Into the Unknown: A Firm-Level Analysis of the Impact of Foreign Direct Investment on Auditor Behavior

October 23, 2023

Abstract

Foreign Direct Investments (FDI) are important ventures undertaken by firms in order to initiate or expand operations in foreign markets. Unlike ongoing foreign operations, FDI constitutes new undertakings that inherently introduce firms to heightened risks and unforeseeable outcomes. This paper investigates how FDI engagement (specifically, greenfield FDI) by publicly traded firms in the United States impacts the behavior of their domestic auditors. We find that firms incur higher audit fees and are more likely to receive going-concern audit opinions in the years of FDI announcements, likely due to the elevated complexity and uncertainty associated with these engagements. We also find that firms are less likely to restate their financial statements in the periods after FDI announcements. Our findings suggest that while FDI engagement is crucial to facilitate strategic business objectives, it also significantly impacts a firm's financial reporting environment by influencing auditor behavior and audit outcomes.

Keywords: Foreign direct investment, Green-field investment, Internationalization, Audit fees, Going-concern audit opinion

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1 Introduction

The pervasive influence of globalization has changed the ways business professionals carry out their responsibilities, as they must face uncertain business environments and navigate through unfamiliar circumstances. Despite the slowdown of globalization in recent years (Irwin 2020), large public companies still engage in a significant amount of business activities internationally to achieve optimal resource allocations (Dunning 1979). To obtain cost-effective resources to fuel such activities, companies must prioritize the assurance of the quality of their financial information (Kane and Velury 2004; Samagaio and Felício 2022), making external auditors particularly important in the process of providing credible financial statements (DeFond and Zhang 2014). Thus, in this study, we examine the behavior of external auditors in the context of business globalization. Specifically, we investigate the relationship between a firm's decision to engage in foreign direct investment and its audit fees and the likelihood of receiving going-concern audit opinions.

The Public Company Accounting Oversight Board (PCAOB) has raised concerns regarding the audit quality of firms with foreign operations (PCAOB 2015; PCAOB 2017). Therefore, prior auditing studies examining audit issues from the perspective of multinational corporations largely focus on the impact of existing foreign operations (e.g., Lee et al. 2008; Chang et al. 2020; Carson et al. 2022). Expanding this stream of literature, we direct our attention to a type of largely overlooked business activities that transpire prior to the initiation of foreign operations: foreign direct investments (FDI). FDI plays a crucial role in the global economy. It contributes significantly to global economic growth by transferring technology globally, reducing unemployment in the destination (host) markets and improving the efficiency of investing firms in global value chains (Lipsey 2003; Moghaddam et al. 2014; Chenaf-Nicet and Rougier 2016). Furthermore, among the S&P 500 companies, more than 75 percent of their total revenues came from global sources (Brzenk 2018).

Before starting any foreign operations, a large public company must decide between the two

modes of entry into the global market (two forms of FDI): greenfield foreign direct investments, where a firm sets up a foreign subsidiary as a new venture, or cross-border mergers & acquisitions (Müller 2007). In this study, we focus on greenfield FDI for the following reasons. First, greenfield FDI represents more significant economic impacts relative to M&As activities (Nguyen 2023). Second, greenfield FDI signifies capital expansions into new markets, whereas M&As can be likened to rents "accruing to previous owners" (Harms and Méon 2018). Third, greenfield FDI and M&As take place in different circumstances (Görg 2000; Herrmann and Datta 2006; Müller 2007). The variances between these two entry modes can potentially affect a firm's reporting environments in different ways, making it empirically infeasible to combine them. Therefore, we believe that greenfield FDI serves as a good representation of FDI activities in general and provides a more appropriate business setting to examine auditor behavior.

Greenfield FDI projects can involve the building of new production units in foreign countries.[1] They could also involve establishing new specialist facilities.[2] Despite the potential economic benefits FDI activities can bring, they also introduce challenges. Specifically, to launch foreign operations, companies undertaking FDI projects must overcome linguistic barriers and cultural differences as they must communicate and work with local personnel (Chen et al. 2006; Shenkar 2012). Furthermore, companies engaged in greenfield FDI must anticipate and negotiate additional currency, litigation, and political risks ahead of them (Busse and Hefeker 2007; Hitt 2016; Contractor et al. 2021).

Not only do managers have to anticipate and address the forthcoming challenges introduced by FDI, external auditors are also affected when their clients engage in FDI activities. Even though FDI projects may not directly influence a firm's domestic operations in the short term because new foreign operations are not yet up and running, external auditors of FDI-engaging firms must contend an added layer of complexity and uncertainty during the auditing process. Auditors may perceive FDI engagement as a factor that contributes to an elevated level of audit

[1] For instance, GM planned a $1 billion investment in Mexico to build an electric vehicle factory, beginning production in 2023 (Reuters et al., 2021). Similarly, Tesla announced to build a new Gigafactory in Mexico (Reuters 2023).
[2] For example, Apple initiated and completed its plan to establish its R&D center in Israel in 2015 (Marsal 2015).

risk. Therefore, we empirically investigate how the behavior of external auditors is affected by their client firm's FDI activities. Examining this relationship is important because it provides insights with practical implications for firms undertaking or planning to commit to FDI activities. In addition, understanding the relationship between a client firm's FDI engagement and its auditor behavior facilitates the understanding of external auditor's risk assessment processes under various corporate contexts.

Utilizing a sample of 21,446 firm-year observations of U.S. publicly traded companies from 2013 to 2021, we predict and find that firms that engage in FDI activities experience higher audit fees in the same year a firm announces FDI engagement. Our results suggest that a firm's audit fees increase by 26.11 percent in the year of FDI announcement(s). In addition, we document that firms actively engaging in FDI activities are more likely to receive a going concern audit opinion in the same year the firm announces FDI engagement. The likelihood of receiving a going-concern opinion increases by 0.7 percent in the year of FDI announcement(s), seven times the average probability of receiving going concern opinions among the FDI-active firms.[3] These results are robust using an alternative measure of FDI engagement.[4] In line with these findings, we also find a positive relation between the intensity of a firm's FDI engagement and its audit fees as well as its likelihood of receiving going-concern audit opinions.[5]. Our results indicate that FDI engagement not only increases audit effort in the auditing process but also affects the amount of audit risk perceived by auditors (Bell et al. 2001.)

Our analysis is based on the assumption that decisions related to FDI are exogenous to audit outcomes. This underlying premise is established upon the following rationales: (1) Auditors' decisions are unlikely to sway firms' FDI choices and (2) no confounding factors are present that simultaneously influence both auditors' and firms' decisions. While reverse causality is not a significant concern in our setting, there remains a possibility of unobserved intra-firm factors that

[3] We identify a firm as FDI-active if it undertakes at least one FDI project during our sample period.

[4] Given that a company may initiate multiple FDI projects in a fiscal year, we construct the alternative FDI measure using the count of FDI projects announced in a given year.

[5] To capture FDI intensity, we use two alternative measures, one incorporating the associated average capital expenditure of FDI projects initiated in a year and the other one taking the number of jobs created by FDI projects initiated in a year. We define these variables in detail in Table A.1 in Appendix A

might both shape decisions related to FDI engagement and lead to elevated audit fees and likelihood of issuance of going-concern audit opinions. To address such endogeneity concerns, we utilize an instrumental variable methodology inspired by Baker et al. (2020) and Binz (2022). We employ natural disasters incurred within destination countries as exogenous variables to instrument firms' FDI decisions. The empirical outcomes from both the two-stage least squares (2SLS) and the seemingly unrelated bivariate probit (SUR Bivariate Probit) models are consistent with our main findings, indicating our findings are less likely to be attributed to the existence of unobserved factors.[6]

Furthermore, in the supplementary analyses, we find that the positive relation between FDI engagement and audit fees is magnified when an external auditor is less experienced with the audited company. This finding further supports our argument that a firm's FDI engagement complicates the financial reporting environment which in turn requires its auditor to put in a greater amount of effort to perform audit tasks (DeFond and Zhang 2014). Therefore, an auditor with less client-specific experience is more likely to be influenced by the additional complexity caused by her client's FDI activities (Simunic 1980). Although a firm's FDI engagement is positively associated with the likelihood of receiving a going-concern opinion, we find evidence that better corporate monitoring can mitigate auditors' perceived riskiness due to FDI engagement. We also find that FDI-active firms are less likely to restate their financial statements in the five-year period following the year of FDI announcement(s). Overall, our evidence suggests that a firm's FDI activities influence its auditor's effort and risk assessment in a direction that enhances the quality of financial reporting.

This study makes several contributions. First, extant literature investigates the relationship between auditor behavior and the characteristics and operating decisions of the public companies they audit (e.g., Bernardi 1994; Johnson et al. 2013; Bryan et al. 2018; Garcia et al. 2021). We expand this literature by identifying an important type of investing activities and documenting how it relates to auditor behavior. Specifically, we examine the role of firms' FDI engagement and

[6] SUR Bivariate Probit is a specific IV probit used to model situations where both endogenous independent and dependent variables are binary (Enikolopov et al. 2011; Chiburis et al. 2012). This statistical technique is suitable in testing the relation between FDI engagement and the issuance of going-concern audit opinion.

document that such activities can potentially affect auditors' effort and risk assessment. Our findings contribute to the existing literature on auditor behavior within an international context. Second, our contribution to the extant literature lies in identifying an additional facet of audit risk amidst the array of risk and complexity factors already recognized in the auditing literature (e.g., Bryan et al. 2018; Xu et al. 2019). More importantly, we establish a causal relationship between a firm's FDI engagement and the behavior of its external auditor using country-level natural disasters as instruments and contribute to the stream of literature that examines the audit process of multinational firms (e.g., Hermanson et al. 1996; Gunn and Michas 2018; Burke et al. 2020; Krishnan et al. 2023). Third, as an expansion of the prior FDI literature that mostly focuses on the performance impact of FDI (e.g., Capar and Kotabe 2003; Lu and Beamish 2004; Chang and Rhee 2011), our study contributes to the FDI literature by identifying a potential effect of FDI engagement that remains largely unnoticed. Specifically, before this study, it is empirically unclear how FDI engagement would influence firms' financial reporting environment through various channels. We address this question by identifying the impact of FDI engagement on external auditors that should draw business practitioners' attention. Our findings suggest that when committing to FDI activities, firms should be prepared to embrace and proactively address the additional complexity and risks that can change stakeholders' behavior. In practice, firms should establish and implement corresponding procedures into their FDI engagement plans to effectively manage any unfavorable audit outcomes.

2 Literature Review and Hypothesis Development

2.1 *Foreign Direct Investment*

Foreign direct investment (FDI) refers to firms' injection of capital in another country. The OECD (2009) defines FDI as a financial-account transaction that counts over 10 percent of a foreign company's stake in a subsidiary. From a corporate standpoint, the primary purpose of FDI is to gain ownership or exert significant influence over the operations and management of foreign entities by establishing or acquiring long-term interests in these enterprises (Schwarzenberg 2022). A firm's FDI engagement signals its abundance in managerial resources and capital (Faeth 2009) and indicates its attempt to enhance market share, improve cost efficiency, and hedge against potential

risks (Kim and Chung 1997; Eckel 2003; Berry 2006). From an economic standpoint, FDI is a crucial component of global economic integration and is vital in fostering international trade, economic growth, and technology and knowledge transfer (Balasubramanyam et al. 1999; Wang 2009; Chenaf-Nicet and Rougier 2016; Paul and Feliciano-Cestero 2021). Therefore, it is among the most studied topics in international business (Paul and Feliciano-Cestero 2021).

Prior literature posits that firms' FDI decisions are driven by their capacity to leverage their ownership, location, and internationalization advantages to realize cost reduction and efficiency in global value chains (Moghaddam et al. 2014) and to strategically gain a foothold in the global market (Dunning 2001). There are two primary forms of FDI projects: greenfield investments and cross-border M&As. Greenfield FDI refers to a specific form of foreign direct investment where a parent company establishes a subsidiary in a foreign country and develops its operations from scratch (Harms and Méon 2018). This often entails the construction of new production facilities and the creation of new distribution hubs, offices, and residential accommodations to support the subsidiary's activities. Compared to M&As, greenfield FDI requires more resource commitment (Nguyen 2023) and carries a more significant economic impact (Harms and Méon 2018). Greenfield FDI therefore allows a firm to have more control over its overseas activities and presents a higher risk and potential return compared to other types of FDI (Herrmann and Datta 2006).[7]

Firms engaging in FDI activities, especially greenfield FDI, need to be prepared to tackle risks and challenges they may lack prior experience in handling. These FDI activities become particularly impactful for firms facing pressures of globalization as they are compelled to swiftly secure first-mover advantages in the global markets (Chang and Rhee 2011). When making FDI decisions, it's crucial to factor in cultural distance. A substantial cultural resemblance is believed to alleviate uncertainties related to investment and streamline the process of comprehending the intricacies of the target countries (Tang 2012; Du et al. 2012). Within the domain of cultural differences, Chen

[7] After a brief interruption during the COVID-19 pandemic, greenfield FDI projects are experiencing a notable resurgence as economies reopen. Investors swiftly respond to these favorable international economic conditions, leading to a robust rebound in global FDI levels. The Global FDI Annual Report 2022, published by Global Data/Investment Monitor, highlights this upward trajectory, revealing a substantial 18 percent year-on-year growth in the number of greenfield FDI projects globally in 2021 (Barklie et al. 2022).

et al. (2006) document that linguistic barriers act as obstacles to effective communication, consequently influencing overall performance. On the one hand, Paley (2021) recommends strategically placing local personnel, who possess an intimate understanding of the intricacies of local markets, in key positions to craft competitive marketing strategies. On the other hand, linguistic barriers hinder the formation of trust among global team members (Tenzer et al. 2014). These concerns start to come into play at the point when FDI decisions are being made (Konara and Wei 2019; Liao and Zhang 2023).

Other than the aforementioned informal factors, prior literature also identifies several formal institutional factors within host countries that exert influence on a firm's FDI activities, including local regulatory and political environments (Busse and Hefeker 2007; Contractor et al. 2021). These factors not only impact a firm's initial decisions to enter a market but also shape its assessment of potential risks and the level of uncertainty it may encounter in the subsequent phases of an FDI project. For example, prior to the modification of local bankruptcy laws in 2020, the stringent exit conditions mandated by Indian bankruptcy regulations could considerably prolong the exit process for foreign firms and substantially elevate their associated costs (Kang and Nayar 2004). As a result, shareholders of large corporations involved in FDI activities in India used to face heightened risks associated with their FDI decisions (Contractor et al. 2021). Furthermore, to alleviate potential risks and minimize the extent of uncertainty, firms involved in FDI activities prefer high-institutional-quality destinations that provide "long-term asset security, regulatory stability and transparency, and institutionalized legal process" (Li and Resnick 2003; Buchanan et al. 2012). Li and Resnick (2003) argue that political democracy serves to strengthen the safeguarding of property rights, thereby diminishing the likelihood of an FDI-engaging firm becoming entangled in property rights disputes within its future foreign operations. Additionally, political democracy fosters the development of independent judiciaries, bolsters the efficacy of the rule of law, mitigate abrupt political transitions, and diminishes governmental corruption (Olson 1993; Feng 2001; Li and Resnick 2003). All these effects play a pivotal role in shaping the stability of a host country's socio-economic milieu, exerting an influence on the extent of uncertainty and risks confronted by

FDI-engaging firms.

2.2 *FDI Engagement and Audit Fees*

Let alone the complexity introduced by the identified formal and informal institutional factors discussed in Section 2.1, undertaking dedicated investments in foreign countries already represents complex and impactful strategic maneuvers from firms' perspectives (Chan et al. 2006; Herrmann and Datta 2006). The external auditors of these firms face additional complexity due to the firms' involvement in FDI projects across various countries in diverse forms, each reflecting distinct business objectives (Nguyen 2023).[8] These objectives manifest through a broad spectrum of business activities, drawing upon various social and economic resources within foreign nations (Ahn and Park 2022). In contrast to ongoing foreign operations, activities in support of an FDI project are more likely to involve aspects of business that can be unforeseen or unfamiliar (Herrmann and Datta 2006). As part of the audit process, auditors must possess a comprehensive grasp of a client's reporting environment, both internal and external, in order to acquire evidence that substantiates their assertions (Garcia et al. 2021). Therefore, the greater level of business complexity driven by a firm's FDI engagement can pose challenges to its auditor's understanding of the firm's reporting environment and consequently contribute to an increasing degree of audit complexity.

Furthermore, FDI-engaging firms are compelled to confront additional risks stemming from the disparities in social, economic, political, and currency factors between home and host countries (Meldrum 2000). These risks are also contingent on the local political and regulatory environments. Specifically, local governments, the rule setters, may introduce political risk or uncertainty, especially when their future actions are less foreseeable (King et al. 2021; Pastor and Veronesi 2012). During the reporting process, firms are expected to experience increased inherent risk stemming from heightened transaction complexity and greater degree of judgement and estimation involvement (Frino et al. 2023), all of which are likely to arise from firms' FDI engagement.

[8] Prior literature identifies two main types of FDI: horizontal and vertical. Firms employing a horizontal strategy aim to enter markets by expanding their existing production facilities abroad, whereas a vertical strategy intend to break down the production process into segments (Herger et al. 2016).

Consequently, auditors associated with these firms face higher audit risk (Frino et al. 2023). Prior literature identifies complexity and risk as the most important factors that drive audit fee (Hay 2013). Specifically, audit complexity and firms' inherent risk induce greater audit effort during the auditing process, leading to higher fees (Hogan and Wilkins 2008; Lobo and Zhao 2013; Frino et al. 2023). Therefore, we state our first hypothesis in the following form:

H1a. *FDI engagement is positively associated with audit fees.*

In addition, to further support our prediction in H1a, we examine the relationship between the intensity of FDI and audit fees. A firm's capital input into its FDI projects signifies the intensity of its FDI engagement. We conjecture that the effect of FDI can be magnified if a firm's FDI engagement is more intensive and form our next hypothesis as follows:

H1b. *FDI intensity is positively associated with audit fees.*

2.3 *FDI Engagement and Going-Concern Audit Opinions*

Under SAS No. 132 (AICPA 2017), auditors are responsible for conducting a professional assessment about whether a firm has the ability to remain in operation for a reasonable period of time. They are also obligated to issue a going-concern opinion when deemed appropriate. The issuance of auditors' going-concern opinions (GC opinions hereafter) subsequently serves as a channel for stakeholders to gain insights into the potential risks and uncertainties concerning a firm's financial well-being. Prior literature has identified a multitude of factors that can influence an auditor's decision about issuing a GC opinion to her client (Carson et al. 2013), including client factors that are measurable based on information from firms' financial statements, as well as some non-financial-statement-related variables.[9]

Both practitioners and regulators have been promoting the business risk audit methodology when planning and performing audit tasks to improve audit effectiveness and efficiency (Robson et al. 2007; Knechel 2007; PCAOB 2007). This is because business complexity and risks are well recognized as important drivers of material misstatements and are major concerns for a company's

[9] For instance, prior literature has identified numerous non-financial-statement factors, such as negative news release, investor sentiment, plan to issue equity or to borrow, and business strategy as relevant to GC opinon decicisons (Mutchler et al. 1997; Behn et al. 2001; Chen et al. 2017).

ability to continue as a going concern (PCAOB 2010). Therefore, Auditing Standard No. 12 requires auditors to gain insight into a company's objectives, strategies, and associated risks in their auditing process (PCAOB 2010). Given the strategic significance of FDI (Dunning 2001), we predict that a firm's FDI engagement can also exert an influence on its auditor's decisions regarding the issuance of GC opinions. Specifically, as discussed in Section 2.1 and 2.2, FDI-engaging firms are exposed to greater business complexity, uncertainty, and business risk, which increase their likelihood of receiving GC opinions. We also expect that the effect of FDI on the issuance of GC opinions magnifies with the intensity of a firm's FDI engagement.[10] Hence, we propose hypotheses H2a and H2b.

H2a. *FDI engagement is positively associated with going-concern audit opinions.*

H2b. *FDI intensity is positively associated with going-concern audit opinions.*

3 Research Design

3.1 *Empirical Models*

We use the following regression model to test the effect of FDI on audit fees (H1a and H1b):

$$ln\_fee_{i,t} = \beta_0 + \beta_1 FDI_{i,t} + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + u_{i,t} \quad (1)$$

and the following probit regression model to test the relation between FDI and GC opinions (H2a and H2b):

$$Pr(gc\_opinion_{i,t} = 1) = \Phi(\beta_0 + \beta_1 FDI_{i,t} + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + u_{i,t}) \quad (2)$$

where subscripts i and t denote firm and year, respectively. In Model (1), the dependent variable, ln_fee, is the natural logarithm of the dollar amount charged by a company's external auditor. In Model (2), the dependent variable, $gc\_opinion$, is an indicator which equals 1 if a firm receives a GC opinion from its external auditor, and 0 otherwise.

The variable of interest, FDI, appears in both Model (1) and (2). It represents two sets

[10] Our predictions are not without tension. First, FDI can function as a tool for firms to hedge potential risks (Qian et al. 2008; Abrahms et al. 2023). Specifically, it is possible that a firm's strategic decisions regarding its FDI engagement are motivated by an intention to reduce the firm's overall operational risks or to mitigate risks specific to its home country (Berry 2006). In addition, a firm must have access to substantial managerial resources and exhibit a high degree of capital intensity, in order to engage in FDI activities (Faeth 2009). Such firms are less susceptible to encountering operational challenges that could jeopardize their ongoing operations. Taken together, FDI activities may affect a firm and its auditor in various ways, mitigating the positive relation between FDI engagement and GC opinions.

of FDI measures: (1) FDI_index and FDI_count, used as alternative proxies for firms' FDI engagement; and (2) FDI_capex and FDI_job, used as alternative measures of firms' FDI intensity. Specifically, to test H1a and H2a, we use an indicator variable, FDI_index, which equals to 1 if a firm starts at least one FDI project in a given year, and 0 otherwise. On the contrary, FDI_count is a continuous variable capturing the total number of FDI projects initiated during a given year. To investigate H1b and H2b, we measure firms' FDI intensity from two aspects. First, FDI_capex is the natural logarithm of a company's total capital expenditures associated with its FDI activities. A firm's capital input on its FDI activities can sufficiently signify its FDI intensity in monetary terms. Second, FDI_job is the natural logarithm of the number of jobs generated by a firm's FDI projects in the host countries. Local job creation reflects firms' FDI intensity because when more local jobs are created through a firm's FDI projects, the firm needs to put in more resources to maintain its human capital quality (Bapna et al. 2013).

We use a common set of control variables across all of our regression models, including both client and auditor attributes that have been documented to be relevant to audit fees and GC opinions in prior literature (Carson et al. 2013; Hay 2013). Specifically, we include the natural logarithm of total assets ($size$) to control for firm size. Prior literature has identified firms' business complexity, foreign sales, and sales growth as influential factors in determining audit complexity, which in turn affects the level of audit fees and the issuance of GC opinions (Simunic 1980; Reynolds and Francis 2000; Bosch-Rekveldt et al. 2011; Xu et al. 2019). Therefore, we include the natural logarithm of the number of business segments (ln_segn), the natural logarithm of total capital expenditure (ln_capex), and total foreign sales scaled by total sales ($salefrgn$) to proxy for firms' business complexity and international diversification. We control for a firm's profitability, financial performance, and firm value using the following variables: the percentage change in sales ($salegrow$), return on assets (roa), the market-to-book ratio (mtb), and an indicator variable ($loss$) which equals 1 if a firm reports negative earnings, and 0 otherwise. We incorporate a firm's debt-to-asset ratio ($leverage$) to control for its level of financial distress (Purnanandam 2008). Further, We control for a firm's bankruptcy risk and inherent risk in our models. Specifically, we calculate

bankruptcy risk, pr_hazard, following Campbell et al. (2008) to control for the probability of bankruptcy. To control for a firm's inherent risk, we employ the following control variables (Xu et al. 2019): $inherent\_risk$, which is the sum of receivables and inventory scaled by total assets; $public\_exchng$, which is an indicator which equals 1 if a firm is listed on a major stock exchange, and 0 otherwise; and $hilit$, which is an indicator which equals 1 if a firm is in a high litigation risk industry, and 0 otherwise. We also include cash flow volatility ($cashvol$) and earnings volatility ($earnvol$) as controls for potential audit risk resulting from firm operations (Bryan and Mason 2020). Other than client attributes, we also control for several auditor attributes. To control for auditor size, We use $big4$, which is an indicator equals 1 if the auditor is one of the Big 4 auditing firms, and 0 otherwise. We include the tenure of an audit/client relationship, ln_audit_tenure, as a control for auditor experience. We include the following two variables to control for auditor busyness(Heo et al. 2021): $fiscal\_year\_end$, which is an indicator equal to 1 if a firm's fiscal year ends in December, and 0 otherwise; and $ln\_auditlag$, which is the natural logarithm of the number of days between audit report date and a firm's fiscal year-end. Detailed variable definitions are provided in Table A.1 in Appendix A. In all of our empirical tests, we include year and industry fixed effects. We also cluster standard errors by firm to control for serial correlation (Petersen 2008).

3.2 *Sample Selection*

We obtain FDI project data from Orbis provided by the Bureau van Dijk, financial information from COMPUSTAT, and audit data from Audit Analytics. Starting with a dataset encompassing 91,672 firm-year observations sourced from COMPUSTAT spanning the years 2013 to 2021, we remove 42,245 firm-year observations from the dataset due to missing data from Audit Analytics. We further delete 27,981 firm-year observations due to missing control variables, leaving 21,466 (4,007) firm-year observations (unique firms) in our final full sample. In addition, it is possible that firms that do not undertake any FDI activities during our sample period are inherently different from those committing to at least one FDI project. To address this selection issue, We repeat all of our analyses using a sample that excludes firms without any FDI activities during the sample period

(Non-FDI-Active firms). This sample selection procedure decreases our restricted sample to 5,728 (840) firm-year observations (unique firms). Table 1 presents our sample selection process. We winsorize all continuous variables at the 1st and 99th percentiles to reduce the influence of outliers. A sensitivity test that excludes the extreme 1% values from both ends of the distribution confirms that our findings are robust.

Figure 1 demonstrates the distribution of FDI activities of sample firms by industry. Specifically, Part (a) of Figure 1 shows the ten industries with the highest average proportion of FDI-active firms across the sample period. The proportion of FDI-active firms in an industry can reach as high as almost thirty percent in our sample. Part (b) illustrates the ten industries with the highest number of FDI-active firms. Consistent with the information provided by the U.S. Department of Commerce (U.S. Bureau of Economic Analysis 2017), we find that the outward FDI activities in the U.S. were concentrated in the manufacturing sector. However, it is noteworthy that the business service sector surpasses other sectors in terms of the overall number of firms engaging in FDI. Similarly, part (c) and (d) of Figure 1 presents FDI activities at the project level. On average, firms in the top five FDI industries undertake one to four FDI projects every year. Again, the business service sector has the greatest number of FDI projects carried out. Taken together, the tables showcased in Figure 1 suggest that the degree of importance of FDI activities differ across different industries. Firms in the high FDI industries usually also undertake greater amount of FDI projects (e.g., leather and leather products industry, Apparel and other textile products industry, and local and interurban passenger). Figure 2 illustrates the trend of FDI activities of our sample firms by year. First, we report the trend of FDI activities in terms of capital expenditures throughout the sample period in part (a) and the trend of FDI activities in terms of the number of projects in part (b). This figure underscores the substantial variability in resource inputs among firms engaging in FDI projects across different industries. Consequently, these disparities play a pivotal role in shaping the distinct reporting environments of these firms.

4 Empirical Results

4.1 *Descriptive Statistics and Univariate Results*

Table 2, Panel A presents descriptive statistics on all variables used in our tests. The descriptive statistics of FDI_index reveal that around 9% of our sample firm-year observations are associated with at least one FDI project. As an alternative measure of FDI engagement, FDI_count shows that the mean (median) number of projects announced by a firm is 0.152 (0.000), while on maximum, firms claim 3 projects on maximum among our sample firm-years. The FDI intensity measures FDI_capex and FDI_job exhibit a mean (median) of 1.518 (0.000) and 0.398 (0.000), respectively.[11] Consistent with prior literature (e.g., Xu et al. 2019), the mean and median natural logarithm of audit fees (ln_fee) are 14.085 and 14.119, respectively. Among the sample firms, a total of 4% receive a going-concern audit opinion ($gc\_opinion$). Notably, this figure falls within the range of percentage values reported in Chen et al. (2017) and Xu et al. (2019). The descriptive statistics for the control variables are largely consistent with prior literature.[12]

Panel B of Table 2 reports descriptive statistics based on sample firms' FDI experience. It compares the differences in means of the dependent variables and the control variables used in our empirical tests. The first two columns of Panel B present the means and standard deviations for FDI-active firms, while the next two columns present the same set of information for non-FDI active firms. Furthermore, We conduct mean comparisons between the two groups using a two-sample t-test as shown in the last three columns. The mean comparisons in Panel B suggest that FDI-active and non-FDI-active firms are inherently different. Specifically, FDI-active firms show significantly higher audit fees ($t = 58.227$, $p = 0.000$) and a significantly lower likelihood of receiving a going-concern audit opinion ($t = -13.325$, $p = 0.000$) than non-FDI-active firms. Additionally, the mean comparisons of $size$, ln_segn, $salefrgn$, and ln_capex reveal that FDI-active firms are larger,

[11] Other than the tests using a full sample, we also conduct a set of tests within FDI-active firms. We identify a firm as FDI-active if it undertakes at least one FDI project during our sample period. Approximately 27% of the observations within our sample firm-years are categorized as FDI-active. Approximately 33% of the firm-year observations are associated with at least one FDI project within this subsample. The mean (median) project capital expenditures and jobs created are 5.682 (0.000) and 1.492 (0.000), respectively.

[12] We note that the measure of the bankruptcy risk (pr_hazard) with a mean of 0.004, which is lower than the value reported in Campbell et al. (2008) and Xu et al. (2019). This discrepancy could potentially be attributed to the composition of our sample firms, which primarily consist of larger companies exhibiting relatively lower default risk.

more complex, and more profitable. Prior literature has documented that these factors contribute to explain the higher level of audit fees and the reduced likelihood of receiving GC opinions among FDI-active firms (Carson et al. 2013; Hay 2013).

4.2 *FDI Engagement and Audit Fees*

In our investigation into the behavior of auditors in response to their client firms' FDI engagement, we first examine whether FDI engagement increases audit fees (H1a) and investigate the relationship between FDI intensity and audit fees (H1b). Table 3 reports the results from estimating Model 1. To test H1a, we use FDI_index and FDI_count as alternative measures for a firms' FDI engagement and present the regression results in Panel A. Columns (1) and (2) report regression results with the independent variables of interest FDI_index and FDI_count, respectively using the full sample, while columns (3) and (4) report the same regression models using the restricted sample excluding non-FDI-active firms. We find that the coefficients on FDI_index and FDI_count are significantly positive at 0.01 significance level for both the full sample and the restricted sample. These results suggest that firms engaging in FDI activities incur higher audit fees than the other firms. We also find that the magnitude of the coefficients in column (3) and (4) are smaller than the magnitude of the coefficients in column (1) and (2) and the differences are statistically significant using Wald tests.[13] These findings indicate that although the effect of FDI engagement on audit fees is more pronounced when non-FDI-active firms are included in the sample, the effect of FDI engagement still holds among FDI-active firms. More importantly, the effect of FDI engagement on audit fees is economically significant. Specifically, a firm's FDI engagement is associated with an average of 26.11% (6.08%) increase in audit fees within the

[13] The coefficient difference between column (1) and (3) produces a χ^2 of 94.54 with $p < 0.001$; The coefficient difference between column (2) and (4) produces a χ^2 of 79.04 with $p < 0.001$. The difference in magnitude between the full sample and the restricted sample is partially driven by the presence of non-FDI-active firms in the sample. This discrepancy is consistent with the finding in Panel B of Table 2 that FDI-active firms, on average, pay significantly higher audit fees than non-FDI-active firms. We run a regression model modified from Model 1, in which we replace the independent variable with FDI_firm, an indicator which equals 1 when a sample firm is FDI-active, and 0 otherwise. The results from regression of GC opinions on the dummy of FDI-active firms excluding firm-years with FDI projects (untabulated) further support that FDI-active firms pay significantly higher audit fees than non-FDI-active firms.

full sample (the FDI-active sample), which translates a dollar amount of $353,680 ($170,902).[14] Similarly, when we replace the independent variable with FDI_count, we find comparable results. Specifically, engaging in one incremental FDI project is associated with a 13.31% (4.50%) increase in audit fees within the full sample (the FDI-active sample), which translates to a dollar amount of $180,294 ($60,956) per incremental FDI project. Therefore, we find evidence supporting our prediction in H1a. These results are consistent with our conjecture that FDI engagement increases audit complexity and risk, which manifest as increases in the firm's audit fees.

To test H1b, we use FDI_capex and FDI_job as alternative measures for a firms' FDI intensity and present the regression results in Panel B. Columns (1) and (2) report regression results with the independent variables of interest FDI_capex and FDI_job, respectively using the full sample, while columns (3) and (4) report the same regression models using the restricted sample excluding non-FDI-active firms. We find that the coefficients on FDI_capex and FDI_job are significantly positive at 0.01 significance level for both the full sample and the restricted sample. These results indicate that firms with greater FDI intensity incur higher audit fees than the other firms. Similarly, we conduct a set of Wald tests to compare the coefficients between samples and find that the magnitude of the coefficients in columns (3) and (4) are smaller than the magnitude of the coefficients in columns (1) and (2) and that the differences are statistically significant.[15] The positive association between FDI intensity and audit fees is also economically significant within both samples. A 1% increase in capital expenditures associated with FDI leads to a 1.4% (0.4%) increase in audit fees within the full sample (within the restricted sample), corresponding to an increase of $18,964 ($5,418). A 1% increase in FDI associated job positions leads to a 5% (1.3%) increase in audit fees within the full sample (within the restricted sample), corresponding to a $67,728 ($17,610) increase. These findings support our prediction that greater FDI intensity is associated with higher audit fees.

[14] The percentage change in ln_fee is calculated by using the coefficients in Table 3: $exp(0.232) - 1 = 26.11\%$ ($exp(0.059) - 1 = 6.08\%$). Then we use the median of ln_fee, 14.119 (14.849 in FDI-Active firms), to estimate the dollar amount increase: $exp(14.119) \times 26.11\%$ ($exp(14.849) \times 6.08\%$)

[15] The coefficient difference between columns (1) and (3) produces a χ^2 of 94.06 with $p < 0.001$; The coefficient difference between columns (2) and (4) produces a χ^2 of 94.77 with $p < 0.001$.

To mitigate potential endogeneity issues, we conduct a dynamic DiD analysis to further test the relationship between FDI engagement and audit fees. Following the dynamic DiD design in Beck et al. (2010) and the staggered DiD design proposed in Callaway and Sant'Anna (2021), we construct a temporal framework in which individual FDI announcements are treated as separate events. To identify the relative years of FDI in our dynamic analysis, we first mark the announcement year of firm i's FDI decision as $D^0_{i,t}$ and then assign the pre- and post-FDI periods with a 7-year window around each FDI announcement.[16] It is possible that a firm undertakes FDI activities in multiple years during our sample period, leading to an overlap of pre- and post-FDI periods between two FDI engaging years in the dynamic DiD analysis. In these instances, we define the first year after an FDI announcement as the first post-FDI year $D^1_{i,t}$. If the second post-FDI year coincides with one of the three pre-FDI years preceding another FDI, this year is preferentially defined as a pre-FDI year.[17] Our investigation spans these time frames, with a particular focus on the year prior to the FDI year as a baseline for gauging subsequent changes in audit behavior. The sample utilized for our estimation is restricted to only FDI-active firms. The estimated model is given by:

$$\begin{aligned} ln\_fee_{i,t} = \beta_0 + \beta_1 * D^{-4}_{i,t} + \beta_2 * D^{-3}_{i,t} + ... + \beta_7 * D^{3}_{i,t} + Controls_{i,t} \\ + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + u_{i,t} \end{aligned} \tag{3}$$

where D^{-k} and D^{+k} are the dummy variables standing for the kth year before and after a firm's FDI announcement in a given year (D^0), respectively. Figure 3 plots the estimates after de-trending and centering the estimates on the pre-period of an FDI announcement. The dashed lines represent 95% confidence intervals, adjusted for firm-level clustering to control for autocorrelation. As shown in Figure 3, audit fees increase significantly starting from the year of FDI announcement and remain high for several years afterwards. Therefore, Figure 3 further supports our prediction in H1a that FDI engagement is positively associated with audit fees. Moreover, the persistently high level of audit fees in the post-FDI period suggests that the influence of FDI associated complexity and risks

[16] The choice of a 7-year window is empirically grounded, as our sample includes 840 unique firms involved in FDI, each with an average observation period of approximately 7 years. We also estimate this model with a longer post period. The results are very similar to what is presented in Figure 3.

[17] For periods uncovered by the 7-year windows, we first identify each post-FDI period that falls to the right of an event window and define it as $D^{+4}_{i,t}$ to the previous event, and identify any unidentified periods and define them as $D^{-3}_{i,t}$ to the upcoming events.

is likely to last for multiple periods.[18]

4.3 *FDI Engagement and Going-concern Audit Opinions*

Table 4 reports the test results of H2a and H2b in Panel A and B, respectively. Similar to the information displayed in Table 3, we present the test results and the average marginal effects using both the full sample (in columns 1 and 2) and the restricted sample (in columns 3 and 4) in the Table. Within the full sample, we find a negative but insignificant association between FDI engagement and the likelihood of receiving a GC opinion. However, among FDI-active firms, the average marginal effect implies that a firm's FDI engagement is associated with 0.7 percentage points more likely to receive GC opinions. Moreover, every unit increase in a firm's FDI project leads to a 0.3 percentage points more likely to receive a GC opinion. One thing noticeable is that We do not find a positive relation between FDI engagement and the likelihood of receiving GC opinions in the full sample. This is possibly because FDI-active firms typically exhibit better financial performance and lower default risk (potentially because struggling firms do not have the resources to consider engaging in FDI) and, therefore, they receive fewer GC opinions than non-FDI-active firms.[19] Results in Panel B, columns (3) and (4) support that higher FDI intensity increases the likelihood of receiving GC opinions with a marginal effect of 0.0 and 0.2 percentage points, respectively. A low marginal effect suggests that the additive effect of FDI intensity on the likelihood of receiving GC opinions is weaker than the effect of FDI engagement itself. Taken together, the results in Panel A and B of Table 4 support our reasoning that FDI associated risks can be passed on to firms' external auditors and increase the probability of the issuance of GC opinions. Therefore, these findings support our predictions in both H2a and H2b.

[18] One limitation with our DiD analysis is that this method can result in underestimating the impact of FDI engagement on audit fees. Specifically, the approach may pool the years already influenced by an FDI (post-FDI period) into the pre-FDI period, thereby inflating the pre-FDI estimates. This inflation could consequently reduce the difference between pre- and post-FDI periods, biasing against finding a statistically significant positive association between FDI engagement and audit fees.

[19] The results from probit regression of GC opinions on the dummy of FDI-active firms excluding firm-years with FDI projects (untabulated) further support that FDI-active firms are less likely to receive GC opinions.

4.4 *Disaster Shocks*

We acknowledge that endogeneity remains a salient concern that must be addressed for our findings to be robust. While we do not have major concerns of reverse causality (i.e., auditor behavior driving management's FDI-engagement decisions), we cannot rule out the possibility of omitted correlated variables (that simultaneously affect a firm's FDI engagement and its audit's audit behavior) biasing our results. For example, FDI decisions predominantly stem from distinct business strategies (Ghemawat 2003; Helpman 2006; Tan and Meyer 2010) and these strategies also exert some influence on audit behavior (Bentley-Goode et al. 2017; Chen et al. 2017). It is also possible that our findings are influenced by firms' self-selection bias, in which firms that choose to engage in more FDI activities (or do so with higher intensity) tend to hire also higher-quality auditors that charge higher fees and provide better-quality audits. To address this issue, we utilize country-level natural disaster shocks as instrumental variables for FDI activities to test the causal relationship between FDI engagement and auditor behavior and to further reinforce the internal robustness of our study.[20] In particular, we consider two aspects of natural disaster shocks on host countries: economic losses and affected population.

Natural disasters experienced by the host countries of a firm's FDI projects in a specific year serve as appropriate instruments for predicting a firm's FDI activities in the subsequent year. First of all, natural disasters are inherently unpredictable events, which significantly diminishes a firm's ability to foresee and prepare for them. As shown by Baker et al. (2020), economic variables, such as GDP growth, GDP level, and the volatility of stock returns, cannot predict natural disasters. On the one hand, the unpredictable nature of natural disasters occurring in a year with an FDI engagement creates a unique setting in which these instruments do not directly impact the subsequent behavior of a firm's external auditor or influence a firm's auditor selections. On the other hand, prior literature documents that natural disasters of host countries affect FDI entry decisions (Escaleras and Register 2011; Gu and Hale 2023). Moreover, as evidence from India suggests (Friedt and Toner-Rodgers 2022), while FDI activity decreases in regions directly affected by disasters, there is a simultaneous

[20] Estimations using well-designed, appropriately chosen instrumental variables can mitigate concerns of endogeneity (e.g., Larcker and Rusticus 2010).

increase in FDI activity in other areas that remain unaffected. Grounded in these arguments, we identify qualified natural disaster shocks. To make sure a firm's subsequent decisions are more likely to be affected by an identified shock, we require that the disaster shock take place in the same country and in the same year in which the firm announces at least one FDI project. We postulate that when such natural disasters occur, firms with FDI engagements in the affected countries may be motivated to re-strategizing their market plans and initiate new FDI projects to counterbalance the effect brought about by the disaster shocks.

Second, beyond simply using natural disaster events as instrumental variables, we extend our analysis by considering their impact on economic losses and local population. While recent studies question the complete exogeneity of shocks by linking micro- and macro-uncertainty, our approach minimizes this concern by employing the scale of economic losses and affected population as metrics. This allows us to incorporate potentially anticipated aspects of natural disaster shocks and thereby mitigate concerns related to reverse causality.[21,22] This strategy mitigates the influence of any anticipated shocks, especially when preparations in advance could otherwise compromise exogeneity assumptions.

Last but not least, natural disasters have multi-faceted effects on a firm's FDI activities, ranging from disruptions in supply chains and damage to facilities to losses of personnel and local market turmoil (Belasen and Polachek 2009; Hsu et al. 2018; Friedt and Toner-Rodgers 2022). For example, tsunamis can significantly disrupt port activities and coastal transportation even in regions with advanced warning systems without necessarily causing a high loss of life. Conversely, heatwaves may lead to a substantial number of human casualties but often have a less direct impact on a region's larger economic infrastructure. Therefore, distinguishing between the economic impacts and human impacts and using both as distinct instrumental variables for FDI engagement enables a more nuanced identification of the causal effects of FDI on auditor behavior. This approach allows

[21] For instance, Baker et al. (2020) and Binz (2022) propose that the expectation of natural shocks might be influenced by long-term macroeconomic uncertainty. Specifically, rapid economic growth can lead to a reduction in forest coverage and worsen air quality but at the same time, it can decrease the likelihood of societal upheaval by reducing poverty rates. Therefore, reverse causality can become a concern in the long run.

[22] The overall impact of an anticipated natural disaster should be reasonably smaller relative to an unanticipated one. Therefore, the scale of economic losses and affected population automatically weigh in such impact.

for a clearer understanding of how different types of shocks, whether it is more economic in nature or more human-centered, affect FDI activities and, consequently, auditor behavior.

Instrumental Variables Estimation

We use the EM-DAT database as a source for instrumental variables to investigate the causal effects of FDI engagement on auditor behavior. Administered by the Centre for Research on the Epidemiology of Disasters (CRED), EM-DAT provides a meticulously standardized and comprehensive dataset, documenting over 26,000 mass disasters globally from 1900 to the present. The database includes 2,775 natural disasters during the sample period of the current study (between 2013 and 2021), with key metrics such as event type, estimated fatalities, and economic losses.[23] Given its thoroughness and robustness, the EM-DAT database is widely cited for studies involving the human and economic impacts of disasters (e.g., Felbermayr and Gröschl 2013, 2014; Martin and Pindyck 2015; Qin et al. 2018). To ensure the exogeneity of our instruments, we concentrate solely on natural disasters from the dataset, omitting industrial and transportation incidents. This enhances the internal validity of our analysis. The types of disasters considered in our study include extreme temperatures, earthquakes, epidemics, floods, storms, wildfires, droughts, and landslides. Our analysis encompasses the total population impacted by these disasters, accounting for individuals who were either killed, injured, affected, or rendered homeless. We calculate the total economic losses ($Disaster\_Damages$) and affected population ($Disaster\_Affected$) for all affected countries in which a firm initiated FDI projects in the same year. Ultimately, the final dataset comprises 1,566 firm-years affected by disaster shocks, among which 1,393 incurred economic losses and 1,510 experienced impacts on the population.

In order to circumvent the weak identification issue highlighted by Antoine and Lavergne (2023) stemming from a binary endogenous explanatory variable, we adopt the methodology delineated in Wooldridge (2010). Specifically, this process entails two distinct steps: First, a binary response model is estimated via maximum likelihood estimation (MLE). Subsequently, the resultant fitted probability is employed as an instrument in the instrumental variable (IV) estimation.

[23] For more information about EM-DAT, visit https://www.emdat.be/.

Notably, within the framework of a binary endogenous explanatory variable (EEV), assuming an accurate specification of its conditional mean and homoskedasticity in the structural error term, the fitted probability derived from MLE represents the exact feasible optimal instrument. To derive the predicted probability that serves as an instrument for the binary endogenous variable, namely FDI_index, we initiate a probit regression model incorporating disaster-related instruments alongside other exogenous variables:

$$Pr(FDI\_index_{i,t} = 1) = \Phi(\gamma_0 + \gamma_2 Disaster\_Damages_{i,t-1} + \gamma_1 Disaster\_Affected_{i,t-1} + \\ + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + u_{i,t}) \tag{4}$$

This step aims to compute the predicted probability that firm i announces FDI in year t, denoted as $\widehat{Pr}(FDI\_index_{i,t} = 1)$. This predicted probability will be utilized in the first stage of the standard 2SLS procedure as one of the instruments, alongside $Disaster\_Damages$ and $Disaster\_Affected$.[24] Thus, the first stage for FDI_index is:

$$FDI\_index_{i,t} = \beta_0 + \beta_1 Disaster\_Damages_{i,t-1} + \beta_2 Disaster\_Affected_{i,t-1} \\ + \beta_3 \widehat{Pr}(FDI\_index_{i,t} = 1) + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + w_{i,t} \tag{5}$$

and the first stage for the other FDI measures is:

$$FDI_{i,t} = \beta_0 + \beta_1 Disaster\_Damages_{i,t-1} + \beta_2 Disaster\_Affected_{i,t-1} \\ + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + \nu_{i,t} \tag{6}$$

The difference between Equations (5) and (6) is that predicted probability of $\widehat{Pr}(FDI\_index_{i,t} = 1)$ is not included as an instrument variable in Equation (6). The dependent variable FDI represents one of the following variables: FDI_count, FDI_capex and FDI_job. The second stage model for the audit fees is

$$ln\_fee_{i,t} = \theta_0 + \theta_1 \widehat{FDI}_{i,t} + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + \mu_{i,t} \tag{7}$$

where $\widehat{FDI}$ is the predicted FDI estimated from the first stage Equation (6).

Since the dependent variable and endogenous independent variable are both binary, following

[24] Following the recommendations of Angrist and Pischke (2009), when instrumenting the dummy variable FDI_index with its predicted probability, combined with other instruments, the process aligns with the insertion of fitted values if the first stage is determined by OLS. However, this is not a general rule. Leveraging nonlinear fits as instruments carries an added benefit. Specifically, if the nonlinear model provides a superior approximation to the first-stage conditional expectation function compared to the linear model, the subsequent 2SLS estimates tend to be more efficient than those derived from a linear first stage (Xu 2021).

Enikolopov et al. (2011) and Wooldridge (2015), a SUR Bivariate Probit model is employed for GC opinions when we estimate the effect of $FDI\_index_{i,t}$,. In particular, the joint model of the structural equations of interest is formulated as follows:

$$Pr(gc\_opinion_{i,t} = 1) = \Psi(\delta_0 + \delta_1 Pr(FDI\_index_{i,t} = 1) + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + \varepsilon_{i,t}) \quad (8)$$

$$Pr(FDI\_index_{i,t} = 1) = \Theta(\beta_0 + \beta_1 Disaster\_Damages_{i,t-1} + \beta_2 Disaster\_Affected_{i,t-1} + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + \nu_{i,t}) \quad (9)$$

The error terms of the two estimation equations may be correlated (assume a correlation ρ). If $\rho = 0$, it lends support to the argument that endogeneity is not a concern in our estimation, implying that estimating separate probit models for each outcome might be more appropriate and parsimonious. In cases where $\rho \neq 0$, the results from SUR Bivariate Probit model can provide more reliable estimates. As shown in Knapp and Seaks (1998), the likelihood-ratio test of $\rho = 0$ can be served as a Hausman endogeneity test. The IV probit model for the other measures of FDI follows the same first stage as in Equation (6), and the second stage model is

$$Pr(gc\_opinion_{i,t} = 1) = \Psi(\delta_0 + \delta_1 \widehat{FDI}_{i,t} + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + \varepsilon_{i,t}) \quad (10)$$

where $\widehat{FDI}$ represents one of the predicted FDI estimated from the first stage Equation (6).

IV Results

We present our 2SLS and IV probit analysis in Tables 5 and 6, respectively.[25] We focus on the impact on audit fees in Table 5. The first-stage analyses reveal a positive relation between the occurrence of natural disasters in host countries of a firm's FDI projects and the firm's subsequent FDI decisions. Specifically, we find that both of the impact measures of natural disasters are positively associated with a firm's likelihood of announcing a new FDI project, the number of

[25] In addition to our primary analysis, we conduct a series of robustness tests, which are untabulated, to evaluate the strength and validity of our chosen instrumental variables. The first-stage regressions produce high F-statistics for the excluded instruments, alleviating concerns about weak instrument bias. Furthermore, the tests for endogeneity provide p-values that are statistically significant at the 0.1% level, confirming the presence of endogeneity in our OLS estimates. Notably, the Sargan test for overidentification returns p-values greater than 0.25, suggesting that our instrumental variable approach are well-specified and not compromised by over-identification issues. In other words, we cannot reject the null hypothesis that observing the economic and human aspects of natural disaster shocks on FDI serves as a sufficient statistic for assessing their one-year effect on audit behavior.

new projects announced, and the intensity of FDI engagement in the following year. With respect to the second stage, both the predicted FDI engagement measures and FDI intensity measures show significantly positive coefficients, further confirming the effects of FDI engagement and FDI intensity on audit fees. Next, we focus on the impact on GC opinions in Table 6. We find a positive relation between the occurrence of natural disasters in host countries of a firm's FDI projects and the firm's subsequent FDI decisions in the first-stage tests. Similar to the first-stage results in Table 5, the full sample includes firms that had never engaged in any FDI activities during our sample period (see columns 1 and 2). When we remove these firm-year observations from the sample, the positive relation between economic losses and subsequent FDI activities becomes insignificant (see columns 3 and 4). We interpret that this difference signifies a dominating role of foreign labor markets on a firm's FDI activities (Friedt and Toner-Rodgers 2022). To summarize, using two metrics of natural disaster shocks as instruments, we find evidence supporting a positive (positive) causal relation between firms' FDI decisions and audit fees (likelihood of receiving GC opinions) among FDI-active firms. These findings further support our predictions in the main tests.[26]

5 Supplementary Analysis

5.1 *Interaction Analysis on FDI Engagement*

We identify two distinct factors that can potentially interact with a firm's FDI engagement thereby influencing auditor behavior. These interactive relations will facilitate our understanding of the underlying theory that explains the associations documented in this study. The first factor is the length of auditor-client relationship. Prior literature has identified a positive relation between auditor tenure and firms' financial reporting quality, as well as a heightened market response to earnings news (Johnson et al. 2002; Ghosh and Moon 2005). These findings suggest that there is a significant learning curve for new auditors to develop client-specific knowledge (Johnson et al.

[26] Notably, in our empirical analysis, the coefficients estimated via 2SLS are larger than those obtained through OLS. This difference is not merely statistical noise but indicative of a systematic issue potentially undermining the credibility of OLS estimates. Given the robustness of 2SLS in addressing endogeneity, its larger coefficients provide a more accurate, unbiased representation of the true underlying economic relationships. Specifically, the OLS estimates in our analyses are likely to be downward-biased, possibly due to factors such as omitted variable bias, measurement error, or sample selection bias. The 2SLS estimates should be considered more reliable for inference, underscoring the importance of addressing endogeneity in the econometric model using instrumental variables.

2002). Hence, if a firm's FDI engagement induces additional complexity and uncertainty, its auditors will have to input more time and effort in the audit process if it has less client-specific knowledge (that is acquired with auditor tenure). The second factor is the firm's ownership structure, namely institutional ownership. Institutional owners are sophisticated participants in the capital markets with the capacity to impact firm-level governance and monitoring (Velury and Jenkins 2006; Chung and Zhang 2011; Ramalingegowda and Yu 2012; Tee et al. 2017). Firms with high institutional ownership show more conservative financial reporting and have higher earnings quality (**?**). Furthermore, institutional owners also play an important part in a firm's investment efficiency (Cao et al. 2020). Therefore, a higher proportion of institutional ownership may mitigate an auditor's concerns of their client's FDI engagement increases audit risk.

In the interaction analysis, we use regression models modified from Models 1 and 2. We include two variables to interact with the FDI engagement measures: (1) $audit\_short$, an indicator of short tenure audit-client relationship, and (2) $instown$, a firm's percentage of institutional ownership; and We interact these two variables with one of the FDI engagement measures and the other control variables in the models and investigate whether and how the relationship between FDI engagement and auditor behavior may be affected. The test results are presented in Table 7. Panel A and B report the results with dependent variable ln_fee and $gc\_opinion$, respectively. In Panel A, we find that the interaction term $FDI\_index \times audit\_short$ ($FDI\_count \times audit\_short$) is negative (positive) but insignificant as reported in columns (1) and (2). However, when we restrict our sample to FDI-active firms, the coefficients to both interaction terms are significantly positive. Taken together, we find some evidence consistent with the argument that a firm's FDI engagement increases audit complexity and this increase in complexity can be magnified for auditors with limited client-specific knowledge. In Panel B, we find a significantly negative coefficient for the interaction term $FDI\_count \times instown$ in column (4). The other interaction terms with $intown$ are not statistically significant. Therefore, we find some evidence that the enhanced monitoring by a firm's institutional owners mitigates the positive relationship between FDI engagement and perceived audit risk. To summarize, findings presented in Table 7 provide additional support to our

theory that a firm's FDI activities affects auditor behavior.

5.2 *FDI Engagement and Reporting Quality*

Because audit quality is closely related to financial reporting quality, we investigate the association between firms' FDI engagement and their financial reporting quality. Specifically, we examine the relation between a firm's FDI engagement and its likelihood of restatement, as well as the level of abnormal accruals in its financial statements. The findings are reported in Table 8. The dependent variables reported in Panel A is a firm's likelihood of issuing restatements during the five-year period after FDI engagements. We find that, among FDI-active firms, a firm's FDI engagement is negatively associated with the likelihood of restatement in the following five-year period. However, we do not find a significant association between a firm's FDI engagement and the abnormal accruals in its financial statements in the same period. These findings provide some evidence of improved reporting quality after FDI engagement. This association may be driven by improved audit quality due to higher audit fees.

5.3 *FDI Engagement and Abnormal Audit Fees*

In Table 3, we find a positive relationship between FDI engagement and audit fees, which is the natural logarithm of audit fees (ln_fee). Following Blankley et al. (2012) and Xu et al. (2019), we construct the measure of abnormal audit fees, which captures the additional auditor effort input. We re-estimate model 1 using abnormal audit fees and present the results in Table 9. We find that both FDI-engagement and FDI-intensity are positively associated with abnormal audit fees. These finding further support our hypotheses.

6 Conclusion

In this study, we examine the relationship between a firm's engagement in FDI activities and its auditor behavior. We document that FDI engagement is perceived by auditors to be risky, and that this perceived risk manifests as increased audit fees and propensity to issue going concern opinions. These results are robust to alternative specifications of FDI engagement and to the use of natural disaster shocks as instrumental variables. Findings of this study enhance our understanding of the costs and consequences of a firm's foreign investments. It is advisable for managers to factor

in these heightened audit costs when planning FDI activities. Furthermore, our findings indicate that auditors are aware of their client firms' FDI engagement and undertake appropriate actions to uphold the quality of their audits, including flagging going concern opinions as necessary. These results show auditors' reactions to specific firm decisions, enhancing our understanding of the audit process.

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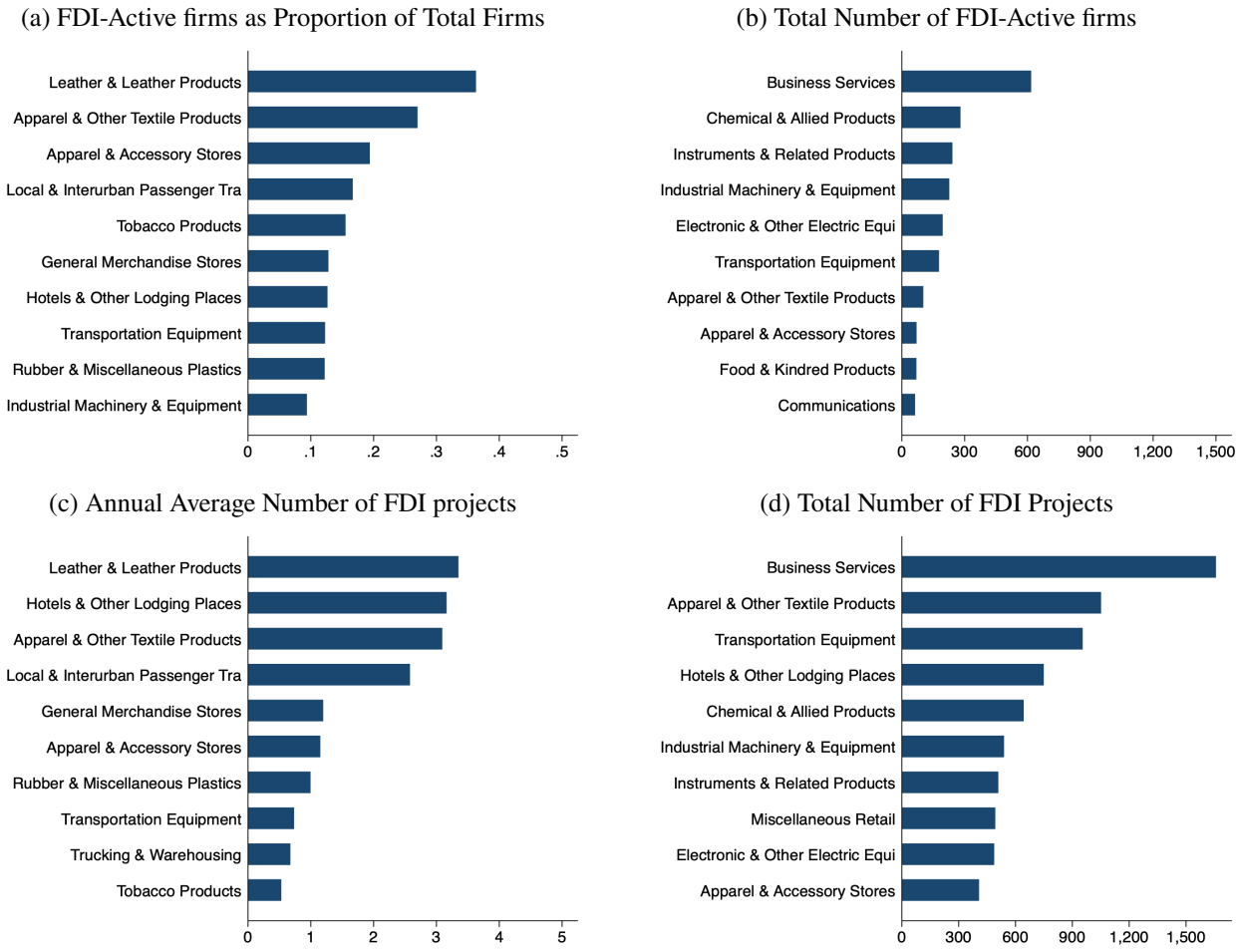
Tables and Figures

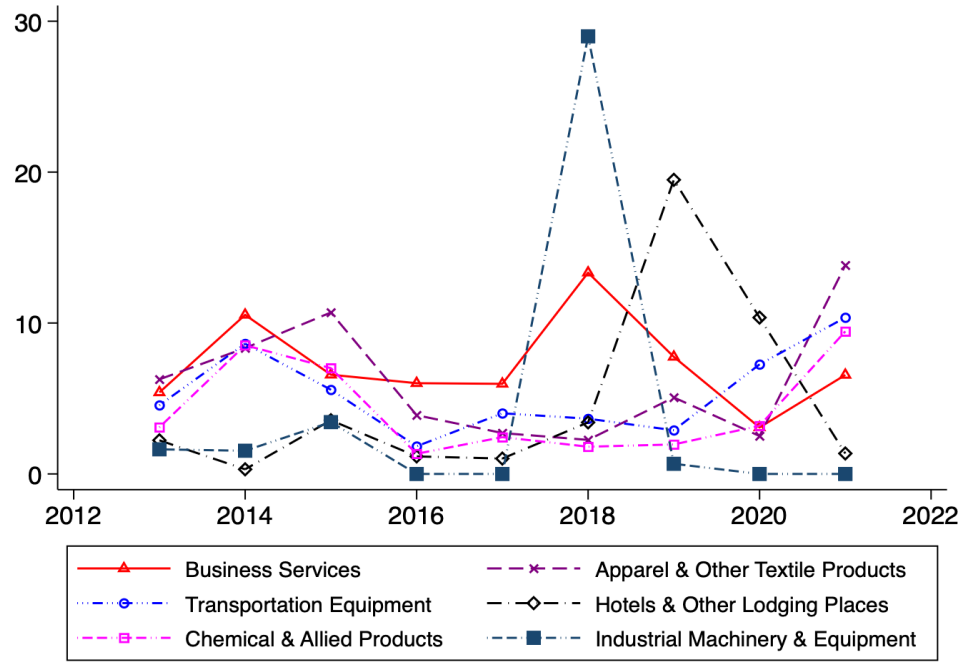
Figure 1: FDI Activities by Top 10 Industries



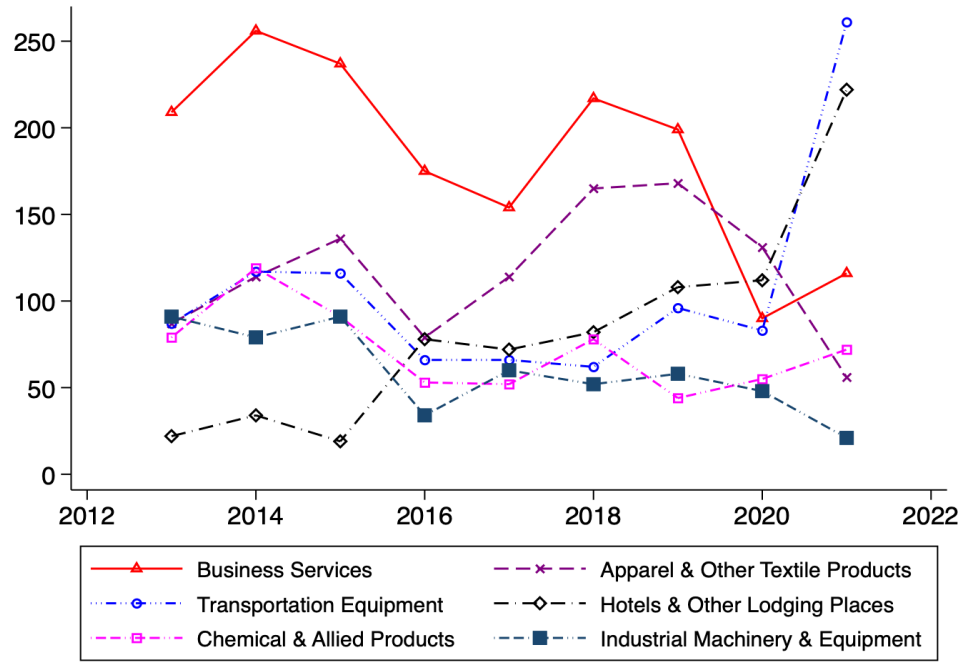
Note: Figure 1 demonstrates the distribution of FDI activities among various industries. (1) Part (a) illustrates the proportion of firms within each industry that undertakes at least one FDI project over the sample period. (2) Part (b) illustrates the total number of firms by industry that engaged in at least one FDI project over the sample period. (3) Part (c) shows the annual average number of FDI projects per firm by industry. (4) Part (d) shows the total number of projects per firm by industry.

Figure 2: The Trends of FDI activities by the Leading Six Industries

(a) Capital Expenditures (Billion Dollar)

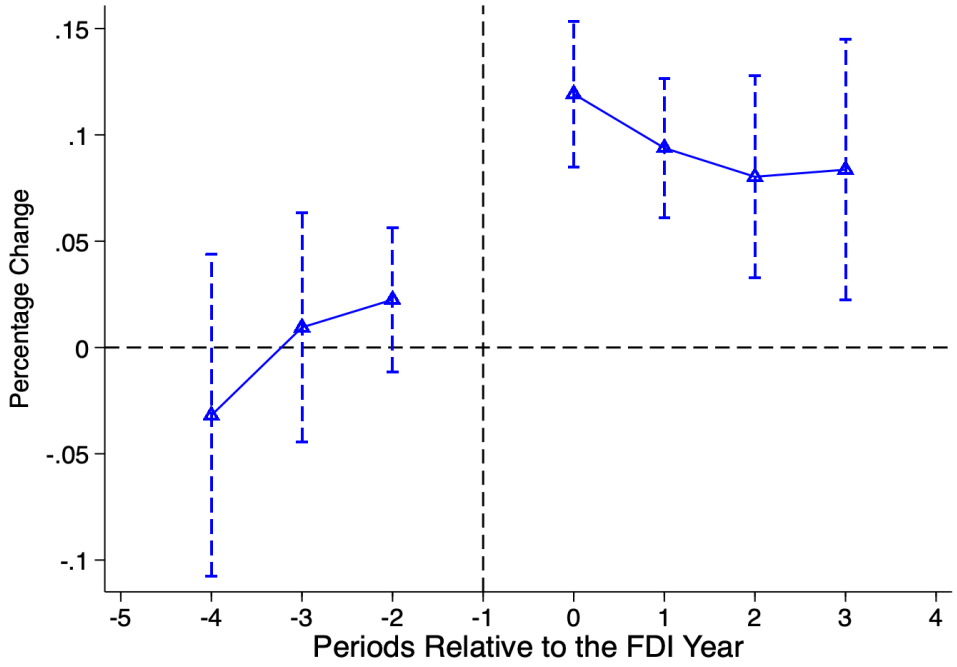


(b) Project Counts



Note: Figure 2 demonstrates the trend of FDI activities of our sample firms. (1) Part (a) illustrates the trends of FDI activities in terms of capital expenditures of the six leading industries. (2) Part (b) shows the trens of FDI activities in terms of the number of projects undertaken by the six leading industries.

Figure 3: The Dynamic Impact of FDI on Audit Fee



Note: The figure shows the impact of FDI on the natural logarithm of the audit fee among FDI engaged firms during the observed years. We report estimated coefficients from the following fixed-effect regression, considering a 7-year window that spans from 4 years before FDI (year -4 to -1) until 4 years after FDI (year 0 to 3). Specifically, year -1 represents the one year prior to FDI as the baseline, while Period 0 corresponds to the occurrence of FDI. The estimated specification is given by: $ln\_fee_{i,t} = \beta_0 + \beta_1 * D_{i,t}^{-4} + \beta_2 * D_{i,t}^{-3} + ... + \beta_7 * D_{i,t}^{3} + Controls_{i,t} + \boldsymbol{Industry_j} + \boldsymbol{Year_t} + u_{i,t}$, where $\boldsymbol{Industry_j}$ and $\boldsymbol{Year_t}$ are vectors variables that account for industry and year fixed effects, besides $D_{i,t}^{-k}$ and $D_{i,t}^{+k}$ are the dummy variables standing for the kth period before and after the FDI year $D_{i,t}^{0}$, respectively. $D_{i,t}^{-1}$ is dropped to serve as the baseline of the estimation. The dashed lines represent 95% confidence intervals, adjusted for firm-level clustering. $Controls$ captures firms' characteristics.

Table 1: Sample Selection

Firm-year observations from COMPUSTAT (2013 – 2021)	91,672
Less: firm-year observations missing data from Audit Analytics	(42,245)
Less: firm-year observations with missing values for control variables	(27,981)
Final full sample [Number of unique firms]	21,446 [4,007]
Less: firm observations without any FDI activities during the sample period	(15,718)
Restricted sample [Number of unique firms]	5,728 [840]

Note: This table presents sample selection procedures to test the hypotheses.

Table 2: Sample Composition and Summary Statistics

Panel A: Descriptive Statistics ($n = 21,446$)

Variables	Mean	SD	Min	p25	p50	p75	Max
FDI_index	0.089	0.285	0.000	0.000	0.000	0.000	1.000
FDI_count	0.152	0.546	0.000	0.000	0.000	0.000	3.000
FDI_capex	1.518	4.872	0.000	0.000	0.000	0.000	18.674
FDI_job	0.398	1.328	0.000	0.000	0.000	0.000	6.155
ln_fee	14.085	1.225	9.434	13.281	14.119	14.880	17.036
gc_opinion	0.040	0.196	0.000	0.000	0.000	0.000	1.000
size	6.819	2.096	0.538	5.331	6.823	8.233	11.922
mtb	3.669	11.327	-128.885	1.271	2.397	4.475	123.747
leverage	0.462	0.303	0.001	0.272	0.433	0.596	7.580
cashvol	0.087	0.261	0.004	0.023	0.041	0.080	13.538
earnvol	0.135	0.824	0.002	0.020	0.044	0.105	53.817
ln_segn	1.717	0.625	0.693	1.386	1.386	2.303	3.091
salefrgn	0.445	0.406	0.000	0.000	0.356	1.000	1.000
ln_capex	16.736	3.102	0.000	15.143	17.058	18.666	22.490
salegrow	0.190	0.916	-1.000	-0.043	0.058	0.194	17.484
roa	-0.055	0.416	-25.132	-0.060	0.023	0.065	0.541
loss	0.386	0.487	0.000	0.000	0.000	1.000	1.000
pr_hazard	0.004	0.046	0.000	0.000	0.000	0.000	0.982
inherent_risk	0.217	0.168	0.000	0.080	0.183	0.312	0.867
hilit	0.524	0.499	0.000	0.000	1.000	1.000	1.000
public_exchng	0.898	0.302	0.000	1.000	1.000	1.000	1.000
ln_auditlag	4.629	0.339	3.807	4.443	4.605	4.771	6.477
big4	0.738	0.440	0.000	0.000	1.000	1.000	1.000
ln_audit_tenure	2.118	0.678	0.693	1.609	2.197	2.708	3.135
fiscal_year_end	0.755	0.430	0.000	1.000	1.000	1.000	1.000

Panel B: FDI v.s. Non-FDI-Active firms

	FDI ($n = 5,728$)		**Non-FDI** ($n = 15,718$)		**FDI - Non-FDI**		
Variable	Mean	SD	Mean	SD	Difference	t-Stat	p-value
ln_fee	14.836	1.083	13.811	1.158	1.025	58.337	0.000
gc_opinion	0.011	0.103	0.051	0.220	-0.040	-13.325	0.000

Continued . . .

Table 2: Sample Composition and Summary Statistics (continued)

Panel B: FDI v.s. Non-FDI-Active firms

	FDI ($n = 5,728$)		**Non-FDI** ($n = 15,718$)		**FDI - Non-FDI**		
Variable	Mean	SD	Mean	SD	Difference	t-Stat	p-value
size	7.807	1.844	6.459	2.067	1.347	43.434	0.000
mtb	4.750	12.921	3.274	10.661	1.476	8.456	0.000
leverage	0.477	0.225	0.457	0.327	0.019	4.141	0.000
cashvol	0.053	0.169	0.099	0.287	-0.046	-11.391	0.000
earnvol	0.078	0.407	0.155	0.930	-0.077	-6.033	0.000
ln_segn	1.872	0.638	1.660	0.611	0.211	22.169	0.000
salefrgn	0.518	0.333	0.419	0.427	0.099	15.856	0.000
ln_capex	17.856	2.160	16.328	3.288	1.528	32.691	0.000
salegrow	0.124	0.595	0.215	1.006	-0.091	-6.448	0.000
roa	0.013	0.176	-0.080	0.471	0.093	14.596	0.000
loss	0.268	0.443	0.429	0.495	-0.161	-21.695	0.000
pr_hazard	0.004	0.045	0.004	0.047	-0.001	-1.037	0.300
inherent_risk	0.231	0.142	0.211	0.176	0.020	7.549	0.000
hilit	0.501	0.500	0.532	0.499	-0.031	-4.068	0.000
public_exchng	0.978	0.147	0.869	0.337	0.109	23.602	0.000
ln_auditlag	4.572	0.281	4.650	0.356	-0.078	-14.920	0.000
big4	0.874	0.332	0.689	0.463	0.186	27.871	0.000
ln_audit_tenure	2.356	0.651	2.031	0.667	0.326	31.819	0.000
fiscal_year_end	0.714	0.452	0.771	0.420	-0.057	-8.564	0.000

Note: This table shows the sample deceptions. Panel A shows the summary statistics, including the number of observations, mean, standard deviation, minimum, the bottom quarter, median, the top quarter, and the maximum of each variable. Panel B shows the comparative statistics between two samples (FDI-active vs. non-FDI-active firms). Variables are defined in Table A.1 (Appendix A).

Table 3: FDI Engagement and Audit Fees

Panel A: Test of H1a

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
FDI_index	0.232***	(0.019)			0.059***	(0.014)		
FDI_count			0.125***	(0.010)			0.044***	(0.009)
size	0.462***	(0.009)	0.461***	(0.009)	0.490***	(0.016)	0.487***	(0.016)
mtb	0.001	(0.000)	0.001	(0.000)	-0.000	(0.000)	-0.000	(0.000)
leverage	0.274***	(0.027)	0.275***	(0.027)	0.472***	(0.066)	0.475***	(0.066)
cashvol	0.065*	(0.035)	0.063*	(0.034)	-0.053*	(0.032)	-0.055*	(0.032)
earnvol	-0.011	(0.011)	-0.011	(0.011)	0.026**	(0.012)	0.026**	(0.012)
ln_segn	0.091***	(0.016)	0.091***	(0.016)	0.125***	(0.024)	0.124***	(0.024)
salefrgn	-0.010	(0.023)	-0.011	(0.024)	0.262***	(0.039)	0.257***	(0.039)
ln_capex	0.015***	(0.005)	0.015***	(0.005)	0.012	(0.012)	0.010	(0.012)
salegrow	-0.013***	(0.005)	-0.013***	(0.005)	-0.029**	(0.013)	-0.030**	(0.013)
roa	-0.095***	(0.034)	-0.094***	(0.034)	-0.313***	(0.078)	-0.303***	(0.077)
loss	0.172***	(0.016)	0.171***	(0.016)	0.133***	(0.027)	0.132***	(0.027)
pr_hazard	0.215***	(0.075)	0.217***	(0.075)	-0.091	(0.105)	-0.086	(0.106)
inherent_risk	0.490***	(0.064)	0.490***	(0.064)	0.761***	(0.127)	0.754***	(0.127)
hilit	0.019	(0.034)	0.019	(0.034)	-0.012	(0.049)	-0.012	(0.048)
public_exchng	0.100***	(0.029)	0.100***	(0.029)	0.205**	(0.097)	0.203**	(0.097)
ln_auditlag	0.056**	(0.024)	0.056**	(0.024)	0.052	(0.043)	0.054	(0.043)
big4	0.458***	(0.023)	0.460***	(0.023)	0.341***	(0.051)	0.346***	(0.051)
ln_audit_tenure	-0.017	(0.012)	-0.016	(0.012)	-0.017	(0.020)	-0.016	(0.020)
fiscal_year_end	0.030	(0.020)	0.030	(0.020)	0.114***	(0.030)	0.114***	(0.030)
_cons	9.523***	(0.145)	9.526***	(0.145)	9.207***	(0.270)	9.243***	(0.271)
No. of Obs	21446		21446		5727		5727	
Adj. R^2	0.819		0.819		0.863		0.864	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B: Test of H1b

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
FDI_capex	0.014***	(0.001)			0.004***	(0.001)		
FDI_job			0.050***	(0.004)			0.013***	(0.003)
size	0.462***	(0.009)	0.461***	(0.009)	0.490***	(0.016)	0.489***	(0.016)
mtb	0.001	(0.000)	0.001	(0.000)	-0.000	(0.000)	-0.000	(0.000)
leverage	0.274***	(0.027)	0.274***	(0.027)	0.473***	(0.066)	0.473***	(0.066)
cashvol	0.065*	(0.035)	0.064*	(0.035)	-0.053*	(0.032)	-0.054*	(0.032)
earnvol	-0.011	(0.011)	-0.011	(0.011)	0.026**	(0.012)	0.027**	(0.012)
ln_segn	0.091***	(0.016)	0.091***	(0.016)	0.125***	(0.024)	0.125***	(0.024)

Continued . . .

Table 3: FDI Engagement and Audit Fees (continued)

Panel B: Test of H1b

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
salefrgn	-0.010	(0.023)	-0.011	(0.024)	0.262***	(0.039)	0.261***	(0.039)
ln_capex	0.015***	(0.005)	0.015***	(0.005)	0.012	(0.012)	0.012	(0.012)
salegrow	-0.013***	(0.005)	-0.013***	(0.005)	-0.029**	(0.013)	-0.029**	(0.013)
roa	-0.094***	(0.034)	-0.094***	(0.034)	-0.312***	(0.078)	-0.310***	(0.078)
loss	0.172***	(0.016)	0.172***	(0.016)	0.133***	(0.027)	0.133***	(0.027)
pr_hazard	0.215***	(0.075)	0.215***	(0.075)	-0.090	(0.105)	-0.091	(0.105)
inherent_risk	0.489***	(0.064)	0.487***	(0.064)	0.760***	(0.127)	0.759***	(0.127)
hilit	0.019	(0.034)	0.019	(0.034)	-0.012	(0.049)	-0.012	(0.049)
public_exchng	0.100***	(0.029)	0.101***	(0.029)	0.206**	(0.097)	0.206**	(0.097)
ln_auditlag	0.056**	(0.024)	0.056**	(0.024)	0.053	(0.043)	0.053	(0.043)
big4	0.459***	(0.023)	0.459***	(0.023)	0.341***	(0.051)	0.343***	(0.051)
ln_audit_tenure	-0.017	(0.012)	-0.017	(0.012)	-0.017	(0.020)	-0.017	(0.020)
fiscal_year_end	0.030	(0.020)	0.030	(0.020)	0.114***	(0.030)	0.114***	(0.030)
_cons	9.525***	(0.145)	9.524***	(0.145)	9.212***	(0.270)	9.216***	(0.270)
No. of Obs	21446		21446		5727		5727	
Adj. R^2	0.819		0.819		0.863		0.863	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: This table examines the relation between FDI engagement and audit fees using an OLS model. The dependent variable is ln_fee. Panel A presents the test results for H1a using independent variables FDI_index and FDI_count, Panel B presents the test results for H1b using independent variables FDI_capex and FDI_job. Detailed variable definitions can be found in Table A.1 (Appendix A). Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$.

Table 4: FDI Engagement and GC Opinions

Panel A: Test of H2a

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
FDI_index	-0.103	(0.147)			0.423**	(0.182)		
FDI_count			-0.096	(0.085)			0.195**	(0.090)
size	-0.230***	(0.034)	-0.230***	(0.034)	-0.428***	(0.113)	-0.425***	(0.111)
mtb	0.001	(0.002)	0.001	(0.002)	0.003	(0.005)	0.003	(0.005)
leverage	0.751***	(0.164)	0.751***	(0.164)	1.244***	(0.303)	1.235***	(0.301)
cashvol	0.002	(0.109)	0.002	(0.109)	-0.096	(0.172)	-0.093	(0.169)
earnvol	0.014	(0.030)	0.014	(0.030)	0.119	(0.084)	0.120	(0.085)
ln_segn	-0.165**	(0.077)	-0.166**	(0.077)	0.593**	(0.257)	0.585**	(0.251)
salefrgn	0.424***	(0.079)	0.424***	(0.079)	-0.111	(0.318)	-0.123	(0.313)
ln_capex	-0.022*	(0.011)	-0.022*	(0.011)	-0.000	(0.050)	0.002	(0.050)
salegrow	0.017	(0.015)	0.017	(0.015)	0.063**	(0.031)	0.064**	(0.032)
roa	-0.611***	(0.109)	-0.611***	(0.109)	-0.904***	(0.282)	-0.887***	(0.276)
loss	0.660***	(0.079)	0.660***	(0.079)	1.119***	(0.321)	1.089***	(0.328)
pr_hazard	0.481*	(0.279)	0.481*	(0.279)	-0.210	(1.100)	-0.305	(1.101)
inherent_risk	-0.719***	(0.246)	-0.717***	(0.246)	-0.124	(1.067)	-0.144	(1.055)
hilit	-0.289*	(0.156)	-0.289*	(0.156)	0.761	(0.605)	0.760	(0.599)
public_exchng	-0.364***	(0.081)	-0.364***	(0.081)	-1.228***	(0.377)	-1.215***	(0.378)
ln_auditlag	0.457***	(0.065)	0.457***	(0.065)	0.602**	(0.260)	0.592**	(0.262)
big4	0.003	(0.079)	0.003	(0.079)	0.403	(0.318)	0.382	(0.320)
ln_audit_tenure	-0.026	(0.049)	-0.026	(0.049)	-0.239	(0.211)	-0.234	(0.210)
fiscal_year_end	0.136	(0.088)	0.135	(0.088)	0.533	(0.401)	0.543	(0.407)
_cons	-2.912***	(0.499)	-2.915***	(0.499)	-4.841***	(1.641)	-4.697***	(1.651)
Marginal effect	-0.005	(0.008)	-0.005	(0.004)	0.007**	(0.003)	0.003**	(0.002)
No. of Obs	20,611		20,611		3,917		3,917	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B: Test of H2b

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
FDI_capex	-0.006	(0.009)			0.027**	(0.011)		
FDI_job			-0.016	(0.034)			0.126***	(0.044)
size	-0.230***	(0.034)	-0.231***	(0.034)	-0.431***	(0.113)	-0.442***	(0.110)
mtb	0.001	(0.002)	0.001	(0.002)	0.003	(0.005)	0.003	(0.005)
leverage	0.751***	(0.164)	0.751***	(0.164)	1.248***	(0.303)	1.256***	(0.306)
cashvol	0.002	(0.109)	0.003	(0.109)	-0.098	(0.172)	-0.097	(0.172)
earnvol	0.014	(0.030)	0.014	(0.030)	0.120	(0.085)	0.121	(0.086)
ln_segn	-0.165**	(0.077)	-0.165**	(0.077)	0.601**	(0.258)	0.623**	(0.261)

Continued . . .

Table 4: FDI Engagement and GC Opinions (continued)

Panel B: Test of H2b

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
salefrgn	0.424***	(0.079)	0.424***	(0.079)	-0.117	(0.318)	-0.154	(0.320)
ln_capex	-0.022*	(0.011)	-0.022*	(0.011)	-0.001	(0.050)	-0.001	(0.051)
salegrow	0.017	(0.015)	0.017	(0.015)	0.063**	(0.031)	0.063**	(0.031)
roa	-0.611***	(0.109)	-0.611***	(0.109)	-0.902***	(0.283)	-0.888***	(0.285)
loss	0.660***	(0.079)	0.660***	(0.079)	1.130***	(0.320)	1.171***	(0.323)
pr_hazard	0.481*	(0.279)	0.481*	(0.279)	-0.190	(1.103)	-0.127	(1.120)
inherent_risk	-0.719***	(0.246)	-0.719***	(0.246)	-0.130	(1.072)	-0.193	(1.091)
hilit	-0.289*	(0.156)	-0.289*	(0.156)	0.766	(0.607)	0.795	(0.617)
public_exchng	-0.364***	(0.081)	-0.364***	(0.081)	-1.235***	(0.379)	-1.265***	(0.389)
ln_auditlag	0.457***	(0.065)	0.457***	(0.065)	0.603**	(0.261)	0.610**	(0.264)
big4	0.002	(0.079)	0.002	(0.079)	0.406	(0.318)	0.419	(0.316)
ln_audit_tenure	-0.026	(0.049)	-0.026	(0.049)	-0.239	(0.211)	-0.240	(0.211)
fiscal_year_end	0.136	(0.088)	0.136	(0.088)	0.540	(0.400)	0.586	(0.397)
_cons	-2.912***	(0.499)	-2.911***	(0.499)	-4.869***	(1.645)	-5.009***	(1.670)
Marginal effect	-0.000	(0.000)	-0.001	(0.002)	0.000**	(0.000)	0.002***	(0.001)
No. of Obs	20,611		20,611		3,917		3,917	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: This table examines the relation between FDI engagement and the likelihood of receiving going-conern audit opinions using a probit model. The dependent variable is $gc\_opinion$. Panel A presents the test results for H2a using independent variables FDI_index and FDI_count, Panel B presents the test results for H2b using independent variables FDI_capex and FDI_job. Detailed variable definitions can be found in Table A.1 (Appendix A). Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. *$p < 0.10$, **$p < 0.05$, and ***$p < 0.01$.

Table 5: 2SLS Analysis of the Impact of FDI Engagement on Audit Fees

Panel A: Test of H1a

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
IV 2nd stage								
FDI_index	0.576***	(0.053)			0.341***	(0.100)		
FDI_count			0.280***	(0.025)			0.144***	(0.039)
IV 1st stage								
ln_losses$_{t-1}$	0.027***	(0.005)	0.015***	(0.003)	0.004	(0.004)	0.004	(0.003)
ln_affected$_{t-1}$	0.046***	(0.008)	0.040***	(0.006)	0.026***	(0.007)	0.024***	(0.005)
No. of Obs	20,711		21,428		5,709		5,709	
Adj. R^2	0.800		0.801		0.831		0.840	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B: Test of H1b

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
IV 2nd stage								
FDI_capex	0.034***	(0.003)			0.021***	(0.006)		
FDI_job			0.122***	(0.011)			0.071***	(0.020)
IV 1st stage								
ln_losses$_{t-1}$	0.133***	(0.026)	0.035***	(0.007)	0.022	(0.025)	0.006	(0.007)
ln_affected$_{t-1}$	0.312***	(0.043)	0.091***	(0.012)	0.170***	(0.040)	0.051***	(0.011)
No. of Obs	21,428		21,428		5,709		5,709	
Adj. R^2	0.799		0.799		0.829		0.833	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: This table examines the relation between FDI engagement and audit fees using 2SLS analysis. The dependent variable is ln_fee. ln_losses is one of the metrics of natural disaster impact, calculated as the natural logarithm of the average dollar amount losses associated with a firm's hosting countries due to natural disasters incurred in the year of FDI announcements. $ln\_affected$ is another metric of natural disaster impact, calculated as the natural logarithm of the average number of population affected associated with a firm's hosting countries due to natural disaster incurred in the year of FDI announcements. Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. $*p < 0.10$, $**p < 0.05$, and $***p < 0.01$.

Table 6: IV Probit of the Impact of FDI Engagement on GC Opinions

Panel A: Test of H2a

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
IV 2nd stage								
FDI_index	-1.593***	(0.274)			1.508*	(0.807)		
FDI_count			-0.241	(0.284)			0.760*	(0.419)
IV 1st stage								
ln_losses$_{t-1}$	0.028***	(0.005)	0.015***	(0.003)	0.004	(0.004)	0.004	(0.003)
ln_affected$_{t-1}$	0.044***	(0.008)	0.040***	(0.006)	0.026***	(0.007)	0.024***	(0.005)
Marginal effect	-0.091	(0.021)	-0.012	(0.015)	0.024	(0.023)	0.015	(0.012)
No. of Obs	21,428		20,593		5,710		3,899	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B: Test of H2b

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
IV 2nd stage								
FDI_capex	-0.027	(0.034)			0.114***	(0.033)		
FDI_job			-0.091	(0.121)			0.426***	(0.120)
IV 1st stage								
ln_losses$_{t-1}$	0.133***	(0.026)	0.035***	(0.007)	0.022	(0.025)	0.006	(0.007)
ln_affected$_{t-1}$	0.312***	(0.043)	0.091***	(0.012)	0.170***	(0.040)	0.051***	(0.011)
Marginal effect	-0.001	(0.002)	-0.005	(0.006)	0.003	(0.002)	0.009	(0.006)
No. of Obs	20,593		20,593		3,899		3,899	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: This table examines the relation between FDI engagement and the likelihood of receiving going-concern audit opinions using 2SLS analysis. The dependent variables is $gc\_opinion$. ln_losses is one of the metrics of natural disaster impact, calculated as the natural logarithm of the average dollar amount losses associated with a firm's hosting countries due to natural disasters incurred in the year of FDI announcements. $ln\_affected$ is another metric of natural disaster impact, calculated as the natural logarithm of the average number of population affected associated with a firm's hosting countries due to natural disaster incurred in the year of FDI announcements. Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. *$p < 0.10$, **$p < 0.05$, and ***$p < 0.01$.

Table 7: Interaction Analysis on FDI Engagement

Panel A: Interaction Effect on Audit Fees (OLS)

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
Dependent Variable = ln_fee								
FDI_index	-0.448	(0.373)			-0.120	(0.364)		
FDI_index × audit_short	-0.003	(0.057)			0.152***	(0.057)		
FDI_index × instown	-0.461***	(0.079)			-0.170**	(0.067)		
FDI_count			-0.113	(0.201)			-0.018	(0.198)
FDI_count × audit_short			0.014	(0.028)			0.083***	(0.028)
FDI_count × instown			-0.200***	(0.036)			-0.072**	(0.034)
audit_short	0.023	(0.018)	0.022	(0.018)	-0.144***	(0.038)	-0.145***	(0.038)
instown	0.332***	(0.032)	0.331***	(0.032)	0.067	(0.070)	0.057	(0.071)
No. of Obs	21,446		21,446		5,727		5,727	
Adj. R^2	0.825		0.825		0.865		0.866	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B: Interaction Effect on GC Opnions (Probit)

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
Dependent Variable = gc_opinion								
FDI_index	3.756	(4.481)			9.677	(7.509)		
FDI_index × audit_short	-1.697*	(0.950)			-1.487	(1.218)		
FDI_index × instown	0.754	(0.886)			0.301	(1.999)		
FDI_count			0.652	(3.943)			17.234***	(6.071)
FDI_count × audit_short			-1.315*	(0.671)			-1.393	(1.131)
FDI_count × instown			-0.320	(0.829)			-3.186**	(1.410)
audit_short	-0.122	(0.086)	-0.125	(0.086)	-0.731*	(0.413)	-0.812**	(0.409)
instown	-1.220***	(0.125)	-1.220***	(0.124)	-1.709***	(0.585)	-1.727***	(0.564)
No. of Obs	20,611		20,611		2,010		3,917	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: This table examines the interactive relation between FDI engagement and audit tenure and ownership structure. One of the independent variables is $audit_short$, which is a dummy variable that equals 1 for firms that have audit tenure shorter than 4 years, and 0 otherwise. The other independent variable tested is $instown$, which is the percentage of institutional ownership. Both regression models include industry and year fixed effects. Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. *$p < 0.10$, **$p < 0.05$, and ***$p < 0.01$.

Table 8: FDI Engagement and Reporting Quality

Panel A: FDI Engagement and Restatement (Probit)

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
Dependent Variable = restatement$_{[1,5]}$								
FDI_index	-0.108	(0.073)			-0.144**	(0.072)		
FDI_count			-0.060	(0.041)			-0.077*	(0.044)
Marginal effect	-0.013	(0.009)	-0.007	(0.005)	-0.015**	(0.008)	-0.008*	(0.005)
No. of Obs	17,552		17,552		4,650		4,650	
Adj. R^2	0.800		0.801		0.831		0.840	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B: FDI Engagement and Abnormal Accruals (OLS)

	All Firms				FDI-Active firms			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
Dependent Variable = accrual								
FDI_index	-0.002	(0.003)			-0.000	(0.003)		
FDI_count			-0.001	(0.001)			-0.000	(0.001)
No. of Obs	21,040		21,040		5,675		5,675	
Adj. R^2	0.031		0.031		0.085		0.085	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: This table examines the relation between FDI engagement and reporting quality. The dependent variable tested in Panel A is $restatement_{[1,5]}$, which is a dummy variable that equals 1 for firms that restated their annual financial statements during the five-year period after year t, and 0 otherwise. The dependent variable tested in Panel B is $accrual$, which is the abnormal accruals in year t. Both regression models include industry and year fixed effects. Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. *p < 0.10, **p < 0.05, and ***p < 0.01.

Table 9: FDI Engagement and Abnormal Audit Fees

Panel A:

	All Firms				**FDI-Active firms**			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
FDI_index	0.207***	(0.019)			0.072***	(0.016)		
FDI_count			0.108***	(0.010)			0.047***	(0.010)
No. of Obs	21446		21446		5727		5727	
Adj. R^2	0.007		0.007		0.061		0.065	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Panel B:

	All Firms				**FDI-Active firms**			
	(1)		(2)		(3)		(4)	
Variable	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.	Coef.	RSE.
FDI_capex	0.012***	(0.001)			0.004***	(0.001)		
FDI_job			0.044***	(0.004)			0.016***	(0.004)
No. of Obs	21446		21446		5727		5727	
Adj. R^2	0.007		0.007		0.062		0.062	
Controls	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	

Note: Similar to Table 3, this table examine the relation between FDI egagement (intensity) and abnormal audit fees. Columns (1) and (2) present results using the full sample, while columns (3) and (4) use the restricted sample. The robust standard errors, clustering at the firm level, are given in parentheses. *p < 0.10, **p < 0.05, and ***p < 0.01.

A Appendix: Complementary Information

Table A.1: Variable Definitions

Variables	Definitions
Dependent variables	
ln_fee	The natural logarithm of audit fees for the current year reported in Audit Analytics.
gc_opinion	1 if a firm receives a going-concern audit opinion in a given year, and 0 otherwise.
Independent variables	
FDI_index	1 if a firm announces at least one FDI project in a given year, and 0 otherwise.
FDI_count	The number FDI projects announced by a firm in a given year.
FDI_capex	The natural logarithm of the average capital expenditures incurred associted with a firm's FDI projects announced in a given year.
FDI_job	The natural logarithm of the average job positions created by a firm's FDI projects announced in a given year.
Control variables	
size	The natural logarithm of a firm's total assets.
mtb	Markt-to-book ratio.
leverage	The leverage ratio, calculated as the sum of short-term and long-term debt in year t, scaled by total assets in year $t-1$.
cashvol	The standard deviation of a firm's operating cash flow.
earnvol	The standard deviation of a firm's income before extrordinary items.
ln_segn	The natural logarithm of a firm's reported segments.
salefrgn	The ratio of foreign sales to total sales.
ln_capex	The natural logarithm of a firm's total capital expenditures incurred in year t.
salesgrow	The change in sales from year $t-1$ to year t.
roa	Return on assets ratio
loss	1 if a firm has negative income before extrordinary items in a given year, and 0 otherwise.
pr_hazard	Bankruptcy measure calculated following Campbell et al. (2008).
inherent_risk	The sum of receivables and inventory scaled by assets
hilit	1 if the SIC code of the firm is one of the following: 833–2836, 3570–3577, 3600–3674, 5200–5961, 7370–7374, or 8731–8734 (four-digit SIC code) and 0 otherwise (Xu et al. 2019).
public_exchng	1 if a firm is listed in a major stock exchange, and 0 otherwise.
ln_auditlag	The nature logarithm of the number of days between the fiscal year-end and the date of the audit report.
big4	1 if a firm is audited by a Big 4 auditor, and 0 otherwise.
ln_audit_tenure	The nature logarithm of the number of consecutive years an auditor works with a firm.
fiscal_year_end	1 if the fiscal year ends in December, and 0 otherwise.