ESG Incidents and Fundraising in Private Equity*

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Abstract

We analyse how ESG incidents affect the capital raising ability of Private Equity (PE) firms. Using a sample of global buyout investments, we find that experiencing an environmental and social (E&S) incident in its portfolio companies negatively affects the PE firm's ability to raise capital both at the extensive and intensive margin. Affected PE firms are less likely to raise a subsequent fund and the subsequent funds are smaller. The relative size of subsequent funds are 7.6% smaller for PE firms experiencing higher-than-median number of E&S incidents, compared to those with no incidents. The effect is stronger for less reputable PE firms. The decrease in capital commitment is likely driven by departure of limited partners with whom the PE firm had a past relationship. After an incident, PE firms do more ESG screening by making new investments in firms that are less likely to experience an incident.

Keywords: private equity, fundraising, buyouts, limited partners, ESG, sustainability

JEL Classification: G10, G24, M14

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1 Introduction

There has been a notable surge in global interest towards responsible investment practices, where many institutional investors are integrating (or claiming to integrate) environmental, social, and governance (ESG) factors into their investment decisions (Gibson Brandon et al., 2022). A large body of academic literature has studied the implications of ESG considerations for public market funds.[1] However, we know very little about the extent to which ESG factors shape capital allocation in private market funds.[2]

Anecdotally, ESG investment has aroused substantial interest in the private equity industry. In a survey conducted by PWC (2022), 63 % of Limited Partners (LPs) take into account ESG considerations when they allocate capital across General Partners (GPs), and more than 40% surveyed GPs adopt ESG considerations when selecting and managing their investments. Some of the biggest private equity firms like Apollo in the United States and Ardian in France claim to employ ESG investment criteria and issue annual sustainability reports. Despite the interest among practitioners, there is still no systematic academic evidence on how ESG affects the PE industry. In this paper, we fill this gap by providing, to the best of our knowledge, the first evidence on how ESG considerations affect the capital raising ability of Private Equity (PE) firms.

The conclusions from research on responsible investment in public markets may not be easily generalized to private markets because of multiple reasons. First, the liquidity in public and private markets is remarkably different. Investors can easily purchase and redeem their shares in a public market fund (e.g. a mutual fund), while in a private market fund a LP usually commits capital to a GP for over 10 years, and exiting through selling the commitment is costly (Nadauld et al., 2019; Boyer et al., 2018). As a result, some commonly used ESG strategies (e.g., "divestment") may not be feasible in private markets. Second, public and private firms are under different levels of regulatory scrutiny, which may affect the rationale behind ESG

[1] See, for instance, Bollen (2007), Riedl and Smeets (2017), Hartzmark and Sussman (2019) and Ceccarelli et al. (2023) for mutual funds, and Liang et al. (2022) for hedge funds.

[2] Over the past two decades we have seen a substantial increase in allocation of institutional investors to private market funds, most notably the widely adopted buyout and VC strategies. The percentage allocation of institutional investors' portfolio to private market funds has more than doubled since the early 2000s and reached approximately 10% by 2022 (Ewens and Farre-Mensa, 2022).

investment. Third, and perhaps the most important from a welfare standpoint, due to their investment and ownership structure, capital providers in private markets are typically able to exert more influence on portfolio companies (Gompers et al., 2020), which makes private market capital better suited to address societal challenges (Jeffers et al., 2022; Gupta et al., 2022). Therefore, understanding how ESG factors affect capital allocation in private firms is vital to understanding how the ESG trend affects our economy.

The main challenge in answering the question is data availability. There are no ESG scores available for private firms. Moreover, due to the non-mandatory nature of disclosure, some key ESG indicators, e.g. carbon emissions, are not available for a large set of private firms. As a result, there is no reliable way to measure ESG footprint of the portfolio of private equity investors, as prior work does for public equity investors. In this paper, we mitigate the data limitation by using data about ESG-related incidents of private firms from RepRisk. We combine ESG-related incidents with investment level, fund level and LP portfolio level data on buyout investments from Preqin to examine the outcomes of ESG incidents. We restrict our analysis to GPs specializing in buyout investments since buyout funds invest in larger companies for which we have relatively good coverage by RepRisk.

We conjecture that ESG incidents affect the GP's capital raising ability. This is analogous to the evidence that updates in ESG information affect capital flows in public market funds (e.g. Hartzmark and Sussman, 2019). The key difference in private markets is that the current fund will not be affected as the capital is already committed when the fund is raised. Therefore, one would expect that ESG incidents will have an impact on the probability of raising a new fund, and potentially on the size of the follow-up funds raised. In other words, we expect that after observing an ESG incident, LPs stop committing or commit less capital to follow-up funds of the PE firm.

We confirm our hypothesis in the data. First, we show that GPs experiencing environmental and social (E&S)[3] incidents in their portfolio companies are less likely to raise follow-up funds (*extensive margin*). Following Barber and Yasuda (2017), we start by estimating the cumula-

[3]We separately analyse governance (G) incidents as corporate governance has long been a focus area in the private equity market and governance issues likely affect PE firms in very different ways than do environmental and social issues.

tive survival probabilities (Kaplan-Meier survival curve) for funds with different level of E&S incidents. By the end of the 10th year since fund inception, 40% of GPs with above-median number of E&S incidents fail to raise a follow-up fund. This number is substantially larger than that for funds that do not experience any portfolio-level E&S incidents, of which 25% fail to raise a follow-up fund. Next, by estimating a proportional hazards model, we document that the hazard rate of raising a follow-up fund decreases with the number of incidents. A fund with above-median number of E&S incidents has a 31.1% lower hazard ratio, and is less likely to raise a follow-up fund in a given year, compared to a fund that does not experience any incidents. Note that in the analysis we control for performance, size and series number of the current fund of the GP and buyout performance in a given year.

Next, we study the impact of E&S incidents on the size of the follow-up fund, conditional on raising a follow-up fund (*intensive margin*). We find that conditional on raising a follow-up fund, the follow-up funds are smaller. A one standard deviation increase in the average number of scandals lowers the relative size of follow-up funds by around 2%. Alternatively, compared to funds with no scandals in their portfolio, funds with above-median number of E&S scandals have 7.6% smaller follow-up funds. This effect is economically large, as this is equivalent to the size growth brought about by a scaling-up of fund performance by 1.3. In all of the results we control for performance, size, and series number of the current fund of the GP, as well as vintage year fixed effects both at the level of the current fund and the follow-up fund to be raised. The effect is stronger for less reputable PE firms (small and young PE firms). We do not find similar effects for governance incidents.

The results above have important implications for PE firms. Since, typically a large part of compensation in private equity (management fee) is tied to the size of the fund raised, successful fundraising is of paramount importance to PE managers.[4] Consequently, our findings indicate that experiencing environmental and social controversies may result in substantial financial repercussions for both the private equity firm and its partners. Our results highlight that E&S incidents are rather costly for GPs.

After documenting that environmental and social incidents hurt GPs' capital raising ability,

[4]For example, Metrick and Yasuda (2010) find that successful general partners (GPs) can raise their per partner compensation sharply by raising a larger follow-up fund.

we turn to the mechanism. First, we examine the performance channel. If E&S incidents are negatively correlated with fund performance, LPs may rationally stop committing to follow-up funds of GPs for a purely profit-driven motive. To help answer this question, we study how environmental and social incidents are correlated with current and follow-up fund performance. We do not find significant evidence that environmental and social scandals are correlated with either current or future fund performance. At least in the short to medium run, experiencing environmental and social incidents does not seem to be strongly associated with the PE firm's performance. Given the limited time period of our sample, our data does not allow us to rule out the possibility that even profit-driven LPs may be concerned about long-term impact of ESG factors on performance.

Since performance does not seem to fully explain why LPs are reluctant to commit to GPs who experience environmental and social incidents, we turn to examine where the capital decrease comes from. Unlike the public market, the private market is characterised by the existence of relationships between GPs and their investors. LPs who have financed a past fund from a GP are much more likely to participate in the future funds raised by the same GP.[5] We first confirm that such LP-GP relationships exist in the data. Then, we show that experiencing an E&S incident breaks such relationships. Using a LP-fund data structure, in the spirit of the relationship banking literature (e.g., Chodorow-Reich, 2014), we show that LPs who had a relationship with a PE firm are less likely to re-commit to a follow-up fund if the current fund has E&S incidents. A one standard deviation increase in the number of incidents decreases the likelihood of re-commitment by relationship LPs by about 7%, which is economically meaningful. In general, our results suggest that the decreasing fund raising ability comes from the reluctance of LPs to re-commit capital after environmental and social incidents.

Our evidence, so far, indicates that E&S incidents are costly to PE firms. Then, a natural question is whether PE firms are aware of these costs and adopt mitigation strategies to avoid such incidents? We find evidence of ESG screening by funds. After an E&S incident at a fund, the subsequent investments made by the same fund have a lower ex-ante ESG risk

[5]For instance, due to variations in skill levels, style and the persistence of returns, certain General Partners (GPs) may be more favoured than others (Kaplan and Schoar, 2005; Harris et al., 2023). Simultaneously, due to their differing tolerance for illiquidity, some Limited Partners (LPs) become more desirable to certain GPs (Maurin et al., 2023).

level (measured by the risk index provided by RepRisk). These new investments also have a lower number of future realized E&S incidents, which implies that ESG-screening strategies are ex-post effective. In addition, we find a substantial decrease in the overall level of incidents at follow-up funds after GPs experience environmental and social incidents at their current fund.

Our novel evidence in this paper highlights the materiality of ESG considerations in the private equity industry. Even in the absence of tight regulation, capital in the private market seems to flow away from GPs with a poor ESG profile, which is similar to public market funds. However, due to the unique structure of the private market, this capital flow happens in the form of a decrease in recommitment to follow-up funds of a GP, which is different from public market funds. This shift in capital allocation from LPs incentivize GPs to conduct ESG screening, and choose different sets of firms to invest in. In the long-run, this ESG pressure may then be passed on to entrepreneurs and affect the types of firms they found or the way they manage these firms, which could potentially lead to a real impact of ESG-concerned PE capital on the economy.

The rest of the paper proceeds as follows. Section 2 reviews related literature. Section 3 describes the data and our sample. Section 4 presents evidence on how incidents affect raising follow-up funds. Section 5 investigates the relationship between incidents and performance. Section 6 tests how incidents affect LP-GP relationship. Section 7 presents evidence on how PE firms react to incidents. Section 8 concludes.

2 Literature

Our primary contribution is to the nascent literature on ESG and asset management in the private market. Geczy et al. (2021) analyze LP-GP contractual terms of impact funds and do not find direct evidence of tying managerial compensation of the GP directly to impact. Instead, they seem to emphasize the GP giving the LPs more oversight over the deal selection, due diligence, and other material processes. Barber et al. (2021) show that dual-objective VC funds (funds also aiming for positive social impact) have lower returns and Jeffers et al. (2022) analyze the risk and return of such funds. Bellon (2022) looks at the effect of PE ownership in the oil and gas industry and finds that PE ownership reduces pollution but only among firms in states with high environmental enforcement or greater political risk. Abraham et al. (2022) document the increasing voluntary ESG disclosure by PE firms and, subsequently, more environmental-friendly

investment practices. Zhang (2022) studies whether impact investing helps VCs attract future startup deal-flow. We contribute to this strand of the literature by providing the first evidence that real portfolio level ESG incidents are material to GPs in the private equity industry. To the best of our knowledge, we are the first to document that ESG incidents affect capital raising ability of PE firms. Moreover, unlike previous work which either focuses on specialized impact funds (e.g., Geczy et al., 2021; Jeffers et al., 2022) or on specific settings (Bellon, 2022), we examine the materiality of ESG incidents to a broad class of buyout GPs.

We also contribute to the literature on the determinants of capital raising by private market intermediaries. A large body of literature starting with Kaplan and Schoar (2005) has studied the determinants of fund-raising in PE. Kaplan and Schoar (2005) document a high performance-flow sensitivity in the PE industry. Chung et al. (2012), Hochberg et al. (2014) and Barber and Yasuda (2017) find that interim performance affects the timing and likelihood of raising a follow-up fund. We contribute by showing E&S incidents in the portfolios are another determinant of capital raising ability, on top of the factors identified by prior work. We complement previous findings by showing that fund level E&S incidents affect the likelihood of fund raising at the extensive margin and the size of raised funds at the intensive margin.

We also contribute to the broad literature on investor demand for ESG-conscious financial products. Survey and experimental evidence show that investors exhibit social preferences when making investment decisions (Riedl and Smeets, 2017; Bauer et al., 2021). Prior research finds that public market fund investors' social preferences drive capital into better ESG-performing funds (Bollen, 2007; Renneboog et al., 2011; Riedl and Smeets, 2017; Hartzmark and Sussman, 2019; Liang et al., 2022; Ceccarelli et al., 2023). Hartzmark and Sussman (2019) show that investors react to sustainability labels that mutual funds receive. Liang et al. (2022) show that responsible hedge funds are able to attract additional flow and charge higher fees. In our paper, we contribute to this strand of the literature by documenting such a pattern for private market funds.

This paper is also related to a series of papers using RepRisk data for public firms. For instance, Gantchev et al. (2022) document divesting by responsible investors following negative E&S incidents. Glo§ner (2021) show that RepRisk incidents predict negative future stock returns, and Derrien et al. (2021) document the negative analyst forecasts revision following such

incidents. von Beschwitz et al. (2022) study how mutual funds react to ESG incidents in their portfolio. We complement these studies by analysing ESG incidents at private firms.

3 Data and sample

This paper explores the effect of ESG incidents on PE firms. This requires detailed data on funds raised by a PE firm, portfolio companies invested in and ESG incidents of the portfolio companies. We use private equity data from Preqin and we employ data from RepRisk to measure ESG incidents. This section describes the datasets in more detail.

3.1 Preqin

We collect our private equity data from Preqin. We focus on buyout funds in North America and Europe. This is because buyout firms are in general larger and more likely to be matched to RepRisk database. Though RepRisk covers private firms, it typically covers slightly larger private firms. By focusing on buyout funds in North America and Europe, we are able to achieve a reasonable match rate. We use Preqin data spanning from 2000 to August 2023. In addition, we only keep funds with non-missing size, fund multiple and fund series number. We supplement the fund level data with the Limited Partner module that allows us to identify the LPs that invest in a given fund. We also require the funds to have information on at least one LP from the Preqin LP module.

3.2 RepRisk

Our ESG incidents data come from RepRisk. RepRisk produces daily indicators for negative ESG-related incidents at the firm level for both public and private firms. It does so via a daily analysis of a large set of documents in 20 languages obtained from public sources. The data go back to January 2007. RepRisk classifies ESG incidents according to 28 distinct issues. Environmental issues include news about climate change, pollution, waste issues, etc. Social issues relate to child labor, human rights abuses, etc. Governance issues capture issues such as executive compensation, corruption etc. It also provides a monthly RepRisk Index (RRI) which indicates the risk of having future incidents. While prior research uses RepRisk incidents as negative shocks to ESG profiles of public firms (e.g., Derrien et al., 2021), we extend the analysis to private firms. Our RepRisk data spans from 2007 to 2022.

Figure 1 about here.

RepRisk covers ESG incidents for 155,519 firms worldwide, out of which 17,024 are public and 138,495 are private. Figure 1 shows the average number of annual incidents over time. For both public and private firms, the number of incidents increase over time, potentially due to the increasing attention to ESG issues of firms. Public firms have more incidents than private firms, as public firms attract more media attention. In 2022, public (private) firms experience 1.7 (0.2) ESG incidents per year. Figure 2 plots E/S/G incidents separately over time. The number of governance incidents is low at the beginning of the sample and increases to similar levels by 2022. Environmental incidents are the lowest among the three categories. Figure A1 plots the detailed distribution of issues. Public and private firms exhibit similar distributions, though there are slightly more fraud and money-related issues for private firms.

Figure 2 about here.

An illustrative example of a social incident in our sample is the following. In April 2013, the Carlyle Group, via their Carlyle Europe Partners fund, acquired a large stake in Addison Lee, a private taxi hire service in London and South East England.[6] Subsequently in November 2018, while it was still in Carlyle's portfolio, it was found that Addison Lee violated the Employment Act of 1996 under British Law by classifying drivers as independent contractors and not paying them the minimum wage and holiday pay.[7] This incident is recorded in RepRisk as a social incident on November 14, 2018, with related issues "Poor employment conditions" and "Violation of national legislation".

3.3 Sample construction and summary statistics

As there are no unified identifiers for private firms, we match portfolio companies of PE funds from Preqin to firms in RepRisk using a fuzzy matching algorithm on firm names. We are able to match 2710 portfolio companies, which correspond to around 2% of RepRisk private firms and around 5% of all Preqin buyout deals. The low matching rate reflects the low overlap between RepRisk and Preqin, as inclusion of a firm in each database is based on different criteria.

[6] Official statement for the investment can be found on Carlyle Group's official website.

[7] A news article from the Daily Mail covers this incident here.

The 2710 firms are invested by 933 funds from Preqin, raised by 385 PE firms and committed by 2524 LPs. Figure 3 shows the distribution of vintage years of these funds. Out of the 385 PE firms in our sample, 131 are from Europe and 254 are from North America. As of 2023, PE firms in our sample have raised 4,214 billion US dollars in buyout funds, which accounts for 74% of buyout funds AUM in Preqin. The average number of buyout funds per PE firm in our sample is 7.2 and the average age is 22.2 years, which is higher than that for the full Preqin buyout universe (3.1 funds and 12.7 years). The PE firms in our sample are larger and older, which is probably not surprising. LPs in our sample on average invest in 38 buyout funds and 20 PE firms in our sample, which is also higher than the full Preqin LP universe (8 PE firms and 14 funds).

We only keep the buyout funds that have at least one portfolio company covered by RepRisk during the life of the fund. We, then, aggregate portfolio company level incidents to fund level. Because we do not observe the precise exit date of portfolio companies, we assume a holding period of 5 years from the deal year of each portfolio company, which is the average holding period for buyout funds.[8]

For our analysis, we focus on E&S related incidents. We make this distinction as governance issues in the private equity market have already been extensively studied and likely affect PE firms in a different way than E&S incidents. We, then, aggregate E&S incidents to a PE fund-year level. To do so, we follow a two step procedures. First, we divide the total number of incidents of a fund in a year by the number of portfolio companies of the fund covered by RepRisk in that year. We normalise the scandals by RepRisk coverage to account for the size effect, i.e., larger PE funds have more firms covered by RepRisk and thus, may have more scandals. Second, throughout the analysis of the paper, when we accumulate incidents over multiple years, we also take an average across years. This is to avoid any mechanical effect that a longer holding period leads to more cumulative incidents.

We define follow-up funds as funds in the same series ($fund\_series\_id$ in Preqin) that have adjacent fund series number. In most cases, these funds have unified names. For example,

[8]Kaplan and Strömberg (2009) provides statistics on average holding period, the median firm exits after 5 years. Recent holding periods seem to have increased to a median of 6 years i.e. Joenväärä et al. (2021). We make the assumption that the average holding period is 5 years during our sample period.

Kinderhook Capital Fund II is the follow-up of *Kinderhook Capital Fund I*, and *Kinderhook Capital Fund III* is the follow-up fund of *Kinderhook Capital Fund II*. Such a definition allows us to better compare the size of similar funds, as funds in the same series usually have a similar strategy and comparable size (Fraser-Sampson, 2011). Out of 933 funds, 781 raise a follow-up fund.

In the analysis in which we investigate the change of relative fund size, we construct a fund pair dataset, in which each observation is a Fund N - Fund N+1 pair. This structure allows us directly test how relative size of fund N+1 and fund N is affected by the ESG incidents at fund N. Panel A of Table 1 shows the summary statistics for this data structure. On average, each fund has 3 portfolio companies that are covered by RepRisk. In this analysis, we focus on the average number of incidents 2 years before a follow-up fund is raised. Each year a fund experiences around 0.48 ESG incidents, 0.25 of them are E&S incidents and 0.22 are G incidents. This is larger than the full RepRisk private firms sample, likely because we only managed to match larger firms, which attract more media attention. Fund N has an average multiple of 1.93, average series number of 4, and average size of $2.36 billion. On average fund N+1 is 1.43 times (exp(0.36)) larger than fund N. In more than 75% of the sample, fund N+1 is larger than fund N. It takes on average 4.32 years to raise a follow-up fund. On average, a fund is invested by 27 LPs, but this varies a lot across funds.

Table 1 about here.

In addition, we also organise the data in the form of a fund-year panel. This data structure allows us to investigate the likelihood and timing of raising a follow-up fund. A fund exists in the sample until a follow-up fund is raised, as we estimate a hazard model. If, no follow-up fund is raised for a fund, it remains in the sample for 10 years since inception. In this sample, following Barber and Yasuda (2017), we restrict our sample to funds raised no later than 2018, to allow enough time to raise a follow-up fund. In the spirit of Barber and Yasuda (2017)'s interim fund performance measure, we construct our measure of E&S incidents by taking the average number of incidents from fund inception year till date. In addition, to control for aggregate time-variation of fund raising, we also control for year-level multiple for all buyout funds. Panel B of Table 1 shows the summary statistics for this data structure. The distribution of variables

are similar to Panel A.

To investigate a LP level effect, we also construct a fund-LP dataset using the LP module from Preqin. Preqin contains information on LPs of the fund for most of the funds in our sample. The 781 funds and follow-up funds in our sample are invested by 2417 unique LPs. The data is structured in the form of a fund sequence with each observation representing a fund-LP pair with information on the follow-up fund raised. Therefore, in this data structure we have 1,887,677 (781×2417) observations. To capture the relationship between the PE firm and its LPs, we also construct a measure of how many previous buyout funds a LP has invested in for a given PE firm. The summary statistics are presented in Panel C of Table 1. As expected, in the fully expanded LP-fund data, only a small proportion (around 1%-2%) of LPs invest in a given fund. Around 1% of LPs have ever invested in a previous fund of a given PE firm. The distribution of incidents, fund size, fund multiple and fund series number are the same as in the fund sequence data structure in Panel A. On average, a LP invests in 12 funds in our sample.

4 ESG incidents and follow-up funds

GPs charge an annual management fees that is calculated as a percentage of committed capital. This links the compensation of the GP directly to its ability to raise capital via a follow-up fund. In this section, we study whether incidents at a fund hamper the ability of a GP to raise a follow-up fund. There are several reasons that investors may care about incidents. LPs may interpret incidents at a fund as a signal of future performance of the GP. Alternatively, LPs may care about the ESG footprint of their investments independent of performance (due to reputation concern or ESG preferences). This may lead LPs not to commit to the follow-up fund of the GP, hence impairing the fund-raising ability of the GP. We test the impact of incidents on fund raising on both the *intensive* and *extensive* margin.

4.1 Intensive Margin

We start with the impact on the intensive margin. In other words, we ask the question: Conditional on raising a follow-up fund, are follow-up funds smaller following ESG incidents? We split incidents into E&S incidents and G incidents as they are quite different in nature. In this analysis, we organise the data into a fund N-fund N+1 pair structure, in which each observation

is a pair of fund N and follow-up fund, fund N+1. We investigate how the relative size of fund N+1 and fund N is associated with ESG incidents of fund N. The summary statistics of this sample are exhibited in Panel A of Table 1.

Specifically, we estimate the following equation:

$$\begin{aligned}\log(\frac{Size_{N+1}}{Size_N})_i = \alpha + \beta\ log(1 + E\&S\ incidents_{N,i}) \\ + \gamma\ log(multiple)_{N,i} + \theta\ log(size)_{N,i} + \eta\ log(series\ num)_{N,i} \\ + Vintage_{N,i} \times Vintage_{N+1,i} \times Region_i,\end{aligned} \tag{1}$$

where i denotes a fund N-fund N+1 pair. N indexes the current fund and $N+1$ indexes the subsequent fund in the same series raised by the same PE firm. The dependent variable is the natural logarithm of ratio of size of fund N+1 and fund N, which captures the size growth of the follow-up fund. $E\&S\ incidents_{N,i}$ is the average number of incidents two years ([t-2,t-1] before fund N+1 is raised.[9] The coefficient of interest is β, which captures the effect of E&S incidents on the size growth of fund N+1. We add multiple control variables to the regressions. $log(multiple)_{N,i}$ is the natural logarithm of the multiple (performance) of fund N. $log(size)_{N,i}$ is the natural logarithm of size of fund N. $log(series)_{N,i}$ is the natural logarithm of the series number of fund N. $Vintage_{N,i} \times Vintage_{N+1,i} \times Region_i$ denotes the interaction of {fund N vintager year, fund N+1 vintage year, PE region} fixed effects. We double cluster the standard errors by PE firm and by pairs of vintage years to correct for correlation of standard errors within PE firms and within vintage years (e.g. variation of capital supply).

We include granular vintage year of fund N and $N+1$ and PE Region fixed effects to control for supply side effects, i.e. the fact that the availability of capital from investors tends to vary over time and across regions. We include the control variables to isolate the effect of E&S incidents from the performance, size and series number of funds. Intuitively, coefficient β captures the difference in fund size growth, comparing two PE firms located in the same region, who have raised their fund N and $N+1$ in the same vintage years, but one experiences E&S incidents and the other does not.

Table 2 about here.

[9] We define the variable $num\ E\&S\ incidents = (\frac{\#\text{E\&S incidents}_{t-1}}{\#\text{Reprisk covered firms}_{t-1}} + \frac{\#\text{E\&S incidents}_{t-2}}{\#\text{Reprisk covered firms}_{t-2}})/2$, where t indicates the year fund $N+1$ is raised. We take the average, instead of sum, to have a fair comparison between funds with high vs. low number of firms covered by RepRisk.

The results are presented in Table 2. The coefficients of all the control variables are as expected: Larger funds and funds in older series grow less and there is a strong performance-flow relationship (e.g., Kaplan and Schoar, 2005). In column 1, We find a negative and significant association between E&S incidents and the relative size of funds. And this negative association is robust to including PE region fixed effects (column 2) and interacting PE region with the two vintage year fixed effects (column 3). The economic magnitude of the coefficient is meaningful. A one standard deviation increase in the log average number of incidents (0.31) leads to around 2% smaller follow-up funds. To better understand the magnitude, we categorize funds experiencing incidents into two groups based on the median number of incidents, and replace the independent variable with dummies indicating high vs. low number of incidents (the baseline is, therefore, the funds with no incidents). Relative to funds with no incidents, funds with higher than median incidents have 7.6% smaller follow-up funds (column 4). This effect is economically large. For example, to compensate for the 7.6% decrease in size from having higher-than-median number of incidents, the PE firm would have to increase its current fund performance by a scale of 1.3, which is of considerable magnitude for a fund manager.

In Table A1, we estimate the same specification as in Equation (4.1), replacing E&S incidents with governance incidents. We do not find any effect on fund size from experiencing portfolio level governance incidents. This is not surprising as corporate governance has already been a focus area in the PE industry and governance incidents likely affect PE firms in a different way than E&S incidents [10]. In Table A2, we change the horizon at which we accumulate incidents from 2 years to 1-6 years. The effect is weaker as we expand the window of incidents, which suggests that incidents closer to fund raising have a stronger impact on the size of follow-up funds.

We, then, investigate heterogeneity in the effect of E&S incidents on fund size growth. Prior research (e.g., Gompers and Lerner, 1999; Ljungqvist et al., 2020) has shown that reputation plays an important role in the PE industry. For instance, GPs who are young and raise their first fund have a hard time attracting capital from investors. Past work has shown that having a longer and better performance history typically helps in future fundraising since it may help reduce agency costs between GPs and their investors (Demiroglu and James, 2010). We postulate that the reputation of the private equity (PE) firm modulates the impact of E&S incidents

[10] For instance, survey evidence by Gompers et al. (2016) finds that GPs are particularly focused on adding value through improving governance.

on subsequent fund-raising efforts. Given the variability in skill levels, historical capital-raising abilities, and track records among different general partners (GPs), some GPs may enjoy preferential treatment. For investors, not committing to the follow-up fund managed by these GPs could entail significant costs.[11] Alternatively, investors may perceive GPs with established track records and a longer history as better equipped to address portfolio-related scandals. These arguments suggest that a firm's reputation can alleviate some of the adverse consequences of environmental and social incidents on follow-up fund-raising.

Table 3 about here.

Building on the existing literature, such as Barber and Yasuda (2017), we categorize PE firms based on their age and size and we use the low reputation label for younger and smaller PE firms. We, then, further estimate an equation similar to but split the coefficient of interest into high and low reputation groups. We classify firms into high vs. low reputation based on three characteristics 1) size of the PE firm based on the total number of funds raised before fund $N+1$, 2) age of the PE firm, and 3) series number of current fund series. The results are presented in Table 3. The negative effect of E&S incidents mostly concentrate among smaller PE firms (column 1), younger PE firms (column 2) and younger fund series (column 3), and there is no significant effect for larger and older PE firms. This result supports our hypothesis that high PE firm reputation can attenuate the impact of E&S incidents.

4.2 Extensive Margin

We, then, move on to test the impact of E&S incidents on fund raising on the extensive margin. In other words, we ask the question: Do E&S incidents affect the likelihood of raising a follow-up fund? Since the probability of raising a follow-up fund is not constant across the life of the fund (it is initially low, then high in the middle and, subsequently, declines towards the end), we follow Barber and Yasuda (2017) and employ a proportional hazard model to study the timing of raising a follow-up fund.

Figure 4 about here.

[11] For example, they may need to search for alternative asset managers, which is costly (Gârleanu and Pedersen, 2018).

The Kaplan-Meier curve shows the cumulative survival probabilities. A steeper slope indicates a higher event rate (death rate) and therefore a worse survival prognosis. A flatter slope indicates a lower event rate and therefore a better survival prognosis.

We start by plotting the Kaplan-Meier survival graph. It depicts the cumulative survival probabilities, i.e., probability for raising a follow-up fund for funds with different levels of incidents. A steeper slope indicates a higher death rate and therefore, a higher probability of raising a follow-up fund. Following column 4 in Table 2, we categorize funds into 3 categories: (1) no E&S incidents, (2) low E&S incidents and (3) high E&S incidents, where low (high) E&S incidents funds are those below (above) median.[12] Figure 4 depicts the survival probability (the probability that a follow-up fund has not been raised) over years since fund N (the previous fund) is raised.

Number at risk represents the number of funds at risk, i.e., those that have not yet raised a follow-up fund and have not been censored. We can see from the graph that most fundraising events occur between year 3 and year 8 of the fund, which is consistent with the results of Barber and Yasuda (2017). Funds with low incidents have a flatter curve and higher survival probabilities (i.e., lower probabilities of raising a follow-up fund) compared to funds that do not experience any incidents. In addition, funds with high level of incidents have an even flatter curve and lower probabilities of raising a follow-up fund. The economic magnitude is also meaningful: by 10 years since fund inception, about 75% of funds with no incidents have raised follow-up funds, while only 60% (70%) of funds with high (low) level of E&S incidents manage to raise a follow-up fund.

We, then, formalise the results from the figure above into regression estimates with control variables in a fund-year panel structure. Specifically, we estimate a hazard model, in which a "failure" event for a given fund N is defined as raising a follow-up fund. Fund N remains in the sample from inception for up to 10 years or until it raises a follow-up fund. We estimate the

[12]Note that we normalize the number of incidents by the number of years before a follow-up fund is raised as described in Section 3. Therefore, the number of incidents do not increase with the number of years a fund exists in the sample.

hazard rate using a Weibull proportional hazard model, which takes the following form:

$$
\begin{aligned}
h(t) &= h_0(t)exp(x_t\beta) \\
x_t\beta &= \alpha + \beta_1 Low\ (High)\ E\&S incidents_t + \beta_2 log(multiple) + \beta_3 log(size) + \beta_4 log(series) \\
&+ \beta_5 log(buyout\ multiple)_t
\end{aligned}
\tag{2}
$$

where x_t is a vector of covariates; $h_0(t)$ is the baseline hazard rate equal to pt^{p-1} with p as the shape parameter. Time t is measured in years since inception of fund N. *Low E&S Incidents* (*High E&S Incidents*) is a dummy variable indicating below (above) median incidents for each vintage year cohort until year $t-1$ in the fund-year panel, conditional on an incident. As a result, the omitted category is funds with no E&S incidents. Similar to Equation 4.1, we include logarithm of fund size, fund multiple and fund series as control variables. In addition, since we cannot control for year fixed effect in the hazard model, we follow Barber and Yasuda (2017) and control for log of net multiple of all active buyout funds in a given year to control for the hot market effect(timing of raising a fund with respect to overall market performance).

Table 4 about here.

Table 4 reports the results. In column 1, the coefficients for levels of E&S incidents are negative and significant, which implies lower likelihood of raising follow-up funds. In terms of economic magnitude, the hazard ratio of raising a follow-up fund for low level of incidents is 0.799 (exp(-0.224)). This implies that a fund with low level of E&S incidents has a 20.1% lower hazard ratio and is less likely to raise a follow-up fund in a given year compared to a fund with no incidents. Similarly, a fund with high level of incidents has a 31.1% lower hazard ratio to raise a follow-up fund compared to a fund with no incidents. Column 2 and column 3 shows the results using demeaned log average number of incidents and a dummy indicating any incidents as independent variables, which lead to similar conclusions.[13] The results above confirm our findings from Figure 4 and suggest that funds with higher number of E&S incidents have a lower likelihood of raising follow-up funds.

Overall, the results from Table 2 and 4 suggest that for funds experiencing E&S incidents, it is harder to raise follow-up funds and the follow-up funds are smaller. Raising a follow-up

[13]We demean log average number of incidents to remove the trend in number of incidents, since we cannot control for vintage year fixed effects in the hazard estimation.

fund is an outcome that GPs care about to a great extent since it is directly linked to their compensation. These results indicate that $E\&S$ incidents are material for GPs.

5 Incidents as a signal of weak performance?

In the previous sections, we documented that experiencing environmental and social scandals negatively affects GPs' ability to raise follow-up funds. We, then, move on to investigate the underlying mechanism as to why this happens. The first hypothesis we test is whether having ESG incidents is interpreted as a signal of performance of a fund, which drives investment decisions of LPs. In other words, do LPs (with imperfect information on fund performance) learn about fund performance by observing negative E&S incidents? We start by testing whether the performance of funds is correlated with the *same* fund's level of E&S incidents. Note that full performance of the current fund is typically not fully realized and available to LPs when the follow-up fund is raised (see, e.g., Phalippou, 2019). If such a correlation exists, the LPs can rationally learn about current fund performance by observing realized E&S incidents.

We test this hypothesis by estimating the following regression:

$$\begin{aligned} Perf_{N,i} = \alpha + \beta\, log(1 + E\&S\ incidents_{N,i}) \\ + Controls_{N,i} + Vintage_{N,i} \times Vintage_{N+1,i} \times Region_i, \end{aligned} \tag{3}$$

where $Perf_{N,i}$ is the performance of fund N, measured by the natural logarithm of the fund's net multiple or IRR. We use the same measure of environmental and social incidents, set of control variables and fixed effects as in Equation (4.1).

Table 5 about here.

The results are reported in Table 5. In columns (1) to (4) we measure performance using the fund multiple of invested capital. In columns (5) - (8) we measure performance using IRR. First, we confirm a negative relationship between fund size and performance, which is consistent with previous findings (e.g, Kaplan and Schoar, 2005; Lopez-de Silanes et al., 2015). Across all specifications, we do not find a significant correlation between the level of E&S incidents and a fund's performance, irrespective of controlling for fund size and fund series number.

Even though the current fund's performance seems uncorrelated with incidents, experiencing an incident may be correlated with future fund performance. For instance, LPs may believe that experiencing a high number of incidents may hurt the GP's future performance, through affecting its deal flow; the ability to source future deals.[14]

Table 6 about here.

Alternatively, LPs may rationally expect fund manager turnover following E&S incidents, which affects performance of future funds. We estimate a cross-sectional regression similar to Equation (3) and replace the dependent variable as performance of fund N+1. In the regression, we control for performance of fund N to control for persistence in performance at the GP level. Table 6 presents the results. In specifications (1)-(4), we use the follow-up fund's multiple and in specifications (5)-(8) we use the follow-up fund's IRR as measures of performance. First, note that over our sample period we confirm a strong performance persistence, which has been previously documented by prior work (e.g., Kaplan and Schoar, 2005; Korteweg and Sorensen, 2017; Harris et al., 2023). However, the coefficients of E&S incidents are not significant in most specifications, though most coefficients are negative. There is no significant correlation between the level of E&S incidents and the performance of follow-up funds.

Overall, we do not find a strong correlation between E&S incidents and the performance of the current or the follow-up fund. This suggests that at least in the short run, incidents do not seem to be strongly correlated with performance. Of course, LPs may be concerned that over the long run, due to high likelihood of environmental regulation, the performance of GPs facing E&S incidents cannot be sustainable, in which case they may prefer to exit early. However, we do not have a long enough period to test this hypothesis. Another caveat of this analysis is that we do not have statistical power due to limited sample size. In general, we conclude that we do not find significant evidence that LPs interpret E&S incidents as a signal of fund performance.

[14]Several papers have argued that deal flow is an important factor in determining venture capital and private equity performance e.g., Ewens and Rhodes-Kropf (2015), Fuchs et al. (2021) Korteweg and Sorensen (2017). For instance, in an experimental setting and in the VC context, Zhang (2022) finds that impact VCs focused on social issues are favoured by certain founders.

6 LP-GP relationship

In the previous section, we document that environmental and social scandals do not seem to correlate with performance of the GP. Since environmental and social incidents do affect the capital raising ability of GPs, we need to understand who are the LPs who are more likely to either commit less capital or entirely divest from the GP.

Unlike the public market, the private market is characterised by the existence of relationships between GPs and their investors. LPs who invested in a past fund of a GP are more likely to participate in future funds raised by the same GP.[15] Given that we have documented an effect of environmental and social incidents on future fund raising, in this section we explore whether this decrease in capital commitments comes from the GP's failure to maintain its existing LP base (i.e., relationship LPs) or attract investments from new LPs.

We aim to examine the presence of relationships between LPs and GPs, and how E&S incidents affect this relationship. In the spirit of the relationship banking literature (e.g., Chodorow-Reich, 2014), we structure the data as a fund N+1 - LP network structure, where each observation is a pair of fund N+1 and LP. We include all LP-fund pairs in the sample. We, then, estimate the following regression:

$$\begin{aligned} D(Invest)_{l,N+1} = \alpha &+ \beta Relationship\ LP_{l,N+1} \times E\&S\ incidents_N \\ &+ \theta Relationship\ LP_{l,N+1} + \psi E\&S\ incidents_N \\ &+ \gamma_{l,vintage,region} + \varepsilon_{l,N}, \end{aligned} \tag{4}$$

where l denotes an LP, N denotes current fund, and N+1 denotes the follow-up fund. $D(Invest)_{l,N+1}$ is a dummy variable indicating LP l invests in fund $N+1$. $Previous\ LP_{l,N+1}$ is a dummy variable which equals 1 if LP l invested in any other fund of PE firm of fund $N+1$ before fund $N+1$ is raised. γ_l denotes the LP $\times$ fund raising year $\times$ region fixed effects. Coefficient θ captures the persistence of the LP-GP relationship, i.e., the likelihood of investing in a fund if LP has an relationship with the GP. β captures how E&S incidents affects this relationship.

[15] For instance, due to variations in skill levels, style and the persistence of returns, certain General Partners (GPs) may be more favoured than others (Kaplan and Schoar, 2005; Harris et al., 2023). Simultaneously, due to their differing tolerance for illiquidity, some Limited Partners (LPs) become more desirable to certain GPs (Maurin et al., 2023).

Table 7 about here.

Column 1 and 2 in Table 7 confirms existence of the LP-GP relationship. Column 1 suggests that after controlling for LP average market share, an LP who has had a prior relationship with the GP is 35.0 percentage points more likely to invest as a LP in the follow-up fund of the GP. We include LP $\times$ PE region $\times$ vintage year of fund $N+1$ fixed effects to control for supply of capital at the investor level that may cause LPs to invest more or less (or to specialise) in certain regions in certain years. In column 2, we include fund FE, which absorbs underlying fund characteristics such as size, performance and series of a fund and overall GP style focus. The relationship still remains.

In column 3, we add log number of incidents in the equation where we do not observe any significant overall effect. In column 4, the interaction between *Relationship LP* and *E&S incidents* is negative, which suggests the having E&S incidents lowers the likelihood that relationship LPs re-invest in a follow-up fund. This effect remains robust to controlling for fund fixed effects (column 5). It is also robust to controlling for the interaction between relationship LP and fund performance. In terms of economic magnitude, a one standard deviation increase in the number of incidents implies a 7% ($0.3\times0.089/0.366$) decrease in the re-investment propensity. This is equivalent to a drop in re-investment propensity brought about by a 11% decrease in fund performance (0.3*0.081/0.226), which is consistent with the fund size results in section 4.

Overall, our results highlight the existence of LP-GP relationships and show that incidents at a fund impede persistence in the relationship. LPs are less likely to commit to a follow-up fund if the previous fund experiences E&S incidents. Scandals are costly for PE firms as they lose relationship investors and this, in turn, hampers their ability to raise a follow-up fund.

7 PE firm reaction

We have established that incidents are costly for PE firms and impede their ability to raise capital. In this section, we investigate whether PE firms try to mitigate the cost and respond to E&S incidents. Specifically, we test whether GPs do more ESG screening by changing the risk profile of firms they invest in, and whether they reduce the level of incidents for the follow-up funds.

We start by testing whether funds tilt their investments towards low-risk firms following ESG incidents in their portfolio. We use the RepRisk Index (RRI) from RepRisk as an ex-ante measure of having future incidents.[16] We then estimate the following specification in a fund-year panel:

$$RRI_{N,t} = \alpha + log(1 + E\&S\ incidents_{N,i}) + \theta_{region,t} + \gamma_N + \epsilon_{N,t}, \tag{5}$$

where RRI is the RepRisk Index of the new investment that fund N made in year t. $log(1 + E\&S\ incidents_{N,i})$ is the average number of incidents two years before the new investment is made, i.e., [t-2,t-1]. $\theta_{region,t}$ indicates the Region $\times$ Year fixed effects. Importantly, we include fund fixed effects γ_N in the regression. Therefore, we are comparing the risk level of new investments made by the same fund, in years after experiencing an E&S incident versus years when the fund has not experienced E&S incidents.

Table 8 about here.

Column 1 of Table 8 reports the results and column 2 replaces the independent variable with dummies indicating high and low number of incidents. The sample is smaller because in this sample we require the fund to make investments in year t. The results indicate that the portfolio companies that a fund invests in have lower ESG risk following incidents. Funds experiencing high level of incidents invest in firms with around 4.5 points lower risk index. These results suggest that funds do more ESG screening following an E&S incident. The ESG screening is also effective ex-post. In column 3-6 of Table 8, we replace the dependent variable with log of realized number of E&S incidents in year $t + 1$ and $t + 2$ of the new investments made in year t. The funds experiencing high number of incidents invest in firms that have around 20% lower number of incidents 2 years following the investments.

Table 9 about here.

We, then, move on to investigate whether PE firms do more ESG screening for their follow-up fund conditional on raising a follow-up fund. We estimate a regression similar to Equation 4.1 but replace the dependent variable with the ratio of number of incidents in fund $N+1$ to fund N,

[16] RRI ranges from 0 to 100 and 100 indicates highest risk.

and dummy variables indicating that fund $N+1$ is smaller than fund N. In addition, we include a control for the relative size of fund N and fund $N+1$ to control for any mechanical effects driven by size. The results, presented in Table 9, show that the number of incidents decrease with fund sequence. The coefficient in column 4 implies a 31.6% increase in the probability of having lower incidents at fund $N+1$ following high level of incidents at fund N in the two years prior to raising a follow-up fund.

Overall, the evidence above suggests that PE firms respond to incidents by doing more ESG screening. This effort, indeed, turns into lower number of future incidents, in both new investments by the same fund and in the follow-up funds.

8 Conclusion

This paper examines the impact of environmental and social incidents on the capital raising ability of Private Equity (PE) firms. Using a sample of global buyout investments we document a negative effect of experiencing a social and environmental scandal on the PE's ability to raise capital in the future both at the extensive and intensive margin. This effect is stronger for younger and smaller GPs. PE firms who experience a social and environmental scandal lose valuable relationship LPs. Environmental and social incidents do not seem to be correlated with short to medium term performance and PE firms do more ESG screening for their new investments after experiencing an incident.

Our results highlight the materiality of environmental and social incidents in the private equity industry. Through their negative impact on capital raising, PE firms who are unable to mitigate ESG risk in their portfolios are likely to experience substantial costs. This channel provides incentives for PE firms to do more ESG screening for future investments.

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9 Figures

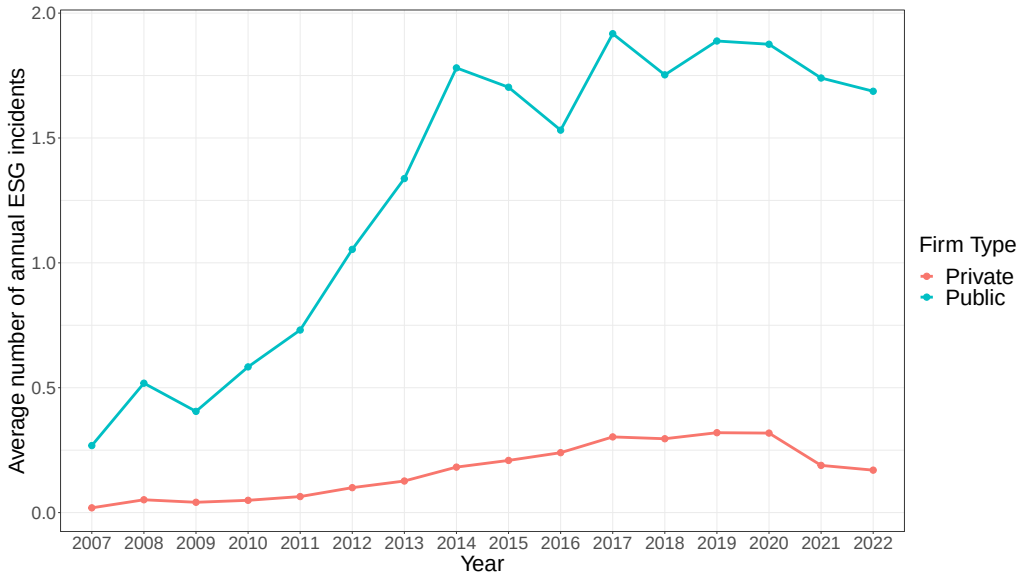

Figure 1: **Average number of RepRisk ESG incidents by time**: This figure plots the average number of incidents per year for public and private firms in RepRisk. This plot includes all firms covered by RepRisk. The blue line represents public firms and red line represents private firms.

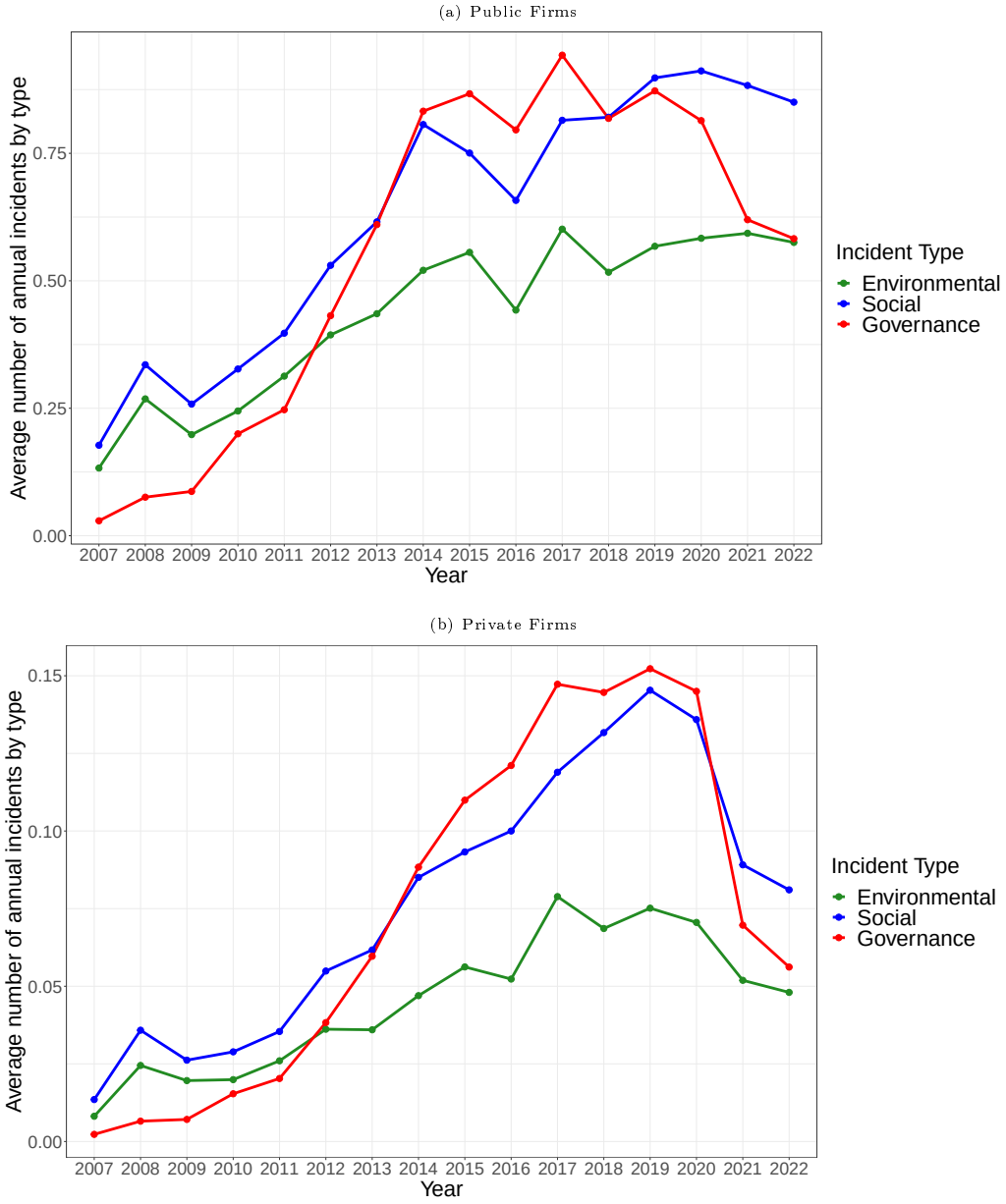

Figure 2: **Average number of incidents by incident type**: This figure plots the number of annual incidents by E/S/G types per year. This plot includes all firms covered by RepRisk. Green, blue and red lines correspond to environmental, social and governance incidents respectively. Subfigure (a) plots the trend for public firms and subfigure (b) plots the trend for private firms.

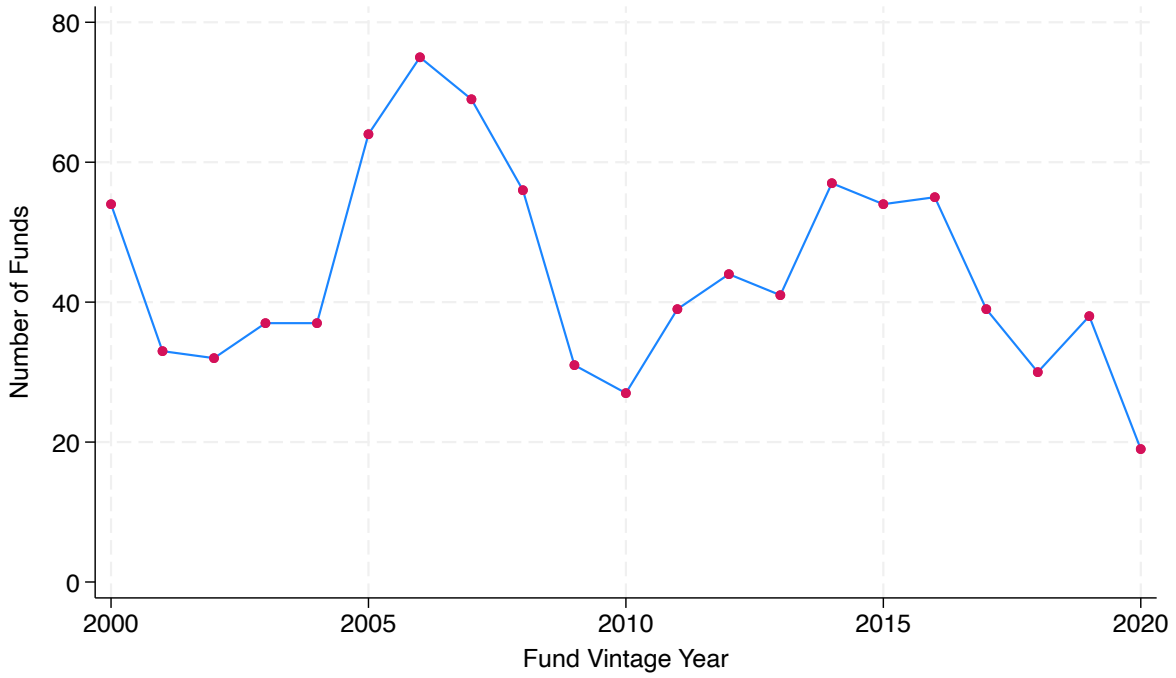

Figure 3: **Number of funds by vintage year:** This figure plots the number of funds per vintage year in the sample. The sample includes funds with at least one RepRisk firm coverage.

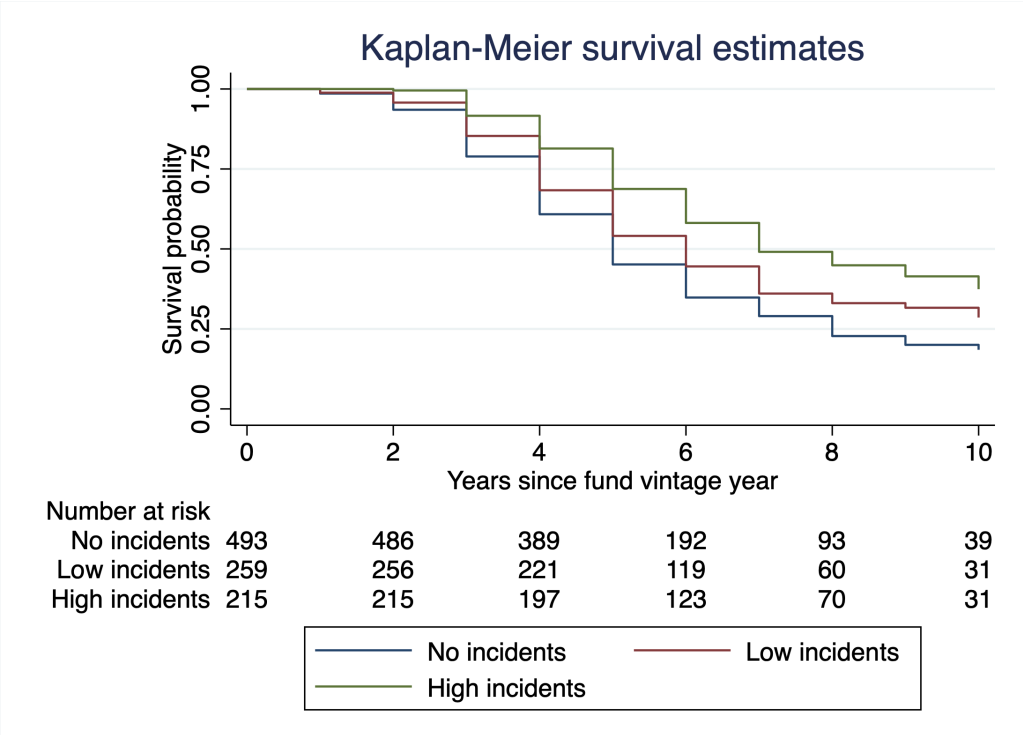

Figure 4: **Kaplan-Meier survival probability:** The figure depicts the survival probability, the probability that a follow-up fund has not been raised by years since fund N is raised. Number at risk represents the number of funds at risk, i.e., those that have not yet raised a follow-up fund and have not been censored.

10 Tables

Panel A: Fund N+1 - Fund N data structure

	Obs	Mean	Sd	5%	25%	50%	75%	95%
Num. of RepRisk firms	781	3.12	2.96	1.00	1.00	2.00	4.00	8.00
Avg. num. ESG incidents	781	0.48	2.66	0.00	0.00	0.00	0.28	1.15
Avg. num. E&S incidents	781	0.25	1.39	0.00	0.00	0.00	0.12	0.80
Avg. num. G incidents	781	0.22	1.56	0.00	0.00	0.00	0.00	0.67
Fund N multiple	781	1.93	0.72	1.08	1.51	1.79	2.22	3.10
Fund N fund series number	781	3.96	2.45	1.00	2.00	3.00	5.00	9.00
Fund N size (billion USD)	781	2.36	3.54	0.13	0.40	0.96	2.75	9.60
Fund N+1 size (billion USD)	781	3.14	4.39	0.21	0.62	1.35	3.70	12.49
log(fund N+1 size / fund N size)	781	0.36	0.44	-0.40	0.14	0.39	0.61	1.03
Years btw. fund N. and N+1	781	4.32	1.46	2.00	3.00	4.00	5.00	7.00
Num. LPs fund N	781	27.16	27.51	3.00	9.00	18.00	35.00	88.00
Num. LPs fund N+1	781	24.09	25.59	2.00	7.00	16.00	33.00	80.00

Panel B: Fund N-year panel

	Obs	Mean	Sd	5%	25%	50%	75%	95%
Years since fund N is raised	4,004	4.60	2.42	1.00	3.00	4.00	6.00	9.00
Cum. num. E&S incidents	4,004	0.20	0.69	0.00	0.00	0.00	0.12	1.00
Fund N multiple	4,004	1.80	0.73	0.93	1.38	1.67	2.07	3.06
Fund N size (billion USD)	4,004	1.84	3.11	0.12	0.33	0.72	1.75	8.10
Fund N fund series number	4,004	3.78	2.20	1.00	2.00	3.00	5.00	8.00
Buyout multiple	4,004	1.82	0.04	1.79	1.80	1.81	1.86	1.88

Panel C: Fund N+1 - Fund N - LP data structure

	Obs	Mean	Sd	5%	25%	50%	75%	95%
D(LP invest in Fund N)	1887677	0.02	0.12	0.00	0.00	0.00	0.00	0.00
D(LP invest in Fund N+1)	1887677	0.01	0.12	0.00	0.00	0.00	0.00	0.00
Num. of previous funds an LP has invested	1887677	0.03	0.30	0.00	0.00	0.00	0.00	0.00
D(an LP has invested in previous funds)	1887677	0.01	0.12	0.00	0.00	0.00	0.00	0.00
Num. of E&S incidents	1887677	0.25	1.39	0.00	0.00	0.00	0.12	0.80
Fund N size (billion USD)	1887677	2.36	3.54	0.13	0.40	0.96	2.75	9.60
Fund N multiple	1887677	1.93	0.72	1.08	1.51	1.79	2.22	3.10
Fund N fund series number	1887677	3.96	2.45	1.00	2.00	3.00	5.00	9.00
Avg. num. of fund N an LP invests	1887677	12.37	38.46	0.00	1.00	3.00	9.00	50.00
Avg. num. of fund N+1 an LP invests	1887677	11.16	36.56	0.00	1.00	3.00	8.00	45.00

Table 1: **Summary statistics**: This paper reports the summary statistics of main variables used in the analysis. Panel A presents the summary statistics of variables in the fund N+1 - Fund N data structure, in which each observation is a fund N+1 - fund N pair. *Number of RepRisk firms* is the number of firms covered by RepRisk in funds' portfolio companies. *Avg. num. ESG* $(E\&S, G)$ *incidents* is the average number of ESG (E&S,G) incidents two years before fund N+1 is raised. *Years btw. fund N and* $N+1$ is defined as the gap between the vintage years of fund N and fund N+1. *Number LPs* is the average number of LPs that have committed to a fund. Panel B presents a fund-year panel data structure. *Years since fund N is raised* is the number of years from fund N inception year and year t. *Cum. num. E&S incidents* is the average number of incidents from fund inception year until year t. *Buyout multiple* is the year-level aggregate multiple for buyout funds. Panel C presents the an fund N-Fund N+1-LP data structure. D(*LP invest in fund N*) is a dummy indicating one if the LP invests in fund N. *Num. of previous funds an LP has invested* denote the number of funds that an LP invests in the same PE firm before fund N+1 is raised. D(*an LP has invested in previous funds*) is a dummy indicating *Num. of previous funds an LP has invested*>0. *Avg. num .of fund N an LP invests* denotes average number of funds that an LP invest in the sample.

	log(Fund N+1 Size/Fund N Size)			
	(1)	(2)	(3)	(4)
log(1 + num. E&S incidents)	-0.066**	-0.064**	-0.067**	
	(0.031)	(0.031)	(0.029)	
Low number of E&S incidents				-0.008
				(0.031)
High number of E&S incidents				-0.074**
				(0.036)
log(fund N size)	-0.089***	-0.091***	-0.089***	-0.088***
	(0.016)	(0.016)	(0.017)	(0.018)
log(fund N multiple)	0.257***	0.255***	0.223***	0.223***
	(0.049)	(0.049)	(0.047)	(0.047)
log(fund N series number)	-0.092***	-0.089***	-0.103***	-0.103***
	(0.028)	(0.028)	(0.029)	(0.029)
Fund N Vintage Year × Fund N+1 Vintage Year FE	✓	✓		
PE Region FE		✓		
Fund N Vintage Year × Fund N+1 Vintage Year × PE Region FE			✓	✓
Observations	781	781	781	781
R^2	0.48	0.48	0.54	0.54

Table 2: **Effect of E&S incidents on relative size of follow-up funds:** This table reports the results of regression of fund size growth on previous fund's E& S incidents. The dependent variable in columns (1)-(4) is the fund size growth defined by $\log(\frac{AUM_{N+1}}{AUM_N})$, which is committed capital to fund $N+1$ over committed capital to fund N. In columns (1)-(3), $log(1 + num.\, E\&S\, incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. In column (4), $Low\, E\&S\, incidents$ ($High\, E\&S\, incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) two years prior to raising a follow-up fund. The omitted category is the ones with no incidents two years prior to raising a follow-up fund. $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. Column (1) includes Fund N × Fund $N+1$ vintage year fixed effects. Column (2) adds PE region fixed effects. Column (3) and (4) include the interaction of Fund vintage year N × Fund $N+1$ vintage year × PE region fixed effects. Standard errors reported in parentheses are clustered by PE firms and by fund vintage year pairs. * p<.10; ** p<.05; *** p<.01.

	log(Fund N+1 Size/Fund N Size)		
	(1)	(2)	(3)
log(1 + num. E&S incidents), small PE firms	-0.119***		
	(0.042)		
log(1 + num. E&S incidents), large PE firms	0.028		
	(0.039)		
log(1 + num. E&S incidents), young PE firms		-0.099**	
		(0.048)	
log(1 + num. E&S incidents), old PE firms		-0.019	
		(0.035)	
log(1 + num. E&S incidents), young series			-0.102**
			(0.044)
log(1 + num. E&S incidents), old series			-0.015
			(0.053)
log(fund N size)	-0.092***	-0.089***	-0.090***
	(0.017)	(0.017)	(0.017)
log(fund N multiple)	0.222***	0.223***	0.223***
	(0.047)	(0.047)	(0.047)
log(fund N series number)	-0.108***	-0.106***	-0.109***
	(0.028)	(0.029)	(0.029)
Fund N Vintage Year × Fund N+1 Vintage Year × PE Region FE	✓	✓	✓
Observations	781	781	781
R^2	0.55	0.54	0.54

Table 3: **Effect of E&S incidents on relative size of follow-up funds, low and high reputation PE firms:** This table reports the results of regression of fund size growth on previous fund's E& S incidents, splited by low- and high-reputation PE firms. The dependent variable in columns (1)-(4) is the fund size growth defined by $\log(\frac{AUM_{N+1}}{AUM_N})$, which is committed capital to fund $N+1$ over committed capital to fund N. The independent variables are log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund, conditional on PE firm reputation is low or high. In column (1), $log(1 + num.\,E\&S\,incidents)$, $small\,PE\,firms$ ($log(1 + num.\,E\&S\,incidents)$, $large\,PE\,firms$) is log of one plus the average number of E&S incidents, conditional on the number of previous funds raised by a PE firm is below (above) median. In column (2), $log(1 + num.\,E\&S\,incidents)$, $young\,PE\,firms$ ($log(1 + num.\,E\&S\,incidents)$, $old\,PE\,firms$) is log of one plus the average number of E&S incidents, conditional on the age of a PE firm is below (above) median. In column (3), $log(1 + num.\,E\&S\,incidents)$, $young\,series$ ($log(1 + num.\,E\&S\,incidents)$, $old\,series$) is log of one plus the average number of E&S incidents, conditional on fund series number is below (above) median. $log(fund\,N\,size$ is the natural logarithm of AUM of fund N. $log(fund\,N\,multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\,N\,series)$ is natural logarithm of the sequence number of fund N of a given series. All columns include the interaction of Fund vintage year N × Fund $N+1$ vintage year × PE region fixed effects. Standard errors reported in parentheses are clustered by PE firms and by fund vintage year pairs. * p<.10; ** p<.05; *** p<.01.

	Duration since fund inception		
	(1)	(2)	(3)
Low cum E&S incidents	-0.224**		
	(0.102)		
High cum E&S incidents	-0.373***		
	(0.133)		
log(1+ cum num. E&S incidents)		-0.341*	
		(0.192)	
cum E&S incidents			-0.280***
			(0.092)
log(fund multiple)	0.773***	0.754***	0.774***
	(0.123)	(0.124)	(0.123)
log(fund size)	0.293***	0.265***	0.297***
	(0.041)	(0.039)	(0.041)
log(buyout multiple)	9.513***	8.822***	9.512***
	(1.766)	(1.704)	(1.766)
log(fund series)	-0.049	-0.061	-0.051
	(0.086)	(0.086)	(0.086)
Observations	4004	4004	4004

Table 4: **Effect of E&S incidents on the probability of raising a follow-up fund:** This table presents the effect of E&S incidents on the likelihood of raising a follow-up fund. The analysis is done in a fund-year panel, in which each fund exists in the sample until raising a follow-up fund or the sample end. The dependent variable is the hazard rate of raising a follow-up fund in a given year for fund N. In column 1, $Low\,cum\,E\&S\,incidents$ ($High\,cum\,E\&S\,incidents$) are dummy variables indicating below (above) below median cumulative average number of incidents from fund N inception till year $t-1$, conditional on any incidents happen in this period. The omitted category is then the ones with no incidents from fund N inception till year $t-1$. In column 2, $log(1+\,cum\,num.\,E\&S\,incidents)$ is demeaned log cumulative average number of incidents from fund N inception till year $t-1$. The variable is demeaned by each vintage year of funds. In column 3, $cum\,num.\,E\&S\,incidents$ is a dummy variable indicating that any incident happen from fund N inception till year $t-1$. $log(fund\,size)$ is the natural logarithm of AUM of fund N. $log(fund\,multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\,series)$ is natural logarithm of the sequence number of fund N of a given series. $log(buyout\,multiple)$ is the natural logarithm of overall performance of buyout funds of each year. Standard errors reported in parentheses are clustered by fund. * p<.10; ** p<.05; *** p<.01.

	log(Fund N Multiple)				log(Fund N IRR)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
log(1 + num. E&S incidents)	0.017	0.022			0.047	0.060		
	(0.034)	(0.033)			(0.067)	(0.068)		
Low number of E&S incidents			0.006	0.034			0.001	0.058
			(0.026)	(0.027)			(0.061)	(0.063)
High number of E&S incidents			-0.012	0.007			0.058	0.093
			(0.053)	(0.052)			(0.076)	(0.076)
log(fund N size)		-0.039***		-0.042***		-0.076***		-0.081***
		(0.011)		(0.011)		(0.023)		(0.024)
log(fund N series number)		0.037*		0.036		0.053		0.052
		(0.022)		(0.022)		(0.045)		(0.045)
Fund N Vintage Year × PE Region FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	781	781	781	781	698	698	698	698
R^2	0.17	0.18	0.17	0.18	0.23	0.24	0.23	0.24

Table 5: **Association of current fund performance with E&S incidents:** This table reports the results of a regression of fund performance on E& S incidents. The dependent variable in columns (1)-(4) is the fund performance measured by natural logarithm of net multiple of funds. The dependent variable in columns (5)-(8) is the fund performance measured by natural logarithm of the internal rate of return (IRR) of funds. In column (1),(2),(5) and (6), $log(1 + num.\ E\&S\ incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. In column (3), (4), (7) and (8), $Low\ E\&S\ incidents$ ($High\ E\&S\ incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) two years prior to raising a follow-up fund. The omitted category is the ones with no incidents two years prior to raising a follow-up fund. $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. In all columns we include fund N vintage year × PE Region fixed effect. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.

	log(Fund N+1 Multiple)				log(Fund N+1 IRR)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
log(1 + num. E&S incidents)	-0.066	-0.066			-0.126	-0.117		
	(0.048)	(0.048)			(0.093)	(0.093)		
Low number of E&S incidents			-0.052	-0.056			-0.144**	-0.111
			(0.033)	(0.035)			(0.068)	(0.075)
High number of E&S incidents			-0.059	-0.061			-0.114	-0.098
			(0.052)	(0.053)			(0.126)	(0.124)
log(Fund N Multiple)	0.235***	0.234***	0.235***	0.237***				
	(0.057)	(0.057)	(0.057)	(0.057)				
log(Fund N IRR)					0.118**	0.107*	0.122**	0.113*
					(0.058)	(0.058)	(0.057)	(0.058)
log(fund N size)		-0.002		0.004		-0.061**		-0.049
		(0.015)		(0.016)		(0.029)		(0.030)
log(fund N series number)		-0.001		-0.001		0.065		0.067
		(0.029)		(0.029)		(0.060)		(0.059)
Fund N Vintage Year × Fund N+1 Vintage Year × PE Region FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	680	680	680	680	510	510	510	510
R^2	0.43	0.43	0.43	0.43	0.38	0.38	0.38	0.38

Table 6: **Association of E&S incidents with follow-up performance:** This table reports the results of a regression of follow-up fund performance on E& S incidents of current fund. The dependent variable in columns (1)-(4) is the follow-up fund performance measured by natural logarithm of net multiple of funds. The dependent variable in columns (5)-(8) is the follow-up fund performance measured by natural logarithm of the internal rate of return (IRR) of funds. In column (1),(2),(5) and (6), $log(1 + num.\ E\&S\ incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. In column (3), (4), (7) and (8), $Low\ E\&S\ incidents$ ($High\ E\&S\ incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) two years prior to raising a follow-up fund. The omitted category is the ones with no incidents two years prior to raising a follow-up fund. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple current fund (fund N), and $log(fund\ N\ IRR)$ is the natural logarithm of IRR of current fund (fund N). $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. All columns include the interaction of Fund vintage year N × Fund $N+1$ vintage year × PE region fixed effects. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.

	Dummy(Invest in Fund N+1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Relationship LP	0.350***	0.352***	0.350***	0.363***	0.366***	0.236***
	(0.022)	(0.022)	(0.022)	(0.025)	(0.024)	(0.039)
log(1 + num. E&S incidents)			0.001	0.002***		
			(0.001)	(0.001)		
Relationship LP × log(1 + num. E&S incidents)				-0.088**	-0.089**	-0.081**
				(0.040)	(0.040)	(0.035)
Relationship LP × log(Fund N Multiple)						0.226***
						(0.042)
log(fund N series number)	0.000		0.000	0.000		
	(0.001)		(0.001)	(0.001)		
log(fund N size)	0.004***		0.004***	0.004***		
	(0.000)		(0.000)	(0.000)		
log(Fund N Multiple)	0.004***		0.004***	0.004***		
	(0.001)		(0.001)	(0.001)		
Fund N+1 Vintage Year × PE Region × LP FE	✓	✓	✓	✓	✓	✓
Fund N+1 FE		✓			✓	✓
Observations	1887677	1887677	1887677	1887677	1887677	1887677
R^2	0.34	0.34	0.34	0.34	0.34	0.35

Table 7: **LP-GP relationship and E&S incidents**. This table reports the results of a regression of the propensity of LP to finance fund $N+1$ and how this propensity changes with the number of E & S incidents. This analysis is done in an LP-fund N data structure. The dependent variable is a dummy variable taking a value 1 if a given LP invests in fund $N+1$ and 0 otherwise. *Relationship LP* is a dummy variable indicating that an LP has invested in other funds of a given PE firm before fund $N+1$ is raised. $log(1 + num.\ E\&S\ incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. In columns (1), (3) and (4) we include Fund $N+1$ vintage year × PE Region × LP fixed effects. In columns (2), (5) and (6) we include Fund $N+1$ vintage year × PE Region × LP fixed effects and Fund $N+1$ fixed effects. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.

	RepRisk Index		log(1+num. E&S incidents) in t+1		log(1+num. E&S incidents) in t+2	
	(1)	(2)	(3)	(4)	(5)	(6)
log(1+num. E&S incidents)	-7.764**		-0.432**		-0.513***	
	(3.210)		(0.178)		(0.177)	
Low number of E&S incidents		-1.670**		-0.047		-0.104*
		(0.793)		(0.050)		(0.061)
Higher number of E&S incidents		-4.504***		-0.212**		-0.235**
		(1.582)		(0.094)		(0.100)
Fund Region × Year	✓	✓	✓	✓	✓	✓
Fund FE	✓	✓	✓	✓	✓	✓
Observations	852	852	830	830	791	791
R^2	0.47	0.46	0.44	0.43	0.44	0.42

Table 8: **New investments of a fund following E&S incidents:** This table reports the results of regressing new investments ESG risk level or future incidents on past E&S incidents. This analysis is done in a fund-year panel. In column 1 and 2, the dependent variable is the RepRisk index for new investments by fund N. In column 3 and 4, the dependent variable is the log of one plus number of incidents in year $t+1$ of the new investment made by fund N in year t. In column 5 and 6, the dependent variable is the log of one plus number of incidents in year $t+2$ of the new investment made by fund N in year t. $log(1+num.\,E\&S\,incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the past two years ($[t-2, t-1]$). $Low\,E\&S\,incidents$ ($High\,E\&S\,incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) in the past two years ($[t-2, t-1]$). The omitted category is the ones with no incidents two years prior to raising a follow-up fund. All columns included PE region × year fixed effects and fund fixed effects. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.

	log(fund N+1 incidents/fund N incidents)		D(Decrease Incidents)	
	(1)	(2)	(3)	(4)
log(1 + num. E&S incidents)	-1.376***		0.404***	
	(0.316)		(0.124)	
Low number of E&S incidents		-0.392*		0.165
		(0.233)		(0.104)
High number of E&S incidents		-1.117**		0.316**
		(0.434)		(0.151)
log(fund N+1 size/fund N size)	0.296	0.344	-0.085	-0.091
	(0.225)	(0.247)	(0.101)	(0.107)
log(fund N size)	0.121	0.205	-0.005	-0.039
	(0.121)	(0.139)	(0.053)	(0.058)
log(fund N multiple)	-1.139***	-1.133**	0.366**	0.370**
	(0.419)	(0.435)	(0.176)	(0.178)
log(fund N series number)	-0.199	-0.227	0.027	0.037
	(0.271)	(0.272)	(0.098)	(0.099)
Fund N Vintage Year × Fund N+1 Vintage Year × PE Region FE	✓	✓	✓	✓
Observations	210	210	210	210
R^2	0.40	0.38	0.33	0.32

Table 9: **E&S incidents and follow-up funds and current funds:** This table shows the result of regressing ratio of incidents between fund N+1 and fund N on incidents on fund N. In column 1 and 2, the dependent variable is the log ratio of number of incidents in fund N+1 to number of incidents in fund N, i.e., $log((1 + \#incidents fund N + 1)/(1 + \#incidents fund N))$. In column 3 and 4, the dependent variable is a dummy variable indicating number of incidents of fund N+1 is smaller than in fund N. In column (1) and (3), $log(1 + num. E\&S incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. In column (2) and (4), $Low E\&S incidents$ ($High E\&S incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) two years prior to raising a follow-up fund. The omitted category is the ones with no incidents two years prior to raising a follow-up fund. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple current fund (fund N). $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. All columns include the interaction of Fund vintage year N × Fund $N + 1$ vintage year × PE region fixed effects. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.

Appendix

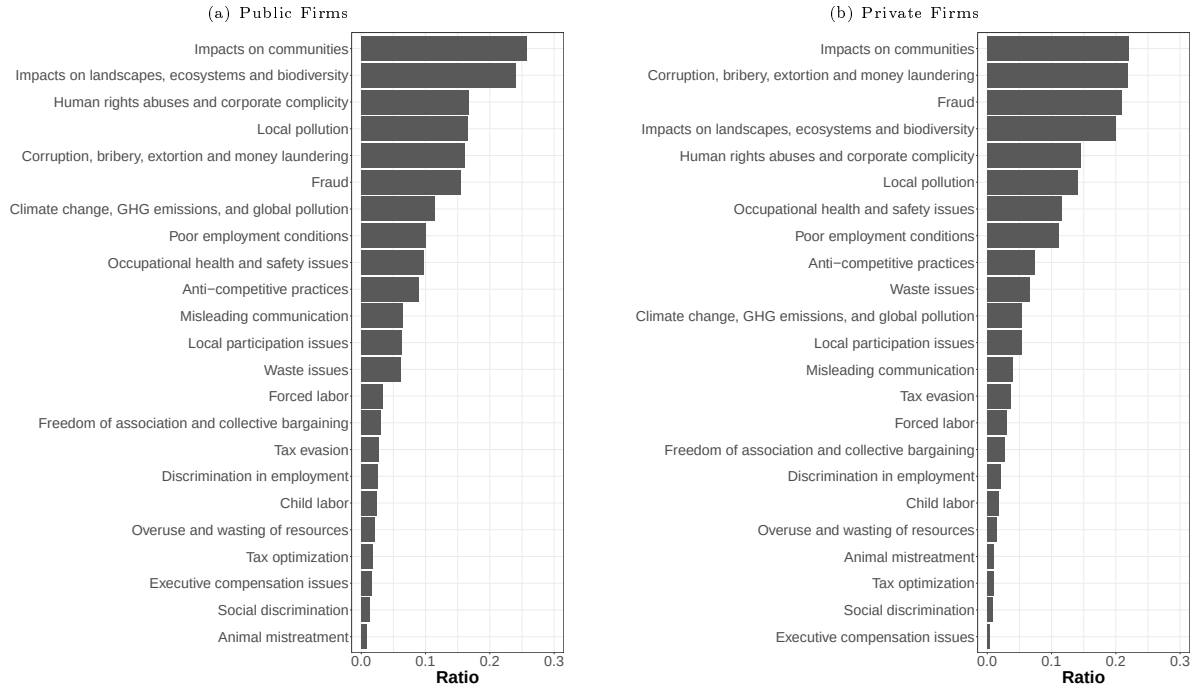

Figure A1: **Distribution of ESG issues**: This figure plots the distribution of ESG issues for public and private firms. Note that one incident can be associated with multiple issues so the distribution does not sum to 1. The y-axis shows the issue names and x-axis is the ratio of incidents related to a particular issue our of total incidents. Subfigure (a) plots the distribution for public firms and subfigure (b) plots the distribution for private firms.

	log(Fund N+1 Size/Fund N Size)			
	(1)	(2)	(3)	(4)
log(1 + num. G incidents)	-0.021	-0.015	-0.002	
	(0.036)	(0.035)	(0.036)	
Low number of G incidents				0.026
				(0.037)
High number of G incidents				0.045
				(0.054)
log(fund N size)	-0.089***	-0.092***	-0.090***	-0.093***
	(0.016)	(0.016)	(0.017)	(0.018)
log(fund N multiple)	0.256***	0.254***	0.223***	0.222***
	(0.050)	(0.049)	(0.048)	(0.047)
log(fund N series number)	-0.090***	-0.087***	-0.102***	-0.100***
	(0.028)	(0.028)	(0.028)	(0.029)
Fund N Vintage Year × Fund N+1 Vintage Year FE	✓	✓		
PE Region FE		✓		
Fund N Vintage Year × Fund N+1 Vintage Year × PE Region FE			✓	✓
Observations	781	781	781	781
R^2	0.47	0.48	0.54	0.54

Table A1: **Effect of G incidents on relative size of follow-up funds:** This table reports the results of regression of fund size growth on previous fund's governance incidents. The dependent variable in columns (1)-(4) is the fund size growth defined by $\log(\frac{AUM_{N+1}}{AUM_N})$, which is committed capital to fund $N+1$ over committed capital to fund N. In columns (1)-(3), $log(1 + num.Gincidents)$ is log of one plus the average number of G incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. In column (4), $Low\,G\,incidents$ ($High\,G\,incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) two years prior to raising a follow-up fund. The omitted category is the ones with no incidents two years prior to raising a follow-up fund. $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. Column (1) includes Fund N × Fund $N+1$ vintage year fixed effects. Column (2) adds PE region fixed effects. Column (3) and (4) include the interaction of Fund vintage year N × Fund $N+1$ vintage year × PE region fixed effects. Standard errors reported in parentheses are clustered by PE firms and by fund vintage year pairs. * p<.10; ** p<.05; *** p<.01.

	log(Fund N+1 Size/Fund N Size)					
	(1)	(2)	(3)	(4)	(5)	(6)
log(1 + num. E&S incidents) in year $[t-1, t-1]$	-0.077**					
	(0.031)					
log(1 + num. E&S incidents) in year $[t-2, t-1]$		-0.067**				
		(0.029)				
log(1 + num. E&S incidents) in year $[t-3, t-1]$			-0.065**			
			(0.030)			
log(1 + num. E&S incidents) in year $[t-4, t-1]$				-0.061**		
				(0.030)		
log(1 + num. E&S incidents) in year $[t-5, t-1]$					-0.058*	
					(0.030)	
log(1 + num. E&S incidents) in year $[t-6, t-1]$						-0.056*
						(0.030)
log(fund N size)	-0.088***	-0.089***	-0.089***	-0.089***	-0.089***	-0.089***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
log(fund N multiple)	0.223***	0.223***	0.223***	0.223***	0.223***	0.223***
	(0.046)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
log(fund N series number)	-0.103***	-0.103***	-0.103***	-0.102***	-0.102***	-0.102***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Fund N Vintage Year × Fund N+1 Vintage Year × PE Region FE	✓	✓	✓	✓	✓	✓
Observations	776	781	781	783	783	783
R^2	0.54	0.54	0.54	0.54	0.54	0.54

Table A2: **Effect of E&S incidents on relative size of follow-up funds, with different horizon to accumulate incidents:** This table reports the results of regression of fund size growth on previous fund's E& S incidents by varying the window to accumulate incidents. The dependent variable in columns (1)-(4) is the fund size growth defined by $\log(\frac{AUM_{N+1}}{AUM_N})$, which is committed capital to fund $N+1$ over committed capital to fund N. $log(1 + num.\,E\&S\,incidents)$, $[t-s, t-1]$ indicates log of one plus the average number of E&S incidents of the previous fund (fund N) in the s years prior to raising a follow-up fund. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. All columns include the interaction of Fund vintage year $N \times$ Fund $N+1$ vintage year $\times$ PE region fixed effects. Standard errors reported in parentheses are clustered by PE firms and by fund vintage year pairs. * p<.10; ** p<.05; *** p<.01.

	log(Fund N Multiple)				log(Fund N IRR)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
log(1 + num. E&S incidents in life of Fund N)	0.049*	0.056**			0.065	0.087		
	(0.026)	(0.026)			(0.060)	(0.060)		
Low number of E&S incidents in life of Fund N			0.022	0.050**			0.014	0.086
			(0.023)	(0.025)			(0.055)	(0.058)
High number of E&S incidents in life of Fund N			-0.002	0.018			0.014	0.066
			(0.024)	(0.025)			(0.050)	(0.053)
log(fund N size)		-0.032***		-0.037***		-0.068***		-0.078***
		(0.010)		(0.011)		(0.022)		(0.024)
log(fund N series number)		0.036*		0.035		0.043		0.043
		(0.021)		(0.021)		(0.047)		(0.047)
Fund N Vintage Year × PE Region FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	939	933	939	933	901	895	901	895
R^2	0.16	0.17	0.16	0.17	0.18	0.19	0.18	0.19

Table A3: **Association of current fund performance with E&S incidents over fund life:** This table reports the results of a regression of fund performance on E& S incidents over a funds' life. The dependent variable in columns (1)-(4) is the fund performance measured by natural logarithm of net multiple of funds. The dependent variable in columns (5)-(8) is the fund performance measured by natural logarithm of the internal rate of return (IRR) of funds. In column (1),(2),(5) and (6), $log(1 + num.\, E\&S\, incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) over the fund's life. In column (3), (4), (7) and (8), $Low\, E\&S\, incidents$ ($High\, E\&S\, incidents$) are dummy variables indicating fund N has had an below (above) median average number of incidents (conditional on having incidents) over the fund's life. The omitted category is the ones with no incidents over the fund's life. $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. In all columns we include fund N vintage year × PE Region fixed effect. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.

	Dummy(Invest in Fund N+1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Relationship LP	0.413***	0.417***	0.413***	0.425***	0.428***	0.316***
	(0.021)	(0.019)	(0.021)	(0.023)	(0.022)	(0.038)
log(1 + num. E&S incidents)			0.004	0.006***		
			(0.002)	(0.002)		
Relationship LP × log(1 + num. E&S incidents)				-0.081*	-0.081**	-0.077**
				(0.042)	(0.040)	(0.036)
Relationship LP × log(Fund N Multiple)						0.191***
						(0.040)
log(fund N series number)	0.000		0.001	0.001		
	(0.002)		(0.002)	(0.002)		
log(fund N size)	0.012***		0.012***	0.012***		
	(0.001)		(0.001)	(0.001)		
log(Fund N Multiple)	0.012***		0.012***	0.012***		
	(0.003)		(0.003)	(0.003)		
Fund N+1 Vintage Year × PE Region × LP FE	✓	✓	✓	✓	✓	✓
Fund N+1 FE		✓			✓	✓
Observations	629,394	629,394	629,394	629,394	629,394	629,394
R^2	0.34	0.36	0.34	0.34	0.36	0.36

Table A4: **LP-GP relationship and E&S incidents, robustness to active LP sample:**. This table reports the results of a regression of the propensity of LP to finance fund $N+1$ and how this propensity changes with the number of E & S incidents. This analysis is done in an LP-fund N data structure. This sample is conditional on an LP invests in at least one fund in a given year. The dependent variable is a dummy variable taking a value 1 if a given LP invests in fund $N+1$ and 0 otherwise. *Relationship LP* is a dummy variable indicating that an LP has invested in other funds of a given PE firm before fund $N+1$ is raised. $log(1+num.\ E\&S\ incidents)$ is log of one plus the average number of E&S incidents of the previous fund (fund N) in the two years prior to raising a follow-up fund. $log(fund\ N\ size)$ is the natural logarithm of AUM of fund N. $log(fund\ N\ multiple)$ is the natural logarithm of net multiple of fund N. $log(fund\ N\ series)$ is natural logarithm of the sequence number of fund N of a given series. In columns (1), (3) and (4) we include Fund $N+1$ vintage year × PE Region × LP fixed effects. In columns (2), (5) and (6) we include Fund $N+1$ vintage year × PE Region × LP fixed effects and Fund $N+1$ fixed effects. Standard errors reported in parentheses are clustered by PE firms. * p<.10; ** p<.05; *** p<.01.