funds

This table reports our estimates of the monthly revenue from the spillover effects of launching ESG funds, along with the total revenue that combines both the spillover and stand-alone revenues. The spillover revenue is calculated by the product of the number of non-ESG funds per family, the estimated flow spillover (i.e., the regression coefficient under our baseline specification within each subsample period), the average assets under management (AUM), and the average expense ratio for each subsample period. The stand-alone revenue is taken from Table 14, Panel A, row 1. We use two assumptions for the number of non-ESG funds in each family: we assume a fixed number of 7 sibling funds, as well as apply the average number of non-ESG funds in families that offer at least one ESG fund. Both the inputs and the results of our calculations are reported.

	1992-2003	2004-2010	2011-2016	2017-2022	2004-2022	1992-2022
AUM ($Mil.)	1146.630	1203.242	1640.998	2307.676	1691.956	1596.922
Expense Ratio (%)	1.246	1.099	0.882	0.755	0.919	0.976
Flow Spillover Effect (Coef. %)	-0.247	-0.016	0.542	0.255	0.364	0.329
Stand-alone Revenue ($Mil.)	0.155	0.352	0.411	0.164	0.306	0.252
1. Assuming 7 non-ESG funds per family						
Spillover Revenue ($Mil.)	-0.247	-0.015	0.549	0.311	0.396	0.359
Total Revenue ($Mil.)	-0.092	0.337	0.960	0.475	0.702	0.611
2. Using the Mean Number of non-ESG funds per ESG family						
# of non-ESG Fund per ESG Family	9.384	14.955	19.315	19.520	17.708	15.806
Spillover Revenue ($Mil.)	-0.331	-0.032	1.515	0.867	1.002	0.810
Total Revenue ($Mil.)	-0.176	0.320	1.926	1.031	1.308	1.062

Table 16: Flow Spillover of Anti-ESG Funds

This table shows the spillover effect of *anti*-ESG fund launch on the sibling funds that are neither ESG funds nor *anti*-ESG funds. The dependent variable is the net flow of the month. The main independent variable of interest is an indicator of *anti*-ESG fund launch during the past year. The *anti*-ESG funds are identified as those with weighted average MSCI ESG score of top 10 holding firms within the bottom quartile during the initial two quarters. The sample spans from 2010 to 2022, since MSCI ESG rating starts from 2008 and has good coverage for new funds' top 10 holdings from 2010. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow		
	(1)	(2)	(3)
	All Siblings	Retail Siblings	Institutional Siblings
Anti ESG Launch	-0.264**	-0.275***	-0.168
	(-2.52)	(-2.68)	(-0.28)
ESG Launch	0.527***	0.549***	0.095
	(4.85)	(4.80)	(0.42)
Log(Fund Size+1)	-1.040***	-1.046***	-1.079***
	(-10.29)	(-9.98)	(-5.13)
Log(Family Size+1)	0.041	0.037	0.073
	(1.09)	(0.90)	(0.87)
CAPM alpha	0.759***	0.756***	0.810***
	(10.76)	(10.18)	(6.21)
CAPM alpha_Sq	0.042	0.063*	-0.137**
	(1.38)	(1.96)	(-2.19)
Log(Fund Age+1)	-1.033***	-0.806**	-2.615***
	(-3.54)	(-2.58)	(-5.91)
Log(Turnover+1)	0.038	0.043	-0.077
	(0.71)	(0.76)	(-0.74)
Expense	-2.046***	-2.109***	-1.609*
	(-5.17)	(-5.02)	(-1.73)
StarFund	0.628***	0.617***	0.719**
	(3.39)	(2.99)	(2.49)
StarFamily	0.026	0.051	-0.170
	(0.51)	(0.93)	(-1.26)
NonESG Launch	0.052	0.056	-0.005
	(0.81)	(0.82)	(-0.04)
Fund Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month
Nobs	376,088	339,182	36,577
Adj. R-squared	0.074	0.071	0.123

Table 17. Heterogeneity: Product Differentiation

This table shows the spillover effect of different types of ESG fund launches. The dependent variable is the net flow of the month. The main independent variables of interest are two split indicators from the original *ESG Launch* dummy based on whether the initial return correlation of new ESG funds is above the sample median. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow
	(1)
	P1: Low Initial Return Correlation vs P2: High Initial Return Correlation
ESG Launch P1	0.443***
	(3.94)
ESG Launch P2	0.231**
	(2.32)
Log(Fund Size+1)	-0.730***
	(-10.07)
Log(Family Size+1)	0.038
	(1.57)
CAPM alpha	0.719***
	(13.62)
CAPM alpha_Sq	0.046**
	(2.37)
Log(Fund Age+1)	-1.691***
	(-9.85)
Log(Turnover+1)	-0.044
	(-1.04)
Expense	-1.741***
	(-10.88)
StarFund	0.488***
	(3.29)
StarFamily	0.073*
	(1.81)
NonESG Launch	0.044
	(0.94)
Fund Fixed Effects	Yes
Time Fixed Effects	Month
Nobs	633,541
Adj. R-squared	0.072

Internet Appendix

Table IA 1. ESG Profile of Holding Companies

This table shows the comparison of the initial ESG profile between ESG funds, anti-ESG funds, and other funds. The initial ESG profile is measured as the weighted average MSCI ESG score of all (top 10) holding firms during the first six months since the fund launch. The sample spans from 2010 to 2022, since the MSCI ESG rating starts from 2008 and has good coverage for holding firms from 2010. Columns (1), (2), and (4) show the mean values, and column (3) reports the T-tests between ESG funds and other funds, and column (5) reports the T-tests between ESG funds and anti-ESG funds. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	ESG Funds	Other Funds	Diff. (1)-(2)	Anti-ESG Funds	Diff. (1)-(3)
MSCI ESG Rating-Overall Holdings	4.40	4.05	0.35***	3.34	1.06***
			(8.37)		(30.05)
MSCI ESG Rating-Top 10 Holdings	4.58	4.23	0.35***	3.07	1.51***
			(5.54)		(26.47)

Table IA2. Robustness for Flow Spillover

This table shows the robustness for the flow spillover of ESG fund launch in Table 2. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of ESG fund launch during the past year. The control variables are defined in the Appendix and lagged by one period. In columns (1)-(4), we include different fixed effects where "Category" denotes a fund's investment strategy, e.g., blend, growth, value. In columns (5)-(7), we include additional control variables of Morningstar Rating, Morningstar Sustainability Rating, and the 12b-1 fee of the fund family. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flows						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ESG Launch	0.334***	0.168**	0.162**	0.310***	0.311***	0.238*	0.389***
	(5.09)	(2.05)	(1.99)	(3.66)	(3.40)	(1.87)	(5.66)
Log(Fund Size+1)	-0.739***	-0.128***	-0.131***	-0.204***	-1.146***	-0.189***	-0.801***
	(-10.19)	(-4.01)	(-4.11)	(-6.27)	(-9.26)	(-3.90)	(-9.60)
Log(Family Size+1)	0.042*	0.031**	0.031**	-0.111***	0.026	0.058***	0.004
	(1.72)	(2.55)	(2.57)	(-3.55)	(0.55)	(3.08)	(0.08)
CAPM alpha	0.778***	0.844***	0.762***	0.743***	0.492***	0.551***	0.686***
	(13.58)	(14.11)	(14.51)	(13.67)	(7.49)	(7.87)	(12.30)
CAPM alpha_Sq	0.038**	0.090***	0.087***	0.074***	-0.010	0.024	0.053**
	(1.99)	(4.89)	(4.59)	(3.74)	(-0.34)	(0.79)	(2.56)
Log(Fund Age+1)	-1.671***	-0.674***	-0.660***	-0.608***	-1.180***	-0.573***	-1.725***
	(-9.74)	(-14.40)	(-13.69)	(-12.54)	(-4.99)	(-7.45)	(-8.36)
Log(Turnover+1)	-0.036	0.038	0.034	-0.015	0.061	0.025	-0.057
	(-0.85)	(0.45)	(0.40)	(-0.34)	(0.97)	(0.26)	(-1.22)
Expense	-1.739***	-0.385***	-0.408***	-0.467***	-1.886***	-0.406***	-1.870***
	(-10.77)	(-4.35)	(-4.67)	(-5.20)	(-4.89)	(-2.74)	(-11.01)
StarFund	0.426***	0.376**	0.492***	0.441***	0.534***	1.005***	0.456***
	(2.79)	(2.52)	(3.41)	(3.15)	(3.74)	(3.19)	(2.82)
StarFamily	0.057	0.272**	0.287***	0.138***	0.021	0.266**	0.056
	(1.45)	(2.52)	(2.66)	(2.86)	(0.35)	(2.03)	(1.28)
NonESG Launch	0.048	0.088*	0.084	0.039	0.081	-0.038	0.060
	(1.06)	(1.66)	(1.55)	(0.87)	(1.13)	(-0.30)	(1.09)
Morningstar Rating					0.674***		
					(20.12)		
Morningstar Sustainability Rating						0.020	
						(0.59)	

Log(Family 12b1+1)							0.079 (1.57)
Fund Fixed Effects	Yes	No	No	No	Yes	No	Yes
Month Fixed Effects	No	No	Yes	Yes	Yes	Yes	Yes
Category Fixed Effects	No	No	Yes	No	No	No	No
Category×Month Fixed Effects	Yes	Yes	No	No	No	No	No
Family Fixed Effects	No	No	No	Yes	No	No	No
Nobs	633,423	633,468	633,586	633,577	251,790	82,239	544,459
Adj. R-squared	0.077	0.032	0.027	0.045	0.093	0.026	0.070

Table IA3. ESG News

This table shows the correlation of launching and rebranding ESG funds with the families' ESG-related new coverage. The dependent variable is the annual number of ESG-related News articles that mention the family name and ESG keywords at the same time. The main independent variables of interest are the number of new ESG funds and the number of existing funds rebranded as ESG funds during that year. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and year levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	ESG News
	(1)
# of Launched ESG Funds	129.398**
	(2.10)
# of Rebranded ESG Funds	263.867
	(1.32)
Family Fixed Effects	Yes
Time Fixed Effects	Year
Nobs	4,085
Adj. R-squared	0.514

Table IA4. Flows to ESG vs. Non-ESG Funds

This table shows whether ESG funds attract greater cash inflows relative to non-ESG funds. The dependent variable is the net flow of the month, and the main independent variable of interest is an indicator of the ESG fund, which equals 1 if the fund is classified as an ESG fund, and 0 otherwise. The control variables are defined in the Appendix and lagged by one period. The constant term is included but not reported for brevity. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Fund Flow					
	(1)	(2)	(3)	(4)	(5)	(6)
	1992-2022	<2004	>=2004	2004-2010	2011-2016	>2016
ESG Fund Initial Period*	-2.146***	-1.585	-2.238***	-0.650	-1.999	-1.740***
	(-3.37)	(-1.60)	(-3.18)	(-0.43)	(-1.38)	(-2.70)
ESG Fund	0.159	0.095	0.168	0.273	-0.240	0.419*
	(0.80)	(0.21)	(0.83)	(0.58)	(-0.91)	(1.80)
Initial Period	3.253***	2.185***	3.593***	3.622***	3.954***	2.452***
	(15.46)	(8.64)	(13.66)	(10.55)	(9.41)	(5.20)
Log(Fund Size+1)	-0.305***	-0.435***	-0.285***	-0.308***	-0.301***	-0.248***
	(-6.91)	(-4.83)	(-6.46)	(-4.64)	(-4.84)	(-4.71)
Log(Family Size+1)	0.139***	0.196***	0.126***	0.134***	0.121***	0.122***
	(8.68)	(6.19)	(7.19)	(4.78)	(4.31)	(4.61)
Cate_Adj_Rt	0.302***	0.241***	0.338***	0.311***	0.389***	0.324***
	(10.00)	(4.32)	(10.53)	(7.66)	(8.08)	(8.05)
Cate_Adj_Rt_Sq	0.030***	0.028***	0.031***	0.034***	0.023***	0.036***
	(10.15)	(5.58)	(11.13)	(8.98)	(3.88)	(6.62)
Log(Fund Age+1)	-1.247***	-1.548***	-1.143***	-1.447***	-0.967***	-1.082***
	(-19.96)	(-13.18)	(-17.61)	(-15.78)	(-9.64)	(-11.18)
Log(Turnover+1)	-0.001	0.042	-0.008	-0.033	0.050	0.042
	(-0.01)	(0.17)	(-0.07)	(-0.16)	(0.39)	(0.38)
Expense	-0.258**	-0.199	-0.330**	-0.571***	-0.121	-0.297
	(-1.99)	(-0.79)	(-2.41)	(-3.21)	(-0.59)	(-1.30)
Fund Fixed Effects	No	No	No	No	No	No
Category Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Month	Month	Month	Month	Month	Month
Nobs	913,956	181,221	732,735	268,241	243,815	220,679
Adj. R-squared	0.091	0.098	0.088	0.105	0.083	0.072

2

Table IA5. Determinants of ESG Fund Launch

This table reports results from a logistic regression with the dependent variable as the indicator of launching ESG funds during the current month. The main independent variables of interest are the family-level determinants. The control variables are defined in the Appendix and lagged by one period. T-statistics are in parentheses. Standard errors are clustered at the family and month levels. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	ESG Launch			
	(1)	(2)	(3)	(4)
Log(Family Size+1)	0.359***	0.362***	0.283***	0.147***
	(9.73)	(7.70)	(3.65)	(3.81)
Sign PRI	1.569***	1.246***	1.201***	0.841***
	(8.53)	(5.73)	(5.32)	(4.89)
# of Pre-existing ESG Fund	0.094***	0.084***	0.087***	0.073***
	(7.28)	(3.80)	(4.13)	(9.85)
Passive%		0.009***	0.006*	0.006**
		(2.91)	(1.65)	(2.43)
Retail%		-0.000	-0.001	-0.001
		(-0.33)	(-0.25)	(-0.48)
PRI Sign Period	0.218	0.261	0.094	0.091
	(0.86)	(0.86)	(0.27)	(0.30)
MCCC		0.644***	0.748***	0.773***
		(3.01)	(3.33)	(3.82)
Family 12b1-Fee			0.047	
			(1.00)	
Family Alpha	-0.058	-0.080	-0.115*	-0.075
	(-1.09)	(-1.21)	(-1.81)	(-1.13)
ESG Past Perf.(Market)		0.157	-0.053	0.091
		(0.28)	(-0.09)	(0.16)
ESG Past Perf.(Incumbent)				-0.022
				(-0.19)
Family Flow	0.008	0.007	0.006	0.003
	(0.75)	(0.51)	(0.48)	(0.25)
Constant	-9.515***	-10.467***	-10.005***	-7.639***
	(-29.25)	(-16.61)	(-13.52)	(-15.20)
Nobs	142,259	79,856	51,165	19,938
Pseudo R-squared	0.19	0.23	0.21	0.12