EFFECTS OF FIRM CHARACTERISTICS ON ESG DISCLOSURE IN CHINA: THE MODERATING ROLE OF INSTITUTIONAL ENVIRONMENT

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EFFECTS OF FIRM CHARACTERISTICS ON ESG DISCLOSURE IN CHINA: THE MODERATING ROLE OF INSTITUTIONAL ENVIRONMENT

by

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I became a PHD student at the University of Science Malaysia at the age of nearly 40. Although I arrived later than expected, my experience at this place and the individuals I encountered significantly transformed my perspective on academics and my overall approach to life. Upon finishing my PhD study, I had amassed a considerable amount of thanks and commendation to be given away.

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LIST OF ABBREVIATIONS

BPLM	Breusch-Pagan Lagrange Multiplier
CSRC	China Securities Regulatory Commission
CSR	Corporate Social Responsibility
FEM	Fixed Effect Method
FTSE	Financial Times Stock Exchange
HKSE	Hong Kong Stock Exchange
IEA	International Energy Agency
GMM	Generalized Method of Moments
KPMG	Klynveld Peat Marwick Goerdelerb
MSCI	Morgan Staley Capital Inter- national
OLS	Ordinary Least Squares
PT	Particular Treatment Firms
REM	Random Effect Method
ROA	Return on Assets
SDG	Sustainable Development Goal
SRI	Socially Responsible Investment
SSE	Shanghai Stock Exchange
SZSE	Shenzhen Stock Exchange
SOE	State-Owned Enterprise
ST	Special Treatment Firms

TSE	Tehran Stock Exchange
U.S.	United States of America
VIF	Variance Inflation Factor

KESAN CIRI-CIRI FIRMA TERHADAP PENZAHIRAN ESG DI CHINA: PERANAN PENYEDERHANAAN PERSEKITARAN INSTITUSI

ABSTRAK

Penglibatan sektor korporat dalam aktiviti-aktivit kemampanan alam sekitar, tanggungjawab sosial dan tadbir urus korporat yang baik (ESG) merupakan amalan perniagaan yang penting. Ia dapat membantu firma mencapai kemajuan dalam perniagaan serta pembangunan mampan masyarakat. Aktiviti-aktivit ESG firma digemari orang ramai, dan lebih banyak firma berhasrat untuk melaporkan aktiviti ESG firma supaya lebih ramai orang maklum tentang penglibatan firma dalam aktiviti tanggungjawab sosial. Pada masa yang sama, pendedahan aktiviti ESG syariakt dapat menarik lebih ramai pelabur luar. Negara China, selepas mengalami 40 tahun reformasi dalam bidang ekonomi, telah menjadi sebuah negara membangun terbesar di dunia. Sungguhpun bilangan syarikat tersenarai di bursa saham negara China telah meningkat secara mendadak dalam dekad yang lepas, kebanyakan syarikat masih kurang telus dalam hal pelaporan aktiviti-aktiviti ESG firma. Bilangan syarikat yang melaporkan aktiviti ESG secara berasingan kekal pada sekitar 25%, jauh lebih rendah daripada bilangan syarikat yang berbuat demikian di negara barat. Penyediaan laporan ESG di negara China adalah secara sukarela, dan faktor yang mengakibatkan berlakunya kekurangan laporan ESG adalah kurang diketahui. Oleh itu, adalah mustahak untuk menyiasat penentu-penentu yang mendorong syarikat membuat pelaporan aktiviti ESG semasa laporan kewangan tahunan. Kajian ini menggunakan teori isyarat dan teori neo-institusi sebagai rangka kerja teori untuk mengkaji hubungan antara ciri-ciri firma (iaitu, saiz, usia dan jenis industri), persekitaran institusi, dan pelaporan aktiviti ESG syarikat. Dengan menggunakan set data panel yang diambil dari 4,276 firma yang tersenarai dalam bursa saham negara China bagi tempoh 2011 hingga 2021, kajian ini melakukan analisis empirikal untuk menentukan hubungan antara ciri-ciri firma, persekitaran institusi, dan pelaporan aktiviti ESG syarikat. Analisis regresi menggunakan model kesan tetap dua hala firma dan tahun, manakala ujian keteguhan melibatkan penggunaan pengukur alternatif pembolehubah bebas dan model regresi GMM. Keputusan empirikal menunjukkan bahawa syarikat besar, syarikat muda, dan syarikat dari industri sensitif mempunyai motivasi yang lebih tinggi untuk membuat laporan ESG berkualiti tinggi dalam persekitaran perundangan institusi yang maju. Kajian ini menambahkan pengetahuan dalam bidang pelaporan ESG sedia ada dan juga membolehkan pengkaji membuat cadangkan khusus kepada kerajaan negara membangun dan juga syarikat dalam ekonomi membangun untuk menyusun dasar dan undang-undang yang sesuai untuk meningkatkan tahap ketelusan laporan maklumat ESG firma.

EFFECTS OF FIRM CHARACTERISTICS ON ESG DISCLOSURE IN CHINA: THE MODERATING ROLE OF INSTITUTIONAL ENVIRONMENT

ABSTRACT

Environment, social responsibility, and corporate governance (ESG) initiatives are considered as important business practices that assist the companies to achieve sustainable development for the business and the society. ESG activities have grown in popularity, and more companies are disclosing their ESG activities to indicate their engagement in social responsibility and to attract more investors. In China, over 40 years of economic reform have transformed the country into the biggest developing country in the world. However, although the number of listed companies in China has increased dramatically in the last decade, information transparency about their ESG activities has been lacking. The disclosure rate of independent ESG reports has remained around 25%, far lower than that of the developed Western countries. However, ESG disclosure in China is largely voluntary on the part of enterprises, and the factors influencing the motivation of corporate ESG disclosure are unclear. Hence, it is imperative to investigate the determinants that motivate corporations to make ESG disclosure. This study uses the signaling and the neo-institutional theories to construct the theoretical framework and examine the interaction between firm characteristics, institution environment, and ESG disclosure. Using a novel panel dataset consisting of 4,276 Chinese listed firms over the period 2011–2021, this study performs empirical analysis to quantify the underlying relationships between firm characteristics, institution environment, and ESG disclosure. A two-way fixed-effects model by firm and year was utilized for the regression analysis, while alternative measurements of the independent variables and the GMM regression model were implemented in the robustness tests. Empirical results suggest that big corporations, non-mature companies, sensitive companies have stronger motivation to publish high-quality ESG reports in region with robust legal environment. This study contributes to the existing ESG research literature and offers specific recommendations for policy makers and businesses in emerging economies to effectively enhance ESG information transparency.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter provides an overview of the study. It reveals the background of this research, and the problem statements. This is followed by the research questions and the research objectives. In addition, the theoretical and practical significance of this study are put forward. Finally, the definition of key terms in the study and the organization of the thesis are explained.

In 2004, the United Nations Global Compact formally integrated the environmental, social, and governance dimensions into sustainable development and put forward the concept of ESG in businesses (He et al., 2022). Although ESG-related concepts such as Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI) were introduced in the early 1960s, it was around 2010 that businesses began to view environmental, social, and governance (ESG) issues seriously (Ge et al., 2022).

In September 2015, the General Assembly of the United Nations agreed on a set of sustainable development goals (SDGs) to address environmental, social, and economic development issues from three specific dimensions, namely, society, economy, and environment (Baldi & Pandimiglio, 2022). The main objective of SDGs is to call all the nations to take action on protecting the environment while simultaneously promoting prosperity (Dannevig et al., 2022). Business enterprises are encouraged to adhere to the sustainable development concept of ESG to achieve SDGs.

ESG emphasizes that enterprises should not only focus on business financial performance, but also should measure corporate value from the environmental, social, and governance perspectives. In doing so, enterprises are able to fulfil social responsibilities, which includes social development and environmental protection. In order to quantify the efforts of enterprises in ESG, it is expected that enterprises should report their ESG activities in a systematic manner so that the activities can be compared among those involved (Chyuan et al., 2021). This leads to the beginning of the disclosure of enterprise ESG actions in the annual reports.

1.2 Background of the Study

In the face of crises such as global warming, COVID-19, and international conflicts, the concepts of environmental protection and human rights are given serious attention because they influence social transformations (Garel & Petit-Romec, 2021). As the largest manufacturing nation in the world, China faces a dilemma, environmental pollution or economic growth (Chen & Xie, 2022). As China is at the stage of transformation and development, institutional environment in the form of law and regulations are not well developed. Many western developed countries have made it compulsory for firms to make formal standard reports on social responsibility activities in their annual statements. However, in China, ESG information disclosure is still at its infancy (Yuan et al., 2022). Hence, there is a need to encourage Chinese enterprises to reveal their ESG activities.

1.2.1 ESG Information disclosure in China

Since the economic reform and the opening up, China's economic and social development have advanced at a tremendous speed, which have attracted worldwide attention (Zhao et al., 2022). However, China's rapid economic growth has been achieved at the expense of the environment.

The extensive economic growth, which is primarily motivated by short-term economic gains, is marked by high input, high consumption, and high pollution (Zhao et al., 2022). According to the International Energy Agency (IEA) survey, the top six economies in terms of annual global CO^2 emissions in 2021 included China, United States (U.S.), India, and European Union, which accounted for 60% of global CO^2 emissions (Figure 1.1). Among them, China's CO^2 emissions amounted to over 30% of the total global emissions, which is equivalent to 2.5 times of the US's emissions, 4.4 times of the EU's emissions, and 4.7 times of India's emissions (IEA, 2021).

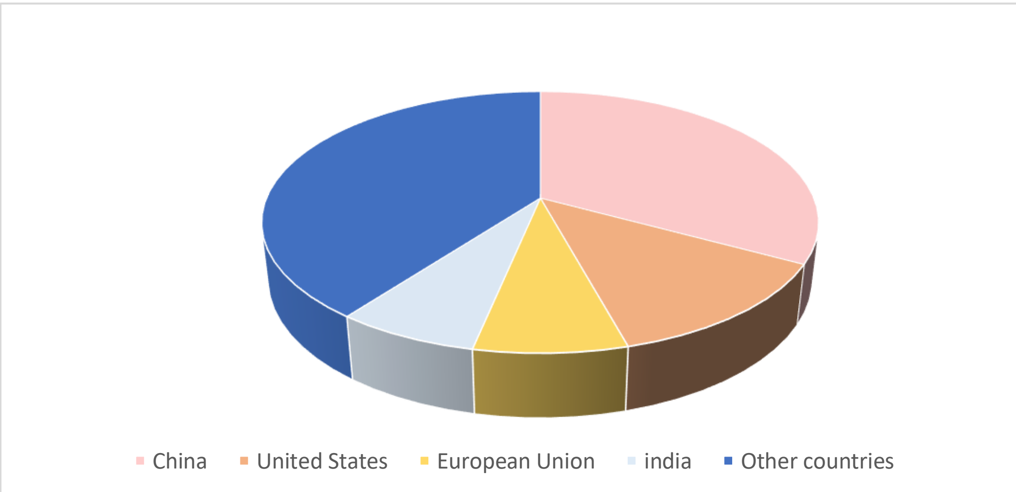

Figure 1.1 CO2 Emissions of Major Economies in 2021

Source: IEA Data Services

In the “2022 Environmental Performance Index”, jointly released by Yale University and Columbia University to rank ecological performance of 180 countries, China ranked 160th in terms of environmental performance indicators. This informs that China's coordination of pollution and sustainable development is an essential and long-term concern.

In addition, in areas related to people's livelihood, such as food and medicine, the lack of social responsibility among China’s enterprises has occurred repeatedly (Murphy & McGrath, 2013). Public anxiety was stoked by the vaccine fraud case involving Changsheng Bio-technology in July 2018. Children were reported to be vaccinated with 252,600 faulty vaccinations in Shandong province. Public hysteria caused by adverse vaccine occurrences can make people hesitant or refuse to participate in these vaccination campaigns (Zhou et al., 2019).

Moreover, corporate financial fraud remains prevalent in China. In April 2020, Luckin Coffee, a competitor of Starbucks in China, admitted to fraudulently traded 2.2 billion yuan (USD $310 million), through falsifying sales volumes. This incident resulted in an 80% decline in its stock price and the suspension of trading several times during the trading session, which resulted in enormous economic losses among the investors (Peng et al., 2022). Statistics collected by East-Board Database indicated that there were 2,616 violations by listed companies in 2022, among which, the largest one was corporate information disclosure violation, accounting for 37.43%, an increase of one-fifth compared with that of 2021(Sina Finance, 2023). Such happenings can have negative effects on the economic growth and the social stability of the country, both of which are dependent on a fundamental level of ethics on the part of the enterprises (Sina Finance, 2023).

After the exposure of the series of incidents, the social reputation of the companies involved often dropped, which causes them to suffer heavy losses. Enterprises need to be trusted by the various stakeholders in society in order to achieve sustainable development (Drempetic et al., 2019; Eccles et al., 2014). Hence, CSR fulfillment has become the focus of public attention (Lu & Abeysekera, 2014). One of the ways of fulfilling CSR is to provide transparent ESG information, which can help to develop a conducive environment for assessing firm value, and to assist in the healthy development of China's capital market.

Corporate ESG disclosure, as one of the important ways to achieve low-carbon development, is receiving increased attention from the public (Wu & Memon, 2022). However, the new economic policy has driven huge economic growth, and with it emerge issues like environmental pollution, food safeties, and employee welfare (Liu & Anbumozhi, 2009).To publicize on China's contribution to advancing global sustainable development, there is a rising demand for ESG information disclosure by Chinese enterprises (Li et al., 2022). Most Chinese listed firms tend to disclose their ESG information on their company's websites, microblogs, and WeChat public platform. China's A-share listed firms have progressively been part of the evaluation criteria for worldwide index companies and rating agencies like Morgan Staley Capital International (MSCI), and Financial Times Stock Exchange (FTSE). The range of companies being rated has been increasing, but the A-share listed firms scored lowly in their ESG rating by the above-mentioned international rating agencies.

In 2022, none of the A-share listed businesses receive the highest AAA rating in the MSCI ESG assessment. Only five firms achieved an AA rating, representing a mere 0.8% of the total. Most enterprises, totaling 213, were classified as B, which represented 33.92% of the total (NetEase, 2023). As shown in Figure 1.2, 160 enterprises were classified as CCC rating, representing 25.48% of the total.

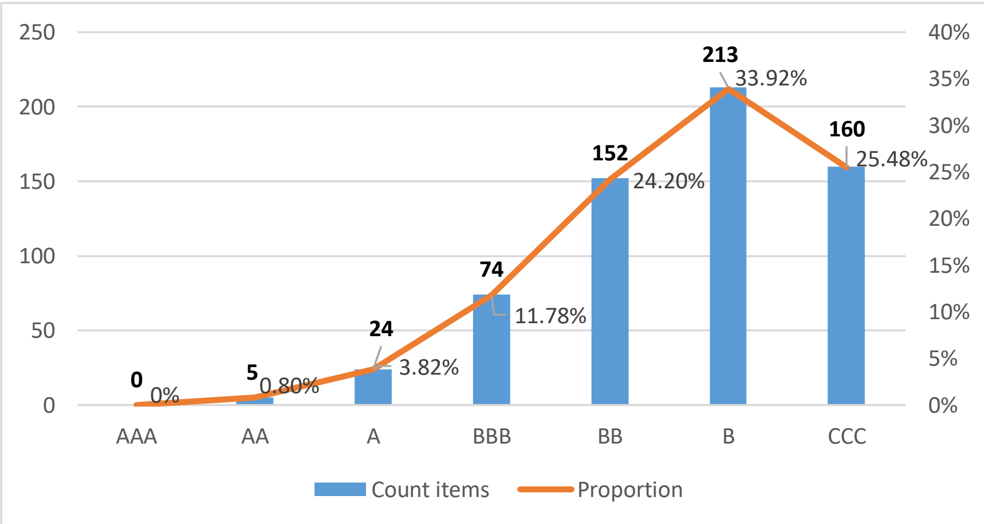

Figure 1.2 MSCI ESG Ratings for Chinese A-share Listed Companies in 2022
Source: MSCI (2022)

Moreover, according to the FTSE ESG scoring statistics (Figure 1.3), the average ESG score of 843 Chinese A-share listed companies is approximately 1.36 out of a maximum score of 5. Among these companies, 436 (which represents 51.72% of the total) have a score below 1.3, indicating a generally poor ESG score. It is evident that, according to the rating of the globally recognized ESG rating agencies, only a limited number of Chinese A-share listed companies have achieved a leading or average level, while most enterprises still lag in the ESG disclosure initiatives.

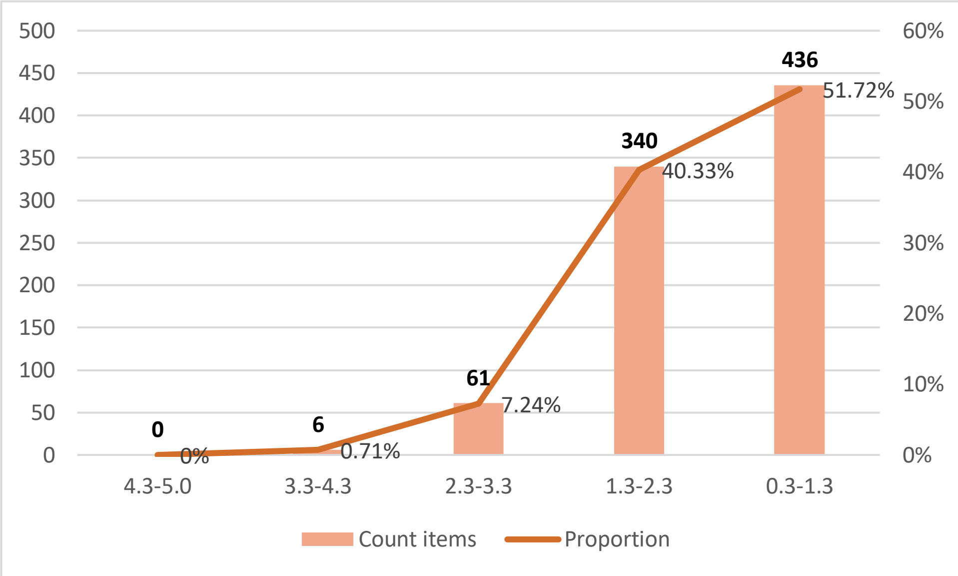

Figure 1.3 FTSE ESG Ratings for Chinese A-share Listed Companies in 2022

Source: FTSE (2022)

Since 1993, Klynveld Peat Marwick Goerdeler (KPMG) has conducted surveys every two to three years on the disclosure of sustainability reports by major global companies (Rehman et al., 2020; Tsang et al., 2023). At the end of 2022, KPMG released its 12th survey report and constructed the "G250" based on the 2021 Fortune 500 ranking (Tsang et al., 2023). The report revealed that nearly all G250 corporations have published their ESG reports, achieving a disclosure rate of 96%. On the contrary, all the corporations that have yet to release their ESG report are in China.

International ESG ratings lack comprehensive insights into the ESG activities of Chinese listed companies (Tang, 2022; Xu & Liu, 2023). At the same time, the available channels for collecting information are restricted, resulting in a comparatively limited coverage of ESG evaluations for China's A-share listed corporations (Tang, 2022; Xu & Liu, 2023). With the increasing demand for ESG information disclosure by Chinese listed companies, more and more domestic rating agencies, such as Huazheng Index Information Service, SynTao Green Finance, WIND, and other institutions have begun to evaluate the ESG information disclosure of Chinese listed companies (Feng et al., 2022; Tang, 2022).

The increasing popularity of ESG rating by domestic rating agencies has promoted the enthusiasm and quality of ESG information disclosure by Chinese listed companies (Xu & Liu, 2023). This alleviates the asymmetry of non-financial information in the capital market to some extent (Yuan et al., 2022; Zheng & Ren, 2019), and effectively restrains the occurrence of socially irresponsible behavior of businesses (Abid, 2022; Bacha & Ajina, 2020; Zhong et al., 2022).

1.2.2 Firm characteristics of China

Listed firms serve as exemplary representations of their respective industries and play a crucial role in the foundation of the domestic economy. In the past decade, not only has the number of listed firms in China increased, but their scale has also expanded. As of 2022, the quantity of listed firms in China has more than doubled, from 2,468 in 2013 to 5,067 in 2022 (National Bureau of Statistics of China, 2022). Total market value, total assets, operating income, and the number of employees are usually employed to represent the size of a company (Drempetic et al., 2019; Gregory, 2022). Table 1.1 illustrates the significant increase in the quantity and scale of listed companies in China in the past decade, based on the four indicators.

Table 1.1 Changes in the Size of Listed Companies in China (2013-2022)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Number of listed companies	2468	2592	2808	3034	3467	3567	3760	4140	4685	5067
Market Capitalization (Trillion RMB)	23.91 ($3.75)	37.25 ($5.84)	53.15 ($8.34)	50.77 ($7.96)	56.71 ($8.89)	43.49 ($6.82)	59.29 ($9.30)	79.72 ($12.5)	91.61 ($14.37)	84.68 ($13.28)
Total assets (Trillion RMB)	133.04 ($20.87)	150.19 ($23.56)	172.48 ($27.05)	202.38 ($31.74)	221.18 ($34.69)	242.47 ($38.03)	281.04 ($44.08)	314.15 ($49.27)	348.75 ($54.7)	385.57 ($60.47)
Operating revenues (Trillion RMB)	22.95 ($3.6)	24.1 ($3.78)	23.77 ($3.73)	26,65 ($4.18)	32.82 ($5.15)	38.05 ($5.97)	41.83 ($6.56)	43.96 ($6.89)	56.05 ($8.79)	71.29 ($11.18)
Number of employees (in 10,000)	1633	1719	1832	1996	2165	2330	2435	2583	2862	2947

Source: Wind Economic Database (2023)

Globally, the United States and China are the foremost and the second most extensive capital markets. Table 1.2 presents a comparison between the two countries on the quantity of listed firms, overall market value, operational income, and profit.

Table 1.2 Comparison of Chinese and American listed companies in 2022

Indicators	**Listed Firms In China**	**Listed Firms In U.S.**
Number of listed companies	5067	4582
Market Capitalization (Trillion RMB)	84.68 ($13.28)	346.81 ($54.4)
Operating revenues (Trillion RMB)	71.29 ($11.18)	147.57 ($23.15)
Net profit (Trillion RMB)	5.62 ($0.88)	12.37 ($1.94)

Source: Wind Economic Database (2023)

From Table 1.2, it can be seen that China surpassed 5,000 listed companies in 2022, which is approximately 1.1 times the number of listed companies in the United States. However, their combined market value was less than a quarter of what it is in the United States. In addition, the operating income and net profit of Chinese listed companies were less than half of those of the U.S. listed companies. This indicates that while the quantity of publicly traded firms in China has exceeded that of the United States, a disparity in operational effectiveness persists.

With reference to the National Bureau of Statistics standards for classifying firm size, Chinese listed enterprises are categorized into large-capital, mid-capital, and small-capital companies according to the total assets and the number of employees. As depicted in Figure 1.4, both by the total assets and by the number of employees, small-capital companies accounted for the highest proportion (about half), while mid-capital companies accounted for more than one-third, and large-capital companies accounted for less than 10%.

Figure 1.4 Distribution of Large-cap, Mid-cap, and Small-cap Companies in China in 2022

Source: Wind Economic Database (2023)

According to the statistics collected by East-Board Database, the total market capitalization of large listed companies can reach 44.7 trillion RMB (USD $6.65 trillion), contributing more than half (52.79%) of the total market capitalization of all A-shares listed firms in 2022 (Sina Finance, 2023). In terms of tax contribution, these corporations accounted for about 70% of the total tax generated by all A-shares listed firms (East-Board Database, 2023). Hence, large listed companies play a significant "bellwether effect" in promoting the orderly development of China’s capital market.

In terms of age, Chinese-listed companies are the youngest in the world (NetEase, 2023). The mean age of a firm in China from establishment is about 21 years, determined by calculating the difference between the year of its foundation and 2023. Moreover, the average age of a listed firm in China is merely 9 years, which is determined by calculating the time gap between the company's listed year and the year 2023. Furthermore, based on the 2023 Hurun Top 500 ranking, the average age of China's top 500 enterprises is 38 years less than that of the world's top 500 companies.

Based on the industry distribution of the Top 500 list in China and the United States (Figure 1.5), the listed companies in the United States are mainly focused on the service industry (finance, retail, etc.), which covers biomedicines, computers, information technology, and other emerging industries (Fortune500, 2023). In comparison, Chinese firms primarily excel in traditional industries and manufacturing fields (Fortune500, 2023). Manufacturing is a resource-intensive industry. With the increasing shortage of resources and the increasingly serious environmental problems, the traditional industrial model of high energy consumption and high pollution is no longer viable in the long run. China must actively engage in the transformation and enhancement of its industries to attain environmentally friendly and sustainable progress (Sina Finance, 2023).

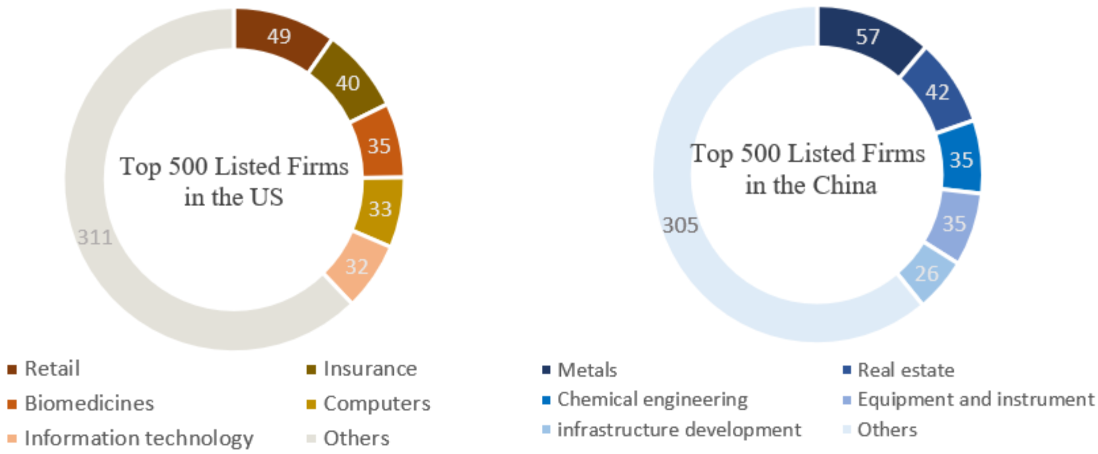

Figure 1.5 Comparison of Industry Distribution of 500 Listed Companies in China and U.S.

Source: Sina Finance (2023)

Enterprises are important economic organizations and micro-economic actors in the market economy, and their high-quality information disclosure impacts greatly on the country's economic growth, social development, and ecological environment (Wang & Sarkis, 2017). Listed companies regularly disclose their efforts and actions on ESG aspects, which helps to improve the transparency of corporate non-financial information (Yuan et al., 2022). It facilitates comprehensive comprehension by the investors and enables listed firms to consistently innovate in the process of upgrading their industrial structure (Ge et al., 2022).

1.2.3 Process of marketization and institutional environment in China

Marketization refers to the dynamic evolution process from a planned economy to a market economy, with the goal of reforming the economic, political, legal, and social sectors (Zeng et al., 2010; Zhang et al., 2020). China has experienced substantial economic growth through marketization in the past few decades (Bin-feng, 2022; Ge et al., 2022). The marketization process varies throughout the different regions of China due to their distinct resource endowments and policy inclinations (Yang et al., 2020). With the strengthening of China's marketization, the process of marketization has become a crucial factor affecting the institutional environment of enterprises (Zhang et al., 2020).

The main feature of China's institutional environment in the transitional period is the unbalanced development of the eastern and the western regions (Bin-feng, 2022; Han et al., 2022). The imbalanced growth of China's institutional environment, with a strong presence in the east and a weak presence in the west, can be attributed to the fact that the eastern region is the first to be affected by Western industrial culture and the region is the first to initiated the process of marketization (Lu & Chen, 2020; Yu & Chi, 2021; Wei et al., 2015).

The degree of marketization is indicative of the evolution of market regulations (Zeng et al., 2010; Zhang et al., 2020). An effective legal environment is essential to ensure the stability and regulation of the capital market (Yang et al., 2020). It will optimize the trading order and ensure the rule of fair competition, and at the same time, transmit social norms and values to influence firms behaviors (Kong et al., 2022). Furthermore, it will provide moderate institutional pressure for advocating enterprises to effectively fulfill their social responsibilities (Luo & Liu, 2020).

One consequence of marketization is the improvement in the information environment, whereby a good communication environment is being created to promote the openness and transparency of capital market information (Zheng & Ren, 2019). In regions with rapid marketization, there is an apparent level of information transparency and heightened stakeholder attention (Yang et al., 2020; Zheng & Ren, 2019). Consequently, the communication between the listed firms and their stakeholders is more efficient (Conte et al., 2023).

Corporate ESG disclosure requirements vary from country to country. In the U.S., ESG disclosure is voluntary, whereas in the European Union companies must strictly disclose non-financial ESG sustainability information under the relevant directive. At present, many international organizations, stock exchanges, and government regulators have developed relatively mature ESG information disclosure standards, such as the United Nations SDGs and GRI Standards, which have been widely used in various countries (Rezaee et al., 2023).

The construction of ESG related regulatory policies in China began at a later date than the developed countries. With the rapid development of the ESG concept in the West, China has also followed the foot step of the West. In 2018, the China Securities Regulatory Commission revised the "Governance Standards for Listed Companies", establishing the basic framework for ESG information disclosure for the first time, by adding the need to disclose information on the stakeholders, environmental protection, and social responsibility (Sun et al., 2019). In 2022, both the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE) issued self-regulation guidelines for listed companies to further encourage them to actively disclose ESG information. The issued guidelines have increased the intention and the motivation of the Chinese enterprises to disclose ESG information (Liu et al., 2022). At the same time, it raised awareness on ESG activities among Chinese firms (Liu et el., 2022).

Before 2010, most Chinese enterprises did not disclose information related to ESG activities. In recent years, corporate ESG activities and sustainable management have received a great deal of attention in regions with a high degree of marketization (Liu et al., 2022). Therefore, stakeholders in the eastern coastal districts of China pay more attention to the corporate ESG activities and the relevant information disclosure, which resulted in enterprises more willingly participate in social responsibility initiatives (Yang et al., 2020).

1.3 Problem Statement

Although the number of ESG reports issued by China's A-share listed firms revealed an upward trend between 2011 and 2021, the proportion of disclosures are still relatively low. The statistics of Huazheng Index Information Service, a famous rating agency in China, indicated that in 2011 only 518 publicly traded companies provided independent ESG reports, and this had nearly tripled to 1,439 by 2021 (Huazheng, 2022). Although the number of disclosing companies has increased, the proportion of listed companies that have released independent ESG reports remains at about 25%, as depicted in Figure 1.6.

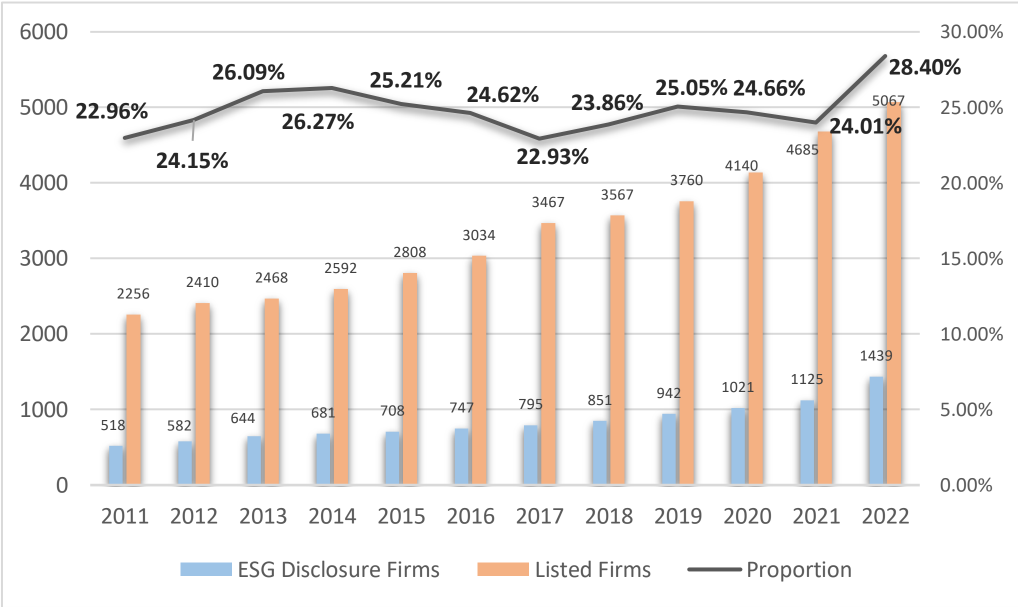

Figure 1.6 ESG Disclosure of A-share Listed Companies from 2011 to 2022
Source: Syn Tao Green Finance (2023)

In spite of the global uptrend of embracing ESG disclosure, several studies have demonstrated that the ESG disclosure initiative of Chinese companies still need to be strengthened (Wang et al., 2022). Corporate environmental responsibility disclosure is still lacking in quality, timeliness, and effectiveness even though many companies included environmental data in their annual reports, and some have even prepared dedicated environmental reports (Zeng et al., 2020). Analysis of the content of disclosed ESG information showed that nearly 40% of the listed companies do not disclose substantial environmental data to the public (Ang et al., 2022; Liu & Anbumozhi, 2009).

Currently, ESG disclosure in China is largely voluntary on the part of enterprises, and the factors influencing the motivation of enterprises' ESG disclosure are unclear. Corporate ESG information disclosure is a dialogue between enterprises and stakeholders concerned about corporate social and environmental activities, which largely depends on the disclosure motivation of enterprises (Vitolla et al., 2023).

However, most companies consider that engagement and disclosure of ESG activities are costly, which leads to low willingness (Shalhoob & Hussainey, 2023; Uyar et al., 2020).

In addition, Chinese enterprises demonstrate a lack of comprehension of the significance of ESG signals compared to their Western counterparts (Xu & Liu, 2023). They do not recognize that disclosing ESG signals is an effective means of communicating with the stakeholders. Improving the transparency of non-financial information will enable businesses to maintain a good reputation in the capital market and cultivate a conscientious image (Ting et al., 2020). Hence, these companies failed to prioritize enhancing their ecological value and social image, which resulted in them losing the potential to differentiate themselves in the capital market and improve their business valuation (Wei et al., 2017).

Lower ESG information transparency leads to higher information asymmetry and adverse selection (He et al. 2022). High-quality ESG disclosure can satisfy the information requirements of the capital market (Yuan et al. 2022). In this case, investors can accurately evaluate the development potential of the listed firms (Yu, Guo, & Luu, 2018). At the same time, it can also promote enterprises to pay more attention to their sustainable development effort (Mohammad & Wasiuzzaman, 2021), and to restrain their irresponsible short-term behavior (Yuan et al. 2022). Hence, many researchers have begun to study the factors that influence the disclosure of social responsibility information (Abdul Rahman & Alsayegh, 2021; Boshnak, 2022; Chung et al., 2023; Cronqvist & Yu, 2017; Yu, Guo, & Luu, 2018).

Corporate information disclosure decisions are influenced by firm characteristics, but the influence of firm characteristics varies with different countries (Amato & Falivena, 2019). Previous literature revealed that firm size, firm age, and industry types are commonly regarded as typical corporate characteristics that can influence the company's engagement in social responsibility activities and disclosure (Amato & Falivena, 2019; Boshnak, 2022; Handayati et al., 2022; Lu & Abeysekera, 2014; Salehi et al., 2019; Wahyuningrum et al., 2020). As previously mentioned, there are significant disparities in corporate characteristics between China and the advanced economies like the United States. Therefore, the impact of firm characteristics on ESG disclosure needs to be further explored in the largest developing country, China.

Enterprises of different sizes in the capital market receive disparate levels of attention, and their motivations for disclosure also varies. According to the statistics of Yi Dong database (2023), the proportion of large listed companies with a market value of more than 100 billion in China is extremely low, that is, below 5%. However, its profit and tax contribution are substantial. It is evident that firms of varying sizes have distinct roles in fostering the sustained development of China's economy. Hence, it is imperative to investigate the influence of firm size on the disclosure of ESG information in the capital market.

Although the literature on corporate ESG disclosure have increased in recent years, the impact of firm age on corporate ESG disclosure has not received much attention in China’s context. Firm age is a common factor in the study of ESG of listed companies in Western Europe. For example, Amato and Falivena (2019) noted that matured firms tend to protect and enhance their reputation by engaging in CSR activities and programs. This factor is often overlooked because of the lack of experienced companies in China's listed firms.

Furthermore, the performance of ESG initiatives and the factors influencing ESG disclosure differ by industry type (Yuan et al., 2022). Global warming and atmospheric pollution appear to be related to the production and operation of sensitive industries and the disposal of waste products by industries (Garcia et al., 2017). China has issued a specific regulation, that is, the Environmental Inspection Regulations on Enterprise Entry or Refinancing (SEPA, 2003) for industries with highly polluted emissions. This regulation encourages enterprises in the polluting industries to disclose more environmental information. However, the intention of some companies when issuing corporate ESG reports is to avoid civil litigation and public distrust, rather than actually adopting the ESG initiatives (Murphy & McGrath, 2013). Hence, industry type is also a significant predictor of ESG information disclosure by China’s enterprises (Luo & Liu, 2020).

The degree of marketization reflects the evolution of market regulations. (Li et al., 2019; Wang et al., 2022; Wei & Kong, 2014). Moreover, the impact of this process is then slow and profound (Wei & Kong, 2014). The strengthening of marketization has become a crucial factor affecting the legal environment of different local enterprises (Han et al., 2022). An effective legal environment is essential for the stability and regulation of the capital market (Li et al., 2023). It can optimize the trading order and ensure the rule of fair competition(Li et al., 2023; Yuan et al., 2022).

At the same time, it can transmit social norms and values to influence corporate behaviors (Yuan et al., 2022). In addition, it will provide moderate institutional pressure for enterprises to fulfill their social responsibilities (Wei & Kong, 2014).

According to neo-institutional theory, every business is affected by institutional pressures, such as laws, regulations, social norms, civic consciousness (Gao-Zeller et al., 2019; Y. Zhang et al., 2022; Zheng & Ren, 2019). Institutional pressure is the main driving factor for Chinese enterprises to fulfill their social responsibility disclosure (Y. Liu et al., 2022; D. Wu & Memon, 2022; Y. Yu & Chi, 2021). However, the marketization process results in an extremely unbalanced development of the institutional environment of different regions in China (Huang et al., 2022). In areas with a higher level of marketization, the higher the development degree of intermediary organizations, the more effective the legal framework, where the guidance and monitoring of corporate ESG disclosure is better (Yu & Chi, 2021). Therefore, this type of institutional environment might assist firms to raise their awareness of ESG initiatives and creates more effective information disclosures (Han et al., 2022).

In summary, China's economic situation causes some unique features in the environment, which impact significantly on corporate ESG disclosure. As a result, analyzing these institutional contexts is critical to understanding and investigating the behavior of China's firms in this transitional economy. Therefore, this research focuses on the role of institutional environment as a moderating factor affecting the relationship between firm characteristics and ESG disclosure, and hence, bridging the gap of previous studies. An in-depth understanding of the determinants of ESG disclosure is deemed important to further improve the development of the ESG reporting framework in developing countries worldwide. To further understand the above research focus, the following research questions were proposed.

1.4 Research Questions

This study attempts to examine the interaction between firm size, firm age, industry type, and ESG disclosure of listed companies in China, and the moderation impact of institutional environment on the direct relationship. Based on the discussion in the problem statement, the research questions are formulated as follows:

1- Do firm size influence ESG disclosure of listed firms in China?

2- Do firm age influence ESG disclosure of listed firms in China?

3- Do industry type influence ESG disclosure of listed firms in China?

4- Does institutional environment moderate the relationship between firm size and ESG disclosure of listed firms in China?

5- Does institutional environment moderate the relationship between firm age and ESG disclosure of listed firms in China?

6- Does institutional environment moderate the relationship between industry type and ESG disclosure of listed firms in China?

1.5 Research Objectives

The main objective of this study is to examine the interaction between firm size, firm age, industry type, institutional environment, and corporate ESG disclosure of listed companies in China. The objectives can be illustrated as follows:

1- To examine the relationship between firm size and ESG disclosure of listed firms in China.

2- To examine the relationship between firm age and ESG disclosure of listed firms in China.

3- To examine the relationship between industry type and ESG disclosure of listed firms in China.

4- To examine the moderating effect of institutional environment on the relationship between firm size and ESG disclosure of listed firms in China.

5- To examine the moderating effect of institutional environment on the relationship between firm age and ESG disclosure of listed firms in China.

6- To examine the moderating effect of institutional environment on the relationship between industry type and ESG disclosure of listed firms in China.

1.6 Scope of Research

This study aims to examine the impact of firm size, firm age, and industry type on corporate ESG disclosure of listed companies in China. Simultaneously, the moderating effect of institutional environment on the relationship between firm characteristics and ESG disclosure is also included in this research. This thesis conducts an empirical study with about A-share listed firms for the period 2011-2021. The information of A-share listed companies is publicly accessible due to their heightened focus on investor communication through information disclosure. Moreover, companies listed on the A-share market pay more attention to the engagement and transparency of their ESG initiatives, as they strive to maintain their company image and reputation. Furthermore, A-share listed companies regularly receive third-party ratings due to the higher visibility and data availability.

1.7 Significance of the Study

1.7.1 Theoretical significance

The present study contributes to two theoretical contributions to the ESG literature based on the signaling theory and neo-institutional theory. First, although previous studies have also investigated the effect of board structure and manager characteristics on Chinese corporate ESG information disclosure, an important determinant of ESG disclosure, firm characteristics, has been neglected. Hence, this study examines the incentive behind Chinese listed firms, with varying attributes, to disclose ESG signals, which advances the validation of signal theory.

Secondly, given the vast diversity of institutional environments around the world (Abreu et al., 2012), ESG disclosures for companies in different countries might be affected. Currently, China is undergoing a period of transformation and development, and the institutional environment varies greatly among provinces affected by the level of marketization (Zhang et al., 2020). Therefore, this research selects institutional environment as a moderating variable to investigate the relationship between firm characteristics of Chinese listed firms and their ESG disclosure. The unique institutional environment in China has fostered a favorable circumstance for expanding the application of the neo-institutional theory. This study further enriches this theory by providing empirical evidence from China in the field of ESG disclosure.

1.7.2 Practical significance

Although some Chinese companies have begun to actively engage in and disclose their ESG activities, the majority are still taking symbolic actions. They lack comprehension of the strategies used to attain sustainability (Abdi et al., 2022) and how to communicate effectively with their numerous stakeholders through the publication of ESG reports (Lee et al., 2022).

This study enables enterprises in China to comprehend the meaning of ESG disclosure, and to standardize their ESG actions. Thus, it helps to provide reference for the sustainable development of enterprises, in particular, those that reside in China. In terms of formulating government policy, it can also offer suggestions for the government in their effort to regulate and enhance the disclosure of ESG initiatives among businesses, in terms of environmental protection and social responsibility.

The Chinese market is selected to serve as an example of an emerging market. Whilst China has experienced remarkable economic progress in recent decades, firms in China often face criticism for polluting the environment, violating the labor laws, and having poor product quality (Hou et al., 2021). Moreover, enhancing the transparency of corporate ESG information is beneficial for attaining the objective of carbon neutrality in China (Hao & He, 2022). Therefore, the selection of China as a