ADVANCES IN PACIFIC BASIN BUSINESS, ECONOMICS AND FINANCE

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Dr. Cheng-Few Lee and Dr. Min-Teh Yu

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EDITED BY

DR. CHENG-FEW LEE
Rutgers University, USA

And

DR. MIN-TEH YU
Providence University, Taiwan

United Kingdom – North America – Japan
India – Malaysia – China

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CONTENTS

DISTANCE MATTERS: EVIDENCE FROM FIRMS' FINANCIAL MISCONDUCT*

Haoyu Gao[a], Ruixiang Jiang[b], Wei Liu[c], Junbo Wang[d] and Chunchi Wu[e]

ABSTRACT

This chapter investigates the effect of the geographical distance between institutional investors and firms on managers' financial misconduct. The evidence shows that the likelihood of committing financial misconduct by management is positively associated with distance. The distance effect is more prominent for firms with higher information asymmetry and more dedicated institutional investors. In line with the balance between risk-taking and benefit extraction from misconduct, the severity of financial misconduct is higher for firms closer to their institutional investors. Results show that geographical proximity can significantly reduce the cost of information production and facilitate monitoring through access to soft information.

Keywords: Geographical distance; financial misconduct; institutional investors; monitoring; information asymmetry; soft information; geographical proximity

JEL Classification: G12; G13

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[a]Renmin University, China
[b]The Hong Kong Polytechnic University, Hong Kong
[c]Shanghai Stock Exchange, China
[d]City University of Hong Kong, Hong Kong. Corresponding email: jwang2@cityu.edu.hk.
[e]SUNY-Buffalo, USA

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1. INTRODUCTION

Voluminous studies from both theoretical and empirical perspectives stress that institutional investors play a significant role in monitoring corporate activities (e.g., Bhojraj & Sengupta, 2003; Boone & White, 2015; Gao et al., 2021; Kahn & Winton, 1998; Shleifer & Vishny, 1986). Compared with individuals, institutions have a greater ability to collect and analyze related information, and use the information to monitor management. In addition, geographical proximity improves information production efficiency and facilitates the collection of "soft" information (Agarwal & Hauswald, 2010; Butler, 2008; Grinblatt & Keloharju, 2001).

A large literature examines the determinants and economic consequences of corporate financial scandals (see Fich & Shivdasani, 2007; Karpoff et al., 2008a, 2008b; Khanna et al., 2015). However, due to limited data availability, there are few studies on the impact of geographical distance from firms to their external monitors on the incidence of financial misconducts. Our chapter fills this gap by using two manually collected data sets: corporate financial misconduct events and detailed locations of firms and their institutional investors.

Local investors can access "soft" information through social and civic meetings with firms' managers, employees, customers, and suppliers (Coval & Moskowitz, 2001; Gaspar & Massa, 2007; Ghoul et al., 2013). This "soft" information can improve the effectiveness of monitoring by local investors. Therefore, the geographical proximity of monitoring institutions can significantly reduce the likelihood of management misconduct.

To understand the monitoring mechanism, we investigate whether the effect of geographical proximity varies across different firms. If the institutional investors behave as monitors rather than speculators, the cost of information acquisition due to long distance will affect their monitoring efficiency. Bushee (1998) suggests that dedicated institutions are long-term investors, while transient institutions tend to be speculative investors. Long-term investors are more likely to expend efforts to monitor firms and improve their corporate governance. Accordingly, we predict that the effect of geographical proximity will be stronger for firms with more dedicated institutional investors, and weaker for firms with more transient or short-term institutional investors.

The cost of information production depends on firms' information environment. It is more time-consuming and costlier for investors to collect information in a poor information environment. Past studies have used firm size as a proxy for information asymmetry. These studies find that large firms have a better information environment due to more media coverage, intermediaries' reports, and analyst following (Atiase, 1985; Freeman, 1987). Duarte et al. (2008) show that compared with firms listed on NYSE/AMEX, firms listed on NASDAQ have poorer credit ratings, lower institutional ownership, and less analyst and media coverage. "Soft" information should be more important for firms with less "hard" information. Thus, the distance effect should be more pronounced for small firms and firms listed on NASDAQ.

The disclosure requirement mandated by the Sarbanes–Oxley (SOX) Act contributes to greater transparency of public firms. As the improvement in transparency reduces the cost of monitoring, it can alleviate the likelihood of misconduct. As such, the effect of physical distance on financial misconduct may be weaker during the post-SOX period when more information is available.

We employ three variables to measure the severity of financial misconduct: legal penalty, duration of misconduct, and stock market reactions.[1] We manually collect the information for corporate legal penalties and fraud duration. In line with the balance between risk-taking and private benefit extraction from fraud, we show that the severity of financial misconduct is higher for firms close to their institutional investors. The empirical results strongly suggest that a shorter geographical distance between institutional investors and firms reduces the likelihood and severity of corporate misconduct.

An alternative explanation is that institutional investors do not actively monitor corporate behavior but simply invest in firms with good governance performance. To address this concern, we investigate whether the ownership of institutional investors changes dramatically after the public revelation of financial misconduct. The evidence suggests that the monitoring function rather than strategic selection drives the negative relationship between geographical proximity and the likelihood of misconduct.[2] This finding is robust to using different distance measures and is not driven by geographically concentrated distribution.[3] We also match the misconduct sample with a nonmisconduct sample (Ayers et al., 2011) and find that the results do not change materially. In addition, using the subsample after the enactment of SOX, we find that the distance effect continues to hold, although it becomes weaker.[4]

Our chapter is related to several papers that examine how physical distance affects the functionality of institutional investors (Ayers et al., 2011; Baik et al., 2010; Chhaochharia et al., 2012). This chapter documents several new findings that contribute to the literature. First, to the best of our knowledge, this chapter is among the first to show evidence that physical proximity to monitoring institutions significantly reduces the likelihood of committing financial misconduct by management.

In line with the monitoring explanation, our results show that the distance effect is stronger for firms with more active monitors and higher information asymmetry. However, we find that higher institutional ownership is accompanied by severe financial misconduct once firms commit misconduct.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Literature Review

Due to their timely and reliable information, institutions often serve as effective monitors. As a result, institutional investors can help alleviate managers' incentives to pursue self-interest and deter corporate fraud. A number of theoretical

and empirical studies have explored the monitoring role of institutional investors. Kahn and Winton (1998) show that institutional investors improve firms' performance through intervention. Bhojraj and Sengupta (2003) provide evidence that institutional ownership can significantly improve firms' credit ratings and reduce the cost of debt. Boone and White (2015) show that higher institutional ownership is associated with greater management disclosure, more analyst following, higher liquidity, and lower information asymmetry. At the same time, past studies have shown that physical distance affects investors' decisions and performance.[5]

Another strand of literature provides evidence that institutional investors are not homogenous in terms of incentives to monitor. Certain types of institutions are more likely to monitor while other institutional investors pursue short-term gains.[6] The cost of gathering information varies across different institutional investors.

Several recent studies investigate financial misconduct issues (Fich & Shivdasani, 2007; Karpoff et al., 2008a, 2008b; Khanna et al., 2015; Yang & Sung, 2017).[7] Most studies in this line of research suggest that corporate misconduct results from a failure in corporate governance effectiveness. The extant literature examines the role of outside directors, boardroom characteristics, audit committees, corporate lobbying, market- and regulatory-based institutions, and executive compensation (Ayers et al., 2011; Beasley, 1996; Chang, 2021; Cheng et al., 2018; Chhaochharia et al., 2012; Dechow et al., 1996; Fich & Shivdasani, 2007; Hwang et al., 2018; Khanna et al., 2015; Uzun et al., 2004). However, none of the existing studies has explored the role of institutional investors' physical distance in influencing the occurrence of financial misconduct. In this chapter, we attempt to fill this gap.

2.2 Hypothesis Development

Shleifer and Vishny (1986) suggest that institutional investors are more likely to undertake monitoring compared with individual investors. Local institutions have easier access to private information about firms' management teams and internal control. Also, local institutions interpret more insights from local news than nonlocal institutions (Bernile et al., 2015; Miller, 2006; Wang & Chen, 2020). Institutions located in local areas have lower costs in gathering and processing the information than those located remotely (Kang & Kim, 2008; Lerner, 1995). All of these facilitate the monitoring role of local institutions (Ayers et al., 2011; Chhaochharia et al., 2012).

Since geographical proximity can significantly strengthen institutional investors' monitoring, firms with more local institutional investors will face stronger and more effective monitoring. As such, managers are less likely to engage in fraudulent financial activities in the presence of more local institutions. This leads to our first testable hypothesis.

H1. The propensity of firms' financial misconduct is positively associated with the physical distance between the firms and their institutional investors.

Prior studies show that certain types of institutions are more likely to play an active monitoring role. Bushee (1998, 2001) suggests that the dedicated institutions are long-term investors, while the transient institutions are short-term speculative investors. Compared to transient institutions, dedicated institutions are more willing to exert efforts to collect information and act on it. Physical distance increases monitoring costs, including gathering information, analyzing it, and acting on it. Since dedicated institutional investors play an active role in monitoring, distance is more likely to affect these investors than transient institutional investors.[8] This motivates our second hypothesis.

H2. The positive association between firms' propensity of financial misconduct and physical distance is stronger for firms with more dedicated institutional investors.

Firms with higher information asymmetry have a poor information environment and low transparency. Information asymmetry thus affects monitoring efficiency as it influences the ability to collect information. Prior research shows that larger firms' information environment is better (Atiase, 1985; Freeman, 1987), making it easier for institutional investors to collect information. As a result, the cost of monitoring is lower for large firms than for small firms.

Duarte et al. (2008) find that NASDAQ firms have worse credit ratings, lower institutional ownership, and less analyst and media coverage than NYSE/AMEX firms. For firms with less public or "hard" information, private or "soft" information becomes more important for effective monitoring. The effect of physical distance is thus smaller for firms with a better information environment, such as larger firms, firms listed on the NYSE/AMEX. This forms our third hypothesis.

H3. The positive relation between physical distance and firms' propensity of financial misconduct is weaker for firms with a better information environment.

In response to a wave of corporate scandals in the early 2000s, US Congress passed the SOX Act in 2002. This Act increases disclosure requirements and improves the transparency of public firms. Such transparency improvement should reduce the cost of monitoring for institutional investors and alleviate the likelihood of misconduct. However, to the extent that distance increases the cost of information collection, the effect of SOX is likely to be weakened by physical distance. Thus, we propose the following hypothesis.

H4. Longer distance weakens the post-SOX effect on the likelihood of committing financial misconduct.

Finally, we examine whether the distance is related to the severity of corporate misconduct. Consider two firms, i and j. Firm i is endowed with larger ownership of local institutional investors, while firm j has less local institutional ownership. Assume that managers can successfully extract private benefits of R if they engage in financial misconduct without being discovered by their monitors.

Denote the probability of being discovered by their monitors as $P(D_i)$ and $P(D_j)$. Since local institutional investors could use their private information to detect misconduct, we have $P(D_i) > P(D_j)$. With the above setting, the managerial expected rent extraction from the financial misconduct for firms i and j can be written as:

$$E(i) = R_i[1 - P(D_i)],$$
$$E(j) = R_j[1 - P(D_j)].$$

Assuming that both managers of firms i and j are rational, we should have $E(i) = E(j) \geq e$, where e stands for the minimum acceptable hurdle value for each firm earned from their misconduct activities. Given $P(D_i) > P(D_j)$, we have $R_i > R_j$. Thus, the managers of firms with more local institutional investors will choose to engage in financial misconduct if and only if the corresponding private benefit is large enough. Since longer distance increases the information cost of monitoring investors and decreases $P(D_i)$ when institutional investors are located more remotely, this will lower the required private rent for managers. This analysis leads to our last hypothesis.

H5. The severity of financial misconduct is negatively associated with physical distance.

3. DATA AND SUMMARY STATISTICS

3.1 Data Sources and Sample

The data come from several sources. We obtain the quarterly institutional holdings data for the period of January 1, 1980, through December 31, 2014, from Thomson Reuters Institutional Holdings (13F) database. There are 61,044,462 firm-institution-quarter observations, 44,646 firms, and 7,030 institutions. Firms' financial statements are from Compustat and stock return data are from the Center for Research in Security Prices (CRSP).

To calculate the distance between the firms and their institutional investors, we need the zip codes of firms and their institutional investors. We manually collect the locations of these 7,030 institutional investors (mainly focusing on their headquarters) by searching their names in the Bloomberg Database, the Securities and Exchange Commission (SEC) documents, and their websites. The institutions not located in the United States are deleted from our sample. After having their zip codes, we turn to the US Census Bureau's Gazetteer Place and Zip Code Database to obtain the corresponding latitude and longitude of each institution.[9] Finally, we get 5,916 institutional investors with the information of the latitude and longitude coordinates.

We extract firms' zip codes from the Compustat database. The firms' latitude and longitude coordinates were retrieved from the US Census Bureau's Gazetteer Place and Zip Code Database. To be included in our sample, the firms need to be incorporated in the United States, with available zip codes and latitude and longitude coordinates. Finally, we obtain 1,125,834 quarterly observations for 25,046 firms for the period of January 01, 1980, through December 31, 2014. Following Coval and Moskowitz (1999), we calculate the distance between the firm and its institutional investors using the following panel of formulas:

$$A = \cos(\text{Lat}_{\text{firm}}) * \cos(\text{Long}_{\text{firm}}) * \cos(\text{Lat}_{\text{fund}}) * \cos(\text{Long}_{\text{fund}})$$

$$B = \cos(\text{Lat}_{\text{firm}}) * \sin(\text{Long}_{\text{firm}}) * \cos(\text{Lat}_{\text{fund}}) * \sin(\text{Long}_{\text{fund}})$$

$$C = \sin(\text{Lat}_{\text{firm}}) * \sin(\text{Lat}_{\text{fund}})$$

$$\text{Distance} = \arccos(A + B + C)\frac{2\pi R}{360}.$$

Where Lat_{firm} and Lat_{fund} are the latitudes of the firm and the institution, while $\text{Long}_{\text{firm}}$ and $\text{Long}_{\text{fund}}$ are the longitudes of the firm and the institution; R is the radius of the earth in kilometers ($\approx$ 6,378 km). For each firm-quarter, we compute both equal- and value-weighted distances between the firm and its institutional investors. Finally, we have 633,591 firm-quarter observations for 19,568 firms.

Following Karpoff et al. (2008a, 2008b), we manually collect the financial misconduct cases by conducting the keyword search for "Section 13(b) (2) (A)," "Section 13(b) (2) (B)," or "Section 13(b) (5)" on the SEC website at http://www.sec.gov. We search for all enforcement actions initiated by the SEC from January 01, 2002, through June 30, 2015, for violation of one or more of three provisions of the Securities and Exchange Act of 1934, as amended by the Foreign Corrupt Practices Act of 1977.[10] After eliminating multiple releases involving the same firms for the same violations and restricting the sample to firms with a unique Compustat identifier, we are left with 613 financial misconduct cases (591 different firms).[11]

For these 613 cases, we identify their fraudulent period, trigger event date, and the legal penalty from all enforcement action files. We eliminate the violation firms that cannot be identified from CRSP or could not obtain the distance to their institutional investors. Our final violation data contain 338 financial misconducts, 4,773 financial misconduct firm-quarters, and 489,525 nonmisconduct firm-quarters for the period of 1989–2013.

Our main geographical proximity measure is the natural logarithm of the value-weighted distance Log(1 + DistVW) between a firm and its institutional investors. For robustness, we also compute the logarithm of the equal-weighted distance Log(1 + DistEW) between a firm and its institutional investors. Following Ayers et al. (2011), we also consider the other three alternative measures, i.e., the proportion of institutional holdings held by those institutional investors located within 250 km (Local250R), 500 km (Local500R), and 1,000 km (Local1000R).

3.2 Descriptive Statistics

Table 1 summarizes the distribution of our financial misconduct sample. The financial misconduct firm-quarters comprise 0.05% of the total firm-quarter observations in 1989, while, in 2002, this proportion climbs to 2.56%.

Table 2 reports summary statistics of the key variables for 4,773 firm-quarters with financial misconduct and 489,525 firm-quarters observations without

Table 1. Sample Descriptions.

	Firm-Quarter		
Year	Fraud	Nonfraud	Percentage
1989	8	14,686	0.05%
1990	8	14,735	0.05%
1991	12	14,977	0.08%
1992	12	16,031	0.07%
1993	16	17,558	0.09%
1994	28	20,137	0.14%
1995	46	20,695	0.22%
1996	86	21,528	0.40%
1997	172	22,772	0.75%
1998	266	23,296	1.13%
1999	357	23,182	1.52%
2000	469	23,353	1.97%
2001	581	22,344	2.53%
2002	556	21,175	2.56%
2003	466	20,107	2.27%
2004	400	20,124	1.95%
2005	327	20,374	1.58%
2006	245	20,173	1.20%
2007	211	20,498	1.02%
2008	169	20,378	0.82%
2009	157	19,054	0.82%
2010	105	18,548	0.56%
2011	53	18,266	0.29%
2012	18	17,878	0.10%
2013	5	17,656	0.03%
Total	4,773	489,525	0.97%

Note: This table summarizes the distributions of the financial misconduct observations. The sample covers 4,773 financial misconduct firm-quarters and the 489,525 nonmisconduct firm-quarters from 1989 to 2013. "Fraud" is the number of firm-quarters that went through financial misconduct. "Nonfraud" is the number of firm-quarters as control groups. "Percentage" in the last column is the number of firm-quarters with financial misconduct as a fraction of the total number of firm-quarters in that year.

financial misconduct during the period of 1989–2013. All variables are defined in the appendix Table A1 and winsorized at the 1st and 99th percentile values. Based on the summary statistics, our data are quite similar to the samples used in Ayers et al. (2011), and Chhaochharia et al. (2012).

The average (median) value-weighted distance for the financial misconduct firm-quarters is 1,661.780 (1,475.550) km, while the distance for the non-misconduct firm-quarters is 1,576.630 (1,415.380) km. The distance difference between the misconduct group and the nonmisconduct group is significant at 1% level.[12] This suggests that firms with closer physical distance to their institutional