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**THE EFFECT OF CORPORATE GOVERNANCE ON
VOLUNTARY DELISTING IN CHINA: THE
MODERATING ROLE OF TOP MANAGEMENT TEAM
DEMOGRAPHIC CHARACTERISTICS**

By

ZHANG XIAO MEI



UUM
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
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DELISTING IN CHINA: THE MODERATING ROLE OF TOP
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By
ZHANG XIAO MEI

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**Thesis Submitted to
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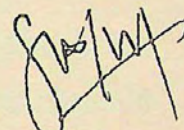
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ABSTRACT

Limited literature investigates voluntary delisting issues in the context of China, even though China is the second-largest economy in the world. This study aims to investigate the influence of internal corporate governance (i.e., board size, board independence, CEO duality, institutional ownership, insider ownership) and external corporate governance (i.e., lead security trader, external auditor) on voluntary delisting. It also investigates the moderating effect of the top management team (TMT) demographic characteristics (i.e., TMT average age, TMT average education level, TMT political background) on the relationship between internal corporate governance and voluntary delisting. The study employed the Agency theory as the underpinning theory with two supporting theories: CBA theory and Upper Echelons theory. The data is collected from China's New Third Board Market. It is an out-to-counter stock market that has had a large number of delisting firms recently. The sample includes 1045 delisted firms as a test group and 1388 remaining listed firms as the control group over the year from 2014 to 2019. Logistic regression and hierarchical regression analysis are used to achieve the research objectives. The findings show that board independence, institutional ownership, and insider ownership are significantly and negatively related to voluntary delisting. However, CEO duality, lead security trader, and external auditor are significantly and positively associated with voluntary delisting. Thus, good corporate governance could mitigate the likelihood of a firm voluntarily delisting. Furthermore, the results show that TMT demographic characteristics affect the relationship between internal corporate governance and voluntary delisting. Therefore, the contribution of this study includes expanding the application of the Upper Echelons theory in delisting literature, providing new evidence for the delisting empirical research, and offering suggestions for regulators of China's capital market, investors, and the NTBM-listed firms' management.

Keywords: voluntary delisting, corporate governance, TMT demographic characteristics, New Third Board Market (NTBM)

ABSTRAK

Terdapat kajian yang terhad dalam menyiasat isu penyahsenaraian secara sukarela dalam konteks China, walaupun China merupakan ekonomi kedua terbesar di dunia. Kajian ini bertujuan untuk menyiasat pengaruh tadbir urus korporat dalaman (iaitu saiz lembaga, kebebasan lembaga, dualiti CEO, pemilikan institusi, pemilikan orang dalam) dan tadbir urus korporat luaran (iaitu peniaga broker utama, juruaudit luar) terhadap penyahsenaraian secara sukarela. Kajian ini turut menyiasat kesan penyederhanaan ciri demografi pasukan pengurusan tertinggi (TMT) (iaitu umur purata TMT, tahap pendidikan purata TMT, latar belakang politik TMT) terhadap hubungan diantara tadbir urus korporat dalaman dan penyahsenaraian secara sukarela. Kajian ini menggunakan teori Agensi sebagai teori asas berserta dua teori sokongan, teori CBA dan teori Eselon Atas. Data dikumpulkan daripada Pasaran Papan Ketiga Baharu China. Ia adalah pasaran saham luar-kaunter yang mempunyai sejumlah besar firma penyahsenaraian baru-baru ini. Sampel termasuk 1,045 firma yang dinyahsenarai sebagai kumpulan ujian dan 1,388 firma tersenarai lain sebagai kumpulan kawalan sepanjang tahun dari 2014 hingga 2019. Regresi logistik dan analisis regresi hierarki digunakan untuk mencapai objektif penyelidikan. Penemuan menunjukkan bahawa kebebasan lembaga, pemilikan institusi dan pemilikan orang dalam mempunyai kaitan secara signifikan dan negatif dengan penyahsenaraian secara sukarela. Walaubagaimanapun, dualiti CEO, peniaga broker utama dan juruaudit luar dikaitkan secara signifikan dan positif dengan penyahsenaraian secara sukarela. Oleh itu, tadbir urus korporat yang baik boleh mengurangkan kemungkinan firma dinyahsenarai secara sukarela. Tambahan pula, dapatan kajian menunjukkan bahawa ciri demografi TMT mempengaruhi hubungan antara tadbir urus korporat dalaman dan penyahsenaraian secara sukarela. Oleh itu, sumbangan kajian ini termasuk memperluaskan aplikasi teori Eselon Atas dalam sorotan kajian berkenaan penyahsenaraian, menyediakan bukti baharu untuk penyelidikan empirikal penyahsenaraian dan menawarkan cadangan untuk mengawal selia pasaran modal China, pelabur dan pengurusan firma tersenarai NTBM.

Kata kunci: Penyahsenaraian secara sukarela, tadbir urus korporat, ciri demografi TMT, Pasaran Papan Ketiga Baharu (NTBM)

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2. Gender Diversity, Political Connections and Environmental, Social and Governance Performance in China: The Moderating Role of Tenure, Estudios de Economía Aplicada (Scopus), 2021,39(10)



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LIST OF ABBREVIATIONS

GDP	Gross domestic product
SMEs	Small- and medium-sized enterprises
NEEQ	National Equities Exchange and Quotations
NTBM	New Third Board Market
MBM	Main Board Market
SMEBM	Small and Medium-sized Enterprise Board Market
GEM	Growth Enterprise Market
IPO	Initial Public offerings
US	United States
UK	United Kingdom
CEO	Chief Executive Officer
CSRC	China Securities Regulatory Commission
CICPA	Chinese Institute of Certified Public Accountants
TMT	Top management team
Nomad	Nominated advisor
AIM	Alternative Investment Market
LSE	London Stock Exchange
CBA	Cost-benefit analysis
IMANEEQ	Interim Measures for the Administration of the National Equities Exchange and Quotations Co, Ltd.
CFA	Control function approach
CFO	Chief Financial officer
COO	Chief operation officer
PTP	Public to private

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Stock markets are bringing massive value to the firms riding the wave. More and more firms choose to list in the stock markets to seek development opportunities. However, it cannot be ignored that firms have been delisting from the stock market also in larger numbers, and, in fact, this tendency has been going on for some time. The JRJ analyzed the global exchanges based on the data from the World Federation of Exchanges (WFE) and reported that a total of 21280 listed companies were delisted globally from 2007 to October 2018, exceeding the number of IPO (16299) in the same period^I.

This phenomenon has also attracted attention in China, especially in China's New Third Board market (NTBM for short)^{II}. As the world's second-largest economy, China's capital market is also the world's second largest capital market^{III}, playing a vital role in economic growth (Li, Meng, & Wei, 2015; Zhu, 2018). Although, China's Main Board Market (MBM for short) has a lower delisting rate than developed countries.^{IV}

^IThe data is from JRJ web, detail URL: <http://finance.jrj.com.cn/2018/12/18213626761474.shtml>. JRJ has listed on NASDAQ in October 2014. The web has gained many reputations because of its valid, reliable, and timely financial information.

^{II} The New Third Board Market is the nick name of China's National Equities Exchange and Quotations.

^{III} The number of listings is 4733 and the market capitalization is near 90 trillion by the end of 2021 year. The scale of China's capital market ranks second in the world (retrieved from <https://news.cnstock.com/news.yw-202209-4957276.htm>).

^{IV} The average delisting rate in LSE and NASDAQ is 9.5% and 7.6%, respectively. However, the average delisting rate in Shanghai and Shenzhen exchange is 0.3% and 0.1%

However, the number of delisted firms on China's NTBM display sharply climbed (Liu, 2022; Yang, 2021; Zhu, 2018).

China's NTBM (the official name is National Equities Exchange and Quotations (NEEQ)) is an over-the-counter (OTC) market. As a foundation of China's multi-level capital markets (Hui & Gu, 2017), the NTBM plays a stick-supporting role in the capital market (He & Zhang, 2017; Hui & Gu, 2017; Li et al., 2015; Wang & Yang, 2016). The completed establishment of NTBM in 2013, symbolized the basic formation of China's multi-level capital market (Li & Qiao, 2017; Li et al., 2015).

NTBM has been tasked with the historical task of providing capital market access for innovative and entrepreneurial companies as well as financial services for Small and Medium-sized Enterprises (SMEs) (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Yang, 2017). Therefore, this OTC market plays a vital role in China's capital market, providing direct financing channels for SMEs and helping them tackle financing difficulties (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Yang, 2017).

Scholars have found that the NTBM provides the following at least two opportunities for the firm:

(1) Firms listed in the NTBM could increase their credit ratings by going public and then improve their' financing capabilities in traditional financing channels (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Xuan, 2016; Yan & Tao, 2014).

(2) They have more registration experience and a better reputation than firms that are not registered on the NTBM. Listed firms in this market find it simpler to list on the main board markets (Yan & Tao, 2014). Therefore, the NTBM has drawn large numbers of firms to register. Table 1.1 provides specific data.

Table 1.1
The development of the New Third Board Market

Year	2012	2013	2014	2015	2016	2017	2018	2019
Number of listed firms	200	356	1572	5129	10163	11630	10691	8953
Total Share capital (billion)	5.527	9.717	65.835	295.951	585.155	675.673	632.453	561.629

Sources: NEEQ. <http://www.neeq.com.cn/>

Table 1.1 presents that there were only 200 firms listed in the NTBM in 2012, and after 2013, the number of listings rapidly increased from 356 in 2013 to 11630 in 2017. The total share capital of the NTBM also displays a quickly grow over this period, rising from 5.527 billion in 2012 to 675.673 billion in 2017. However, this growing tendency came to a halt in 2018. The number of listings dropped to 10691 in 2018 and 8953 in 2019, compared with 2017, an average year-on-year decrease of 1338 listings. The total share capital declined from 675.673 billion in 2017 to 632.453 billion in 2018 and 561.629 billion in 2019.

This decline is because the number of delisting surpasses the number of new listings^V. Table 1.2 shows that the new listings increased from 1232 in the year 2014 to 5090 in the year 2016. But the number of new listing firms has decreased since 2017. The new listings is only 578 in 2018 and 249 in 2019, respectively. However, the delisting shows

^VThe study uses “new listings” and its shorter form “new lists” to represent new companies list in the NTBM.

the reverse trend. It increased from 56 in 2016 to 1987 in 2019. Therefore, the net listing firms significantly decreased from 1467 in 2017 to minus 1738 in 2019.

Table1.2

The listing firms and delisting firms in the New Third Board Market

Year	2014	2015	2016	2017	2018	2019
Listing firms	1572	5129	10163	11630	10691	8,953
Delisting firms	16	12	56	709	1517	1987
New listing firms	1232	3569	5090	2176	578	249
Net listings	1216	3557	5034	1467	-939	-1738
Delisting rate	1.02%	0.23%	0.55%	6.10%	14.19%	22.19%

Source: Collation based on the data provided by NEEQ (<http://www.neeq.com.cn/>) and Wind Database

Additionally, the delisting rate^{VI} shows significantly increased from 2016 to 2019.

Table1.2 shows that the delisting rate before 2017 was stable, less than 2%. After 2016, the rate shows the most dramatic rise. The figure increased to 6.10% in 2017 and 14.19 % in 2018, and the delisting rate reached its peak in 2019 (22.19%).

Although, existing articles have pointed out that delisting^{VII} is one of the strategic decisions during the company's life cycle (Vismara & Signori, 2014). However, mass delistings influences the stock market (Onuorah A.C & Kifordu A.A., 2021; Rogova, 2021). Table 1.3 presents that the market capitalization of the NTBM increased before 2016, and it reached its peak in 2017 (RMB 4940.456 billion). However, it decreased from RMB 4940.456 billion in 2017 to RMB 2939.96 billion in 2019, dropping RMB 666.832 billion on average each year.

The price-to-earnings (PE) ratio shows a significant fluctuation. In 2015, it reached its peak (47.23) and then dramatically declined in the year 2016 (28.71). In 2017, it rose

^{VI} Delisting rate equals dividing the number of delisting on average by the number of listings on average in a year.

^{VII}This study uses “delistings” or “delisting” to represent companies exit from the stock market.

lightly to (30.18), while it rapidly fell to 20.86 in the year 2018 and 19.74 in 2019. The investor's confidence also is affected by large-scale delisting (Jiemian, 2017; Liu, 2022; Zhu, 2018). The Investor Confidence Index shows a vast fall, which fell by 4.8 (54.13-49.33) index in the year 2018, because of a dramatic increase in delistings (from 709 in the year 2017 to 1957 in the year 2018). Therefore, in 2019, in order to promote the development of the NTBM, the state introduced a series of measures, such as extending tax incentives and improving reporting methods. That series of policies have improved the attractiveness of the NTBM-listed firms to a certain extent and thereby boosted investor confidence.

Table1.3
Evolution of firms in the New Third Board Market

Year	2014	2015	2016	2017	2018	2019
Market Capitalization (Billions RMB)	459.142	2458.442	4055.811	4940.456	3448.726	2939.96
PE Ratio	35.27	47.23	28.71	30.18	20.86	19.74
Investor Confidence Index	59.51	59.49	51.84	54.13	49.33	59.02

Source: 1. NEEQ. <http://www.neeq.com.cn/>

2. EDB in Wind Database

3. The investor confidence index shown in this table is published for each month. This study uses the average month index for each year.

Additionally, previous studies categorized delisting as involuntary and voluntary delisting (Djama et al., 2012; Magni et al., 2022; Martinez & Serve, 2011, 2017; Thomsen & Vinten, 2014). Involuntary delisting refers to the firm removing from the stock market because of failing to meet the requirements of the market. Voluntary delisting refers to the firm initiating the delisting decision by itself and often is referred to as the "going private transaction" (Macey et al., 2008; Magni et al., 2022; Martinez & Serve, 2017; Thomsen & Vinten, 2014). The total delistings in the NTBM are 4297 during the period from 2012 to 2019, and this market categorizes the delisting into six

types, of which the voluntary delisting is 1548 in this period. The details are shown in Table 1.4.

Table 1.4 presented that voluntary delisting was the second primary type (the percentage is 36.03%), which supports the assertion that voluntary delisting is one of the critical reasons for firms delisted from the NTBM (JRJ, 2018).

Table 1.4

The types of delisting in the NTBM

Types of delisting in the NTBM	amount	percent
Deficit	2	0.05%
Transfer to other security markets	131	3.05%
Not publishing financial reports on time	559	13.01%
Merged by absorption	41	0.95%
It doesn't comply with the other listing requirements	2016	46.92%
Delisting voluntarily	1548	36.03%
Total	4297	100.00%

Source: Collation based on the data provided by Wind Database and NEEQ. <http://www.neeq.com.cn/>

Listed on the NTBM could bring benefits to a firm from various perspectives, including financial flexibility, enhancing market visibility, outsider monitoring, increased credibility and reputation (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Xuan, 2016; Yan & Tao, 2014). However, there is about 36.03% of firms made the voluntary delisting decision from 2014 to 2019. Examining the factors that cause these NTBM-listed firms to choose to leave the market voluntarily could help the regulators set the policies to improve the NTBM (Liu, 2022; Yang, 2021).

As discussed by Li et al., (2015) and Wang & Yang (2016), China's NTBM is an important component in China's multi-level capital markets. It not only provides efficient financial support for SEMs but also provides the outlet for early-stage investors to exit from the firm (Wang & Yang, 2016; Chen, 2016). The large-scale delisting of the NTBM significantly affects the market capitalization and leads to

depression sentiment in the stock market (Fungáčová & Hanousek, 2011; Liu & Liu, 2017). It is possibly a severe threat to China's multi-level capital market establishment and financial system reform in the near future if this situation remains unsolved (An, 2016; Liu, 2022; Yang, 2021; Zhu, 2018).

1.2 Problem Statement

Several studies in finance have widely discussed the theme of going public (Liao, 2020; Moreira et al., 2017). The decision to go public is typically considered as an indication that the company has faith in its ability to achieve the listing criteria and maintain its financial sustainability (Boers et al., 2017; Bortolon & Junior, 2015a; Kalak et al., 2018; Lowry et al., 2017; Yoshida, 2021). However, articles on the reverse phenomenon, that is, a company exit from the stock exchanges, also known as delisting, is limited (Djama et al., 2012; Ehn, 2016; Liao, 2020; Martinez & Serve, 2017; Moreira et al., 2017).

Same as going public, voluntary delisting is one of the strategic decisions during a firm's life cycle (Vismara & Signori, 2014). However, the sustained high growth delisting rate shows a significant impact on various facets, including the delisting firm itself (Leuz et al., 2008), the stock market, and the establishment of China's multi-level capital market.

Previous scholars pointed out that firms' decisions to delist would result in a significant negative market reaction (Dasilas et al., 2017; Leuz et al., 2008; Rogova, 2021). There is substantial information asymmetry regarding firms' growth opportunities and financial health between the managers and shareholders. The managers' reporting choices are likely to reduce this information asymmetry. The decision to delisting would likely reveals to investors that the deterioration of the firms' future prospects and

without chance to turnaround (Leuz et al., 2008). Therefore, the market reaction is negative (Dasilas et al., 2017; Leuz et al., 2008; Rogova, 2021).

Furthermore, mass delistings can affect the market capitalization of the NTBM and result in depression sentiment in the stock market. The large-scale delisting of the NTBM results in a mass decrease in market capitalization and investment confidence. The market capitalization decreased from 4940.456 in 2017 to 3448.726 in 2018. Investor confidence decreased from 54.13 in 2017 to 49.33 in 2018.

Moreover, the large-scale delisting also results in a "listing gap" (Doidge et al., 2017) and then affects the development of China's multi-level capital market (Gui, 2018; Zhu, 2018). Recently, China's government has spent a lot of effort to deepen the financial system reform (Li et al., 2015; Chen, 2016) to satisfy the needs of the fast-growing economy (Zhang, 2017). The multi-level capital market plays an essential role in China's financial system (Xu, 2018). The NTBM is the foundation of the multi-level capital market (Hui & Gu, 2017; Li & Qiao, 2017; Li et al., 2015), which has a positive effect on the transaction volume of other sectors (Li & Qiao, 2017; Xu, 2018). Therefore, the sustained high delisting rate would hinder the development of NTBM and affect the formation of the multi-level capital market of China (Liu, 2022; Xu, 2018).

Considering the severe impact of delisting, investigating the factors that cause the firms to delist from the NTBM voluntarily is necessary. The NTBM is distinguished from the company listed on the MBM by a lack of liquidity, a lower trade volume, and fewer trading days (Li & Qiao, 2017; Liu, 2022; Li et al., 2018; Zhu & Shen, 2016). However,

the quality of corporate governance for enterprises listed in the NTBM is heterogeneous (Jiang & Chen, 2019). Furthermore, the importance of governance issues is highlighted by the Report to the 20th National Congress of the Communist Party again.

In addition, Aguilera et al. (2019) claimed that it needs to invoke an institutional-based view better to comprehend the contexture feature of corporate governance issues. The corporate governance in China, including the institutional and regulatory framework, has changed significantly despite the country's capital market's youth. Therefore, China's context provides a good dynamic institutional context to examine corporate governance (Jiang & Kim, 2020; Mutlu et al., 2018).

Existing articles have pointed out that corporate governance has a significant effect on voluntary delisting (Almutairi, 2021; Bortolon & Junior, 2015a; Fidanza et al., 2018c). Voluntary delisting is a response to financial distress, growth opportunities deterioration, and poor operating performance (Bessler et al., 2022; Boers et al., 2017; Leuz et al., 2008; Magni et al., 2022; Marosi & Massoud, 2007). Firms with weak corporate governance are more likely to encounter financial distress, low opportunities deterioration, poor operating performance, and large agency costs (Assenga et al., 2018; Brown & Caylor, 2004; Ehikioya, 2009; Handriani & Robiyanto, 2018; Haniffa & Hudaib, 2006; Jensen & Meckling, 1976; McColgan, 2001).

Furthermore, agency costs positively relate to voluntary delisting (Fidanza et al., 2018d; Magni et al., 2022). In accordance with the Agency theory, good corporate governance setting would alleviate the agency conflicts between shareholder and management thus

reduce the agency costs (Jensen & Meckling, 1976). Therefore, corporate governance can affect the firm voluntary delisting decision.

Furthermore, the results of the effects of corporate governance on voluntary delisting drawn by previous studies are inconsistent (Fidanza et al., 2018c; Liao, 2020). For instance, Bortolon and Junior (2015b) suggested that firms with weak corporate governance are likely to delist from the stock market voluntarily. Managers would likely extract private interests when firms' corporate governance is weak (Jensen & Meckling, 1976). Thus, delisting could be used to align the interests between shareholders and managers (Kaplan, 1989a; Leuz et al., 2008; Liao, 2020; Martinez & Serve, 2017).

While the results are not always significant, Sudarsanam et al (2011) and Hostak et al (2013) documented that corporate governance proxied by CEO duality is not significantly related to delist from the security markets. Higher corporate governance codes would motivate the firm to make the voluntary delisting decision (Engel et al., 2007; Leuz, 2007; Thomsen & Vinten, 2014). Therefore, scholars pointed out that future study needs to investigate further the relationship between corporate governance and voluntary delisting (Bortolon & Junior, 2015a; Dasilas et al., 2017; Moreira et al., 2017; Qiu & Jin, 2020).

Corporate governance includes internal governance and external governance (Holderness, 2003; Jensen, 1993; John & Senbet, 1998; Schäuble, 2018). Internal corporate governance covers board characteristics, external shareholdings (institutional ownership), debt, insider shareholdings (insider ownership), and CEO compensation

(Core et al., 1999; Fama, 1980; Jensen & Meckling, 1976; Shivdasani, 1993). External corporate governance essentially relates to the market for corporate control, such as takeover bid, legal environment, and external monitoring (Ahmad, 2019; Jacoby et al., 2019; Sannajust et al., 2015; Weir & Wright, 2006).

Considering firms listed in NTBM are characterized by small size, imperfect board of directors, and ownership structure (Jing, 2016; Li & Qiao, 2017; Yao, 2016). This study intends to identify the factors related to internal (board characteristics, institutional ownership, and insider ownership) and external corporate governance mechanisms (lead security traders and external auditor) that impact the firm's voluntary delisting decision in China's NTBM.

Internal corporate governance examined by this study includes board characteristics, institutional ownership, and insider ownership. Board characteristics have been divided into board size, board independence, and CEO duality by prior researchers (Duru et al., 2016; Guizani, 2018; Kyereboah-Coleman & Biekpe, 2006; Peng et al., 2007; Rechner & Dalton, 1991; Shahrier et al., 2020; Sobhan, 2021; Vitolla et al., 2020).

A larger board size creates agency problems and leads to free-rider problems, and then affects a company's decision-making (Hermalin & Weisbach, 2001; Jensen, 1993; Sobhan, 2021). Delisting decision would be made to reduce the agency problem. So, Fidanza et al. (2018a) pointed out that board size can significantly and positively affect voluntary delisting (Goktan et al., 2018). Besides, lower board independence members and CEO duality would result in more significant agency problems (Duru et al., 2016; Liu et al., 2013; Zhang et al., 2012). Thus, board independence and CEO duality relate

to going private decision (Brau et al., 2013; Djerbi & Anis, 2015; Leuz et al., 2008; J. Liu et al., 2013; Martinez & Serve, 2017; Weir et al., 2003, 2005a, 2005b).

Institutional investors, one of the essential external shareholders of ownership structure, can conduct monitoring rights to alleviate the conflict between stockholders and managers and result in strong corporate governance (Ahmad, 2019; Algebaly, 2011; Algebaly & Ibrahim, 2014; Bharath & Dittmar, 2010; Djama et al., 2012; Lauterbach & Murgeman, 2018; Mehran & Peristiani, 2010; Rath & Rashid, 2016). Furthermore, insider ownership, as one of the incentive methods of managers, can align the interests of shareholders with management and then affect the firm's strategic and investment decisions (Haugen & Senbet, 1981; Hill & Snell, 1988; Jensen & Meckling, 1976).

Therefore, institutional ownership and insider ownership can strengthen corporate governance by alleviating agency conflicts between shareholders and managers (Ahmad, 2019; Djama et al., 2012). They play a more vital role in the NTBM-listed firms with the looser corporate governance code than the firms listed in the MBM. Thus, this study will investigate the impact of institutional ownership and insider ownership on voluntary delisting decision.

Furthermore, this study will focus on the external monitoring of external corporate governance because NTBM grants many monitoring duties to external agencies, such as lead security trader and external auditor (China Securities Regulatory Commission, 2013; National Equities Exchange and Quotations, 2013). The main distinction between the NTBM and MBM is that it requires listed firms to be monitored by a lead security trader at all time (CSRC, 2013). The lead security trader plays a significant role in

certifying and controlling the quality of new listings and the issuer's compliance with the rules of the market (CSRC, 2013). It is one of the important external corporate governance for the NTBM-listed firms. Thus, Liu (2016) purported that it needs to explore the delisting under the lead security trader perspective. Therefore, this study plans to examine the impact of the security trader on the firm's voluntary delisting decision according to Liu's (2016) viewpoint.

An external auditor can be viewed as an important participant in the governance mechanisms (Aldaoud, 2015; Fan & Wong, 2005). It plays a significant role in reducing the asymmetry of information between shareholders and managers and then alleviating the agency cost (Jensen & Meckling, 1976; Moreira et al., 2017). To date, few studies have examined the influence of external auditor on voluntary delisting decision. However, previous studies have investigated the influence of auditor on IPO survival time, IPO performance, and involuntary delisting (Algebaly & Ibrahim, 2014; Defond et al., 2002; Ehn, 2016; Espenlaub et al., 2012, 2016; Santoso & Widyaswati, 2019). Therefore, the current study plans to explore the association between the external auditor and voluntary delisting.

Most of the above-mentioned arguments indicated that board size, board independence, CEO duality, institutional ownership, and insider ownership are key factors that impact the firm's voluntary delisting decisions. However, the results drawn by previous studies are inconsistent. Thus, based on the perspective of Baron and Kenny (1986), the moderator can be introduced.

Corporate governance specifies the division of labor among the board, manager and other stakeholders (Finkelstein & Hambrick, 1996). Furthermore, the top management team (TMT) manages the organization as agents of the principals (shareholders) (Mugwang'a et al., 2018). Thus, the demographic characteristics of TMT would affect the effectiveness of corporate governance. This influence is well articulated in the Upper Echelons theory.

Previous studies suggested that the demographic characteristics of the firm's top managers, especially the top management team (TMT), has a significant impact on its strategic choice and organizational performance (Carpenter & Weikel, 2011; Finkelstein & Hambrick, 1996; Goll & Rasheed, 2005; Hambrick & Mason, 1984; Liu, 2018). Furthermore, previous studies also have examined the moderating effect of TMT demographics on the association between enterprise risk management and organizational outcomes; between equity incentive and internal control quality; between R&D expenditure and firm performance (Brunnerge, Nordqvist, & Wiklund, 2007; Lui, Lo, & Ngai, 2019; Prosvirkina & Wolfs, 2018; Wen, Gao, Liang, & Lu, 2015). This previous literature provides a valuable reference.

Therefore, the study plans to examine the moderating role of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting because voluntary delisting is one of the strategic choices of a firm (Vismara & Signori, 2014).

To date, compared with the heterogeneity, very few studies have examined the homogeneity of TMT demographic characteristics (Abatecola & Cristofaro, 2016).

Thus, this study intends to fill this gap to highlight the moderating effect of the homogeneity of TMT demographic characteristics.

Previous studies proposed that homogeneity is associated with age, education level, and tenure (Abatecola & Cristofaro, 2016; Lu, 2015). However, the NTBM-listed firms are generally young; the tenure of TMT member in these firms are usually short (He & Zhang, 2017). Therefore, the current study concentrates on the moderating effect of average age and education level of TMT members.

Besides, the political connection becomes the important mechanism subtitled the formal system to ensure the business conducting since economic reform in China (Jiang & Kim, 2020; Wang & Zhang, 2018). However, the serious corruption triggered an unprecedented anti-corruption campaign since the end of 2012, which reshape the connection between firms and the government (Guo et al., 2021; Qian & Chen, 2020). The role of political connection of firms changed. The impact of the TMT political background becomes the focal theme of researchers' discussion (Ji & Tian, 2019; Su & Wang, 2016). This study will investigate the moderating role of the political background of TMT.

The separation of ownership and control can lead to agency conflicts between shareholders (principal) and managers (agent) (Fama & Jensen, 1983; Jensen & Meckling, 1976; Shleifer & Vishny, 1997). A series of corporate governance mechanisms may be utilized to alleviate the extent of the agency costs burdened by principals (Sannajust et al., 2012). As one of the strategic decisions of the company, voluntary delisting reflects the result of agency conflict (Bortolon & Junior, 2015a;

Tutino, Panetta, & Laghi, 2013). Therefore, corporate governance can affect the voluntary delisting decision based on the view of Agency theory (Moreira et al., 2017).

Weak corporate governance generates higher agency costs. Agency cost is one of the indirect costs for public firms (Martinez & Serve, 2017). Strong outside monitoring results in high compliance costs with governance rules and information disclosure requirements (Azevedo et al., 2021; Marosi & Massoud, 2007), which is another indirect cost (Liao, 2020; Martinez & Serve, 2017). Except for agency costs and compliance costs, public companies also have the costs such as annual listing fees, trading costs, fees for outside monitoring parties (Martinez & Serve, 2017). A delisting decision is made by firms depending on the consideration of the costs and benefits from stock market to support the opinion that voluntary delisting decision is made by firms to avoid listing costs (Leuz et al., 2008; Marosi & Massoud, 2007; Martinez & Serve, 2017). Therefore, the Cost-Benefit Analysis (CBA) theory is also used in this study to explain the factors that affect the voluntary delisting decision is made by the NTBM-listed firms.

Furthermore, Mugwang'a et al. (2018) proposed that managers are agents of the shareholders (principals). Corporate governance is set up to allocate responsibilities, rights, and benefits to managers and shareholders (Finkelstein & Hambrick, 1996). Therefore, Good corporate governance reduces the agency conflicts between managers and shareholders. The effectiveness of corporate governance would be affected by TMT characteristics. This effect is clearly expounded in the Upper Echelons theory. Thus, this study will investigate the moderating role of TMT demographic characteristics

(average age, average education level and political background) on the relationship between internal corporate governance and voluntary delisting.

According to the above discussion, the current study will examine the factors that cause voluntary delisting from the perspective of corporate governance. To address above mentioned problems, this study incorporates the Agency theory, Cost-Benefit Analysis (CBA) theory, and Upper Echelons theory to pinpoint both the direct effects of corporate governance on voluntary delisting, and the moderating influence of the demographic characteristics of TMT on the relationship between corporate governance and voluntary delisting.

1.3 Research Questions

This study intends to investigate the factors of voluntary delisting from the perspective of corporate governance in the context of China's NTBM-listed firms. In more detail, this study aims to answer the following questions:

- (1) Does internal corporate governance can significantly influence voluntary delisting?
- (2) Does external corporate governance can significantly affect voluntary delisting?
- (3) Does the TMT demographic characteristics moderate the relationship between internal corporate governance and voluntary delisting?

1.4 Research Objectives

To answer the research questions that have been discussed above, purposing the related research objectives is necessary. Thus, the research objectives of this study in detail are as follows:

- (1) To examine the significant effect of internal corporate governance on the firm's voluntary delisting decision.
- (2) To investigate the significant effect of external corporate governance on the firm's voluntary delisting decision.
- (3) To examine the moderating effect of the TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.

1.5 Significance of this Study

This study highlights both the theoretical and practical significance as follows:

1.5.1 Theoretical Significance of the Study

This study plans to provide a new theoretical framework by integrating Agency theory and CBA theory to investigate the relationship between internal corporate governance (e.g., board size, board independence, CEO duality, institutional ownership, and insider ownership), external corporate governance (i.e., lead security trader and external auditor), and voluntary delisting decision. Furthermore, the study intends to examine the moderating effects of demographic characteristics of TMT on the relationship between internal corporate governance and voluntary delisting by integrating Agency theory, CBA theory, and Upper Echelons theory. The findings of this study enable the researcher to enrich the literature in several aspects.

First, previous studies often examine the determinants of voluntary delisting underpinned by the theory same as going public (Fidanza et al., 2018a). Bancel and Mittoo (2009) suggested new and more theories are necessary for analyzing the choice

and the timing of the firm's list decision. Therefore, this study integrates the Agency theory, CBA theory, and Upper Echelons theory in establishing a new theoretical framework in the context of China. These theories work complementary to each other in analyzing the effects of corporate governance on voluntary delisting and the moderating role of TMT demographic characteristics.

Second, previous studies choose one or two variables from the perspective of firm characteristics, corporate governance, culture distance, economic uncertainty, and offering features to investigate the factors of voluntary delisting (Chaplinsky & Ramchand, 2012; Füss et al., 2016; Guan, 2021; Konno & Itoh, 2018; Martinez & Serve, 2011; Pour, 2015; Pour & Lasfer, 2013). Limited scholars focus on one of the perspectives and deepen research from this perspective. Thus, this study fills this gap by focusing on the corporate governance perspective and deepening the investigation of the influence of corporate governance on voluntary delisting. This study answers the call from Moreira et al. (2017) and Dasilas et al. (2017) that future research needs to further investigate the determinants of voluntary delisting from the perspective of corporate governance.

Furthermore, this study also contributes to the body of knowledge by covering lead security trader as a new variable of external corporate governance. Pour (2015) examined the relationship between underwriter and delisting decision. Espenlaub et al. (2012) suggested the effect of Nomad's reputation on a firm's IPO survival. Lead security trader in the NTBM has both underwriter and Nomad's functions but remains unexamined. Thus, the current study provides empirical evidence about lead security trader.

Third, previous studies provided somewhat inconsistent results in examining the relationship between corporate governance factors and voluntary delisting (Fidanza et al., 2018c; Martinez & Serve, 2017). Previous research's contradictory results may be due to the corporate governance mechanisms being investigated in isolation. However, limited studies examined the third variable that affects the direct relationship between corporate governance and voluntary delisting.

Agency theory suggests that TMT manages corporations as agents of the principals (shareholders) (Mugwang'a et al., 2018). Furthermore, corporate governance specifies the division of labor among the board, manager, and other stakeholders (Finkelstein & Hambrick, 1996). Thus, the demographic characteristics of TMT would affect the effectiveness of corporate governance. This influence is well articulated in the Upper Echelons theory.

Therefore, this study intends to use TMT demographic characteristics as moderators to investigate the moderating effect of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting. Thus far, these moderators have not been investigated in the delisting literature yet. Hence, the findings of the current study fill the gap in the voluntary delisting literature.

In addition, an unprecedented anti-corruption campaign initiated by the Chinese government at the end of the year 2012 created a new connection between firms and the government (Guo et al., 2021; Qian & Chen, 2020). In order to scrutinize the effects of this new connection, the current study plans to investigate the moderating role of TMT political background on the relationship between internal corporate governance

and voluntary delisting. Therefore, this study provides empirical evidence about political connection in the new stage.

Fourth, this study fills the gap by extending the literature on voluntary delisting to the sample of firms voluntarily delisting the NTBM in a non-western context of China. To date, existing literature has been conducted in different geographical markets with respect to corporate governance factors and other factors (such as offering factors and firm characteristics factors) that are theoretically discussed to be related to determining firm voluntary delisting decisions (Bortolon & Junior, 2015a; Kang, 2017; Konno & Itoh, 2018; Martinez & Serve, 2017; Pour & Lasfer, 2013). These geographical markets include the USA, the UK, Continental Europe, Japan, and Korea, etc. (Bortolon & Junior, 2015a; Kang, 2017; Konno & Itoh, 2018; Martinez & Serve, 2017; Pour & Lasfer, 2013; Renneboog et al., 2007).

Maher and Andersson (2022) purported that the effectiveness of corporate governance is affected by the number of factors, such as the legal and regulatory environment. Therefore, the corporate governance between those western countries and China is different (F. Jiang & Kim, 2020; Mutlu et al., 2018). For example, corporate governance in China shows limited roles of boards, poor legal protection of shareholders and creditors, etc. (Jiang & Kim, 2020). Hence, China provides a different corporate governance environment than Western countries for researching voluntary delisting. However, the research on the factors that cause voluntary delisting in China, especially in China's NTBM is underdeveloped, although the delisting phenomenon in this market is serious (Hu & Wu, 2014; Song, 2015; Tang & OuYang, 2017).

1.5.2 Practical Significance of the Study

The present study provides a unique and comprehensive perspective on the antecedents of voluntary delisting by integrating corporate governance and the demographic characteristics of TMT. The results of the study have important implications for investors, managers of NTBM-listed firms, and policymakers.

Firstly, this study examines the effects of corporate governance on the voluntary delisting of NTBM-listed firms. All variables of this study are easy to collect from the public DataStream and firms' financial reports. The results of this study show a blueprint of the effects of corporate governance on the likelihood of voluntary delisting. This blueprint could help investors (including potential investors) to estimate the probability of a firm delisting voluntarily based on its level of corporate governance. Thus, the finding of this study guides investors in making the best investment choice and strengthens their confidence.

Secondly, the current study intends to reveal how corporate governance factors affect voluntary delisting decision. Thus, the findings of this study could help the management of the NTBM-listed firms to enhance corporate governance, choosing the lead security trader and external auditor to avoid delisting. Additionally, the findings of this study could help managers seek the chance to transfer to other regulated stock markets (such as the main stock market) by considering improving corporate governance.

Thirdly, the present study can be beneficial to the establishment of an efficient multi-level capital market by China's Securities Regulatory Commission (CSRC) if the underlying determinants of delisting are discovered. The regulators could formulate

policies to improve the corporate governance level of NTBM-listed firms in accordance with the results of this study and help NTBM-listed firms to develop sustainability. The sustainable development of NTBM-listed firms is helpful to the setting up of a multi-level capital market.

1.6 Scope of the Study

This study researches the antecedents of firms delisting voluntarily from China's NTBM under the perspective of corporate governance underpinned by Agency theory, CBA theory, and Upper Echelons theory. There are three reasons for this selection:

First of all, there is a significant divergence in the corporate governance between western developed countries and China (Jiang & Kim, 2020; Mutlu et al., 2018). Compared with developed countries, China is characterized by imperfect market-supporting institutions, weak regulatory environments, concentrated ownership and control, and prevalent political connections (Adomako & Nguyen, 2020; Amara & Khlif, 2020; Liao, 2020; Muttakin et al., 2018). The difference of corporate governance context may lead to different results about the relationship between corporate governance factors and voluntary delisting (Liao, 2020). However, limited literature examines the relationship between corporate governance and voluntary delisting in the context of China. Therefore, this study would fill this gap.

Second, China is the second-largest economy in the world and has many globally influential multinational firms (Hu et al., 2018; Jiang & Kim, 2020; Sheng, 2018). The development of its economy may influence the world's economy (Konno & Itoh, 2018). Furthermore, the capital market of China is an important component of the world capital

market (Hu et al., 2018). Therefore, China cannot be disregarded if one wishes to comprehend worldwide business (F. Jiang & Kim, 2020).

Third, the NTBM is the foundation of China's multi-level capital markets (Hui & Gu, 2017; Li & Qiao, 2017; Li et al., 2015). The healthy development of the NTBM can promote the development of China's financial system and provide strong support to the development of China's SMEs (Hui & Gu, 2017; Song, 2015). However, recently, the number of delistings, especially voluntary delisting, in this market has shown dramatically increase, which results in the sentiment depression and market capitalization decrease of the capital market (JRJ, 2018). Therefore, examining the factors that cause voluntary delisting in this market is urgent (An, 2016; Liu, 2022; Yang, 2021; Zhu, 2018).

1.7 Definition of Key Terms

1.7.1 China's New Third Board Market

China's New Third Board market is China's over-the-counter market, established in 2006, and developed in 2012. The official name of China's NTBM is China's National Equities Exchange and Quotations System (NEEQ) (Li et al., 2015). However, Chinese researchers like to use NTBM more than NEEQ.

1.7.2 Voluntary Delisting

The concept of voluntary delisting is the NTBM-listed firms voluntarily leave the NTBM (Martinez & Serve, 2017; Yang, 2021).

1.7.3 Corporate Governance

According to the Agency theory, corporate governance is a set of mechanisms that rules, monitors, and encourages all NTBM-listed firms in the relationships among owners, board of directors, executive board, and control bodies (Jensen & Meckling, 1976; Moreira et al., 2017; Vitolla et al., 2020).

1.7.4 Board Characteristics

Board characteristics is defined as the key characteristics of a board of directors in the NTBM-listed firms that could influence agency cost, including board size, board independence, and CEO duality (Guizani, 2018).

1.7.5 Board Size

Board size is usually referred to the total number of directors on the board in the NTBM-listed firm's each accounting year (Majeed et al., 2020; Sobhan, 2021; Vitolla et al., 2020).

1.7.6 Board Independence

Board independence is defined as the percentage of independent directors or commissioners on the NTBM-listed firm's board (Dakhli, 2021; Karkowska & Acedański, 2020).

1.7.7 CEO Duality

CEO duality is defined as the chairman of the board and CEO is served by one man (Al-Qahtani & Elgharbawy, 2020)

1.7.8 Institutional Ownership

Institutional ownership is defined as the number of a NTBM-listed firm's available stock held by institutional investors, such as mutual or pension funds, insurance companies, etc. (Investopedia, 2018).

1.7.9 Insider Ownership

Insider ownership is defined as managers of a NTBM-listed firm being assigned ownership rights as an incentive mechanism by owners or an owner of a firm is also a manager (Hu et al., 2022).

1.7.10 Lead Security Trader

The security trader that is certified in the CSRC monitors the firm listed on the NTBM to comply with the rules, supervises the firm's operation, and helps the firm improve the level of its corporate governance and management (CSRC, 2013).

1.7.11 External Auditor

External auditor is defined as an agency that provides consultancy in depicting the true and fair picture of NTBM-listed firms (Ahmad, 2019).

1.7.12 The Demographic Characteristics of TMT

The demographic characteristics of TMT is defined as the composition, in terms of basic attributes such as age, sex, education level, length of service or residence, race, and so forth (Pfeffer, 1983) of the TMT (Goll & Rasheed, 2005).

1.7.13 The Average Age of TMT

The average age of the TMT is the average of the NTBM-listed firms' TMT member age.

1.7.14 The Average Education Level of TMT

The average education level of TMT is an average of the NTBM-listed firms' TMT member education level.

1.7.15 Political Background of TMT

The political background of TMT can be defined as the TMT member in the NTBM-listed firm who worked previously in the government department or the TMT member who also serves in the People's Congress or the Chinese People's Political Consultative Conference (Gao, 2019; Hao et al., 2020; Yang, 2019).

1.8 Organization of the Thesis

This thesis is organized into five chapters. The first chapter is the introduction. It includes the background of the study, problem statement, research questions, research objectives, significance (theoretical and practical) of the study, the scope of the study, and definition of the key terms. The second chapter is a literature review. It includes the introduction of China's New Third Board Market, the literature review of dependent variables, independent variables, and moderating variables. This chapter also reviews the Agency theory, CBA theory and Upper Echelons theory. Furthermore, the hypotheses of the study are also developed in this chapter. Chapter three portrays the methodology of the research. It includes a research framework, hypothesis summarized,

the operational definition and measurement of variables, and methodology. Chapter four consists of hypotheses testing and the empirical results of the study. Chapter five elaborates the discussion, implications, limitations, conclusions, and recommendations for future research.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter, firstly, this study introduces the structure of China's capital market and highlights the importance of NTBM in China's capital market construction. Secondly, the current study details the definition and classification of voluntary delisting and then pertains to the effects and reasons for voluntary delisting. This study introduces the previous studies about the determinants of voluntary delisting. Furthermore, this section also reviews the delisting research in China. Thirdly, the current study presents the independent variables: board size, board independence, CEO duality, institutional ownership, insider ownership, lead security trader, and external auditor. This section also introduces moderate variables: TMT average age, TMT average education level, and TMT political background. Fourthly, this study presents the underpinning theory (Agency theory) and supporting theories (CBA theory and Upper Echelons theory). Fifthly, the present study analyzes the relationship between independent variables and voluntary delisting and then develops the hypotheses. Sixthly, the moderators and moderating effect hypotheses are introduced and developed. Finally, the control variables of this study are introduced.

2.1 Structure of China's Capital Market

In order to address the financial needs of various firms, China's State Council first explicitly recommended the formation of the multi-level capital market in 2004 (China's State Council, 2004). China's multi-level market has been basically formed after more than ten years of building. This market is constituted of three main parts: the Main Board Markets (MBM), Growth Enterprise Market (GEM), and the NTBM.

These three markets complement each other in serving for China's firms. The three main markets will be introduced in the following parts.

2.1.1 China's Main Board Market

The MBM is traded through active competitive bidding and is subject to strict listing, maintenance, and disclosure requirements. Both the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE), which are both parts of China's MBM and only serve large firms, were established in 1990 and early 1991, respectively. The number of listed firms was 8 and 10, respectively, in the founding year of SHSE and SZSE. After about thirty years of growth, the listed firms in the SHSE and SZSE were, respectively, 2031 and 2569 in 2021.¹

China's admission requirements for firms that seek to list on the MBM are similar to the LSE (UK) and NASDAQ (US). Firms must be approved by the CSRC and satisfy the listing requirements when they seek an IPO. The listing requirements of China's MBM are shown in Table 2.1.

To satisfy the funding needs of small-medium firms, the Small and Medium-sized Enterprise Board Market (SMEBM) was formed under the SZSE in 2004. Except for the small size of stocks and specific trading and monitoring mechanisms, the SMEBM's listing and information disclosure requirements, maintenance laws, and rules are the same as those of the SHSE and SZSE. Actually, SMEBM may be considered a pilot in the Growth Enterprise Market (GEM) and is a part of China's MBM. The difference between MBM and SMEBM is shown in Table 2.2.

¹The information about the number and market capitalization of SHSE and SZSE is retrieved from CSRC: <http://www.csrc.gov.cn/csrc/tjsj/index.shtml>

Table 2.1

The Summarize of Listing Requirements of China's MBM

Items	Detail requirements
Total of capital before issue	Not be less than RMB 30 million.
Profit requirements	The cumulative net profit of the issuer in the most recent three fiscal years has exceeded RMB 30 million, and the cumulative net cash flow from operating activities in the most recent three fiscal years has exceeded RMB 50 million, or the cumulative operating income in the most recent three fiscal years has exceeded RMB 300 million.
Public float	The shares issued to the public shall not be less than 25% of the company's total shares; if the company's total share capital exceeds 400 million, the proportion of shares issued to the public shall not be less than 10%.
Issuer requirements	➤ The public issuer is a joint stock limited company established based on the law and has been operating for over three years. ➤ In the last 3 years, the company has not committed significant violations of the law, and there are no false records in the financial and accounting reports. ➤ In the last three years, the main business of the company does not significantly change. ➤ The company's directors and management does not significantly change in the last three years.
Asset requirements	Before listing one year, intangible assets (deducting the right to use the land, etc.) shall not be more than 20% of the net assets.

Source: Shanghai Stock Exchange.

Retrieved from <http://www.sse.com.cn/services/list/ipo/listcondition/>

Furthermore, in July 2019, the Science and Technology Innovation Board (STAR Market) was established on the SHSE to serve technological innovation enterprises that conform to national strategies, breakthrough key core technologies, and are highly recognized by the market. At the same time, different from the MBM, the registration system would be piloted on the STAR Market to deepen the reform of the China's capital market and improve the capital market system. Companies that meet the positioning of the STAR Market and have not yet made profits or have accumulated unrecovered losses are allowed to list on the STAR Market, and companies with special equity structures and red-chip companies that meet relevant requirements are allowed to list.

Table 2.2

The Summary of the Difference between MBM and SMEBM

		MBM	SMEBM
	collective bidding	9.15am-9.25am: open collective bidding 9.30am-11.30am and 13.00pm-15.00pm consecutive bidding 15.00pm-15.30pm: bulk trading	9.15am-9.25am: open collective bidding 9.30am-11.30am and 13.00pm-14.57pm consecutive bidding 14:57pm-15:00pm close collective bidding 15.00pm-15.30pm: bulk trading
Rules of transactions	Withdrawal declaration	During the period of consecutive bidding	During the period of consecutive bidding, exclude 9.20 am to 9.25 am
	Close pricing	Based on the weighted average price of the volume of all transactions one minute before the last deal of the day (including the last transaction)	The market implements the closing collective bidding (14.57 pm to 15.00 pm) to determine the closing price. If the closing collective bidding cannot produce the closing price, the last transaction price shall be the closing price of the day
Information disclosure		The disclosure of the first three stocks with a deviation of ± 7 percent	➤ Annual report description meeting mechanism ➤ The disclosure of the first three stocks with a deviation of ± 7 percent ➤ the disclosure requirements for the first three stocks with a daily price shock of 15 percent and the first three stocks with a daily turnover rate of 20 percent.

Source: 1. CSRC. <http://www.csrc.gov.cn/pub/newsite/>

2. Liang (2003) and Zhang (2001)

2.1.2 China's Secondary Market

In 2009, GEM was set up by the SZSE, which is viewed as the Chinese second Main Board Market. The main service objectives of GEM are high-growth private firms, entrepreneurial enterprises with outstanding main business, traditional industry companies with good growth potential and development perspective, and innovative companies (Li et al., 2015, 2018; Zhang, 2001). GEM is the compensation of MBM. The establishment of GEM is helpful in improving social resource allocation effectiveness and enhancing capital market competition (Liang, 2003; Liu, 2001).

The regulations and requirements of GEM are looser than MBM. For instance, regarding the listing requirements, GEM does not have a profit requirement, and the listed firms' trading record is two years. However, GEM emphasizes the uniqueness and sustainability of the central business of listed firms. GEM also highlights the stability of the management team of listed firms. The difference between MBM and GEM is shown in Table 2.3.

GEM is a market-oriented stock market and has established a series of market mechanisms, including IPO, trading system, and delisting mechanisms. GEM implements the sponsor system differently from the recommendation system in the MBM. The sponsor time is two years, and the sponsor needs to provide unbiased advice to issuers, ensure the valid and reliable information disclosed by issuers, tutor issuers to understand the listing rules, supervise their compliance, etc.

Compared with MBM, GEM is more marketization, and the mechanisms, such as corporate governance, share management, information disclosure and trading system, are more standardized. The experience of GEM can motivate MBM to improve its systems.

China's multi-level capital market has, on the whole, taken shape since the establishment of the NTBM in 2006 (Li et al., 2015; Zhu, 2018), as shown in Figure 2.1. Relative to other exchanges, the NTBM mainly provides service for firms with simple business models and small sizes. The requirements of NTBM are the most light-touch (NEEQ Bulletin No.2017-366, 2017). In the perspective of the number of listings, the NTBM is the foundation of China's multi-level stock markets (Chen & Gu, 2017; Li et al., 2015; Wang & Yang, 2016).

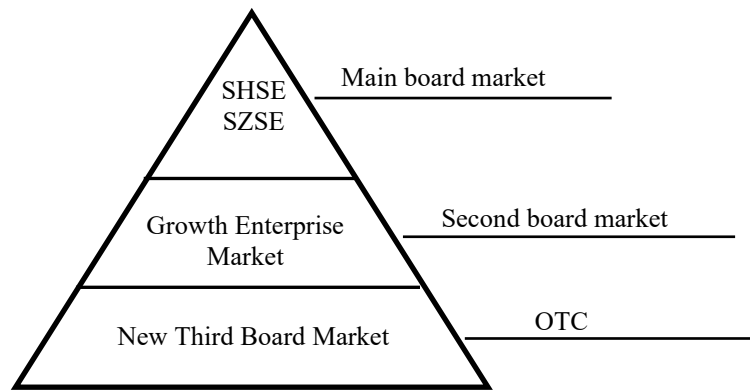


Figure 2.1

The Structure of China's Capital Market

Source: Retrieved from <http://www.csrc.gov.cn/pub/newsite/>

2.1.3 China's New Third Board Market

China's National Equities Exchange and Quotations (NEEQ), a Chinese nationwide Over-the-Counter market, was established in 2006. China's scholars, practitioners, and regulators call NEEQ the NTBM to distinguish this market from the old third board market. The market was composed of some regional equity exchange or share transfer centers in early 2000 and was called the “Third Board” or “Old Third Board”.^{II} NTBM has less stringent listing requirements than other stock markets such as MBM^{III}. The NEEQ Co, Ltd. is responsible for NTBM's operation and management (Interim Measures for the Administration of the National Equities Exchange and Quotations Co, Ltd. (IMANEEQ for short) (CSRC Order No. 89), 2013). The difference between NTBM, GEM, and MBM is listed in Table 2.3.

^{II} The market that was composed of some regional equity exchange or share transfer centers in early 2000 was called “Third Board” or “Old Third Board”.

^{III}For example, compare with other Chinese stock markets, the NTBM does not have profit requirements on listed firms. (Suchard, 2017)

Table 2.3
The Difference between NTBM, GEM, and MBM

	NTBM		GEM	MBM
Serve for		It is aimed at providing service for the development of innovative, entrepreneurial, growth-oriented SMEs	It serves for independent innovation enterprises and other growth startups, mainly for "two high" and "six new" enterprises, e.g., high technology, high growth, new economy, new service, etc.	Most of the listed enterprises are large outstanding enterprises with high market share, large scale, a good foundation, high income, and low risk.
Listing requirements	Profit indicator	Going-concern ability	In the last two consecutive years, the net profit is not less than ¥10 million; or the net profit in the last year is not less than ¥5 million, and the operating income in the last year is not less than ¥50 million. The operating income growth rate in the last two years is not less than 30%.	The cumulative net profit of the issuer in the most recent three fiscal years has exceeded RMB 30 million, and the cumulative net cash flow from operating activities in the most recent three fiscal years has exceeded RMB 50 million, or the cumulative operating income in the most recent three fiscal years has exceeded RMB 300 million.
	Net asset	No	The net assets at the end of the last period shall not have fallen below ¥20 million, and there is no compensation for the loss.	At the end of the last period, intangible assets (after deducting the land use right, water surface culture right and mining right, etc.) account for not more than 20% of the net assets
	Total equity	No	The company's total share capital is not fallen below 30 million.	The company's total share capital is not fallen below ¥50 million.
	others	Lead security trader recommendation and continuous supervision	Sponsor recommendation and supervision for two years	No

Table 2.3 (Continued)

		NTBM	GEM	MBM
	Trading method	Bidding, market maker, and agreement trading method	Bidding and bulk	Bidding and bulk
Trading system	Price limit	No	The price limit for the rise and fall is 10 %	➤ The price limit for the rise and fall is 10% ➤ The price limit for the rise and fall of ST and ST* stocks is 5 %
	Volume limit	1000 shares or their integer multiple	100 shares or their integer multiple	100 shares or their integer multiple
Investor requirement		The institutional investor's registered capital is required to be more than ¥5 million. The market value of the securities assets of the natural person investor is required to be more than ¥5 million yuan at the end of the last trading day. The natural person investor is required to have more than two years of experience in securities investment or have over two years of professional background or education experience in finance, accounting, investment and so on.	More than 2 years' experience in securities investment is required for individual investors.	No
Delisting system (financial requirements)		The delisting requirement of NTBM does not have financial requirements.	When losses occur for three consecutive years, net assets are negative for nearly a year, and audit reports for the past two years are negative or unable to express opinions.	When there are four consecutive years of loss, negative net assets in the past two years, operating income of less than 10 million yuan for four consecutive years, and the audit report of the last three years is negative or unable to express an opinion.

Source: 1. CSRC. Retrieved from <http://www.csrc.gov.cn/pub/newsite/>

2. Liang (2003) and Zhang (2001)

3. The differences between NTBM, GEM, and MBM are retrieved from <https://www.66law.cn/laws/126862.aspx>

In 2006, the Pilot Project of Zhongguancun Private Company Share was launched to provide another source of funds for Zhongguancun start-ups. In early 2011, NTBM completed the preliminary design of rules and regulations. In September 2012, the NEEQ Co., Ltd. was set up, marking the official existence of the NTBM (Li & Qiao, 2017; Li et al., 2015). NEEQ Co., Ltd provides supervision and services to listed companies and other participants, such as lead security trader. The NTBM provides SMEs with a very effective finance platform early in their development (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Yang, 2017). Additionally, it gives institutions and individuals who have investment willingness and capacity the opportunity to invest (Li & Qiao, 2017; Li et al., 2015). The history of the NTBM is shown in Figure 2.2.

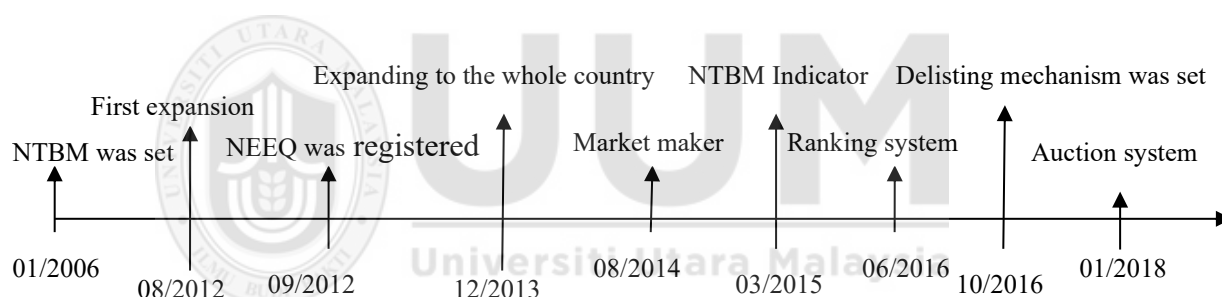


Figure 2.2

History of the NTBM

Source: Li, Zheng, and Wang (2019)

At the end of 2012, the figure of listed firms in this market was only 200. To enhance the dynamism of the stock market and serve more start-up firms, the CSRC changed the policies of the NTBM in 2013. The limitations of only high-tech companies that can list on this market were broken at the end of 2013, and all firms that meet requirements can list (Li et al., 2015). The listing firm began to surge after this regulation. In October 2016, "NEEQ Listing Company Stock Termination of Listing Regulations (Draft for Comment)" was issued to progress the market system of NTBM, establish a regular and market-oriented delisting mechanism and ensure the healthy

development of the stock market^{IV}. Since then, the transaction system of NTBM has become more complete than before.

Figure 2.3 shows the distribution of industries in the NTBM. At the end of 2019, the amount of listings in the NTBM is 8953 and involves 18 industries, containing more than 80 sub-industries. Firms that come from the Manufacturing sector account for 49.25%, and 19.27% of firms come from the Information transmission and Software service industry. In comparison, the traditional sectors, such as Tenancy & Business Services account for approximately 5.19%. The Repairs & Other services sector only contributes 0.27% to the NTBM.

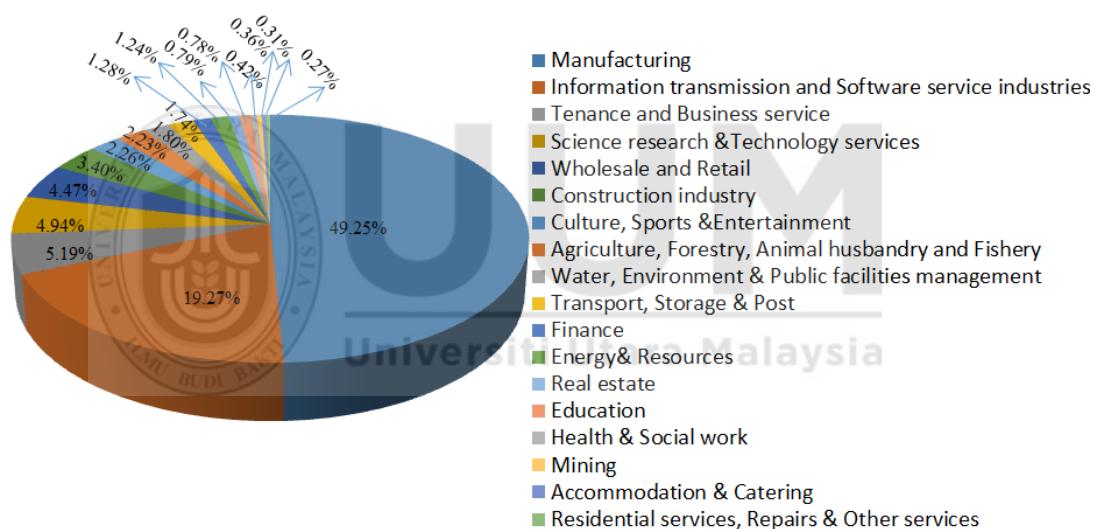


Figure 2.3
Industry Distribution of Firms Listed on the NTBM
 Source: NEEQ. <http://www.neeq.com.cn>

Furthermore, at the end of 2018, high-tech firms accounted for 65%, firms in the advanced manufacturing and modern service industry contributed to 72%, and firms

^{IV}<http://www.neeq.com.cn/notice/3188.html>

in the Intellectual property-intensive enterprises accounted for 42.25%.^V The NTBM achieves its purpose of providing financing services to high-tech and emerging firms (He, Wang, & Du, 2014; Li et al., 2015; Liu & Liu, 2017).

Xie Gen (2018), board chairman of NEEQ, purported that private enterprises in the NTBM take up 93%, and SMEs account for more than 94%. Therefore, the NTBM is the principal front for serving private companies and SMEs.

However, the NTBM shows lower liquidity when compared to the MBM (Li & Qiao, 2017; Li et al., 2018; Zhu & Shen, 2016). This study measures market liquidity with trading days and turnover rate (Baker & Stein, 2004; Hu et al., 2019; Liu et al., 2012; Pour & Lasfer, 2013). Table 2.4 shows that both the trading days and turnover rate of the NTBM are much lower than that of the MBM.

Table 2.4
The Trading Days and Turnover Rate of the NTBM and MBM

Panel A: Trading days (The number of days traded)						
Markets/Year	2014	2015	2016	2017	2018	2019
NTBM	18.83	54.37	53.81	40.73	25.52	26.68
MBM	219.96	202.89	211.58	214.70	229.17	235.26
Panel B: Turnover rate(%)						
Markets/Year	2014	2015	2016	2017	2018	2019
NTBM	17.21	39.61	24.85	21.35	4.07	2.94
MBM	579.23	997.28	665.62	583.02	543.22	637.94

Notes:

Source: Calculated by the data from Wind database

(1) Trading days= $\sum (S_i \times t)/N$, S_i : A share; t : trading days of a share; i from 1 to N .

(2) Turnover rate= volume traded/ total outstanding shares $\times 100\%$

(3) All data is the annual average data

In summary, the NTBM is not only a central foundation of China's multi-level capital market but also provides an additional channel for SMEs to raise capital (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Xuan, 2016; Yan & Tao, 2014). The

^V Retrived from <http://wap.icbc.com.cn/icbc/投资资讯/理财/新三板创新层逾四成企业拥有发明专利超20项.htm>

development of this market influences the development of China's capital market (He & Zhang, 2017; Hui & Gu, 2017; Li et al., 2015; Wang & Yang, 2016). However, recently, many firms voluntarily delisted from this market. Wang (2017) suggested that delisting is the most important mechanism for a healthy stock market. However, lots of delistings can affect the sentiment of the market and thereby affect the development of the security market (Fungáčová & Hanousek, 2011; Liu & Liu, 2017). Therefore, it is necessary to investigate the factors related to this voluntary delisting phenomenon (Liu, 2022; Yang, 2021).

2.2 Delisting

2.2.1 Overview of the Delisting

The choice to go public has absorbed many scholars' attention. This choice has many benefits for a firm, such as expanding the financial visibility, ameliorating financing ability; promoting corporate governance; cutting capital cost, mitigating information asymmetry; and broadening the product reputation (Boers et al., 2017; Bortolon & Junior, 2015b; Kalak et al., 2018; Lowry et al., 2017; Yoshida, 2021). Kalak et al. (2018) claimed that a company's decision to list on an exchange represents its management has faith in its ability to operate successfully under strict regulations and public scrutiny. However, Cai et al. (2018) suggested that the listing decision was made in order to rebalance leverage.

Overall, a lot of research about going public subject is conducted by prior scholars. Only a small number of the empirical literature, however, concentrate on the reverse transaction: delisting (Djama et al., 2012; Ehn, 2016; Liao, 2020; Martinez & Serve, 2017; Moreira et al., 2017). Even though the delisting decision also is the important strategic decision during the life cycle of the firm and large-scale delisting will result

in severe effects on firms, stock exchanges and financial markets (Gui, 2018; Onuorah A.C. & Kifordu A.A., 2021; Rogova, 2021; Vismara & Signori, 2014; Zhu, 2018). Therefore, this study plans to focus on the factors that cause firms to delist from the market voluntarily in the context of China's NTBM. Before conducting further analysis, this study first clarifies the meaning and categorization of voluntary delisting.

2.1.1.1 Definition

In 1963, Merjos began to research the delisting theme (Sanger & Peterson, 1990). The broadest definition of delisting refers to the listed firm being removed from the stock market where it previously traded (Fidanza et al., 2018a; Martinez & Serve, 2017). Accordingly, this study defines the delisting as the firm removes from the NTBM.

2.2.1.2 Classification of Delisting

Delisting can be classified into different types according to various criteria. Zhou (2017) divided delisting into passive delisting and active delisting in line with the initiators' wishes. Passive delisting refers to the termination of going public by a listed firm that fails to meet the listing requirements prescribed by the regulator. Active delisting means that a listed firm actively pursues delisting to maximize benefits (Zhou, 2017).

The above classification is similar to Macey et al. (2008). They were the first to make the distinction between voluntarily and involuntarily delisting. The difference between initiators is what separates voluntary and involuntary delisting. When a company is delisted involuntarily, it signifies that it has violated regulations or is unable to comply with regulatory requirements, forcing it to leave the stock market. Delisting for a firm

that makes the decision on its own is referred to as voluntary delisting (Iliemena & Goodluck, 2019; Martinez & Serve, 2017; Park et al., 2018; Tutino et al., 2014).

According to previous studies, the definition of involuntary delisting is quite simple, whereas the definition of voluntary delisting seems to be more complex (Martinez & Serve, 2017). Macey et al. (2008,p.689) noted that "voluntary delistings occur as the natural consequence of a merger, a decision to take the firm private, a voluntary liquidation, or a company's decision to list only in its home market." Based on Martinez's notion, voluntary delisting includes four categories. First, the firm voluntarily delists for a merger^{VI}. Second, the firm voluntarily delists into becoming a private. This kind of transaction is named as "Going Private Transaction" (GPT) (Martinez & Serve, 2017). Third, the firm voluntarily delists because of a liquidation. Fourth, the firm voluntarily delists from a foreign market listed before and then lists only in its domestic markets, it can be referred to as cross-delisting (Cai et al., 2018; Chaplinsky & Ramchand, 2012; Chen et al., 2018; Daugherty & Georgieva, 2011; Martinez & Serve, 2017; Witmer, 2005; You, Parhizgari & Srivastava, 2012).

On a similar notion, Martinez and Serve (2017) and Fidanza et al. (2018a) classified voluntary delisting into voluntary delisting without subsequent trading and voluntary delisting with subsequent trading.

2.2.1.2.1 Voluntary Delisting without Subsequent Trading

According to Martinez and Serve (2017)'s idea, merger and going private transaction belongs to voluntary delisting without subsequent trading, and this kind of transaction

^{VI}A merger takes place when two separate companies join forces to establish a new, joint organization. In this condition, two old companies disappear.

often includes deals between companies and shareholders. Researchers purported that a GPT usually involves an acquisition that centralizes ownership of the company in the hands of a small number of investors who are not interested in trading their equity publicly (Leuz et al., 2008).

Furthermore, going private transactions will be different when considering the nature of the ownership structure. The delisting will lead to control changes in the company with diffused ownership. The company is acquired by investors who often utilize a plentiful number of borrowed funds and subsequently delisted. This form is referred to as leveraged buyout (Martinez & Serve, 2017; Renneboog & Simons, 2005; Renneboog & Vansteenkiste, 2017; Weir et al., 2008). In a company with concentrated ownership, the delisting is conducted by a company that is a parent company of the delisting firm, or the delisting is undertaken by individuals who held the shares of the firm and also managed this firm (Martinez & Serve, 2017; Phani et al., 2005; Renneboog & Vansteenkiste, 2017).

Additionally, according to the initiator of going private, it can be divided into leveraged buyout transactions (LBO), freeze-out transactions, management buyout (MBO), management buyin (MBI) transactions, and institutional buyout transactions (IBO). Table 2.4 presents these GPTs and describes the definition of these GPTs.

2.2.1.2.2 Voluntary Delisting with Subsequent Trading

In contrast to going private—the firm voluntarily delists without subsequent trading, the firm voluntarily delists with subsequent trading is viewed as delisting from a stock market and continuing trade in another stock market (Martinez & Serve, 2017). If the latter stock market is more regulatory than the previous market, that means transferring

to the main or more regulated stock market. If the latter stock market is less regulatory than the former market, that is called going dark (Marosi & Massoud, 2007; Martinez & Serve, 2017).

Table 2.4
Summaries of Classification and Definition of GPTs

Classification	Definition	Authors
LBO	Leveraged buyout. An acquisition whereby an acquirer takeover a company by utilizing the funds borrowed beyond the industry average	(Martinez & Serve, 2017; Renneboog & Simons, 2005; Renneboog & Vansteenkiste, 2017)
Freeze-out	The minority freeze-out. It is a big insider trading in which large (controlling) shareholders wanted full equity ownership to use a public takeover bid by freezing out minority ownership.	(Bajo et al., 2013; H. DeAngelo et al., 1984; Lauterbach & Mugerman, 2018; Martinez & Serve, 2017)
MBO	Management buyout. The incumbent management team acquires the firm and seeks external private equity investors to support them in conducting this deal.	(Elitzur et al., 1998; Martinez & Serve, 2017; Renneboog et al., 2007; Renneboog & Simons, 2005; Renneboog & Vansteenkiste, 2017)
MBI	Management buyin. It is usually a hostile deal and is defined as the outside management team taking over the company and taking it private.	(Renneboog & Simons, 2005; Renneboog & Vansteenkiste, 2017; Robeie & Wright, 1995)
IBO	Institutional buyout. "The new owners of a delisted firm are solely institutional investors or private-equity firms."	(Renneboog & Vansteenkiste, 2017)

Source: Renneboog and Vansteenkiste (2017)

Previous studies examined the reasons for voluntary delisting and suggested that firms transfer their shares to the main board market to raise additional money (Balios et al., 2015; Kalak et al., 2018). Martinez and Serve (2017) suggested that this transaction is not viewed as a delisting and is eliminated from delisting empirical articles.

2.2.1.2.3 Cross-delisting

In addition, previous studies also pay more attention to cross-delisting, in which a firm delists from a foreign market but continues to trade in the domestic market, which is a specific voluntary delisting (Cai et al., 2018; Daugherty & Georgieva, 2011; Füss et al., 2016; Hu et al., 2019; Liu et al., 2012; Sun et al., 2002; Witmer, 2005; You et al., 2012). Cross-delisting dramatically increases after the Sarbanes-Oxley Act (Sox) because Sox enhances the compliance cost (Bessler et al., 2012; Chaplinsky & Ramchand, 2008; Daugherty & Georgieva, 2011). These years, the number of Chinese firms delisted from US exchanges because of the undervaluation hypothesis, lower investments in intangible assets, unreliable U.S. intermediaries, and government policy changes (Agyei-Boapeah et al., 2019; Colak et al., 2020; Hu et al., 2019).

According to the research objectives of this study and the above discussion, this study focuses on voluntary delisting without subsequent trade in China's NTBM and abbreviates it as voluntary delisting. Based on the delisting types classified by the NTBM, the market distinct the merger, transfer, and voluntary delisting. Voluntary delisting in the NTBM refers to the NTBM-listed firms delisting voluntarily and becoming private firms. Therefore, the voluntary delisting in this study focuses on this type.

2.2.2 Effects of Voluntary Delisting

Delisting will result in many effects on the firms and the stock market. Delisting negatively influences the stock price (You et al., 2012). However, the influence of delisting will differ by different delisting types. Involuntary delisting mostly results in value destruction because it is not the firm's choice. On the contrary, the effects of voluntary delisting will be heterogeneous under different strategic purposes of the initiator because voluntary delisting is the company's choice (Martinez & Serve, 2017).

Firstly, delisting seriously influences the stockholder's wealth. Involuntary delisting often deteriorates firm value because it is not the natural consequence of managerial choice (Fidanza et al., 2018c; Lai & Leung, 2018). The delisting due to financial distress, small trade volumes, and high stock price volatility will lead to the reduction of firm value (Boers et al., 2017; Harris et al., 2008; Leuz et al., 2008; Magni et al., 2022; Marosi & Massoud, 2007). However, the effects of voluntary delisting on the firm's shareholder wealth and firm's value are ambiguous, and previous studies did not get consistency in this issue.

Many prior researchers purported that voluntary delisting can increase shareholder wealth because voluntary delisting could save listing costs (DeAngelo et al., 1984; Eisdorfer, 2008; Martinez & Serve, 2017). Previous studies usually examined the influence of voluntary delisting on shareholder wealth by calculating cumulative abnormal returns (CARs) of voluntarily delisted firms at their announcement date (Martinez & Serve, 2017; Ureche-Rangau & Carugati, 2007). The results of the research are summarized in table 2.5.

DeAngelo et al. (1984) employed 72 samples from 1973 to 1980 in the United States and firstly assessed the influences of going private transactions on shareholder wealth. They found that voluntary delisting positively affects company profitability and negatively affects maintenance costs, although voluntary delisting could extract minority shareholders' wealth. Most articles get the same results (e.g., Belkhir et al., 2013; Geranio & Zanotti, 2012; Leuz et al., 2008).

Furthermore, previous studies showed that voluntary delisting has a different effect depending on different geographical (Sannajust, 2009). Researchers found that the estimated premium of going private transactions in the USA and the UK is higher than

in European going private transactions (Bajo et al., 2013; Geranio & Zanotti, 2012; Martinez & Serve, 2017; Sannajust, 2009). Shareowner gains are affected by the type of controlling stockholder that initiated delisting. For instance, delisting cannot increase shareholder wealth when the initiator is a family or non-foreigner firm (Crocì & Giudice, 2014; Martinez & Serve, 2011, 2017).

Table 2.5

Summaries of Effects of Voluntary Delisting on Shareholder Wealth and Firm Value

Impact on the shareholder wealth	Methodology	country	Authors
Increase the shareholder wealth and firm value	Standard study analysis and premium analysis	USA	DeAngelo et al. (1984) Kaplan (1989a,b) Lehn and Poulsen (1989)
	Standard study analysis		Lee et al. (1992) Leuz et al.(2008)
	Standard study analysis and premium analysis	The UK, non-UK	Renneboog et al. (2007)
	Standard study analysis	European	Andres et al. (2004)
	Standard study analysis and premium analysis	The USA and Europe	Sannajust (2009)
	Standard study analysis and premium analysis	Continental Europe	Bajo et al.(2013) Belkhir et al.(2013)
	Standard study analysis	Continental Europe	Crocì and Giudice (2014) Geranio and Zanotti (2012)
Decrease the shareholder wealth and firm value	Standard study analysis	The UK and Continental Europe	Crocì and Giudice (2014)
		The USA	Kang (2017) Leuz et al.(2008) Marosi and Massoud (2007) Pour and Lasfer (2013)

Source: Fidanza et al.(2018a) and Martinez and Serve (2017)

However, other researchers draw an opposite conclusion (e.g., Crocì & Giudice, 2014; Leuz et al., 2008; Morck & Yeung, 2003; Pour & Lasfer, 2013). For example, Kang (2017) examined the effects of voluntary delisting on the average total assets, revenues,

average sales, and net income. They depicted that compared with the listing firms in the same period, revenue growth and net income growth of voluntarily delisted firms decreased over time. The average of total assets also shows a decreasing trend after delisting. Croci and Giudice (2014) purported that firms' operating performance cannot be improved when the delisting decision is made by controlling shareholders. Pour and Lasfer (2013) described that the CARs of the firm voluntarily delisting is -10% on the event period[-5,+5]. Bakke, Jens and Whited (2012) purported that delistings can result in a robust decrease in employment and a light robust and modest decrease in investment and cash saving.

Therefore, according to the above discussion, the effects of firm voluntary delisting on shareholder wealth and firm value are ambiguous. Furthermore, previous studies examined the potential source of value creation and shareholder wealth gains from voluntary delisting. Majority studies treated tax benefits and the expropriation of minority shareholders as two primary sources of shareholder wealth gains of going private (Konno & Itoh, 2018; Martinez & Serve, 2017; Renneboog & Simons, 2005; Renneboog & Vansteenkiste, 2017; Sannajust, 2009; Tutino et al., 2014). Other potential sources include the reduction in wasting resources resulting from information asymmetry (Kaestner & Liu, 1996; Konno & Itoh, 2018; Renneboog & Simons, 2005), the transaction saving cost (Akhtar, 2016; Renneboog et al., 2007; Renneboog & Simons, 2005; Renneboog & Vansteenkiste, 2017; Thomsen & Vinten, 2014), and the improved monitoring capabilities (Konno & Itoh, 2018; Sannajust, 2009).

Secondly, going private significantly affects the quantity, quality and fundamental nature of firms' innovation (Amess et al., 2016; Cumming et al., 2020; Demir & Mohammadi, 2019; Lerner et al., 2011). Although the public listings could provide the

primary source of financing for innovation projects (Rajan, 2016), the existing agency conflicts between shareholders and managers hinder the public firms' managers exert more effort on risky innovation projects to avoid criticism of their poor management skills by shareholders when project failures (Demir & Mohammadi, 2019). However, private companies with high concentrated ownership are less likely affected by this agency problem because the concentrated private owners better understand the projects than public stockholders. Therefore, innovative investment activities would increase after going private (Amess et al., 2016; Demir & Mohammadi, 2019; Lerner et al., 2011).

Thirdly, large-scale delisting can negatively affect the performance of the stock market. Iliemena and Goodluck (2019) conducted longitudinal research in the Nigerian Stock Exchange over the year 1998-2018 to evaluate the impact of delisting on the stock market performance. His findings show that delisting significantly affects the stock exchange performance proxied by market capitalization and stock traded but does not affect the performance proxied by all share indexes. However, this article did not category the delisting as voluntary or involuntary.

Additionally, Onuorah and Kifordu (2021) extend Iliemena and Goodluck (2019) research to examine the effects of voluntary and involuntary delisting on the performance of the Nigerian Stock Exchange. Their research revealed that voluntary delisting negatively but insignificantly affects stock exchange performance proxied by market capitalization and volume of stock traded. They also found that involuntary delisting negatively and significantly affects market capitalization but does not significantly affect the volume of stock traded. Therefore, scholars asserted that

voluntary delisting has a deterring effect on the Nigerian Stock Exchange's performance.

Furthermore, the mass delisting phenomena in the NTBM shows the severe effects on the market capitalization of the NTBM and result in depression sentiment in the stock market. The market capitalization decreased from 4940.456 in 2017 to 3448.726 in 2018. Investor confidence fell from 54.13 in 2017 to 49.33 in 2018.

Finally, the large-scale voluntary delisting in the NTBM affects the construction of China's financial system. China's government has recently invested more money and time in building its financial system. An efficient and stable financial system can boost the development of the economy and support China's manufacturing plan in 2025 (Guidance on Financial Support for Building a Powerful Manufacturing (Yinfa[2017] No.58), 2017; Zhang, 2017). Multi-level capital markets play an essential role in the financial system of China (Guidance on Financial Support for Building a Powerful Manufacturing (Yinfa[2017] No.58), 2017; Zhang, 2017). The NTBM is a foundation of multi-level capital markets (Chen& Gu, 2017), which positively affects the transaction volume of other boards (Xu, 2018). Large-scale delisting could affect the development of the NTBM (Zhu, 2018). And then, it will affect the growth of China's multi-level capital market (Yang, 2017; Xu, 2018).

Considering the vital role of voluntary delisting in the NTBM, it is urgent to explore the determinants of delisting. In comparison, previous studies pay more attention to the delisting phenomena in developed countries, such as the United Kingdom and the United States (Bortolon & Junior, 2015a; Martinez & Serve, 2017; Pour & Lasfer, 2013; Renneboog et al., 2007). However, limited studies examine this phenomenon in China, especially in the NTBM (Liu, 2016).

2.2.3 Reasons for Voluntary Delisting

Previous studies explained the reasons for voluntary delisting decision mainly from three aspects: a cost-benefit consideration, mitigating the conflicts between shareholders and managers, and protecting or extracting private benefits by managers or controlling shareholders (Bharath & Dittmar, 2010; Chiara, 2015; Martinez & Serve, 2017; Pour & Lasfer, 2013; Tutino et al., 2014).

2.2.3.1 A Cost-Benefit Consideration

Firms remaining at the exchange are costly (Akhtar, 2016). For example, a firm listed on the market has listing and reporting costs (DeAngelo & DeAngelo, 1987), lack of tax advantage (Kaplan, 1988), increased agency conflict and agency costs (DeAngelo, 1981; Opler & Titman, 1993), and higher transaction costs in financing capital (Kim & Weisbach, 2008). Thus, according to CBA theory, a firm decides to delist when the listing cost exceeds the listing benefits (Bharath & Dittmar, 2010; DeAngelo et al., 1984; Konno & Itoh, 2018; Lehn & Poulsen, 1989; Leuz et al., 2008; Maupin et al., 1984; Mehran & Peristiani, 2010; Tutino et al., 2014; Zhu, 2018)

Besides, researchers purported that the primary motivations for going public are a firm wants to raise funds and rebalance its capital structure, increase bargaining power with banks, improve external monitoring, and strengthen the firm's reputation and credibility (Aslan & Kumar, 2011; Bancel & Mittoo, 2007; Bharath & Dittmar, 2010; Kim & Weisbach, 2005; Marosi & Massoud, 2007). When a firm cannot pursue these objectives, it will delist from the stock market (Chiara, 2015; Pour & Lasfer, 2013).

2.2.3.2 Mitigating the Conflicts between Shareholders and Managers

A firm can utilize delisting to alleviate agency conflicts between shareholders and management (Martinez & Serve, 2017). Ineffective corporate governance can easily lead to severe agency problems (Martinez & Serve, 2017; McColgan, 2001). According to the incentive realignment hypothesis, Kaplan (1989a) purported that delisting can coordinate the incentives of managers and shareholders (Martinez & Serve, 2017). Thus, firms are likely to delist voluntarily with poor corporate governance.

2.2.3.3 Protecting or Extracting Private Benefits by Managers or Controlling Shareholders

Contrary to the incentive realignment hypothesis, Renneboog et al. (2007) investigated that the impacts of the incentive realignment effect are lower when a firm with higher managerial ownership because of the entrenchment effect. Thus, managerial shareholders are likely to make delisting decision so as to protect their private benefits (Leuz et al., 2008; Marosi & Massoud, 2007; Martinez & Serve, 2017; Weir et al., 2005a). Martinez and Serve (2017) depicted that insiders had the motivation to extract minority shareholders' wealth through delisting. Additionally, Weir et al. (2005a) purported that CEO with high ownership has the incentive to seek value-maximizing opportunities (innovation) from private information. However, this private information cannot convince public markets (Weir et al., 2005a).

2.2.4 Factors that Cause Voluntary Delisting

Previous studies have examined the factors (Engel et al., 2007; Fungáčová & Hanousek, 2011; Martinez & Serve, 2017) that cause a firm may make delisting

decision voluntarily. Table 2.6 summarizes the factors that cause voluntary delisting in previous studies.

Prior researchers suggested that firm characteristics are the factors that can affect firms' voluntary delisting decision, such as firm age, firm size, liquidity, growth opportunities, cash ability, operating performance, asset tangibility, and firm leverage. Previous studies postulated that firm age had a significant and negative effect on delisting decision (Demers & Joos, 2007; Doidge et al., 2018; Yung et al., 2008); financial leverage and asset tangibility had a significant and positive effect on delisting decision (Algebaly, 2011; Demers & Joos, 2007; Martinez & Serve, 2011; Pour & Lasfer, 2013; Yung et al., 2008).

However, the findings of prior research about the effects of firm size, liquidity of the firm, growth opportunities, and operating performance (profitability) on voluntary delisting decision are mixed (Bessler et al., 2022; Charitou et al., 2007; Demers & Joos, 2007; Doidge et al., 2017, 2018; Magni et al., 2022; Martinez & Serve, 2011; Wright et al., 2004; Yung et al., 2008).

Concerning the relationship of ownership concentration with voluntary delisting, different measurement has different results. Bortolon and Junior (2015b) suggested that the measurement of ownership structure includes ownership concentration and free float. Ownership concentration is measured by the concentration of votes (such as the average percentage of shares entitled to vote of the largest shareholder) that positively affects the firm's voluntary delisting decision (Almutairi, 2021; Bortolon & Junior, 2015b).

The free float can be measured by the average percentage of voting shares held by minority shareholders having under 5% of capital (Bortolon & Junior, 2015b) or the average percentage of total shares of a firm owned by minority shareholders (Bortolon & Junior, 2015b). Previous studies suggested that firms with low free float are apt to delist (Bortolon & Junior, 2015a; Lee et al., 2010).

Board characteristics play a vitally important role in firm strategic making. According to previous empirical studies, researchers found that board size has not a significant (Sudarsanam et al., 2011; Valenti & Schneider, 2014) influence on voluntary delisting, and others found the effect of board size on voluntary delisting is positive (Fidanza et al., 2018c; Goktan et al., 2018). Board independence shows a mixed relationship with voluntary delisting (Du et al., 2013; Valenti & Schneider, 2014).

Prior studies found mixed results regarding the relationship between CEO duality and voluntary delisting probability (Chancharat et al., 2012; Liu et al., 2013). Some researchers found positive relationships (Djerbi & Anis, 2015; Liu et al., 2013; Martinez & Serve, 2017; Weir et al., 2003, 2005b), and others cannot find any association between them (Chancharat et al., 2012; Hostak et al., 2013; Pour, 2015).

Furthermore, previous studies have failed to find consistent results about the relationship between corporate governance, i.e., board characteristics, institutional ownership, insider ownership and family ownership, and voluntary delisting. Regarding the impacts of institutional ownership on the voluntary delisting decision, previous studies found negative (e.g., Algebaly, 2011; Bharath & Dittmar, 2010; Lauterbach & Mugerman, 2018; Rath & Rashid, 2016) or positive (e.g., Cumming et al., 2019; De & Jindra, 2012; Weir et al., 2003) and not significant results (Lauterbach & Mugerman, 2018). Reference to the relationship between insider ownership and

voluntary delisting is negative (e.g., Algebaly, 2011; Sannajust, 2009) or positive (Djerbi & Anis, 2015; Du et al., 2013; Engel et al., 2007; Fidrmuc et al., 2013; Lee et al., 2010; Pour & Lasfer, 2013; Weir et al., 2008; Weir & Wright, 2006). The results are negative when considering the relationship of family ownership with voluntary delisting (Aslan & Kumar, 2011; Cumming et al., 2019; Sannajust, 2009).

Furthermore, a firm with sizable free cash flow can induce high agency conflicts and then is likely to go private (Belkhir et al., 2013; Bortolon & Junior, 2015a, 2015b; Du et al., 2013; Liu et al., 2013; Sannajust, 2009). The influence of the market-to-book ratio on going private decision is positive and significant (Du et al., 2013). Firms with low growth opportunities, undervalued stock prices, and expected interest tax shields are likely to delist voluntarily (Algebaly, 2011; Belkhir et al., 2013; Doidge et al., 2015; Pour & Lasfer, 2013).

Other researchers also examined the impact of different factors on going private such as idiosyncratic risk (Martinez & Serve, 2011; Sudarsanam et al., 2011; Weir et al., 2008), audit committee (Daugherty & Georgieva, 2011; Sudarsanam et al., 2011), R&D spending (Weir et al., 2008), tax benefit (Kaplan, 1989a; Weir et al., 2008). Furthermore, previous studies also investigated the effects of financial regulation on IPO survival time (Cattaneo et al., 2015).

Additionally, previous studies have found that capital and financial visibility are good predictors of delisting. However, stock liquidity cannot predict the delisting of a firm (Kalak et al., 2018). A firm with lower analyst coverage is not likely to go private (Akhtar, 2016; Aslan & Kumar, 2011).

Besides, a lot of articles in delisting literature have emphasized the impact of the Sarbanes-Oxley. They tried to examine the change in the likelihood of delisting pre and pro of the Sarbanes-Oxley (Hansen et al., 2009; Leuz, 2007; Mohan & Chen, 2007; Bartlett, 2009). Researchers suggested that the Sarbanes-Oxley increased the cost of compliance (Engel et al., 2007; Hansen et al., 2009; Mohan & Chen, 2007). Thus, many firms may delist from the U.S. stock exchange based on the cost-benefit tradeoff (Martinez & Serve, 2017). Meanwhile, Sarbanes-Oxley has more effects on small firms than on large firms (Kamar et al., 2009).

In brief, previous studies have discussed the influence of firm characteristics, corporate governance, offering variables, signaling variables, and the nature of industry on voluntary delisting. Above these factors, corporate governance factors are the key and foundation factors that need further study (Zhang, 2015).

2.2.5 Delisting in China

The earliest exit mechanisms were set in December 1998, when China's government enacted Securities Law to protect public investors. The Law establishes the standards and procedures for delisting. But the regulators have been very cautious in implementing the delisting process. And then, China's CSRC published "Implementation Measures for Suspension and Termination of Trading of Loss-making companies" in February 2001 (Liu et al., 2013).

Relatively to mature markets with various and market-oriented delisting standards, China's delisting standard has only a single profitability standard and is mainly implemented on a compulsory basis. However, profitability is easy to be manipulated. Thus, in 2004, the delisting standard added the ownership criterion that the firm would be delisted if the ownership of the public fell below 25% (Liu et al., 2013).

In 2012, to protect public investors, the delisting rules were revised by the SHSE and SZSE. This amendment added the operating and net asset value criteria to examine underperforming companies in the delisting rules ^{VII}.

In October 2014, CSRC issued a few new opinions on reforming and improving the delisting regulations of listed firms, which is named "the most strict new delisting regulations in history." (Zhou, 2017). In July 2018, the CSRC formally published "The decision on amending some opinions on the reform, perfection and strict implementation of the delisting system of listed companies" to enhance the principal circumstances of major illegal and compulsory delisting and strengthen the essential role of the security exchange in implementing the delisting system (CSRC (Draft for Comments), 2018).

The delisting rules designate corporations with two consecutive years of losses as Special Treatment (ST) companies. Zhang, Mahenthiran and Huang (2012) purported that ST firms have diffusion ownership and fewer independent directors on the board. Besides, ST firms have a higher turnover of the chairs of board and CEOs (Zhang et al., 2012). Other researchers examined the delisting system from the perspectives of corporate governance (Jing, 2016; Zhang et al., 2012; Zhang, 2015), government intervention (Chen & Lan, 2014; Liao, 2015), financial distress (Wu & Ma, 2007; Xie, 2013). They analyzed the shortcomings of the delisting system (Ding & Hou, 2014; Fang et al., 2016; Shen & Li, 2013) and compared the delisting system between China and the U.S. (Zhou, 2017). In addition, previous studies also investigated the effects of the delisting system (Wu & Zhou, 2014; Xie, Zhu, & He, 2013).

^{VII} China Securities Regulatory commission <http://www.csrc.gov.cn/pub/newsite/>

On November 2, 2020, the Central Comprehensively Deepening Reform Committee reviewed and approved the "Implementation Plan for Improving the Delisting Mechanism of Listed Companies". It is clearly emphasized that improving the delisting mechanism of listed companies is a crucial institutional structure for comprehensively deepening capital market reform. Specifically, there are four reform ideas in this reform. These four reform ideas cover adhering to the direction of marketization, improving the financial delisting standards, strictly implementing the delisting, and simplifying the delisting process.

After this reform, previous scholars examined the relationship between this reform of this delisting mechanisms and financial fraud, earning management, and the protection of minority investors (Hou, 2022; Lv, 2021; Tan & Zhang, 2022). Moreover, previous scholars explain how to improve the delisting mechanisms under the reform of IPO registration system. They suggested the intervening of public power, the discretion of the exchange, the problem and policy suggestions for the new delisting mechanisms (Cai & Zhang, 2022; Jin et al., 2022; Li & Hou, 2021; Zuo, 2022).

Furthermore, researchers found that delisting mechanisms play a pivotal role in NTBM construction and can guarantee the efficiency and rationality of the market (Zhao, 2016; Zhu, 2015). On 20th November 2015, CSRC purported that it was necessary to establish a regular and market-oriented exit mechanism following relevant law (CSRC, 2015).

Previous studies and newspapers analyzed the reasons for firms delisted from the NTBM. Researchers have argued that violating listing requirements, high compliance costs, unachieved financing objectives, inadequate liquidity, merger and acquisition, and transferring to regulated exchanges were reasons that firms were delisted from the

NTBM (Feng, 2018; Zhu, 2018). However, limited articles analyzed the factors that cause firms to delist voluntarily from this market (Yang, 2021). Thus, it is necessary to further study the delisting issues in the context of NTBM (Liu, 2022; Yang, 2021). The current study seeks to investigate the factors related to the NTBM-listed firms delisting decision from the standpoint of corporate governance and examine the influence path and the factors that can moderate these relationships.

2.3 Independent Variables of the Study: Corporate Governance

2.3.1 Overview of Corporate Governance

2.3.1.1 The Definition and Theoretical Model of Corporate Governance

2.3.1.1.1 The Definition of Corporate Governance

The theme of corporate governance was "originated in Adolf A. Berle and Gardiner C. Means's classical studies in the 1930s, in the context of the Modern Anonymous Company's emergence" (Bortolon & Junior, 2015a, p.93). This theme gets the focal point in recent thirty years because of the surge of scandals, such as Enron in the USA and Ahold in Europe (Millar et al., 2005). Prior researchers suggested that corporate governance offers the framework needed to realize company goals through controlling a series of management actions from control to measurement (Thakolwiroj & Sithipolvanichgul, 2021). Therefore, Guizani (2018) noted that corporate governance mechanisms have an essential role in firm cash holdings and performance.

Table 2.6
The Determinants of Voluntary Delisting

Group	Determinants	Relationship	Authors
Firm characteristics	Firm's age	-	(Schultz, 1993; Peristiani & Hong, 2004; Li et al., 2006; Demers & Joos, 2007; Yung et al., 2008; Aslan & Kumar, 2011; Doidge, Kahle, Karolyi, & Stulz, 2018)
	Firm's size	-	(Algebaly, 2011; Baluja, 2018; Cai, Lee, & Valero, 2018; Doidge et al., 2018; Doidge, Karolyi, & Stulz, 2015; Martinez & Serve, 2011; Michelsen & Klein, 2011; Mohan & Chen, 20007; Wright, Weir, Laing, & Burrows, 2004; Bessler et al., 2022)
		+	(Akhtar, 2016; Bortolon & Silva Junior, 2015b; Liu, Lister, & Pang, 2013; Martinez & Serve, 2011)
		not	(Baschieri et al., 2015; Chaplinsky & Ramchand, 2012; Derouiche et al., 2017; Fidrmuc et al., 2013; Kang, 2017; Pour & Lasfer, 2013)
	liquidity	-	(Willenborg & McKeown, 2001; Peristiani, 2003; Algebaly, 2011; Aslan & Kumar, 2011; Balios, Eriotis, Missiakoulis, & Vasiliou, 2015)
		+	(Kang, 2017; Liu et al., 2013)
	Growth Opportunities (MB)	-	(Algebaly, 2011; Aslan & Kumar, 2011; Doidge et al., 2017; Pour & Lasfer, 2013)
		not	(Cai et al., 2018; Martinez & Serve, 2011)
		+	(Du et al., 2013; Fidrmuc et al., 2013; Kang, 2017; Leuz et al., 2008; Liu et al., 2013; Weir et al., 2008)
	Cash ability capital expenditure/total sales	-	(Algebaly, 2011; Chaplinsky & Ramchand, 2012)
		not	(Balios et al., 2015a; Martinez & Serve, 2011; Pour & Lasfer, 2013)
		+	(Bortolon & Junior, 2015b; Halpern, Kieschnick & Rotenberg, 1999; Lehn & Poulsen, 1989)
	Operating performance	-	(Aslan & Kumar, 2011; Pour, 2015; Martinez & Serve, 2011)
		not	(Balios et al., 2015a; Cai et al., 2018; Fidrmuc et al., 2013; Kang, 2017; Liu et al., 2012; Pour & Lasfer, 2013)
		+	(Brau et al., 2013; Lee, Khong, & Ramasamy, 2010; Lee, Khong, & Ramasamy, 2010; Liu et al., 2013; Mohan & Chen, 2007)

Table 2.6 (Continued)

Firm characteristics	Financial leverage	+	(Algebaly, 2011; Balios et al., 2015a; Cai et al., 2018; Kang, 2017; Pour, 2015; Liu et al., 2013; Martinez & Serve, 2011; Mohan & Chen, 2007; Pour & Lasfer, 2013)
		-	(Martinez & Serve, 2011; Michelsen & Klein, 2011; Sudarsanam et al., 2011)
	Market Capitalization	-	(Ehn, 2016)
	Capital raising	Not	(Balios et al., 2015)
	Total asset turnover	not	(Kang, 2017)
	disclosure	+	(Cai et al., 2018)
	Intangibility	+	(Pour, 2015; Pour&Lasfer, 2013)
		not	(Sudarsanam et al., 2011)
Internal corporate governance	Earnings management	+	(Makrominas & Yiannoulis, 2021)
		+	(Cumming et al., 2016; De & Jindra, 2012; Weir, Laing, & Wright, 2005; Weir et al., 2005, 2003)
	Institutional ownership	-	(Algebaly, 2011; Bharath & Dittmar, 2010; Chen, 2011; Lauterbach & Mugerman, 2018; Mehran & Peristiani, 2010; Rath & Rashid, 2016; Sannajust, 2010)
		not	(Lauterbach & Mugerman, 2018)
		not	(Lee et al., 2010)
	Insider ownership	-	(Achleitner et al., 2013; Algebaly, 2011; Aslan & Kumar, 2011; Hostak et al., 2013; Sannajust, 2009; Weir et al., 2008)
		+	(Djerbi & Anis, 2015; Du et al., 2013; Engel et al., 2007; Fidrmuc et al., 2013; Pour & Lasfer, 2013; Valenti & Schneider, 2014; Weir et al., 2005; Weir & Wright, 2006; Wright, Weir, & Burrows, 2007)
	Family ownership	-	(Aslan & Kumar, 2011; Cumming et al., 2016; Sannajust, 2009)
	Ownership structure (concentration)	+	(Bharath & Dittmar, 2010; Bortolon & Junior, 2015b; Fidanza et al., 2018c; Kang, 2017; Konno & Itoh, 2018; Moreira et al., 2017; Thomsen & Vinten, 2014)

Table 2.6 (Continued)

Internal corporate governance	Free float	- not +	(Bortolon & Juniorb, 2015b; Lee et al., 2010) (Espenlaub et al., 2012) (Lee et al., 2010)
	Board size	not +	(Bortolon & Junior, 2015a; Du et al., 2013; Liu et al., 2013; Sudarsanam et al., 2011; Valenti & Schneider, 2014) (Fidanza et al., 2018c; Goktan et al., 2018; Benjamin E. Hermalin & Weisbach, 2001)
	Board independence	not - +	(Du et al., 2013) (Brau et al., 2013; Hostak et al., 2013; Leuz et al., 2008; Weir et al., 2005; Weir & Wright, 2006) (Hostak et al., 2013; Weir et al., 2005)
	CEO duality	+ not	(Djerbi & Anis, 2015; Liu et al., 2013; Weir et al., 2005; Weir et al., 2005; Weir & Wright, 2006) (Chancharat, Krishnamurti, & Tian, 2012; Hostak et al., 2013; Pour, 2015; Sudarsanam et al., 2011)
	Payment of dividends	not -	(Bortolon & Junior, 2015b) (Akhtar, 2016; Lee et al., 2010)
External corporate governance	The quality of external auditor (involuntary)	-	(Demers & Joos, 2007; Jain & Martin, 2005; Makrominas & Yiannoulis, 2021)
	Offering size	+ - not	(Makrominas & Yiannoulis, 2021) (Jain & Kini, 1999; Willenborg & McKeown, 2001; Bhabra & Pettway, 2003; Boubakri et al., 2005; Kooli & Meknassi, 2007; Algebaly, 2011) (Liu et al., 2013)
Offering variables	Trade volume	- +	(Bortolon & Junior, 2015a; Pour & Lasfer, 2013; Weir et al., 2005; Michelsen & Klein, 2011; Balios et al., 2015) (Brau et al., 2013)
	IPO activity	+	(Boubakri et al., 2005; Demers & Joos, 2007; Kooli & Meknassi, 2007; Yung et al., 2008; Algebaly, 2011; Makrominas & Yiannoulis, 2021)
	Price change volatility	-	(Balios et al., 2015)

Table 2.6 (Continued)

Offering variables	Stock turnover	-	(Du et al., 2013; Liu et al., 2012; Martinez & Serve, 2011; Mehran & Peristiani, 2010b; Pour & Lasfer, 2013)
	Stock volatility	not -	(Pour & Lasfer, 2013; Brau et al., 2013) (Pour & Lasfer, 2013)
Signaling variables	Venture capitalist (VC)	- not	(Li et al., 2006; Kooli & Meknassi, 2007; Yung et al., 212008) (Kashefi Pour, 2015)
	Initial returns	- +	(Schultz, 1993; Peristiani, 2004; Boubakri et al., 2005; Demers & Joos, 2007; Yung et al. 2008; Algebaly, 2011) (Liu et al., 2013)
High-tech	Analyst coverage	-	(Akhtar, 2016; Aslan & Kumar, 2011; Bharath & Dittmar, 2010; Cai et al., 2018; Martinez & Serve, 2011; Mehran & Peristiani, 2010b; Mola et al., 2013; Sudarsanam et al., 2011)
		+	(Kang, 2017; Liu et al., 2013)
	patent trolls	not +	(Pour, 2015) (Siddiqui, 2021)

Source: Fidanza et al. (2018c) and Martinez and Serve (2017)

Regarding the definition of corporate governance, Cadbury Report firstly defined corporate governance as "the system by which companies are directed and controlled" (Code, 1992). The OECD defines a more elaborated definition: "Corporate governance involves a set of relationships between a company's management, its board, its shareholders, and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined".

Based on the above discussion, the current study defines corporate governance as a set of mechanisms that rules, monitors, and encourages all the NTBM-listed firms in the relationships among owners, board of directors, executive board, and control bodies.

Furthermore, corporate governance includes internal and external mechanisms (Holderness, 2003; Jensen, 1993; John & Senbet, 1998; Schäuble, 2018). Internal mechanisms are related to monitoring and incentive (Sannajust & Chevalier, 2018; Weir & Wright, 2006). Monitoring mechanisms are associated with external shareholdings (Shivdasani, 1993; Zhu et al., 2022), board structures (Fama, 1980), and debt (Jensen, 1986). Incentive mechanisms include internal shareholdings (Jensen & Meckling, 1976) and CEO compensation (Core et al., 1999). External mechanisms essentially relate to the market for corporate control, such as takeover bid, legal environment, and external monitoring, such as external auditor (Ahmad, 2019; Jacoby et al., 2019; Sannajust et al., 2015; Weir & Wright, 2006).

In accordance with the feature of the NTBM and the above discussion, this study pays more attention to internal corporate governance, such as board characteristics, institutional ownership, and insider ownership, and external corporate governance, such as lead security trader and external auditor.

2.3.1.1.2 The Theoretical Model and Roles of Corporate Governance

Previous studies have explored many theories about corporate governance, such as the Agency theory, Stakeholders theory, and Stewardship theory (Cornforth, 2003; Davis et al., 1997; Davó et al., 2019; Freeman, 1999; Jensen & Meckling, 1976). The perspectives of these theories are shown in Table 2.7.

Regarding the roles of corporate governance, Kalyani, Mathur and Gupta (2018) said that good corporate governance could ensure the benefits of investors, employees, management, customers, and government, resulting in the overall growth and development of companies. The early literature related to corporate governance paid more attention to conflicts between principals and agents (Claessens & Yurtoglu, 2013; Jacoby et al., 2019; Jensen, 1993). Good corporate governance can increase the opportunities to raise external funds (Thakolwiroj & Sithipolvanichgul, 2021). In turn, this can result in higher firm value, more investment, higher growth, and more jobs creation (Claessens & Yurtoglu, 2013; Wahidahwati & Ardini, 2023).

Furthermore, good governance can attract more investors and then lower the cost of capital, which can result in good performance (Alodat et al., 2022; Bhat et al., 2018; Jacoby et al., 2019; Sarhan et al., 2019; Shahrier et al., 2020; Singh & Delios, 2017). Additionally, good performance can increase firm transparency (Agyemang et al., 2020; Al-Qahtani & Elgharbawy, 2020; Jacoby et al., 2019), reduce risk, and generate good relationships with shareholders (Jacoby et al., 2019).

2.3.1.2 Corporate Governance in China

China started implementing the market economy after the Reform and Opening-up in 1978. The government has developed a set of policies and regulations for regulating

corporate governance mechanisms. The series of governance mechanisms play a vital role in strengthening monitoring and motivating employees to work hard and enthusiastically to boost firm performance (Mutlu et al., 2018). China now has many multinational firms. Those multinational firms play an assignable effect on the global economy (F. Jiang & Kim, 2020). Thus, China cannot be disregarded if one wishes to comprehend worldwide business (F. Jiang & Kim, 2020).

Table 2.7

The Perspectives of Different Theories on Corporate Governance

Theory	Interests	Board members	Board role	Model	Authors
Agency theory	there are different interests between shareholders and manages	Owners' representatives	Compliance/conformance: Protect shareholder's interests Monitor management behavior Check compliance	Compliance model	Jensen and Meckling (1976)
Stakeholder theory	There are different interests among stakeholders	Stakeholder representatives: elected or appointed by stakeholder groups	Balancing stakeholder benefits: Make policies/ strategies control management	Stakeholder model	Freeman (2015)
Stewardship theory	Managers are stewardship Shareholders and managers share benefits	Experts	Improve performance: Add value to top decisions/strategy partner /support management	Partnership model	Davis et al.(1997)

Source: adapted from Cornforth (2003) and Davó et al. (2019)

Furthermore, researchers discovered that in order to better understand the contextual aspects of corporate governance concerns, one must adopt an institutional-based perspective (Aguilera et al., 2019; Meyer & Peng, 2016). Recently, the corporate governance in China, including the institutional and regulatory framework, has changed dramatically (Jiang & Kim, 2020). Therefore, Mutlu et al. (2018) suggested that China

is a key backdrop for advancing a dynamic institution-based perspective of corporate governance.

Actually, the level of corporate governance among Chinese firms has been steadily rising for more than fifteen years of development. Professor Gao Minghua has continuously published "A report on listed companies' Governance Index in China" for 20 publications. This report formulates an indicator system with reference to international standards to assess the corporate governance of firms listed on the A-share market. This report covers six kinds of corporate governance indexes: Financial governance index, Rights Protection Index for minority investors, Executive Compensation Index, Board Governance Index, Capacity index of Enterpriser, and Voluntary Information Disclosure Index¹.

The report for 2021 reveals that the Rights Protection Index for minority investors in Chinese listed firms increased continuously from 2014 to 2017, from 43.07 in 2014 to 52.40 in 2017. The index lightly fluctuated from 2018 to 2020, and 51.95 in 2020, a slight decrease from 52.14 in 2019.

Regarding the board governance index, the index has risen continuously for the past six years, from 50.13 in 2015 to 58.27 in 2020. However, the Capacity index of Enterpriser continued to decline from 2011 to 2017, from 35.71 in 2011 to 29.78 in 2017. However, this index showed a fluctuating rise after 2018, and it was 30.68 in 2018. It decreased to 29.63 in 2019 and rose to 32.76 in 2020.

¹ Gao Minghua (2021), A report on listed companies' Governance Index in China, Retrived from https://company.stcn.com/gsxw/202112/t20211212_3960936.html

The Voluntary Information Disclosure Index has been rising for the past four years. It was 41.02 in 2015 and 50.25 in 2016. The increase was relatively large. However, it decreased slightly to 49.55 in 2017. And this index continuously increased from 2018 to 2020, increasing to 63.45. The Executive Compensation Index fell for three consecutive years from 2017 to 2019 and continued to decline in 2020 for state-owned companies, while non-state-owned companies rose.

The NTBM Corporate Governance Code highlights the protection of minority investors' rights and regulates the norms related to takeover and M&A. The code emphasizes that neither an organization nor an individual may compromise the legal rights and interests of publicly traded firms and their shareholders through an acquisition or merger. Furthermore, the norms of stock transfer, direction issuing, and information disclosure are likewise governed by this code (NEEQ, 2013).

The above discussion showed that China's government makes every effort to build good corporate governance standards to manage businesses properly. As a result, the standard of corporate governance has significantly increased. The NTBM regulates and emphasizes the additional and special norms applicable to the special business conducted on this stock market, such as the regulations governing stock transfers and takeovers. Due to the stark institutional differences between China and Western countries, the implications of corporate governance in China are still a valuable topic of discussion (Jiang & Kim, 2020; Mutlu et al., 2018; Peng, 2004; Tsui, 2007). Therefore, this study will further research corporate governance in the impact of voluntary delisting decisions in China's NTBM.

To summarize, corporate governance is crucial for the firm's operation and firm strategies (Jakpar et al., 2019). However, regarding the influence of corporate

governance on voluntary delisting, previous studies did not conclude the definite results. This inconsistent result triggers further study on the effect of corporate governance.

To clarify the effects of corporate governance on voluntary delisting, prior scholars proposed that future research should take into account the impact of all corporate governance mechanisms in mitigating agency costs and delisting transactions (Moreira et al., 2017). However, Kalyani et al. (2018) suggested that it is not necessary to consider all indicators measuring corporate governance. Bortolon and Junior (2015a) and Tutino et al.(2013) purported that the monitoring and incentive mechanisms of corporate governance are related to voluntary delisting. Thus, this study focuses on both monitoring mechanisms and incentive mechanisms to examine the effects of corporate governance on voluntary delisting.

Therefore, the current study uses board characteristics (board size, board independence, and CEO duality), institutional ownership and insider ownership, and external monitoring mechanisms (lead security trader and external auditors) as monitoring mechanism proxy variables. Moreover, this study uses insider ownership as an incentive mechanism proxy variable. The present study aims to explain the relationship among board characteristics, institutional and internal shareholdings, external corporate governance factors, and firm voluntary delisting decisions.

2.3.2 Board Characteristics

As the components of corporate governance mechanisms, the board of directors has a vital role in affecting corporate decisions and wealth gains (e.g., Allam, 2018; Fisman et al., 2014; Thakolwiroj & Sithipolvanichgul, 2021). It can be viewed as an independent thinker shaping the organization's strategic direction (Hendry & Kiel, 2004; Masli et al., 2018).

The board of directors is responsible for "choosing monitoring, advising, assessing and deciding the compensation of the top management" (Allam, 2018). At the same time, they hold the responsibility of correcting the deviation actions (Allam, 2018). Previous researchers identified three key board characteristics, that is, the board size, board independence, and CEO duality, to examine the directors of the board (Azeez, 2015; Hamdan & Al-Sartawi, 2013; Musleh Al-Sartawi & Sanad, 2019).

Previous studies usually investigate the impact of board characteristics on corporate governance (Jiraporn & Nimmanunta, 2018; Masli et al., 2018), capital structure (Thakolwiroj & Sithipolvanichgul, 2021; Wen et al., 2002), information disclosure (Agyemang et al., 2020; Al-Qahtani & Elgharbawy, 2020), executive pay (Kumar & Sivaramakrishnan, 2008; Sarhan, Ntim, & Al-Najjar, 2018), corporate performance (Allam, 2018; Assenga et al., 2018; Azeez, 2015; Im & Chung, 2017; Sarhan et al., 2019; Sobhan, 2021; Tulung & Ramdani, 2018), information productivity (Jiraporn et al., 2018), strategic decision, such as growth strategies (Singh & Delios, 2017), delisting decisions (Charitou et al., 2007; Harris et al., 2008) and IPO survival (Chancharat et al., 2012; Kashefi Pour, 2015; Lee et al., 1992) and going private decisions (Panchapagesan & Werner, 2004; Weir et al., 2008; Weir & Wright, 2006; Wright et al., 2007).

Especially, the current study will use three dimensions of board characteristics to investigate their effect on voluntary delisting.

2.3.2.1 Board Size

When it comes to board size, Jensen (1993) posited that larger boards had agency costs and would cause free rider problems. The board size is usually measured by the total

number of directors on the board in each accounting year (Ciftci et al., 2019; Jakpar et al., 2019; Majeed et al., 2020; Sobhan, 2021; Vitolla et al., 2020).

Board size is an important factor that affects board effectiveness (Almaqtari et al., 2023). However, previous scholars referred that the ideal board size does not exist (Conger & Lawler, 2001).

Some scholars supported the idea that a smaller board size is more effective than a larger board. They suggested that large boards give rise to decision-making and corporate governance inefficiency because of high-level conflicts among the board members (Guizani, 2018; Hermalin & Weisbach, 2001; Jensen, 1993; Sobhan, 2021). Accordingly, when governance mechanisms are inefficient, the agency problem becomes severe, and managers may pursue their own interests by extracting the firm's resources (Laurent & Salva, 2010; Guizani, 2018). Thus, the smaller boards (less than ten members) are viewed by Lipton and Lorsch (1992) and Jensen (1993) as a better tool for managing the firm.

The proponents of larger board size argued that the larger board could obtain more resources and knowledge than the smaller board because of the more number of directors. Meanwhile, the larger board has better monitoring ability because the action of management is reviewed by many directors (Andoh et al., 2023; Baluja, 2019).

2.3.2.2 Board Independence

Previous researchers gave a synopsis related to the role of the board in a public firm (Kumar & Sivaramakrishnan, 2008). These are monitoring roles (Jensen, 1986; Johnson, Daily, & Ellstrand, 1996), offering resources to top management and CEO role (Chancharat et al., 2012), advisory roles, and contracting roles (Chancharat et al., 2012;

Kumar & Sivaramakrishnan, 2008). The board's effectiveness depends on its capability to perform these responsibilities (Chancharat et al., 2012). Thus, independence is one of the critical characteristics of measuring board effectiveness (Chancharat et al., 2012).

Board independence is determined by the percentage of independent directors or commissioners of the board (Ciftci et al., 2019; Singh et al., 2018; Sobhan, 2021). Independent directors are defined as members unrelated to other board members and the controlling shareholders (Chancharat et al., 2012). Independent directors are unconnected with the business relationships or other relationships, such as family relationships, that may impact their ability to fulfill their responsibilities (Chancharat et al., 2012). Thus, independent directors can fulfill their tasks independently and are not influenced by interest conflicts in the firm. Therefore, Fama and Jensen (1983) argued that independent directors have a significant motivation to prevent and identify opportunistic reporting conduct by management.

2.3.2.3 CEO Duality

CEO duality means that the CEO and the chairman are the same people (Ciftci et al., 2019; Veprauskaite & Adams, 2013). "CEO is a firm's chief strategist" (Chancharat et al., 2012, p147; Faleye, 2007, p234), who is responsible for initiating, designing and implementing all plans and policies of the company. The chairperson of the board is responsible for ensuring the board can effectively provide monitoring and controlling, counseling services (Chancharat et al., 2012). It can be seen that the chairperson performs significant controlling functions. Therefore, some prior researchers recommended that the chairperson and CEO must be served by a different person (Ali et al., 2022; Fama & Jensen, 1983; Jensen, 1993).

However, Anderson and Anthony (1986) posited a contrasting viewpoint that CEO and chairman is one person can provide explicit leadership and save the company's resources, especially for complex firms (Brickley et al., 1997; Faleye, 2007), because for complex companies, the flexibility of CEO becomes more valuable. Besides, Daily and Dalton (1997) suggested that they could not find evidence that the separation of CEO and chairman is more independent than the CEO and chairman being the same person (Heracleous, 2001).

According to the above discussion, previous studies about the debate on dual leadership structure are inconsistent. Therefore, the discussion about the influence of CEO duality is also inconsistent.

2.3.3 Institutional Ownership

Institutional investors are the primary triggers of good governance. It can be measured by the proportion of total shares is held by outside entities (Bajagai et al., 2019; Tsouknidis, 2019). McConnell and Servaes (1990) evidenced that institutional investors more effectively implement their monitoring rights in firm performance than individual investors (Michel et al., 2020). A firm with institutional investors can fund long-term finance at a more advantageous cost than firms without institutional investors (Bajagai et al., 2019).

Prior researchers have found that a firm with institutional investors indicated a signal that the firm has well future profitability and high market value (Ahmad, 2019; Hasan & Butt, 2009; Kyereboah-Coleman, 2008). Previous studies have shown that institutional ownership can positively affect the company's capital structure and leverage (Bajagai et al., 2019; Kyereboah-Coleman, 2008). Institutional investors can

also be viewed as intermediaries to coordinate the benefits of minority shareholders and majority stockholders (Ahmad, 2019).

There are three views about the role of institutional investors: active monitoring view, passive monitoring view, and exploration view. The active monitoring view refers that institutional investors are capable of supervising and monitoring the firm that they hold shares (Lin & Fu, 2017; McColgan, 2001). They can pressure firm management to improve corporate governance through the ownership they hold (Shleifer & Vishny, 1986).

In contrast, the passive monitoring view shows that institutional investors are passive monitors and do not interfere with management. They pursue speculative short-term trading profits by using their information advantages (David & Kochhar, 1996). However, Appel, Gormley and Keim (2015) found that passive institutional investors can influence a firm's governance choices, induce more independent directors, and mitigate the free-rider problems (Appel et al., 2019). The exploration view reports that institutional investors and firms' managers collude to expropriate the benefits of dispersed small stockholders (Lin & Fu, 2017).

Elyasiani and Jia (2010) indicated that these viewpoints are not "mutually exclusive" (p606), but one may play the dominant role in explaining the relationship between firm performance and institutional ownership" (Rebecca & Maggie, 2017, p18).

Furthermore, institutional investors fall into two categories- pressure-insensitive and pressure-sensitive to explore the extent that institutional ownership fulfills their monitoring responsibilities (Cornett et al., 2007). Previous studies found that not all

institutional investors are active in acting on their monitoring rights (Hartzell & Starks, 2018; Parrino et al., 2003).

Pressure-insensitive institutional investors are defined as those who have no business relationship with the company, such as investment companies, mutual funds, and independent investment advisers. They have the motivation to monitor closely, control, and force corporate managers to act in pursuing the maximum benefits for shareowners (Cornett et al., 2007).

Pressure-sensitive institutional investors refer to those with existing or potential business relationships with enterprises, such as banks (Cornett et al., 2007; Parrino et al., 2003). So as to protect those relationships, this kind of institutional investor is reluctant to challenge management decisions (Cornett et al., 2007).

In addition, previous studies have examined the impacts of institutional investors on different aspects of corporate governance (Hartzell & Starks, 2018; Lin & Lu, 2019; Michel et al., 2020), corporate social responsibility (Jia et al., 2022; Meng & Wang, 2020; Qasem et al., 2022), and firm performance (Bajo et al., 2013; Cornett et al., 2007; Lin & Lu, 2019; MALIK et al., 2021; Michel et al., 2020; Musallam et al., 2019; Saleh et al., 2020).

2.3.4 Insider Ownership

Berle and Means (1932) first introduced ownership and control separation (Park & Jang, 2010). After that, previous studies found that insider ownership can be used as an incentive mechanism to reduce managers' self-interest (Haugen & Senbet, 1981; Jensen & Meckling, 1976).

In the previous governance literature, insider ownership can be divided into two dimensions: one is managerial ownership (manager-owner), the ownership of the firm is treated as the compensation given to managers, and the purpose of this compensation is to make the interests of management in line with shareholders (Phani et al., 2005). Another is defined as the shareholders also managing the firm as managers (owner-manager). In this type, a manager is an owner before becoming the manager (Phani et al., 2005).

In addition, the definition of insider ownership is unclear in previous studies (Phani et al., 2005). Insider ownership is defined by Cho (1998) as "the fraction of shares, not including options, held by officers and directors of the board" (p. 106). Most of the previous studies defined insider ownership as managerial ownership and described managerial ownership as managers and directors holding the shares (Demsetz & Villalonga, 2001). Chen et al. (2012) named this as internal managerial shareholdings in the same definition. Bajagai et al. (2005) measured managerial ownership by the percentage of total share held by the firms' management team. However, according to Villalonga (2019), "managerial" ownership not only includes the shares held by managers proper but also includes directors acted by large stockholders themselves, such as founders. Thus, using "insider ownership" rather than "managerial ownership" could address the misnomer problem (Villalonga, 2019). Another essential point, regardless of managers or directors, they are firms' insiders (Chen et al., 2012). Therefore, the current study uses Cho's (1998) definition of insider ownership to investigate the influence of the shareholdings by directors and managers on voluntary delisting.

There are two conflicting effects of insider ownership. One is an alignment effect, and another is an entrenchment effect (Cheng & Wang, 2021). An alignment effect is named by some researchers as the convergence-of-interest effect (Guizani, 2018). This effect assumed that with the increase of the size of shares held by insiders, the effect of the firm's market value rises on their wealth is increasing. However, an entrenchment effect that with the size of shares held by insiders, the risk of replacement through takeover decreases, and they have more discretion to chase their interests (Chen et al., 2012; Cheng & Wang, 2021; Fama & Jensen, 1983; Jensen & Meckling, 1976). Thus, previous studies about the influence of insider ownership remain unclear (Chen et al., 2012; Cheng & Wang, 2021; Park & Jang, 2010). Hence, it needs to do further study on the effect of insider ownership to verify which effect plays an essential role in China's NTBM-listed firms' delisting decisions.

Previous articles have described the impact of insider ownership on capital structure (Bajagai et al., 2019; Elbannan, 2016), firm value (McConnell & Servaes, 1990; Talukdar et al., 2021), capital expenditures (Griner, 1995; Phani et al., 2005), franchising (Rhou et al., 2019). Furthermore, prior scholars suggested that management ownership has a negative impact on risk and value reduction strategies (e.g., corporate diversification) (Goranova et al., 2007) and a positive impact on risk-taking activities (e.g., R&D investment) (Wright et al., 2007).

2.3.5 Lead Security Trader

According to the regulation established by NTBM, the company listed on the NTBM needs to engage a lead security trader at all times (IMANEEQ) (CSRC Order No. 89), 2013). The security trader who is admitted by CSRC to conduct lead security trader business is known as lead security trader. The business of lead security trader includes:

recommending stock listing of joint stock companies; acting investors to buy and sell listed company shares; conscientiously fulfilling the responsibility of investor appropriateness management; providing continuous supervision to listed companies; providing market-maker service for stock transfer, and other business stipulated by NEEQ^{II}. Therefore, the lead security trader plays an indispensable role in the operation of the NTBM.

According to the above discussion, the responsibilities of the lead security trader are partly the same as the underwriter, investment banker, and advisor, especially more like the nominated advisor (nomad, like underwriter in the Main Market) in AIM^{III} (Nielsson, 2013). AIM regulation regulates that the firm listed on AIM is required to retain a Nomad at all times. Nomads help companies decide on which rules and requirements should be met (Gerakos et al., 2013). The responsibilities of Nomad not only provide advice for IPO and also acts as the underwriter and decentralized regulator to help the firm go public and monitor the firm obey the rules of the AIM (Aslan & Kumar, 2011; Jenkinson & Ramadorai, 2013; Nielsson, 2013).

Compared with Nomads in AIM, the lead security trader is certified and regulated by NEEQ. It is responsible for due diligence and examining the listing application of a firm and then recommends listing. Therefore, the NEEQ only needs to review the document provided by the lead security trader to ensure the quality of the listing firm. Meanwhile, the lead security trader undertakes partly monitor responsibilities. Thus, the lead security trader acts not only as an advisor that provides advice (these bits of

^{II} Guidelines of the National Equities Exchange and Quotations for the Continuous Supervision of Lead Security Trader (for Trial Implementation), 2014

^{III} AIM, the abbreviate of London's Alternative Investment Market.

suggestion involve the firm's operation and governance) to the firm listed on the NTBM but also monitors listed firms obeying the regulations formulated by the NEEQ^{IV}. The reputation and interests of the lead security trader have a close relationship with the quality and development of the NTBM-listed firm.

Previous studies found that Nomad plays an important role in AIM (Aslan & Kumar, 2011; Jenkinson & Ramadorai, 2013; Nielsson, 2013) and is one of the factors for the firm involuntarily (Martinez & Serve, 2017) or voluntarily delisting (Espenlaub et al., 2012) from AIM. However, the literature investigating the impact of Nomad on voluntary delisting is limited (Nielsson, 2013; Pour & Lasfer, 2013). Thus, the current study wants to enrich this kind of literature by investigating the effects of the reputation of lead security trader on the firm's voluntary delisting decision.

2.3.6 External Auditors

2.3.6.1 Overview of the External Auditors

The external auditor is often viewed as an external governance mechanism used by the firm because it can benefit the firm by using its expertise (Alarussi & Nawafly, 2019; Soroushyar, 2023). It plays a pivotal role in the firm's monitoring system. Moreover, the external auditor can mitigate agency conflicts by alleviating the information asymmetry between the stockholder and manager (Liang, Chen, & Hu, 2015; Ahmad, 2019; Guizani, 2018). Therefore, Jensen and Meckling hypothesize that an audit is "one type of monitoring activity that increases the value of the firm" (Watts & Zimmerman, 1983).

^{IV}National Equities Exchange and Quotations <http://www.neeq.com.cn/> (Chinese)

The external auditor is defined as “an agency that provides consultancy in depicting the true and fair picture of business organizations.” (Ahmad, 2019). With the complexity of business and accounting procedures, external professional auditors become more critical to keep the financial reports provided by firms are reliable and credible (Watts & Zimmerman, 1983). Independent auditors can increase the credibility of firms’ financial statement and then result in remarkable firm performance (Defond et al., 2002).

Many governments require that joint-stock companies need to provide financial report audited by an individual independent of management (Watts & Zimmerman, 1983). The external auditors can provide management advisory services and auditing services. However, previous studies argued that auditing firms that provide both audit and consultant services for the same customer could not keep independence (Simunic, 1984).

As one of the corporate governance mechanisms, the external auditor plays a significant role in strengthening the quality of financial reports and disclosure issues (Rahman et al., 2019), constraining the firm’s earning management (Liang et al., 2015), constraining related transactions and the expropriation behavior of large shareholders (Goel & Nelson, 2020), governing managers changing, controlling cost stickiness (Liang et al., 2015) and others.

2.3.6.2 Audit Quality

Previous studies suggested that the size and reputation of audit firms (auditors) can measure the audit quality of the audit firms provided (Rahman et al., 2019). They usually assume that the audit quality supplied by the BIG4 is better than others (DeAngelo, 1981; Dragomir & Dumitru, 2023; Schäuble, 2018). The difference in audit

quality between the two auditor types may reduce agency risk resulting from an increased quality of the company's financial report (DeFond, 1992; Dey, 2008; Francis & Wilson, 1988). Professional audit firms in the industry can provide more excellent audit quality than other audit firms that do not have relevant audit expertise in this field (DeFond, 1992; Schäuble, 2019; Shockley & Holt, 1983). According to Velte (2018), the audit committee of a firm can effectively enhance audit quality.

Audit quality is closely related to corporate governance and firm performance. DeFond (1992) suggested that the changes in management shareholding and leverage have a close relationship with the changes in audit quality. The requirements for quality-differentiated audits can significantly improve the monitoring of the incentive performance contracts, promote ownership diffusion, reduce conflicts between owners and creditors, and encourage the issuance of securities or equity (Francis & Wilson, 1988). Santoso and Widyaswati (2019) purported that the positive effect of audit quality significantly enhances the association between earnings management and corporate performance.

Additionally, previous studies have examined the link between audit quality and financial reporting timeliness. The results show that high audit quality can result in the timely release of the financial report and reduce audit report lag (Aldaoud, 2015; Lee et al., 2008; Schmidt & Wilkins, 2013). The audit services provided by BIG4 can improve the firm's disclosure quality (Alarussi & Nawafly, 2019).

Furthermore, the high audit quality can increase the value of firms (Hassanein et al., 2019). Prior researchers purported that audit quality (BIG4 audit) significantly influences firm performance (Al-ahdal & Hashim, 2022; Alqatamin, 2018; Kamal et al., 2020; Rahman et al., 2019).

To sum up, high audit quality can assure the credibility and timeliness of financial reports and positively affect firm performance. However, previous studies pointed out that the audit quality provided by audit firms can be affected by audit fees (Blankley et al., 2012). Thus, the further section will discuss audit fees.

2.3.6.3 Audit Fee

The audit fee is like the agency cost (Ahmad, 2019). Audit fees partly depict the level of audit services given by external auditors (Park & Sonu, 2022). Thus, the higher (lower) fees describe the higher (lower) level of services. However, abnormally higher audit fees may influence the auditor's independence or judgment because the benefits of the auditor have a connection with the client (Blankley et al., 2012). Therefore, The audit fee has become a dominant research theme in previous studies (Habib, 2012; Hay et al., 2006; Ng et al., 2018; Park & Sonu, 2022; Velte, 2018).

2.3.6.3.1 The Determinants of Audit Fees

A firm with an audit committee could actively monitor external audit and is prone to pay higher audit fees (Bratten et al., 2019). Hay et al. (2006) analyzed the factors that can affect audit fees. He found that many factors can affect audit fees, such as company size and company complexity. Hay (2013) did a follow-up study and found that internal control and corporate governance has a positive effect on audit fee. Habib (2012) purported that non-audit fees affect the earnings response coefficient if accounting quality is assumed to decrease.

Furthermore, audit fees have a positive relationship with US settings and are negatively associated with non-US settings. Ng et al. (2018) found that audit seasonality can positively influence audit fees. Other researchers found that audit size, risk and

corporate governance (Xue & O'Sullivan, 2023), Financial statement comparability (Sun et al., 2022), the effect of an audit client's code of ethics quality (Kim Duong & Gotti, 2022), CEO hometown identity (Lv & Zhang, 2022), industry specialization (Cahan et al., 2008), foreign ownership (Pronobis et al., 2020) can affect audit fees.

2.3.6.3.2 The Outcomes of Audit Fees

Previous studies have explored the impact of auditor fees in many aspects, such as financial statement restatement and audit quality.

Regarding financial statement restatement, previous studies did not conclude consistent results. Some prior researchers purported that audit fee has a positive link with future restatement (Kinney, Palmrose, & Scholz, 2004; Stanley & Todd DeZoort, 2007). Other researchers thought that abnormal audit fee has a negative link with the likelihood of future restatement (Blankley et al., 2012).

Regarding audit quality, an empirical investigation explored that abnormally higher audit fees might massively impair the audit quality (Choi et al., 2010; Defond et al., 2002; Krauß et al., 2015; Schäuble, 2018). The reason may be that high abnormal audit fees motivated the audit firm to permit clients to conduct opportunistic earnings management (Choi et al., 2010; Kinney & Libby, 2002; Krauß et al., 2015). Compared to abnormally higher audit fees, the clients may pay abnormally lower audit fees. The auditors may compromise the audit quality based on the consideration of the cost-benefit tradeoff (Krauß et al., 2015). Thus, the abnormally lower audit fees might impair the audit quality due to the audit firms cutting down their audit services (Blankley et al., 2012; Eshleman & Guo, 2013; Gupta, Krishnan, & Yu, 2009).

According to the above discussion, external auditors are beneficial to the reliability and credibility of a firm's financial report (Qomariyah, 2019). Therefore, the firm needs to choose a good external auditor to improve its firm value. Previous studies gave many suggestions for firms choosing audit firms (Choi & Wong, 2007; Guedhami et al., 2009; Qomariyah, 2019). When a firm chooses its auditor, it needs to consider its cost, quality, or both (Qomariyah, 2019). Furthermore, a firm needs to consider its industry-specific characteristics (Hsu et al., 2015), consider its company characteristics (Ettredge et al., 2009), such as financial leverage, growth opportunities, and profitability, the country-specific institutional factors, and other when employing an auditor (Ettredge et al., 2009).

2.4 Moderating Variables: The Demographic Characteristics of the Top Management Team (TMT)

2.4.1 Overview of the TMT Demographic Characteristics

The definition of TMT is the central factor in the Upper Echelons theory (Carpenter, Geletkanycz, & Sanders, 2004). Previous studies about the composition of TMT are different. Hambrick, Cho and Chen (1996) defined TMT as all executives above vice present (Carpenter et al., 2001; Geletkanycz & Hambrick, 1997; Tihanyi & Dalton, 2000). Other researchers defined TMT as the top manager involved in strategic decision-making identified by the CEO (Amaso & Mooney, 1999; Tihanyi & Dalton, 2000; West & Anderson, 1996) or all members of the TMT (Reuber & Fischer, 1997), top highest paid executives (Bertrand & Schoar, 2003). The other researchers list the composition of the top management team. For example, Ferrier (2001) listed the chairperson, vice chairperson, CEO, president, CFO, and COO as TMT. Kor (2004) suggested that TMT includes all inside top level executives, such as the CEO, COO,

business unit heads and vice presidents. This study follows Huang et al. (2019) study and defines TMT in terms of their title or positions in the firms, such as president and vice president, chairman, CEO, COO, general manager, and vice general manager.

Many previous studies have focused on top managers' characteristics (Ali et al., 2022; Hambrick & Mason, 1984). The TMT's characteristics will be reflected in the company outcomes: both strategies and effectiveness (Carpenter & Weikel, 2011; Hambrick & Mason, 1984).

The characteristics of TMT include demographic traits and psychological traits. Prior researchers argued that psychological traits are more directly linked top managers' behavior than the demographic characteristics in the TMT research (Priem et al., 1999). Lots of recent studies investigated many psychological characteristics of top managers, such as locus of control (Boone & Hendriks, 2009), trait positive effect (Barsade et al., 2000), emotional stability (Peterson et al., 2003), hubris (Hayward & Hambrick, 1997), and overconfidence (Boone et al., 2000; Simon & Houghton, 2003). However, Weick (2015) said that compared with psychological characteristics, demographic characteristics could be directly observed by individual behaviors, it is easy to do empirical research. Meanwhile, demographic characteristics also can affect psychological characteristics. Therefore, this study will examine the impacts of TMT demographic characteristics in the framework.

According to Upper Echelons theory, the demographic characteristics of TMT include age, tenure in the firm, gender, functional background, education, etc. (Hambrick & Mason, 1984; Mkalama & Machuki, 2019). These characteristics are unique personal traits or properties that belong to individual managers and can affect their

administration situations. Previous studies conducted research on TMT demographic characteristics from two aspects: homogeneity and heterogeneity.

2.4.2 The Homogeneity of TMT Demographic Characteristics

Hambrick et al. (1996) investigated that TMT demographic homogeneity can promote team cohesion and behavioral integration (Chaganti et al., 2016; Lui et al., 2019). Keck (1997) states that homogeneous teams could improve the performance of a firm in a stable context.

In addition, the majority of previous studies examined the homogeneity of TMT demographic characteristics from the age, education, and tenure of TMT, respectively. Prosvirkina and Wolfs (2018) examined the diversity of TMT in the bank of Russia. The results show that the Russian banking sector has high homogeneity in age, gender, nationality, and previous working experience. The majority of empirical studies have examined the individual-level of TMT demographic characteristics. Previous researchers purported that homogeneity is associated with age, education level, and tenure (Abatecola & Cristofaro, 2016; Ali et al., 2014).

2.4.2.1 The Average Age of TMT

Age is an essential demographic variable regarding non-working experience (Ali et al., 2014). Tanikawa et al. (2017) purported that “context in TMT is clearly dependent on average age.” The majority of previous studies have explored the effects of TMT average age.

At first, previous empirical studies showed that TMT average age could significantly affect firm performance (Kor & Misangyi, 2008; Tanikawa et al., 2017), international diversification (Tihanyi & Dalton, 2000), firm risk (Carmeli & Halevi, 2009), rational

strategic decision making (Goll & Rasheed, 2005), corporate social responsibilities (Lee & Moon, 2017), differentiation strategy in different environment (deregulated or regulated) (Goll et al., 2008) and others (Maccurtain et al., 2010; Tihanyi & Dalton, 2000).

Besides, prior researchers pointed out that younger managers have better cognitive abilities, are willing to improve their education level, and have higher risk-taking than old ones (Almaqtari et al., 2023; Bantel & Jackson, 1989). Furthermore, other researchers proposed that as the age of TMT increases, they have more working experience, are more conservative in making a decision, and gradually focus on the stability of earnings (Barker & Mueller, 2002). Therefore, the average age of TMT can negatively affect a firm's innovation (Bantel & Jackson, 1989), firm performance (Carmeli & Halevi, 2009; Mkalama & Machuki, 2019; Seok & Moon, 2018), and firm's international diversification (Herrmann & Datta, 2005).

In addition, previous studies also investigated the moderating role of TMT average age on the relationship between TMT age diversity and corporate outcome (Tanikawa et al., 2017), between corporate governance and corporate performance (Liu, 2018), between investor sentiment and investment level (Zhu, Song, & Huang, 2017), between firm-level investment in R&D and leverage (Chen et al., 2010).

2.4.2.2 The Average Education Level of TMT

Prior researchers have found that the education level can reflect cognitive capability and professional skills (Wen, Gao, Liang, & Lu, 2015). Higher education level can generate creative solutions for complex issuers and obtain more information (Bantel & Jackson, 1989; Hambrick & Mason, 1984; Hitt & Tyler, 1991; Wiersema & Bantel, 1992). Thus, the education level has a positive influence on enterprise. A person with

higher education is easier to accept innovation (Wen et al., 2015). Therefore, the education level of TMT can positively affect innovation (Bantel & Jackson, 1989; Wiersema & Bantel, 1992), firm performance (Li, Qin, & Liu, 2007), the investment intensity of company R&D (Wen & Hu, 2009), rational decision making (Goll & Rasheed, 2005), corporate social responsibilities (Lee & Moon, 2017), firm international diversification (Herrmann & Datta, 2005), differentiation strategy in the deregulated environment (Goll et al., 2008) and others (Georgakakis et al., 2017; Maccurtain et al., 2010; Tihanyi & Dalton, 2000). Meanwhile, TMT average education level also can promote the policies that are useful for the development of the corporate (Tihanyi & Dalton, 2000).

Furthermore, previous studies have investigated the moderating role of TMT average education level on the link between equity motivation and interior control quality (Wen et al., 2015), between corporate governance and corporate performance (Liu, 2018), between investor confidence and investment level (Zhu et al., 2017), between firm-level investment in R&D and leverage (Chen et al., 2010).

2.4.2.3 The TMT Average Tenure

In addition, previous studies also examined the influence of the homogeneity of tenure (Bantel & Jackson, 1989; Chen et al., 2010; Goll et al., 2008; Hambrick, 2007; Hambrick & Fukutomi, 1991; Herrmann & Datta, 2005; Lui et al., 2019; McClelland et al., 2010; Miller, 1991; Mkalama & Machuki, 2019; Seok & Moon, 2018; Tihanyi & Dalton, 2000; Wang et al., 2016; Wright et al., 2007).

For example, Bantel (1993) discussed that the higher tenure homogeneity of a team could form a group that affects consensus and has a positive effect on reaching consensus in strategic decisions. Higher homogeneity tenure may have the better

communication pattern and lower lever conflicts (Tihanyi & Dalton, 2000) and then lead to higher performance (McClelland et al., 2010; Wang et al., 2016).

However, researchers also found that TMT with extensive and homogenous tenure more often than not keep away from company changes and choose the status quo. It may negatively affect firm performance (Bantel & Jackson, 1989; Hambrick, 2007; Hambrick & Fukutomi, 1991; Miller, 1991; Mkalama & Machuki, 2019). Besides, previous studies also have found the moderation role of TMT average tenure (Chen et al., 2010; Wen et al., 2015; Zhu et al., 2018).

2.4.3 The Heterogeneity of TMT Demographic Characteristics

Previous studies also investigate the role of heterogeneous TMT. Previous studies have analyzed that TMT heterogeneity can significantly affect the tendency for change (Grimm & Smith, 1991; Naranjo-Gil & Hartmann, 2007b; Wiersema & Bantel, 1992) and firm outcomes (Bantel & Jackson, 1989; Carpenter et al., 2004; Ferrier, 2001; Hambrick et al., 1996; Jehn & Bezrukova, 2004; Kilduff et al., 2000; Prosvirkina & Wolfs, 2018).

The heterogeneous team has a positive impact on the company's growing rates (Eisenhardt & Schoonhoven, 1990). Prior researchers have found that heterogeneous teams have lower actions and responses than homogeneous teams (Hambrick et al., 1996). However, Hambrick et al. (1996) pointed out that those three categories of TMT heterogeneity (functional, educational background, and tenure) could positively improve the airline company's performance.

Meanwhile, the heterogeneity of TMT in education and functional background could positively affect the bank's innovativeness (Bantel & Jackson, 1989), firm performance

(Buyl et al., 2011; Carpenter, 2002; Jehn & Bezrukova, 2004; Mkalama & Machuki, 2019). Furthermore, the heterogeneity can positively impact the extent of strategy change (Naranjo-Gil & Hartmann, 2007), time-to-IPO (Chaganti et al., 2016), the interactive use of management accounting system (Naranjo-Gil & Hartmann, 2007), competitive actions (Ferrier, 2001; Goll et al., 2008).

Additionally, the heterogeneity of TMT age can positively affect the effectiveness of internal control (Wen et al., 2015; Yang, 2013) and firm outcomes (Kilduff et al., 2000; Richard & Shelor, 2002; Wiersema & Bantel, 1992). The tenure heterogeneity can benefit firm performance (Murray, 1989; Wiersema & Bantel, 1992).

However, Hambrick et al. (1996) pointed out that “heterogeneity is a double-edged sword.”. Previous research has examined that some categories of TMT heterogeneity have a negative effect. O’Reilly and Flatt (1986) purported that the diversity of tenure can negatively affect a firm’s innovation. The age heterogeneity can result in the poor decision process (Jehn et al., 1999), lower actions and responses (Hambrick et al., 1996), poor performance (Pelled et al., 1999; Richard & Shelor, 2002; Tanikawa et al., 2017). The heterogeneity of educational background and tenure can negatively affect the order and time of new product movement (Srivastava & Lee, 2005). Additionally, other researchers examined the moderating effect of the heterogeneity of TMT (Ferrier, 2001; Lui et al., 2019; Wen et al., 2015).

In summary, previous studies have paid more attention to the homogeneity and heterogeneity of TMT characteristics. However, limited studies have found the mechanism of TMT demographic characteristics in the firm’s voluntary delisting. This study intends to fill this gap to investigate the moderating effect of TMT demographic characteristics.

Besides, the present study will highlight the homogeneity of TMT demographic characteristics. Due to comparing with the heterogeneity, limited previous researchers are concerned with the homogeneity of TMT demographic characteristics (Abatecola & Cristofaro, 2016; Tihanyi & Dalton, 2000). Furthermore, the firm listed on NTBM are generally young, and the tenure of TMT in these firms are usually short (He & Zhang, 2017). Therefore, this study will highlight the average age and education level of TMT.

2.4.4 Political Background of TMT

In recent years, previous researchers began to focus on the political background of the TMT (Chen & Lai, 2010; Guo & Li, 2009; Li, 2017; Li, 2016; Luo, 2018; Su & Wang, 2016). If one of the top managers has political background that means the firm has political connections (Chen & Lai, 2010). Political connections can be seen as a valuable resource that plays a vital role in helping firms to obtain investment opportunities and considerable funding (e.g., government subsidies and interest-free loans) (Bayraktar & Moreno-Dodson, 2015; Faccio, 2010; Li, 2019).

Previous studies have examined that political connections can affect the firm's debt constraint (Guo & Li, 2009; Li, Meng, Wang, & Zhou, 2008; Li, 2016), investment strategy (Li, 2016; Su & Wang, 2016), firm performance and profitability (Chen & Lai, 2010; Ji & Tian, 2019; Li et al., 2008; Wang & Zhang, 2018), earning management (Wang, Tian, & He, 2019; Yang, 2019) and others (Boubakri & Mishra, 2012; Deng et al., 2020; Hao et al., 2020; Yu et al., 2019; Zhao et al., 2018; Zhou, 2018).

Zhou, Ma and Liu (2018) purported that the political connection will affect the independent directors implementing their responsibilities based on the Upper Echelons theory (Ji & Tian, 2019). Other researchers found that the political background of TMT

can affect the relationship between financing convenience and investment (Li, 2016), between performance and executives' compensation (Li, 2017). Furthermore, a large number of articles examined the effect of political connection on the firm's corporate social responsibility (Deng et al., 2020; Erdayosi & Putri, 2019; Hao et al., 2020; Muttakin et al., 2018; Zhang, 2017).

The political connection has become an important mechanism subtitled the formal system to ensure the business conducting since economic reform in China (Wang & Zhang, 2018). The impact of the TMT political connections has become the focal theme of researchers' discussion (Ji & Tian, 2019; Su & Wang, 2016). Moreover, political connections can affect management decisions (Amara & Khlif, 2020). Therefore, the study plans to examine the impact of TMT political background on the relationship between internal corporate governance and voluntary delisting.

However, the role of political connection in firms' strategy decisions and performance has been re-scrutinized recently (Liu, 2018). The government of China initiated a massive and unprecedented anti-corruption campaign since the year of the end of 2012^V. The anti-corruption campaign has reshaped the relationship between companies and the government, limiting the possibility that executives with political backgrounds can seek rent for the company (Guo et al., 2021; Qian & Chen, 2020). That motivates the current study to examine the role of political connection after the anti-corruption campaign by

^V The government of China initiated a massive and unprecedented anti-corruption campaign since the year of the end of 2012 led by president Xi Jinping. One of the highlights of this anti-corruption campaign is strengthening and reinforcing the rules on connections between companies and the government. The campaign has generally been regarded as highly serious and effective in reducing corruption. By 2018, about 2 million officials of high and low ranks were investigated for corruption, including over 100 officials at the provincial-ministerial level and above.

investigating the moderating effect of TMT political background on the relationship between internal corporate governance and voluntary delisting.

In summary, as indicated by the Upper Echelons theory, TMT demographic characteristics play an important role in organizational outcomes-strategic selection and performance (Hambrick & Mason, 1984), and further study is necessary (Hambrick, 2007). The psychological characteristics of TMT are directly linked to TMT actions. However, the TMT demographics indicate the underlying cognitive and emotional management characteristics that determine the decision-making of the management team (Carpenter et al., 2004; Hambrick & Mason, 1984; Weick, 2015). Therefore, the TMT demographics are indirectly related to TMT actions. Thus, this study intends to study the impact of TMT demographic characteristics on firms' strategic selection.

2.5 Theories

The current study will employ three theories to discuss the theoretical framework. These theories include Agency theory, Cost-Benefit Analysis (CBA) theory and Upper Echelons theory.

2.5.1 Agency Theory

Agency theory is one of the leading theories in corporate governance research (Bendickson et al., 2016; Cuomo et al., 2016) and cannot be disregarded if one discusses voluntary delisting. Although, some theorists intend to use other methods to carry out voluntary delisting research (Baluja, 2018; Kalak et al., 2018). But the majority of previous studies continued to concentrate on Agency theory (Daugherty & Georgieva, 2011; Djama et al., 2012; Licht, 2003; Martinez & Serve, 2011; Moreira et al., 2017; Pour & Lasfer, 2013).

Agency theory was developed by Berle and Means (1932), who claimed that the theory was based on the assumption of modern concepts of separation of ownership and control of firms (Tulung & Ramdani, 2018). Jensen and Meckling developed this theory in 1976 by explicating agency costs and analyzing how they relate to the "separation and control" issue (Jensen & Meckling, 1976; Yan, 2006). They defined "an agency relationship as a contract under which one or more person (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent" (Jensen & Meckling, 1976, p308). Jensen and Meckling(1976) suggested there are conflicts of interest among various contracting parties (including debt holders, company managers, and shareholders). The goal of Agency theory is to prescribe the ideal contract to govern the relationship between the principal and the agent (Eisenhardt, 1989; Yahya, 2017).

The characteristics of the relationship between the principal and agent are information asymmetry, uncertainty and opacity (Taleb, 2020). The principals and agents both are rational and seek to maximize their utility function and have different interests (Eisenhardt, 1989; Hoenen & Kostova, 2015). That explains the reason why the agent does not always act in the principal's best interests (Eisenhardt, 1989; Jensen & Meckling, 1976). Therefore, the principals will need to take the cost of establishing mechanisms to motivate the agent to act in the best interest of the principals, such as monitoring, controlling, and incentive mechanisms (Jensen & Meckling, 1976). These costs are named agency costs and include the principal's monitoring spending, agent's bonding spending and residual loss (Jensen & Meckling, 1976). Therefore, it is necessary to do the cost-benefit trade-off analysis when establishing the monitoring and incentive mechanisms.

According to Eisenhardt (1989), the development of Agency theory is along two lines. One is positivist agency theory, and another is principal-agent. But, the two kinds of research are all based on the contract between the principal and the agent (Eisenhardt, 1989; Fama & Jensen, 1983). Positively researchers have paid more attention to identify the conflicts between principals and agents and then depict the governance mechanisms to constrain the agent's self-interest behavior (Eisenhardt, 1989). The majority of the study in this stream focused on corporate governance, managing the connection between ownership (principal) and manager (agent) of large, public companies (Cuomo et al., 2016; Fama, 1980; Haniffa & Hudaib, 2006; Jakpar et al., 2019; Kim et al., 2015; McColgan, 2001; Morellec et al., 2012).

Actually, Agency theory as a domain theory of corporate governance (Bendickson et al., 2016; Cuomo et al., 2016) supports the opinion that efficient corporate governance can relieve agency conflicts and then increase company performance (Hussain et al., 2018; Jiraporn & Nimmanunta, 2018; Singh & Gaur, 2009). Strong corporate governance can monitor management and protect shareholders' interests efficiently, which includes the independent board, and there should be no CEO duality (Heracleous, 2001). Board independence can be regarded as a vital mechanism that severely monitors firm managers' behavior and mitigates the agency problem (Jiraporn & Nimmanunta, 2018). A large board may lead to inefficient corporate governance because it will result in a slow reaction to decision-making (Jensen, 1993; McColgan, 2001; Yermack, 1996).

Agency theory also focuses on the types of ownership. Researchers found that the specific dilemma may be handled by different categories of ownership that have different expertise. For example, managerial ownership is also a vital governance mechanism that managers with holding large shares can keep their behaviors align with

shareholders (Jensen & Meckling, 1976; Jiraporn & Nimmanunta, 2018). Higher insider ownership is easily to reduce agency conflicts (Espanlaub et al., 2012). Institutional investors have strong motivations to participate in the firm's management and conduct their monitoring rights, which will relieve the agency conflicts between shareholders and managers and protect minor shareholders' benefits (Bajo et al., 2013).

Auditing is one of the methods that can control managers' behavior through monitoring activities (Jensen & Meckling, 1976). As an external corporate governance mechanism, an audit aims to coordinate the interests of shareholders and managers (Bushman & Smith, 2001; Holderness, 2003; Jensen, 1993; Schäuble, 2018) and reduce agency cost (Schäuble, 2018).

Delisting, as the strategic decision of the firm that made by itself, can mitigate cash flow-related agency conflicts between managers and shareholders (Jensen, 1986). Thus, when one firm has strong agency conflicts, based on the goal of agency theory that prescribes the ideal contract to alleviate the conflicts between shareholders and managers (Eisenhardt, 1989; Yahya, 2017), delisting is one of the measures that a firm can choose to reduce the agency conflicts (Jensen, 1986; Vismara & Signori, 2014).

Additionally, agency conflict may be reduced, and firm performance can be raised with good corporate governance (Hussain et al., 2018; Jiraporn & Nimmanunta, 2018; Singh & Gaur, 2009). Therefore, corporate governance could affect voluntary delisting because voluntary delisting represents the consequence of conflicts between managers and shareholders (Fidanza et al., 2018c; Martinez & Serve, 2017).

Furthermore, previous articles have examined the relationships between various corporate governance mechanisms and voluntary delisting decisions, including

institutional ownership, ownership concentration, insider ownership, etc. (Djama, Martinez, & Serve, 2012; Kang, 2017). However, the results are incongruent. The reason behind this inconsistency may be due to the corporate governance in the different national institutional environments is different (Ortiz-de-Mandojana et al., 2016).

Furthermore, the effectiveness of corporate governance is affected by many factors, such as legal and regulation frameworks (Maher & Andersson, 2022). China's corporate governance is characterized by the imperfect market-supporting institutions, weak regulatory environments, etc. (Jiang & Kim, 2020; Mutlu et al., 2018). The context of China provides a different institutional environment to examine the application of Agency theory in a different corporate governance context.

Therefore, this study intends to utilize the Agency theory as the underpinning theory to research the relationship between corporate governance and voluntary delisting. The results of this study would extend the evidence for the corporate governance literature and the application of Agency theory in different institutional environments.

Furthermore, as the well-known organization theory, the Agency theory is crucial to the study of corporate governance (Cuomo et al., 2016). However, several academics noted that Agency theory could be limited or invalid in studies of corporate governance (Aguilera et al., 2016; Aguilera & Jackson, 2003; Davis et al., 1997). As a result, it is justifiable to do research by incorporating Agency theory and other theories (Aguilera et al., 2016; Cuomo et al., 2016). The following two sections will discuss the CBA theory and Upper Echelons theory.

2.5.2 CBA Theory

The World Bank used cost-benefit analysis (CBA) to assess investment projects as early as the 1960s (Vawda et al., 2003). It is used to contrast the costs and benefits expected for different scenarios and the outcomes of various actions (Haddix et al., 2003). In the early period, CBA was used in the decision-making of macroeconomics (Ward, 2019), and then it embraced an enormous field (Drèze & Sten, 1987), such as public sector projects (health care) (Cartwright, 2002) and educational projects (Drèze & Sten, 1987; Vawda et al., 2003).

CBA examines a decision according to its outcomes, costs and benefits (Drèze & Sten, 1987). Previous studies employed this theory to investigate the product configuration systems (Shafiee et al., 2018), understanding the knowledge contributors' satisfaction in the transactional virtual communities (Sun et al., 2014), network intrusion detection system (Donors et al., 2017) and others. In fact, CBA is a theory to help humans make decisions (Larrick, 1993).

In 1995, Pagano et al. (1998) analyzed the cost and benefit of going public and examined the reasons why do firms go public. In the same vein, CBA can also be used to explain why firms decide to exit a public market (Bharath & Dittmar, 2010). When the listing costs exceed listing benefits, firms will leave the public markets and delist (Bharath & Dittmar, 2010; Martinez & Serve, 2017). According to different types of voluntary delisting (going dark or transferring to another regulated stock market), firms face different trade-offs.

Public firms face many costs. In the IPO stage, firms face registration costs and underwriting fees. After IPO, firms become listed firms, and they need to pay ongoing

costs such as annual listing fees and trading costs. They are also involved in indirect costs, such as compliance costs and agency costs (Siddiqui, 2021). Compliance costs originate from costs that the firm pays to satisfy the stock exchange and other regulators' requirements, which include auditing and information disclosure costs. Agency costs refer to the costs that the firm pays to alleviate the agency conflicts between managers and shareholders and between majority shareholders and minority shareholders (Martinez & Serve, 2017; Pagano et al., 1998; Van Tan & Trung, 2019).

The benefits that the firm listed include rebalancing the leverage, improving the ability to raise funds, enhancing external monitoring, and increasing reputation and credibility (Bancel & Mittoo, 2009; Pagano et al., 1998; Siddiqui, 2021). When listing benefits cannot compensate listing costs, delisting is one of the important decisions that firms often make.

Researchers revealed that cost saving is a primary motivation in delisting via LBOs (DeAngelo et al., 1984; Lehn & Poulsen, 1989). In cross-delisting, Researchers find that firms delist from US markets because SOX increased compliance costs (Bharath & Dittmar, 2010; Djama et al., 2012; Hansen & Öqvist, 2015; Kalak et al., 2018; Liu et al., 2012; Marosi & Massoud, 2007).

To sum up, the voluntary delisting decision comes from the cost-benefit trade-off. Delisting can reduce compliance costs for firms satisfying the requirements of security exchange and other regulators. The current study combines CBA theory and Agency theory to underpin the relationship between corporate governance, especially external corporate governance and voluntary delisting. The results of this study extend the theories of the corporate governance literature.

2.5.3 Upper Echelons Theory

With the development of modern corporations, the shareholders (principals) employ managers (agents) to manage their firms, which leads to the separation of ownership and control (Berle & Means, 1932; Tulung & Ramdani, 2018). Agency theory is issued by Jensen and Meckling (1976) to regulate the best contract to manage the relationship between principal and agent (Eisenhardt, 1989; Yahya, 2017). TMT is employed by shareholders (principals) to manage a firm. Their characteristics would affect the contract made with principals.

Thus far, a load of previous studies has discussed the characteristics of top management (Hambrick & Mason, 1984). For example, the link between the background or experience of the CEO and the firm operation or strategy (Abatecola & Cristofaro, 2016; Carpenter et al., 2004; Hambrick & Mason, 1984; Ting et al., 2015; Wang et al., 2016). Hambrick and Mason (1984) integrated the previously fragmented literature and developed the Upper Echelons theory.

Upper Echelons theory is not only a theoretical framework but also a research methodology (Carpenter et al., 2004). It was anchored on the demographic characteristics of the TMT (Hambrick & Mason, 1984). This method is encouraged by Weick (1969), who said, “If . . . properties can be defined in terms of observable individual behaviors, there is a better chance that empirical research . . . can be made more cumulative (1969, pp. 31-32)”. Although, compared with psychological dimensions, demographic dimensions may contain many noises. However, Hambrick and Mason (1984) purported that “if demographic data yield significant findings, then the Upper Echelons theory will have been put to a relatively stringent test (p196)”.

In the overall upper echelons' perspective depicted by Hambrick and Mason (1984), TMT characteristics are influenced by the environment and strategy of the organization and partly reflect the situation that the firm faces. The critical factor of the theory is that the characteristics of the upper echelon are the determinants of strategy choices and influence organizational performance through this selection (Hambrick & Mason, 1984). The theory gives 21 positions of the relationship between TMT demographics, such as age, functional track, financial position and others, and organizational outcomes (Hambrick & Mason, 1984).

In 2007, Hambrick updated his original theory. At first, he examined two moderators of the Upper Echelons theory. One moderator is managerial discretion. The theory of upper echelons offers good organizational outcome predictions in direct proportion to the extent of managerial discretion. Another moderator is executive job demands. In comparison, the choices of executives who work at heavy job demands will reflect their backgrounds and character. The executive with minimal job demands can consider more comprehensive in analyzing and making decisions. Therefore, their decisions will more highly correspond with the objective circumstances they confront (Hambrick, 2007).

Second, he elaborated two new concepts: intra-TMT power distributions and TMT behavioral integration to rich the basic opinion of the TMT. Some executives have a lot more say than others, and it needs to consider their biases when trying to predict TMT behaviors. Behavioral integration means the extent the TMT participates in mutual and group interaction. A TMT with behavioral integration shares information, resources, and decisions (Hambrick, 2007). Previous studies have purported that organizational

behavioral integration significantly and positively impacts firm performance (Hambrick, 2005; Li & Hambrick, 2005; Lubatkin, Simsek, Ling, & Veiga, 2006).

Finally, he put forward to some promising ideas about further steps. To open the “black box”^{VI}, he suggested a new method that is a new category of strategy game, using the instrumental variable to sort out the causality and endogeneity, investigating the Upper Echelons theory in different institutional systems (Hambrick, 2007).

Previous studies examined the upper echelons model was applicable in different contexts, such as the USA, Europe, and international organizations (Wiersema & Bantel, 1992), linked TMT characteristics and organizational strategic profiles (Bantel & Jackson, 1989; Grimm & Smith, 1991), investigated the application of this theory in the diverse life cycle stages (Hambrick et al., 1996) and others (Eisenhardt & Schoonhoven, 1990).

Furthermore, the Upper Echelons theory is widely used in strategic management and performance research (Abatecola & Cristofaro, 2016; Acar, 2016; Hiebl et al., 2017; Wang et al., 2016). For example, Wang et al. (2016) discussed that CEO characteristics significantly impact firms’ strategic actions and then substantially impact future firms’ performance. The top manager’s characteristics have an influence on the management and control systems. Researchers have found that the CFO and top managers with more youthful, shorter-tenured, and business-related foundations are linked with more innovative and/or complex management accounting and control systems (Burkert & Lueg, 2013; Hiebl, 2014; Naranjo-Gil & Hartmann, 2007). Ting et al. (2015) examined

^{VI} The use of demographic indicators has left us at a loss about the real psychological and social processes that drive administrative action, which is a well-known "black box problem".

the influence of CEO personal characteristics on company financial leverage decisions. The results show that some personal characteristics indicators, such as CEO age, CEO working experience, and financial leverage, were significantly negatively correlated with financial leverage. However, other measures, such as CEO education level and tenure, can significantly and positively affect financial leverage.

The most popular area that Upper Echelons theory applicated is investigating the connection between TMT characteristics and company outcomes (Carpenter, 2002; Chaganti et al., 2016; Goll et al., 2008; Goll & Rasheed, 2005; Naseem et al., 2020; Tanikawa et al., 2017). Previous studies examined the effects of demographics, such as age, educational background, gender diversity, overconfidence, working experience and others of TMT on corporate performance, but the results remain ambiguous (Chen et al., 2018; Hu et al., 2019; Tanikawa et al., 2017; Wang et al., 2016).

According to the above discussion, the Upper Echelons theory is a critical theory to analyze the impacts of TMT demographic characteristics on corporate strategic choices and performance. However, the studies that examined the role of TMT demographic characteristics on the voluntary delisting decision are limited. Therefore, this study intends to investigate the moderating role of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting. The results of this study extend the application of Upper Echelons theory to the study of voluntary delisting, thereby enriching the literature on Upper Echelons theory and the literature on voluntary delisting.

2.6 The Relationship between Independent Variables and Voluntary Delisting

2.6.1 The Relationship between Board Size and Voluntary Delisting

The effectiveness of a board's decision-making and the capabilities of the company may both be significantly impacted by the size of the board of directors (Im & Chung, 2017). With the addition of more directors, the board loses its ability to react quickly to decisions that require immediate action (McColgan, 2001). The efficiency of the board of directors decreases, resulting in the high probability of voluntary delisting. Therefore, Fidanza et al. (2018c) indicate that a firm with a large board size is positively susceptible to delisting due to its weak corporate governance.

On the other side, Andoh et al.(2023) and Baluja (2019) argued that the larger board has better monitoring ability because the action of management is reviewed by many directors. Thus, other scholars claimed that the size of the board was not a significant factor when attempting to explain delisting due to takeover and acquisition (Bortolon & Junior, 2015b; Chancharat et al., 2012; Du et al., 2013; Sudarsanam et al., 2011).

Based on the perspective of agency theory, Jensen and Meckling (1976) suggested that as the size of a firm's board increases, its efficiency decreases. The larger the board, the more inefficiency of corporate governance when holding other factors constant. The agency conflicts in the firm with inefficient corporate governance become strong (Beiner et al., 2004; Dwivedi & Jain, 2005; Fama & Jensen, 1983; John & Senbet, 1998). The firm would find the measure to reduce the agency conflict. Delisting is one of the methods to alleviate the higher agency (Fidanza et al., 2018c; Martinez & Serve, 2017). Thus, the hypothesis of this study is developed as:

H1: Board size can significantly and positively affect voluntary delisting.

2.6.2 The Relationship between Board Independence and Voluntary Delisting

Board effectiveness has been seen to be significantly influenced by the board composition (Lorsch & Young, 1990). The impact of insider and outsider directors on business strategy, however, has received varied results in prior research. Boards with more independent directors are more likely to initiate strategic changes (Davó et al., 2019; Johnson et al., 1993; Pearce & Zahra, 1992). Another view states that inside directors can offer better strategic direction by giving more knowledge of the company (Bruni-Bossio & Sheehan, 2013; Muth & Donaldson, 1998; Valenti & Schneider, 2014).

The effects of insider directors on going-private transactions between the years 2008–2011 and 2003–2007 were compared by Valenti and Schneider (2014). They discovered that the percentage of insiders on the board had no effect in the early period of going private, but had a positive effect in the later. According to Hostak et al. (2013), the firm that exited from the LSE Main market had higher independent directors percentages than those that remained listed.

Besides, Brau et al. (2013) suggested that the impacts of board independence and going private was significantly negative. However, Du et al. (2013) argued that board independence is negatively but not significantly related to going private decision. Sudarsanam et al. (2011) found that the percentage of independent directors is positively related to the likelihood of going private.

Furthermore, existing literature has argued that the relationship between board independence and the likelihood of organization survival is positive but nonlinearity (Chancharat et al., 2012). Other scholars have demonstrated that the chance of reverse mergers surviving within three years can be positively impacted by outside directors (Kim et al., 2015). The findings of Djerbi and Anis (2015) supported the opinion that

external directors may more effectively oversee management. Their findings demonstrated that the independent directors' percentage is negatively and significantly related to post IPO failure risk.

To summarize, previous articles on the relationship between board independence and voluntary delisting and survival probability were unable to reach a consistent conclusion. This study intends to further investigate the relationship between board independence and voluntary delisting in China's NTBM.

From the perspective of Agency theory, independent directors can enhance the monitoring ability of the board and alleviate agency costs (Davó et al., 2019; Lorsch & Young, 1990). Furthermore, more independent directors indicate a strong monitoring and efficient board of directors and a well-managed company (Burdeos & Ocampo, 2021; McColgan, 2001). The likelihood of the firm delisting from the NTBM becomes small. Hence, this study develops the following hypothesis:

H2: Board independence can significantly and negatively affect voluntary delisting.

2.6.3 The Relationship between CEO Duality and Voluntary Delisting

The CEO duality can lead to agency conflicts between managers and shareholders in accordance with the view of Agency theory. As a result, prior scholars hypothesized that the CEO and chairperson should be served by different men (Fama & Jensen, 1983; Jensen, 1993).

Previous studies on the subject of delisting indicated that CEO duality increased the likelihood of a firm being delisted (Djerbi & Anis, 2015; Liu et al., 2013; Martinez & Serve, 2017; Weir et al., 2003). However, Sudarsanam et al. (2011), and Hostak, Lys, Yang and Carr (2013) argued that the relationship between CEO duality and going

private is not significant. Furthermore, Chancharat et al. (2012) demonstrated that the duality of the CEO and the independence of the board chairman had no effect on the survival of new economy IPO firms.

Additionally, prior scholars investigated the effects of CEO duality on IPO survival. CEO duality has structural power, according to Bach and Smith (2007) research, and it increases the probability that high-tech firms will survive. However, Pour (2015) suggested that a firm with CEO duality had a worse chance of surviving.

As far, there is still no consistent conclusion on the relationship between CEO duality and voluntary delisting. The current study will ascertain this relationship and add to the body of knowledge about voluntarily delisting.

The previous studies referred that CEO duality will lead to managerial opportunism and agency costs by strengthening the CEO's power, which in turn results in firm failure (Pour, 2015). Thus, based on the view of agency theory, CEO duality leads to the inefficiency of corporate governance and results in a higher likelihood of voluntary delisting. The following hypothesis is developed as:

H3: CEO duality can significantly and positively affect voluntary delisting.

2.6.4 The Relationship between Institutional Ownership and Voluntary Delisting

Moon (2006) proposed that private equity investors can provide more effective oversight and have an impact on a company's choice to delist. Private equity investors are keen on looking for board representation as strategic partners to oversee the company's decision-making (Moon, 2006).

Maug (1998) suggested that the extent to which institutional investors carry out their responsibilities to impact company decisions partially relies on the proportion of shares they own. Cornett et al. (2007) argued companies with lower institutional ownership indicate that the company has weak monitoring and, in such companies, delisting could align the benefits of shareholders and managers.

In addition, prior researchers hypothesized that institutional ownership may reduce the likelihood of managers deciding to delist voluntarily, as higher institutional ownership is associated with more stringent oversight that protects minority shareholders and discourages executives from making voluntary delisting decisions (Bharath & Dittmar, 2010; Lauterbach & Mugerman, 2018; Mehran & Peristiani, 2010; Rath & Rashid, 2016).

However, other scholars suggested that institutional ownership is positively related to voluntary delisting (Cumming et al., 2019; De & Jindra, 2012; Weir et al., 2003). In the same vein, previous scholars noted that institutional ownership is significantly and positively correlated with the likelihood of going private (Cumming et al., 2019). However, Rath and Rashid (2016) proposed that institutional ownership ratios have a detrimental impact on the likelihood of private equity transactions due to their control and information creation (Bharath & Dittmar, 2010; Martinez & Serve, 2011; Mehran & Peristiani, 2010; Sudarsanam et al., 2011; Wilson et al., 2009).

In addition, institutional presence can increase the likelihood that a going private tender offer would be rejected, although the percentage of institutional ownership does not significantly affect offer rejection (Bajo et al., 2013; Lauterbach & Mugerman, 2018).

Although, previous articles cannot draw the consistent conclusion about the effects of institutional ownership on voluntary delisting. However, according to the Agency theory, institutional ownership could influence a company's strategic decision by overseeing (Jensen & Meckling, 1976) and safeguarding minority shareholders, which will lessen the likelihood that a company would decide to going private (Guan, 2021; Lauterbach & Mugerman, 2018; Mehran & Peristiani, 2010; Rath & Rashid, 2016). Accordingly, this study develops the following hypothesis:

H4: Institutional ownership can significantly and negatively affect voluntary delisting.

2.6.5 The Relationship between Insider Ownership and Voluntary Delisting

According to the Agency theory, previous studies reported that the relationship between insider ownership and voluntary delisting decision is significant and positive because delisting decision is easier to make for firms with more closely held (Djerbi & Anis, 2015; Du et al., 2013; Fidrmuc et al., 2013; Pour & Lasfer, 2013; Weir et al., 2008). Furthermore, Hostak et al. (2013) found that firms delisted from LSE Main market with lower insider ownership than those remained in the LSE. However, Sannajust (2009) argued this relationship is significantly negative (Algebaly, 2011; Aslan & Kumar, 2011).

In addition, Sudarsanam et al. (2011) examined that managerial ownership has a significant and positive influence on going private. However, the squared managerial ownership is significantly negative. That means the relationship between managerial ownership and going private probability is nonlinearity.

Besides, CEO ownership positively impacts the likelihood of survival of reverse mergers in 3 years (Kim et al., 2015). Espenlaub et al. (2012) found that insider ownership can increase the survival time (Hensler et al., 2010).

Moreover, high ownership stakes by the CEO and executive management will facilitate the PTP transaction (Maupin, 1987; Valenti & Schneider, 2014). Firms are more probability to be targeted for private equity transactions if they possess relatively low or high managerial ownership (Halpern et al., 1999). In other words, the connection between managerial ownership and going private is nonlinear (Achleitner et al., 2013).

Under the Agency theory perspective, insider ownership as the incentive mechanism of corporate governance can coordinate the interests between stockholders and managers. Therefore, the level of corporate governance could be improved with the increase of the proportion of insider ownership. The likelihood of voluntary delisting could decrease as insider ownership plays an incentive role. Hence, the hypothesis of this study can be developed as follows:

H5: Insider ownership can negatively and significantly affect voluntary delisting.

2.6.6 The Relationship between Lead Security Trader and Voluntary Delisting

To date, little research has directly discussed the correlation between lead security trader and voluntary delisting. Because of the role of the lead security trader is partly similar to the underwriter, investment banker and advisor based on its function^{VII} (CSRC, 2013), this study needs to reference the results of previous studies about underwriter, investment banker, etc. Previous studies examined the impacts of the

^{VII}http://www.csrc.gov.cn/tianjin/xxfw/scyw/201309/t20130918_235004.htm

underwriter, investment banker and advisor on delisting decision. The reputation of investment banker and VC backing are the main factors of IPO survival time (Carpentier & Suret, 2007).

Pour (2015) examined that the reputation of the underwriter has a significantly negative influence on delisting decision. Chancharat et al. (2012) found that the firm is backed by an underwriter when IPO has a delisting risk because risk firms are willing to seek underwriter backing. The reputational of the investment banker can decrease the likelihood of IPO failure, but prestigious investment bankers are linked with a significantly negative impact on IPO success (Carpentier & Suret, 2011).

According to the responsibilities of the lead security trader, it also implements the advice services. Cressy and Farag (2014) investigated that a counselor with more experience is less likely to be linked with the transferring to the Main Market decisions. Espenlaub et al. (2012) suggested that the Nomad's reputation can positively affect a firm's IPO survival. However, other researchers found that the relationship between the reputation of the Nomad and IPO survival is not significant (Pour & Lasfer, 2013).

Furthermore, a handful of articles in China focus on the impact of the lead security trader, which only includes the effects of the reputation of the lead security trader on information disclosure (Sun, Zhang, & Meng, 2018), market making stock liquidity (Wang, 2017) and long term performance (Huang & Liu, 2019).

Although, the lead security trader can alleviate the agency costs in terms of its responsibilities (CSRC, 2013). However, previous researchers and scholars also suggested that a firm needs to pay more to employ high reputation lead security traders (Sun et al., 2018), which will add to the listing cost of a firm. Based on the CBA theory,

the firm will choose to delist when the listing benefit cannot offset the listing cost. Moreover, prior scholars pointed out that many NTBM-listed firms leave the NEEQ due to the cost (Zhu, 2018). Therefore, the high reputation lead security trader may increase the likelihood of the NTBM-listed firms making a voluntary delisting decision. The study develops the following hypothesis:

H6: Lead security trader can significantly and positively affect voluntary delisting.

2.6.7 The Relationship between the External Auditor and Voluntary Delisting

This study measures external auditor by audit reputation. Previous studies have shown that the reputational of audit firms (auditors) can measure the audit quality provided by audit firms (Rahman et al., 2019). Audit quality has a close relationship with the firm's corporate governance (Francis & Wilson, 1988; Santoso & Widyaswati, 2019). Thus, audit reputation also plays a vital role in the firm's corporate governance. To date, a handful of researchers have examined the connection between audit reputation and the company's survival time, survival rate, transfer, and going private (Carpentier & Suret, 2011; Ehn, 2016; Espenlaub et al., 2012; Jain & Martin, 2005).

Espenlaub et al. (2012) assumed that professional agents such as underwriters, brokers, accountants, and auditors are linked to the firm's survival rate on the stock exchange. Jain and Martin (2005) found that the reputation of auditors has a positive correlation with survival time. Furthermore, Carpentier and Suret (2011) purported that reputational auditors can increase the probability of IPO success. Ehn (2016) examined that BIG 4 auditor positively and significantly affect firms' survival time, and the firm with BIG4 auditors is easy to going private.

However, Cressy and Farag (2014) examined that the reputation of auditors has a negative effect on transfer decision. Furthermore, Yiannis K. Yiannoulis (2019) mentioned a negative and significant relationship related to voluntary delisting. However, Derouiche et al. (2017) have found that the connection between audit and IPO survival is insignificant (Carpentier & Suret, 2007).

The external auditor is a pivotal monitoring mechanism of corporate governance (Watts & Zimmerman, 1983). It can relieve agency conflicts between shareholders and managers (Liang, Chen, & Hu, 2015; Ahmad, 2019; Guizani, 2018). The Agency theory indicates that the audit is a monitoring mechanism that affects enterprise performance and strategy (Jensen & Meckling, 1976).

However, limited studies directly examine the connection between the external auditor and voluntary delisting. Besides, the argument of previous studies about the effect of the reputation of the auditor on enterprise survival is mixed. The high quality auditors would charge higher audit fees (Zoe-Vonna Palmrose, 1986). It will increase the firms' costs. From the perspective of the CBA theory, a firm would choose to leave the stock market when the listing cost exceeds the listing benefit (Bharath & Dittmar, 2010; DeAngelo et al., 1984; Mehran & Peristiani, 2010; Tutino et al., 2014) because going public can no longer bring profits to the firm. Thus, this study will explore the relationship between the external auditor and voluntary delisting and develops the following hypothesis:

H7: External auditor can significantly and positively affect voluntary delisting.

2.7 The Moderating Effect of the Demographic Characteristics of TMT

According to the aforementioned discussion, prior researchers have examined the relationship between board size and voluntary delisting (Beiner et al., 2004; Dwivedi & Jain, 2005; Fidanza et al., 2018c; Goktan et al., 2018; John & Senbet, 1998), board independence and voluntary delisting (Brau et al., 2013; Du et al., 2013; Hostak et al., 2013; Leuz et al., 2008; Sudarsanam et al., 2011; Weir et al., 2005), CEO duality and voluntary delisting (Chancharat et al., 2012; Djerbi & Anis, 2015; Liu et al., 2013; Weir et al., 2005a, 2005b), institutional ownership and voluntary delisting (Algebaly et al., 2014; Chen, 2011; Croci & Giudice, 2012; Cumming et al., 2016; Mehran & Peristiani, 2010; Simons & Renneboog, 2005; Weir et al., 2003), insider ownership and voluntary delisting (Achleitner et al., 2013; Djerbi & Anis, 2015; Du et al., 2013; Fidrmuc et al., 2013; Pour & Lasfer, 2013; Sannajust, 2009). However, the results are inconsistent. The inconsistent results suggest that some exogenous variables might moderate these relationships (Baron & Kenny, 1986).

Agency theory purports that TMT is employed by shareholders (principals) and manages a firm as agents (Mugwang'a et al., 2018). TMT demographic characteristics can significantly affect a firm's strategies and performance. This influence is well articulated in the Upper Echelons theory (Carpenter et al., 2004; Dang & Vo, 2014; Goll & Rasheed, 2005; Hambrick, 2007; Hambrick & Mason, 1984; He et al., 2016; McClelland et al., 2010; Mkalama & Machuki, 2019; Ozer, 2010; Sannajust, 2009; Tanikawa et al., 2017; Wang et al., 2016).

Furthermore, the allocating responsibilities, rights, and benefits to managers and shareholders are set up by corporate governance (Finkelstein & Hambrick, 1996). Good corporate governance reduces the agency conflicts between managers and shareholders

(Jiang & Kim, 2020; McColgan, 2001). The effectiveness of corporate governance is affected by the TMT demographic characteristics. For example, Mugwang'a et al. (2018) find that there is the highest correlation between TMT characteristics and corporate governance.

Additionally, voluntary delisting is one of the organizational strategies (Vismara & Signori, 2014). The above discussion argues that internal corporate governance can influence voluntary delisting decisions from the perspective of Agency theory. However, the voluntary delisting decision of a firm is made by its management. Given that the effectiveness of corporate governance is affected by TMT characteristics (Mugwang'a et al., 2018), the relationship between internal corporate governance and voluntary delisting would be affected by TMT characteristics.

Thus, this study will investigate the moderating role of TMT demographic characteristics (average age, average education level and political background) on the relationship between internal corporate governance and voluntary delisting.

Additionally, previous studies provide evidence of TMT characteristics as moderators. For example, the majority of previous studies examined the moderating role of TMT characteristics in another way, e.g., between environmental sustainability implementation and both long- and short-performance (Naranjo-Gil, 2016); between enterprise risk management and organizational outcomes (Omar, Noradiva, & Ruhanita, 2014); between competitive repertoire simplicity and firm performance (Walter & Douglas, 2004); between equity incentive and internal control quality (Wen et al., 2015); between corporate governance and corporate performance (Lin, 2018); between R&D expenditure and firm performance (Qin, 2014); between investor sentiment and the investment level (Zhu et al., 2018).

In addition, the majority of previous studies have paid more attention to the heterogeneity of TMT demographic characteristics (Tihanyi & Dalton, 2000). Few studies examined the homogeneity of TMT demographic characteristics (Abatecola & Cristofaro, 2016). Therefore, this study intends to fill this gap by examining the moderating effect of the homogeneity of TMT demographic characteristics in the average age, education level, and political background as these demography traits would affect the perceptions and values that lead to the managerial bounded rationality (Zhu et al., 2018). Hence, this study will investigate the moderate role of TMT demographic characteristics on the connection between internal corporate governance and voluntary delisting in the view of Upper Echelons theory.

2.7.1 The Moderating Effect of the TMT Average Age

Tanikawa et al. (2017) found that the research on the moderating effect of the TMT average age is limited. However, “*context in TMT is clearly dependent on average age*” (Tanikawa et al., 2017). Thus, this study will fill this gap. Furthermore, young managers are energetic, capable of learning, and more willing to take risks (Almaqtari et al., 2023; Hambrick & Mason, 1984). As they age, they gain extensive experience and focus more on earnings stability but become more conservative and risk-averse (Zhu et al., 2018). Based on the view of Upper Echelons theory, the behavior of making decision would be affected by TMT’s age (Hambrick & Mason, 1984; Muhammad et al., 2023; Zhang et al., 2023). Older TMT is likely to make the more conservative decision than younger TMT (Zhang et al., 2023).

Therefore, this study plans to examine how or whether TMT average age affects the relationship between internal corporate governance and voluntary delisting. The relevant hypotheses are developed as follows:

H8: The average age of TMT moderates the relationship between board size and voluntary delisting.

H9: The average age of TMT moderates the relationship between board independence and voluntary delisting.

H10: The average age of TMT moderates the relationship between CEO duality and voluntary delisting.

H11: The average age of TMT moderates the relationship between institutional ownership and voluntary delisting.

H12: The average age of TMT moderates the relationship between insider ownership and voluntary delisting.

2.7.2 The Moderating Effect of the TMT Average Education Level

Previous researchers suggested that highly educated managers are more easily to adapt to organizational changes (Richard et al., 2019). They are more self-confident and open to dealing with the new status because they have accepted more specialized and focused training in experiences and paradigmatic perspectives (Zhang et al., 2023). They had a greater conforming in cognitive models (Hitt & Tyler, 1991). Therefore, the upper echelon theory demonstrates that one man's way of thinking and decision-making would be affected by education level (Fernández - Gago et al., 2018; W. S. Lee & Moon, 2018; Tulung & Ramdani, 2015).

Previously, the TMT average education level has been examined as a moderator between equity incentive and internal control quality (Wen et al., 2015), between corporate governance and corporate performance (Liu, 2018), between investor

sentiment and investment level (Zhu et al., 2018), between firm-level investment in R&D and leverage (Chen et al., 2010).

Seeing that the TMT average education level is widely employed in prior studies as a moderating variable, this study is also interested in examining it in the voluntary delisting theme. The voluntary delisting decision is an important strategic decision that is made by TMT. Highly educated TMT is open to organizational changes (Zhang et al., 2023). TMT education level would affect the effects of internal corporate governance on voluntary delisting. Therefore, the hypotheses of this study are developed as follows:

H13: The average education level of TMT moderates the relationship between board size and voluntary delisting.

H14: The average education level of TMT moderates the relationship between board independence and voluntary delisting.

H15: The average education level of TMT moderates the relationship between CEO duality and voluntary delisting.

H16: The average education level of TMT moderates the relationship between institutional ownership and voluntary delisting.

H17: The average education level of TMT moderates the relationship between insider ownership and voluntary delisting.

2.7.3 The Moderating Effect of the TMT Political Background

Recently, researchers began to concentrate on the political background of TMT (Chen & Lai, 2010; Guo & Li, 2009; Li, 2017; Li, 2016; Luo, 2018; Su & Wang, 2016). As

indicated by the Upper Echelons theory, the functional background of TMT can affect the firm's outcomes (Hambrick & Mason, 1984).

Liu (2018) proposed that the political background of TMT can affect the firm's decision-making and also can be treated as a moderator to moderate the effects of corporate governance on corporate performance. Masud et al. (2019) revealed that political connections negatively and significantly moderate the relationship between legal experts and corporate corruption disclosure by examining 247 firm-year observations during the period from 2012 to 2016 in the Bangladeshi financial sector. However, to date, few studies have examined the moderating role of TMT political background on the correlation between corporate governance and voluntary delisting.

Furthermore, existing literature has suggested that a firm with political connections is easier to get critical resources from the government, such as government finance, lax taxes and awards of government contracts (Cui et al., 2019; Faccio, 2010; Pastor & Veronesi, 2012; Zhang, 2017). Specially, although the anti-corruption campaign prohibits the officials from abusing their power, previous scholars proposed that political connections are more valuable for non-state-owned firms and small firms (Xu & Liu, 2020; Yang, 2019).

Executives with the political background are more sensitive to policy and keep a better relationship with the government than their peers without political background (Cui et al., 2019). Political connections positively affect corporate environmental disclosure (Qian & Chen, 2020) and corporate corruption disclosure (Masud et al., 2019).

Therefore, the political connection plays a vital role in the NTBM-listed firms' strategic decision process because the non-state-owned and small-medium-sized firms dominate

the NEEQ. According to the previous discussion, this study develops the following hypothesis:

H18: The political background of TMT moderates the relationship between board size and voluntary delisting.

H19: The political background of TMT moderates the relationship between board independence and voluntary delisting.

H20: The political background of TMT moderates the relationship between CEO duality and voluntary delisting.

H21: The political background of TMT moderates the relationship between institutional ownership and voluntary delisting.

H22: The political background of TMT moderates the relationship between insider ownership and voluntary delisting.

2.8 Control Variables

Researchers often use statistical control variables to alleviate the probability of confounded results that limit the model's explanatory power in nonexperimental research (Atinc et al., 2012; Klarmann & Feurer, 2018). The control variables are variables that have a suspected relationship with the dependent variable but are not focal variables in the study (Atinc et al., 2012).

Previous studies have examined some variables that could affect the likelihood of voluntary delisting. Omitting these variables may result in biased results. In addition, considering the NTBM is characterized by less volatility and liquidity (Li & Qiao, 2017; Li et al., 2018; Zhu & Shen, 2016), the present study excludes the variables related to

offering variables. Firms listed on NTBM are small and have high leverage, uncertainty performance and concentrated ownership (Gao, 2016; Li et al., 2015; Zhu, 2018). Thus, this study includes four control variables, that is, firm size, leverage, performance, and ownership concentration.

2.8.1 Firm Size

In corporate governance literature, many previous studies are likely to use firm size as a control variable (Espenlaub et al., 2016; Jiraporn et al., 2018; Li et al., 2014; Liu et al., 2013; Park et al., 2018). Prior studies measured firm size as total assets or log of total assets (Bessler et al., 2022; Chancharat et al., 2012; Charitou et al., 2007; Croci & Giudice, 2014; De & Jindra, 2012; Gao & Zhang, 2019; Hu et al., 2019; Jiraporn et al., 2018; Liu et al., 2013; Mehran & Peristiani, 2010; Mohan & Chen, 2007; Ureche-Rangau & Carugati, 2007), the number of employees (Gao & Zhang, 2019; Mohan & Chen, 2007), total book value (Mohan & Chen, 2007), market value (Liu et al., 2012), total sales or log of sales (Qin & Wang, 2018; Renneboog et al., 2007), market capitalization (Algebaly & Ibrahim, 2014; Gao & Zhang, 2019; Macey et al., 2008) and others (Algebaly et al., 2014).

A large firm can be more visible, raise lots of capital, and have a high ability to burden risk (Mola et al., 2013). Larger firms are considered more efficient than small firms at amortizing listing costs. Therefore, firms can show different behavior based on their size.

Furthermore, most of the previous studies have examined that firm size can significantly affect a firm's voluntary delisting (Algebaly, 2011; Baluja, 2018; Bortolon & Junior, 2015b; Cai et al., 2018; Doidge et al., 2017, 2018; Fidrmuc et al., 2013; Martinez & Serve, 2011; Michelsen & Klein, 2011; Mohan & Chen, 2007; Weir et al.,

2008; Wright et al., 2004). Therefore, firm size is employed as the control variable in the current study.

2.8.2 Leverage

Leverage represents the firm's debt level and financial risk (Brigham & Houston, 2007). High leverage means firms easily suffer financial distress (Gunarathna, 2016), which may lead to delisting (Leuz et al., 2008). Leverage can be measured as the percentage of total debts divided by total assets (Hansen et al., 2009; Liu et al., 2013); long-term debt divided by the total asset (Weber & Willenborg, 2003) or long-term debt adds the current portion of long-term debt divided by the total asset (Qin & Wang, 2018).

Besides, prior researchers have concluded that leverage positively affects delisting decision (Algebaly, 2011; Balios et al., 2016; Cai et al., 2018; Charitou et al., 2007; Kang, 2017; Liu et al., 2013; Martinez & Serve, 2011; Mohan & Chen, 2007; Pour, 2015; Pour & Lasfer, 2013; Siddiqui, 2021), only a few researchers think this relationship is negative (Martinez & Serve, 2011; Michelsen & Klein, 2011; Sudarsanam et al., 2011).

Therefore, it is no doubt that leverage plays a significant role in firm voluntary delisting decision-making. This study treats leverage as one of the control variables.

2.8.3 Performance

Performance and leverage are two driving factors for a firm to make the delisting decision (Martinez & Serve, 2011). Considering the traditional motivation for voluntary delisting is the firm wants to mitigate the costs resulting from the listed (Djama et al., 2012), previous studies examined that firms with more profitability are less likely to delist (Chaplinsky & Ramchand, 2012) due to the listing cost can be compensated by

benefit when a firm has higher performance (Bessler et al., 2022). Therefore, Martinez and Serve (2011) suggested that a firm's performance seems to more significantly affect the delisting decision. Following previous scholars' arguments, this study introduces performance as a control variable.

2.8.4 Ownership Concentration

Previous studies have examined the delisting by considering ownership concentration issues. Achleitner et al. (2013) mentioned that higher ownership concentration increases the probability of delisting through a study of a sample from the European market. The increase in the concentration of ownership, the decrease of the agency conflicts between managers and shareholders, but the increase of the agency conflicts between large shareholders and minority shareholders (Weir et al., 2005a). Large shareholders may expropriate value from minority shareholders through delisting (Crocì & Giudice, 2014). Therefore, ownership concentration is positively related to a firm's voluntary delisting decision (Achleitner et al., 2013; Bharath & Dittmar, 2010; Weir et al., 2005a).

However, other researchers found that the firm that managers held a large percentage of equity is less likely to delist via going private because agency costs of debt in this kind of firm are higher (Fidanza et al., 2018c).

In a word, ownership concentration plays a vital role in the firm's voluntary delisting decision (Bortolon & Junior, 2015b). Therefore, the current study introduces ownership concentration as one of the control variables.

2.9 Summary

This chapter has five parts. Firstly, it discusses the structure of the capital market in China. And then introduces NTBM and summarizes the difference between the MBM, GEM, and NTBM. Secondly, it has reviewed the dependent variable of the study: voluntary delisting. Thirdly, it examines the independent variables and moderators: board size, board independence, CEO duality, institutional ownership, insider ownership, lead security trader, external auditor and the demographics of TMT. Fourthly, this chapter introduces the underpinning theory of this study. And in the following part, this chapter explores the connection between independent variables and voluntary delisting, the moderating role of TMT demographics, and develops the hypotheses of the study. Finally, the control variables of this study are discussed.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

Firstly, the framework of this study is provided. The framework is viewed as a backbone of the research because it enhances the base of the study. Subsequently, hypotheses are summarized. Secondly, the research design of this study is introduced in section 3.3. Thirdly, section 3.4 and section 3.5 present the population and sample. Fourthly, section 3.6 discusses the operational definition and measurement. Fifthly, section 3.7 forms the model and section 3.8 introduces the data collection. In the following two sections, the study discusses the data collection procedure and data analysis techniques. The last section is a summary.

3.1 Research Framework

Previous studies have found voluntary delisting can be affected by corporate governance factors, for instance, board characteristics, institutional ownership and insider ownership (Bessler et al., 2012; Fidanza et al., 2018d, 2018c; Guan, 2021; Martinez & Serve, 2017; Moreira et al., 2017). However, the results of the influence of these variables on voluntary delisting in previous articles are inconsistent. Weak corporate governance would intensify the agency conflicts between shareholders and firm managers (Jensen, 1993; Jensen & Meckling, 1976; McColgan, 2001). Delisting would help a firm with weak corporate governance alleviate agency conflicts (Bessler et al., 2012; Martinez & Serve, 2017; Moreira et al., 2017). Therefore, weak corporate governance has an effect on voluntary delisting.

According to the above discussion, the current study intends to elucidate the relationship between corporate governance and voluntary delisting from the perspective of Agency theory. Furthermore, this study chooses board characteristics (i.e., board size, board independence and CEO duality), institutional ownership and insider ownership as corporate governance factors under the consideration of the feature of the NTBM-listed firms.

Besides, to seek the effects of new variables on voluntary delisting, the study explores the correlation of the reputation of the lead security trader and external auditor with voluntary delisting. According to the responsibilities, which are regulated by NEEQ, of the lead security trader, the lead security trader plays a vital role in monitoring the firm listed on NTBM. It can relieve the information asymmetry between stockholders and managers by fulfilling its monitoring right (Li et al., 2015). It can impact the decision-making of the firm (CSRC, 2013).

Furthermore, the external auditor is often viewed as one of the essential participants in corporate governance mechanisms (Aldaoud, 2015; Fan & Wong, 2005). It can reduce the information asymmetry between stockholders and managers and alleviate agency conflicts between them (Jensen & Meckling, 1976; Moreira et al., 2017).

However, it should be noted that employing a high reputation lead security trader and external auditor increase the firm's cost (Sun et al., 2018; Zoe-Vonna Palmrose, 1986). Thus, a firm needs to tradeoff the benefit provided by highly reputable lead security trader and external auditor with the cost of employing them. This trade-off triggers this study plans to examine the effects of the reputation of lead security trader and external auditor on voluntary delisting.

Consequently, this study will extend the previous delisting literature by investigating the relationship between corporate governance and voluntary delisting after considering control factors (firm size, leverage, performance and ownership concentration).

Moreover, this study expands the previous studies by providing evidence of whether different conditions affect the impact of corporate governance on voluntary delisting. For achieving this purpose, this study examines the moderating role of the demographic characteristics of TMT (i.e., average age, average education level, and political background) on the relationship between internal corporate governance (i.e., board size, board independence, CEO duality, institutional ownership and insider ownership) and voluntary delisting. The research framework of this study is shown in Figure 3.1.



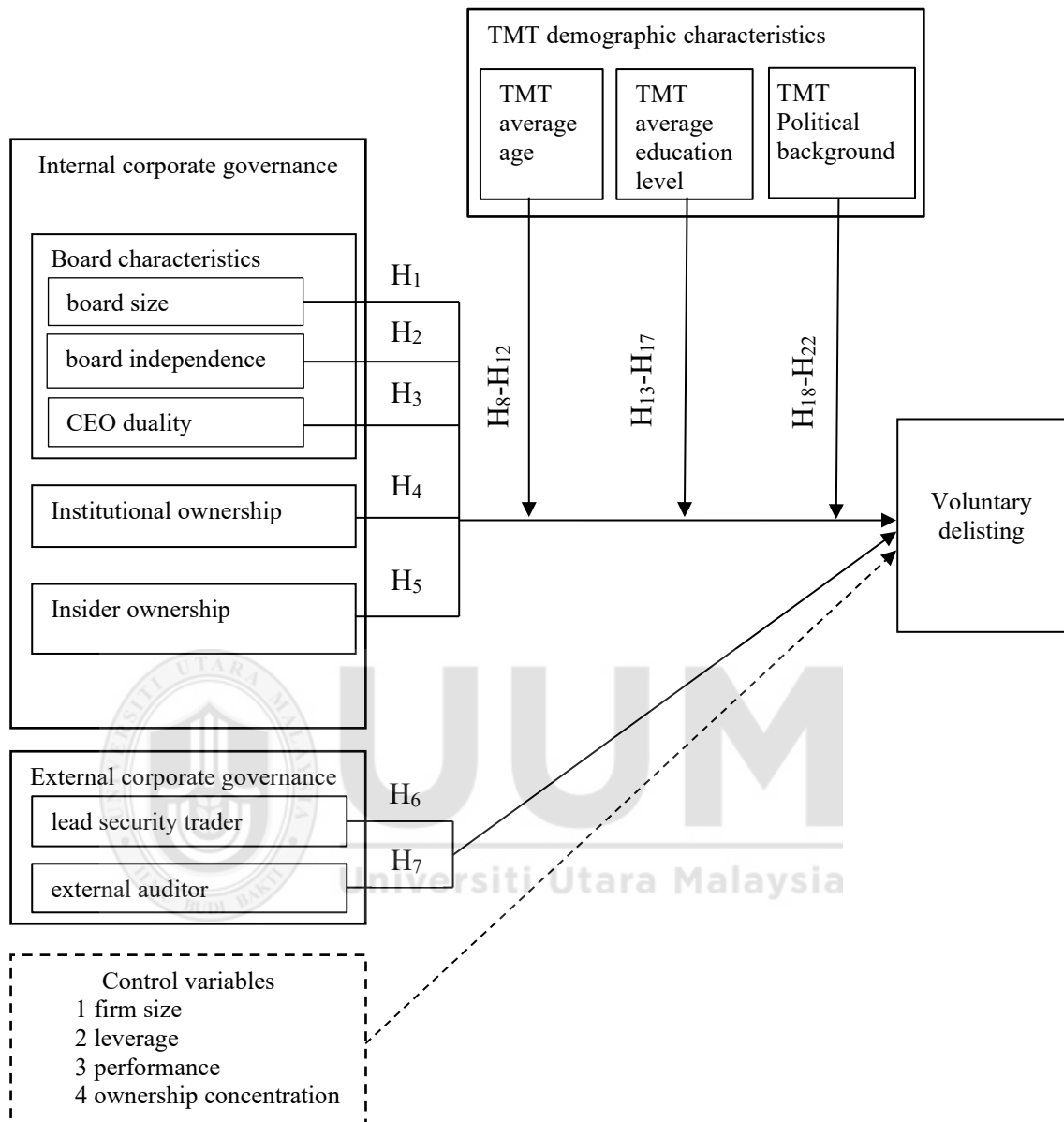


Figure 3. 1
The Framework of the Study

3.2 Summary of Research Hypothesis

The summary of the research hypothesis of the current study is shown in Table 3.1.

Table 3.1

The Summary of Research Hypothesis of this Study

Research Objectives	Research Hypotheses
(1) To examine the significant effect of internal corporate governance on the firm's voluntary delisting decision.	H1: Board size can significantly and positively affect voluntary delisting.
	H2: Board independence can significantly and negatively affect voluntary delisting.
	H3: CEO duality can significantly and positively affect voluntary delisting.
	H4: Institutional ownership can significantly and negatively affect voluntary delisting.
	H5: Insider ownership can negatively and significantly affect voluntary delisting.
(2) To investigate the significant effect of external corporate governance on the firm's voluntary delisting decision.	H6: Lead security trader can significantly and positively affect voluntary delisting.
	H7: External auditor can significantly and positively affect voluntary delisting.
	H8: The average age of TMT moderates the relationship between board size and voluntary delisting.
	H9: The average age of TMT moderates the relationship between board independence and voluntary delisting.
	H10: The average age of TMT moderates the relationship between CEO duality and voluntary delisting.
	H11: The average age of TMT moderates the relationship between institutional ownership and voluntary delisting.
	H12: The average age of TMT moderates the relationship between insider ownership and voluntary delisting.
	H13: The average education level of TMT moderates the relationship between board size and voluntary delisting.
	H14: The average education level of TMT moderates the relationship between board independence and voluntary delisting.
	H15: The average education level of TMT moderates the relationship between CEO duality and voluntary delisting.
	H16: The average education level of TMT moderates the relationship between institutional ownership and voluntary delisting.
(3) To examine the moderating effect of the TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.	

Table 3.1 (Continued)

Research Objectives	Research Hypotheses
	H17: The average education level of TMT moderates the relationship between insider ownership and voluntary delisting.
	H18: The political background of TMT moderates the relationship between board size and voluntary delisting.
	H19: The political background of TMT moderates the relationship between board independence and voluntary delisting.
	H20: The political background of TMT moderates the relationship between CEO duality and voluntary delisting.
	H21: The political background of TMT moderates the relationship between institutional ownership and voluntary delisting.
	H22: The political background of TMT moderates the relationship between insider ownership and voluntary delisting.

3.3 Research Design

A research design is like a study's blueprint or plans to answer our research questions (Kothari, 2004; Sekaran & Bougie, 2016). It includes data collection, data measurement and data analysis (Kothari, 2004; Sekaran & Bougie, 2016). Proper research design can help researchers conduct research in a clear and suitable way and also can help researchers conduct research efficiently (Kothari, 2004). "Research design,, has a great bearing on the reliability of the results arrived at and as such constitutes the firm foundation of the entire edifice of the research work" (Kothari, 2004, p.32). Thus, according to the objectives of the current study, this section briefly introduces the research design of this study.

First, this study is suitable to study a quantitative method to explore the relationship between corporate governance and voluntary delisting. The framework investigates the moderating effect of TMT demographic characteristics on the connection between

internal corporate governance (board characteristics, institutional ownership, and insider ownership) and voluntary delisting.

Second, data is extracted from the Wind Database, the website of NEEQ, the website of CSRC, the website of CICPA, and the annual report of NTBM-listed firms. The data is unbalanced panel data, and the original data is dealt with EXCEL2019.

Third, in the data analysis process, this study first identifies the outliers of the data and then does the descriptive analysis and univariate analysis. Descriptive analysis is employed to describe and summarize the data. The univariate analysis can be used to analyze the significant differences in the key variables.

Fourth, the study plans to use two methods to test the multicollinearity among the independent variables after identifying the outliers. One is the Pearson correlation matrix, and another calculates the variance inflation factor (VIF). If there is multicollinearity among these variables, the variables with multicollinearity cannot be tested in the same model to avoid the error terms (Wright et al., 2004).

Fifth, the study employs a logistic regression model to do research because the dependent variable of this study is binary, and the independent variables include discrete and continuous. The current study also conducts additional analysis to check the robustness of the regression model.

Finally, the STATA15.0 statistical package is used to analyze the data. Stata is a complete, integrated software package that executes a lot of functions such as data manipulation, visualization, statistics, and automated reporting. It provides various data analysis techniques such as correlation analysis, multiple regression, logistic regression, principal component and factor analysis. Compared with SPSS, STATA

allows users to invent and add further capabilities as needed. This study follows Hamilton.Lawrence C. (2012) guide to conduct the logistic regression with STATA to reveal the factors that cause a firm to delist from the NTBM voluntarily in the perspective of corporate governance.

3.4 Population of the Study

A careful selection of data plays an important role in good research (Sekaran & Bougie, 2016). This study focuses on NTBM in which young, small size, high growth and risk firms with weak corporate governance and high asymmetric information, chose to register this market to finance their growth opportunities. Although the NTBM was established in 2006, it developed at the end of 2013 since the policy of allowing all SMEs meeting the requirements to list was released. However, in recent years, a large number of firms have been delisted. The net flow of firms to NTBM has been negative in the last two years, as presented in Figure 3.2.

This study classifies the delisting firms into four categories based on the information offered by the NEEQ as shown in Figure 3.2: (1) voluntary delisting, if the company declares that it is delisting at its own request; (2) transferring, if the firm transfers to other more regulated security markets, such as MBM or GEM; (3) merger, if the firm merger by absorption; (4) involuntary delisting, if the firm exits the market because of breaching market regulation, such as not publishing the financial reports on time.

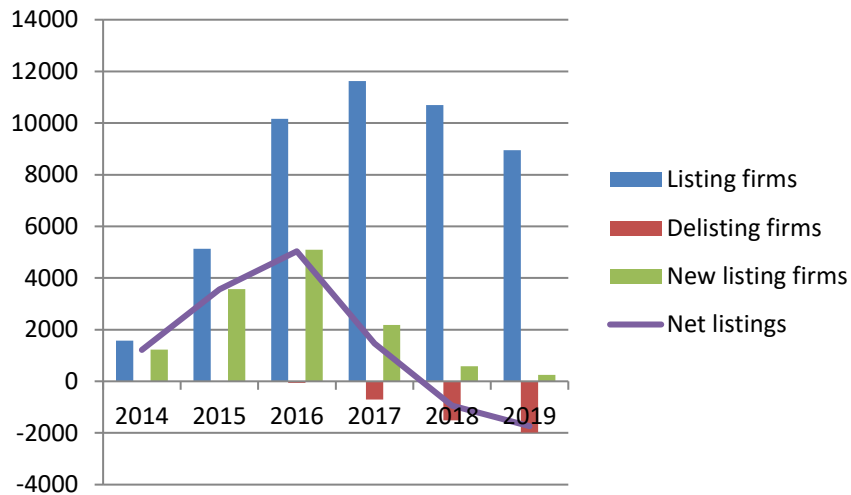


Figure 3. 2

The Listing Firms and Delisting Firms in the NTBM

Source: Collation based on the data provided by Wind Database and NEEQ. <http://www.neeq.com.cn/>

Note: This study only considers the data between 2014 and 2019. The data began in 2014 because this year is the actual development of NTBM. The data end of 2019 because the economy is affected by the COVID-19 epidemic. The world economy is depressed because of that epidemic. The analysis will be biased if this study covers the data in 2020 and 2021.

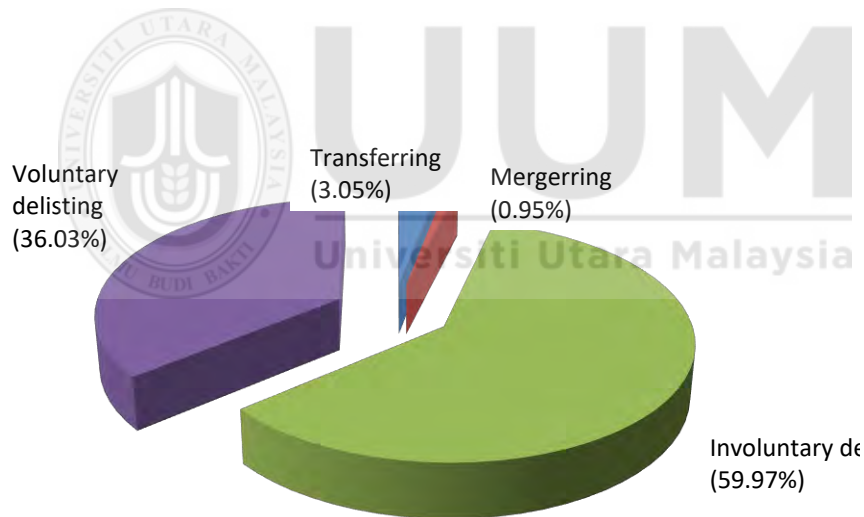


Figure 3. 3

Delisting Type

Source: Collation based on the data provided by Wind Database and NEEQ. <http://www.neeq.com.cn/>

Note: This figure shows the proportion of types for delisting on NTBM. The data is extracted from the NTBM statistics provided by the NEEQ and Wind database over the period 2014-2019.

The objective of this study is to examine the effect of corporate governance factors on the NTBM-listed firms making voluntarily delisting and how the TMT demographic characteristics affect this effect. Therefore, this study focuses on the firms that delist

from the NTBM voluntarily. There are 1548 firms delisted voluntarily from the NTBM over the year 2014-2019. This study began in 2014 because the policy of allowing all SMEs meeting the requirements to list was released at the end of 2013. The current research excludes 2020 because the economy was affected by the COVID-19 epidemic¹ (Pak et al., 2020; Shang et al., 2021), which may lead to the bias of the data for the present study objective.

In addition, to avoid the sample choice bias and endogeneity and ensure the internal validity of the research, the current study also needs to collect the data of firms that remain in the market to set a control group (Bortolon & Junior, 2015a; Magni et al., 2022; Makrominas & Yiannoulis, 2021; Pour & Lasfer, 2013). The total number of firms that remained on the NTBM for more than one year was 6214 during the period between 2014 and 2019.

3.5 Sample of the Study

This sample design is sustained by similar studies (in the delisting research) as it offered a way to ensure that information-appropriate data is obtained from the existing database and financial report (Balios et al., 2015, 2016; Bharath & Dittmar, 2010; Chevalier & Sannajust, 2020; Guan, 2021; Magni et al., 2022; Pour & Lasfer, 2013).

There are 1548 voluntary delistings during the period from 2014 to 2019. As this study aims to capture the picture of the voluntary delisting of the entire market on the New Third Board, all firms delisting voluntarily from the NTBM are considered. However, to achieve the validity and reliability of the sample, the available data must be filtered.

¹ “Economic impact of the COVID-19 pandemic” https://en.wikipedia.org/wiki/Economic_impact_of_the_COVID-19_pandemic

The filtering criteria could help the research keep the main sample size to avoid the effects of extraneous noise on the results (Rogova, 2021). The filtering criteria design of this study is followed by previous studies' manner (Balios et al., 2015, 2016; Bharath & Dittmar, 2010; Chevalier & Sannajust, 2020; Guan, 2021; Magni et al., 2022; Pour & Lasfer, 2013).

At first, the current study excludes 95 financial-related firms because these firms have unique structures and accounting standards (Algebaly, 2011; Honjo & Kurihara, 2022; Kalak et al., 2018; Magni et al., 2022; Moreira et al., 2017).

Second, this study excludes 108 firms that have been registered for less than one year because these firms cannot provide enough information for this study.

Third, firms must have complete data (Magni et al., 2022). This study excludes 300 firms that are lacking sufficient information that the study needs. This fact constituted a limitation of this study and is challenging to overcome (Bortolon & Junior, 2015b).

Fourth, the current research matches each delisted company (test group) with a company that remained in NTBM (control group) (Pour & Lasfer, 2013). To mitigate the effects of endogeneity, this study collects data on the lag one year of the delisting year (Cabeza-García et al., 2018; Magni et al., 2022; Sial et al., 2018). Therefore, the firms in the control sample must meet two requirements: (1) list in the NTBM during the sample period; (2) list time is longer than one year. Therefore, firms list in the NTBM before the year 2019 are considered. The number of this kind of firm is 6214.

This study uses the company's first-day market capitalization within the 10% range, industry and the year of IPO as the matching standard to set the control group (Bortolon & Junior, 2015a; Magni et al., 2022; Pour & Lasfer, 2013). This matching method

performs matching according to multiple characteristics of the firm at the same time and allows a one-to-many approach to finding the closest matching object for each delisted firm as much as possible (Hu et al., 2011).

Therefore, the final sample consisted of 2433 firms, of which the test group was 1045, and the number of the control group was 1388. Table 3.2 shows a summary of the sample.

Table 3.2

Summary of the Sample

Sample selection from 2014 to 2019	Test sample	Control sample
Total numbers delist voluntarily from NTBM	1548	
Less:		
Financial related firms	95	
Firms registered period less than one year	108	
Missing variables data in any period between 2014-2019	300	
Final sample	1045	1388

3.6 Operational Definition and Measurement of Variables

The variables of this study are classified as dependent and independent variables, moderators and control variables. The dependent variable is voluntary delisting; independent variables are board size, board independence, CEO duality, institutional ownership, insider ownership, lead security trader and external auditor. Moderator variables are TMT average age, TMT average education level, and TMT political background. Control variables are firm size, leverage, performance, and ownership concentration.

3.6.1 Dependent Variable: Voluntary Delisting

Pour and Lasfer (2013) suggested that the firm delists from the stock market because of "at the request of the company", that is, voluntary delisting. Other researchers defined voluntary delisting as the decision of the firm to remove from the stock market where it previously traded is initiated by the firm itself (Fidanza et al., 2018a; Martinez & Serve, 2017). Therefore, voluntary delisting in this study is referred to the firm listed

on China's NTBM voluntarily initiating the delisting decision by itself and becoming a private company without trade in any stock markets.

Consistent with Pour and Lasfer (2013) and Yang (2021), the dependent variable of this study is equal to one for voluntary delisting and zero for the firm that remains in the NTBM.

3.6.2 Independent Variables

3.6.2.1 Board Size

Board size is the total number of directors on the firms' board of directors at the end of each fiscal year (Ciftci et al., 2019; Jakpar et al., 2019; Sobhan, 2021). The executive and independent directors are included in it. Following Ciftci et al. (2019) and Jakpar et al. (2019), the board size of this study is measured by the total number of directors serving on the board at the end of each fiscal year.

3.6.2.2 Board Independence

Board independence is determined by the proportion of independent directors or commissioners on the board (Ciftci et al., 2019; Singh et al., 2018; Sobhan, 2021). Independent directors refer to members of the board who are not linked to other members of the board and have no correlation with business relationships that impact them to fulfill their responsibilities (Chancharat et al., 2012).

This study measures board independence through the following equation (Al-ebel, 2013; Cerbioni & Parbonetti, 2007; Kyereboah-Coleman & Biekpe, 2006; Li & Qi, 2008; Sobhan, 2021; Thakolwiroj & Sithipolvanichgul, 2021):

$$\text{Board Independence} = \frac{\text{the total number of independent directors on the board}}{\text{the total number of directors on the board}}$$

3.6.2.3 CEO Duality

CEO duality is defined as the CEO and chairman of the board is the same individual (Ciftci et al., 2019; Singh et al., 2018). Although previous studies have found that CEO and chairman is one person can provide explicit leadership and save the company's resources (Brickley et al., 1997; Faleye, 2007). However, it strengthens the power of this person and affects the effectiveness of the board due to it is hard to monitor him (Al-Ebel, 2013).

The study follows prior researchers' method to measure CEO duality as a dummy variable. When duality exists, the value is one and zero otherwise (Al-ebel, 2013; Al-Shammari & Al-Sultan, 2010; Cerbioni & Parbonetti, 2007; Li & Qi, 2008; Peng et al., 2007; Yahya, 2017; Zhang et al., 2012).

3.6.2.4 Institutional Ownership

Institutional investors are the shares of companies held by external entities, such as mutual or pension funds, other than individual investors or the government (Al-ebel, 2013; Bajagai et al., 2019). Institutional ownership refers to the proportion of total shares is held by institutional investors (De & Jindra, 2012; Yahya, 2017). This study follows prior researchers' method and measures institutional ownership through the following equation (Algebaly, 2011; De & Jindra, 2012; Tsouknidis, 2019):

$$\text{Insitutional Ownership} = \frac{\text{the total number of outstanding shares owned by institutions}}{\text{the total number of shares outstanding}}$$

3.6.2.5 Insider Ownership

Insider ownership is defined by Cho (1998) as "the fraction of shares, not including options, held by officers and directors of the board (p. 106)." Other researchers give a

similar definition that the proportion of equities owned by directors and officers in the firm (Banerjee et al., 2020; Sheu & Yang, 2005).

Therefore, this study measures insider ownership as the total outstanding shares owned by directors and managers divided by the total number of shares outstanding (Sheu & Yang, 2005). The equation is presented as follows:

$$\text{Insider Ownership} = \frac{\text{the total number of outstanding shares owned by insiders}}{\text{the total number of shares outstanding}}$$

3.6.2.6 Lead Security Trader

The lead security trader is an indispensable participant in the NTBM. The firm that wants to list on the NTBM must engage a lead security trader at all time. The lead security trader's role is partly the same as the underwriter and investment banker, especially more like the nominated advisor (Guidelines of the National Equities Exchange and Quotations for the Continuous Supervision of Lead Security Trader (for Trial Implementation), 2014; Nielsson, 2013). This study uses the lead security trader as a proxy for the reputation of the lead security trader.

Previous studies employed the dummy variable to measure the reputation of Nomad. Pour and Lasfer (2013) measured the reputation of Nomad by using the rank in accordance with the number of IPO. Espenlaub et al. (2012) measured the reputation of Nomad by creating the composite measure according to the average percentile rating in every one of the five separate measures. These measures include the Nomad's market share, ten credit score, Nomad's profitability and Nomad's age.

Referring to previous studies and considering the specific situations of the lead security trader in NTBM, this study measures the reputation of the lead security trader by using the practice quality score that is evaluated by NEEQ per year and published on the

website of NEEQ. The practice quality score includes five indicators such as negative behavior records of practice quality, self-regulatory measures taken, disciplinary actions, administrative regulatory measures and administrative penalties, contribution to market development, and other matters that have an important impact on the evaluation. This score considers the number of firms supervised by the lead security trader and the difficulties and complications of the business. Furthermore, this score is official and authoritative. Following the previous scholars' method of measuring auditor (Cheng et al., 2015; Hay, 2013; Rahman et al., 2019; Sarhan et al., 2019; Schäuble, 2018), the study categorizes these scores into two ranks, which is shown in table 3.3.

Table 3.3
The Rank and Measurement of the Lead Security Trader

The score of practice quality of the lead security trader	Ranks
100-90	1
others	0

3.6.2.7 External Auditor

The external auditor is often viewed as an external governance mechanism used by the firm because it can benefit the firm by using its expertise (Alarussi & Nawafly, 2019; Soroushyar, 2023). The reputation of audit firms is closely related to the audit quality. Previous researchers often use audit firms' reputation as the measurement of audit quality (Rahman et al., 2019). They usually assumed that the auditor from BIG 4 could provide higher-quality service than others (DeAngelo, 1981; Dragomir & Dumitru, 2023; Schäuble, 2018). Furthermore, previous studies often use BIG4/5/8/10 as a proxy for audit quality, too (Cheng et al., 2015; Hay, 2013; Krauß et al., 2015; Rahman et al., 2019; Sarhan et al., 2019; Schäuble, 2018).

The CICPA publishes the Top 100 audit firms every year. The higher the ranking of the auditing company, the more likely the audit firms have a high reputation and the

audit service provided is of high quality (DeAngelo, 1981; Dragomir & Dumitru, 2023; Rahman et al., 2019; Schäuble, 2018). Thus, if the audit firm is among the top 10, which means these firms services high quality and have high reputation than firms that are not among in top 10. Referring to previous studies (Cheng et al., 2015; Hay, 2013; Rahman et al., 2019; Sarhan et al., 2019; Schäuble, 2018), if the audit firm is among the top 10, this study measures external auditor as one and zero otherwise.

3.6.3 Moderating Variables

The moderating variables of this study belong to the demographic characteristics of TMT. This study highlights the homogeneity of TMT demographic characteristics and investigates the moderating effect of TMT demographic characteristics from the homogeneity of age, education level and political background of TMT.

West and Schenk (1996) calculated the homogeneity of TMT demographics by using Blau's heterogeneity index as a foundation and measured the homogeneity of TMT as the sum of subtracting 12 demographic variables heterogeneity index scores from a positive constant.

Other researchers consider the homogeneity of TMT demographic characteristics from the age, education, tenure, etc., of TMT, respectively. Considering the feature of NTBM, the study measures the homogeneity of TMT demographic characteristics from age, education level, and political background.

3.6.3.1 TMT Average Age

Previous studies have often measured the average age of TMT members by dividing the sum of TMT age by the number of TMT (Huang et al., 2019; Seok & Moon, 2018; Zhu et al., 2018).

3.6.3.2 TMT Average Education Level

Before measures TMT average education level, this study follows previous study's methods (Seok & Moon, 2018; Wen et al., 2015; Zhu et al., 2018), codes the education level in advance. According to the actual education level of the NTBM-listed firm management, this study codes zero for the managers' education level is lower than some college, the some college is coded as one, the bachelor degree is coded as two, the master degrees is coded as three, the education level is Doctor of Philosophy (Ph.D.) and more than Ph.D. degree is coded as four. The codes are shown in Table 3.4.

And then, the TMT average education level is an average of the TMT member education level (Wen et al., 2015; Zhu et al., 2018). This study measures the average education level of TMT through the following equation:

$$\text{Average education level of TMT} = \frac{\text{the sum of TMT member education}}{\text{the number of TMT}}$$

Table 3.4
The Codes of the Average Education Level of TMT

The degree of TMT	code
Ph.D. degree or more than Ph.D. degree	4
Master degree	3
Bachelor degree	2
Some college	1
Less than Some college	0

3.6.3.3 The Political Background of TMT

The political background of TMT refers to the TMT member are working or previously worked in the government department (Li, 2019). This is the formal and observable political connections (Gao, 2019; Liu & Zhang, 2019; Yang, 2019). The reason behind this study only focuses on this because these formal and observable political connections can directly and sustainably affect the firm's outcomes (Gao, 2019; Liu & Zhang, 2019).

This study follows Yu, Guo, Lettic and Barnes (2019) and Li et al. (2008) method to measure the TMT political background. If one of the top managers has a political background, this study treats this TMT has the political background and codes one. Otherwise, codes zero (Cheng et al., 2015; Zhang, 2017).

3.6.4 Control Variables

The control variables of this study are firm size, leverage, performance, and ownership concentration of the firm. More detailed information about control variables is presented as follows:

3.6.4.1 Firm Size

Previous studies were likely to use firm size as control variable when doing corporate governance research (Charitou et al., 2007; DeAngelo et al., 1984; Espenlaub et al., 2016; Jiraporn & Nimmanunta, 2018). Following previous studies' methods (Chancharat et al., 2012; Charitou et al., 2007; Croci & Giudice, 2014; De & Jindra, 2012; Fidrmuc et al., 2013; Gao & Zhang, 2019; Hu et al., 2019; Jiraporn et al., 2018; Liu et al., 2013; Mehran & Peristiani, 2010; Mohan & Chen, 2007; Ureche-Rangau & Carugati, 2007; Weir et al., 2008), this study utilizes the natural logarithm of total assets to measure firm size.

3.6.4.2 Leverage

Leverage can represent the firm's debt level and financial risk (Brigham & Houston, 2007). It can be measured as the ratio of total debts divided by total assets (Hansen et al., 2009; Liu et al., 2013). This study intends to follow that measurement and measures the leverage by total debts divided by total assets.

3.6.4.3 Performance

Previous studies often measure the firm performance by using four measurements: Tobin's Q, return on asset (ROA), return on equity (ROE), and the price-earnings (PE) ratio (Augusto et al., 2020; Ehikioya, 2009; Schommer et al., 2019). The NTBM-listed firms are lack of liquidity (Li & Qiao, 2017; Li et al., 2018; Zhu & Shen, 2016). Tobin's Q and the PE ratio are not suitable variables to measure the performance of the NTBM-listed firms. Therefore, the current study first employs ROE as the performance variable and ROA in the additional analysis.

3.6.4.4 Ownership Concentration

Ownership concentration is used to measure the dispersion of ownership. There are many different measurements provided by previous studies, such as measuring the share of the largest shareholder as a percentage of total shares (Feng et al., 2020), the percentage of three major shareholders over the total shares (Moreira et al., 2017), the proportion of five major shareholders (Feng et al., 2020) and the percent of the ten biggest shareholders (Ehikioya, 2009). This study follows Ehikioya (2009) method and measures ownership concentration as the percentage of ten major shareholders over the total shares.

Furthermore, according to the industry distribution of delisting firms in the NTBM, the number of delistings differs across industries. Therefore, biased results may be given if the regression model ignores the control for industry types. This study controls for industry-fixed effects to reduce such bias. Additionally, this study controls for year-fixed effects (listed year-fixed effects and delisted year-fixed effects) to catch any variation in the output that exists over time (Hansen et al., 2009; Xu & Liu, 2020; Zaid et al., 2020).

Table 3.5 lists the summary of the measurement of the study variables.

Table 3.5
Summary of the Measurement of the Study Variables

Variables	Acronym	Measurement	Reference
Dependent Variables			
Voluntary delisting	VOLDELIST	A dummy variable is set to 1 for a firm that voluntarily delisted from the NTBM and 0 for a firm that remains in the NTBM.	Pour and Lasfer (2013) Yang (2021)
Independent Variables			
Board size	BDSIZE	Total number of directors on the board of directors	Ciftci et al. (2019) Jakpar et al.(2019) Sobhan (2021)
Board independence	BDINDEP	The percentage of independent directors on the board of directors	Sobhan(2021)) Thakolwiroj and Sithipolvanichgul (2021)
CEO duality	DUALITY	A dummy variable is set to 1 if the CEO is also Chairman and 0 otherwise	Zhang et al. (2012)
Institutional ownership	INSTITUTIONAL	The percentage of outstanding shares owned by institutional investors	Bajagai et al.(2019) Tsouknidis(2019)
Insider ownership	INSIDER	The percentage of outstanding shares owned by insiders	Banerjee et al. (2020)
Lead security trader	LEADSECUTR	Dummy variable: if the score of lead security trader is in 100-90, values 1; otherwise, 0.	the NEEQ
External auditor	EXTERNALAU	A dummy variable is set to 1 if the firm is audited by the TOP 10 quality audit firms, and otherwise, 0.	the CICPA Sarhan et al.(2019)
Moderator Variables			
TMT average age	AVAGE	An average of the TMT member's age	Huang et al. (2019) Seok and Moon (2018)
TMT average education level	AVEDU	An average of the TMT member's education level	Zhu et al.(2018)
TMT political background	POLITICAL	A dummy variable equals to 1 if a firm's TMT has the political background, and 0 otherwise;	Zhang (2017)

Table 3.5 (Continued)

Control Variables			
Firm size	LnTA	the natural logarithm of the firm's total assets	Fidrmuc et al. (2013)
Leverage	LEVERAGE	Total debts divide by total assets	Hansen, Pownall, and Wang (2009) Liu et al.(2013)
Performance	ROE	Return of equity	Augusto et al., (2020) Schommer et al. (2019)
Ownership concentration	TOP10	The percentage of ten major shareholders over the total shares.	Ehikioya (2009)

3.7 Research Model Specification

According to the previous chapter's discussion, the following voluntary delisting models are established as follows:

Model 1:

$$VOLDELIST = \alpha_0 + \beta_1 CONTROL + \beta_2 INTERNALCG + \beta_3 EXTERNALCG + Industry + Year + error$$

Model 1 is the model that intends to examine the direct relationship between corporate governance (i.e., internal corporate governance and external corporate governance) and voluntary delisting. Model 2 given below reflect the moderating variables.

Model 2

$$VOLDELIST = \alpha_0 + \beta_1 CONTROL + \beta_2 INTERNALCG + \beta_3 EXTERNALCG + \beta_4 AVAGE + \beta_5 AVEDU + \beta_6 POLITICAL + \beta_7 INTERNALCG * AVAGE + \beta_8 INTERNALCG * AVEDU + \beta_9 INTERNALCG * POLITICAL + Industry + Year + error$$

Where

CONTROL = the control variables of the study: firm size, leverage, performance, and ownership concentration

INTERNALCG = the internal corporate governance variables of this study: board size, board independence, CEO duality, institutional ownership, and insider ownership

EXTERNALCG = the external corporate governance variables of the study: lead security trader and external auditor

AVAGE = TMT average age

AVEDU = TMT average education level

POLITICAL = TMT political background

Industry = industry fixed-effect

Year= listed year fixed-effect and delisted year fixed-effect

3.8 Data Collection

The unit of analysis in this study belongs to the organization, and relevant data could be collected from the annual financial report, government publications, and some database corporations (like the Wind database). The type of data is named secondary data (Sekaran & Bougie, 2016). On the other hand, to date, loads of previous studies all do this related theme by using secondary data (e.g., Balios et al., 2016; Chaplinsky & Ramchand, 2012; Kalak et al., 2018; Magni et al., 2022; Pour & Lasfer, 2013; You et al., 2012). This study will follow prior studies and also use secondary data to do the research authentic. Furthermore, Kothari (2004, p112) suggested that if the data is "readily available from sources and are also suitable and adequate for in that case, it

will not be economical to spend time and energy in field surveys for collecting information" (Kothari, 2004, p112).

Kothari (2004) proposed that researchers must be very careful when using secondary data. The prerequisite for using secondary data is to scrutinize the reliability, suitability, and adequacy of the data (Kothari, 2004). The data utilized in this study is collected from the firm's financial statement, the government web (the website of NEEQ, the site of CSRC, the site of the CICPA), and the Wind database.

The financial report of the firm is audited by external auditors and examined by relevant regulators, such as taxation departments (NEEQ, 2013). Wind Information Technology Co., Ltd. (Wind) is a leading financial data, information and software service enterprise in China. It provides timely, accurate, and complete financial data and information for a majority of China's financial companies, qualified foreign institutional investors (QFII), and famous financial academic research institutions and authoritative regulatory^{II}.

According to the above discussion, the data employed in this study is from reliable and formal sources and can meet the requirements of reliability, suitability, and adequacy. Therefore, it is suitable and adequate for this study to use secondary data to examine the relationship between corporate governance and voluntary delisting, and investigate the moderating role of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.

^{II}The introduction of Wind Database: <https://www.wind.com.cn/en/about.html>

3.9 Data Collection Procedure

From the foregoing analysis, secondary data is suitable, reliable and adequate for the current study. The present study will investigate the voluntary delisting determinants by analyzing the delisting firms from 2014 to 2019. Thus, this study will use the relevant data from the NTBM issued between January 2014 and December 2019. To mitigate the effects of endogeneity, this study collects data on the lag one year of the delisting year (Cabeza-García et al., 2018; Magni et al., 2022; Sial et al., 2018). The data collection procedure for this study is as follows:

At first, the information on voluntary delisting firms is searched from the Wind database and the website of CSRC. This study extracts information such as board size, board independence, CEO duality, institutional ownership, insider ownership, TMT demographic characteristics, firm size, leverage, performance, and ownership concentration. The information that cannot be collected from a database, a hand-collect will be utilized to extract data needed from the firm's annual financial report. This study also checks the accuracy of the data from the Wind database by matching the original financial report of the firm.

Second, this study collects information about the reputation of lead security trader from the web of NEEQ, which provides the quality score of lead security trader. In addition, this study collects information about the reputation of external auditor from the web of the CICPA.

3.10 Data Analysis Techniques

To test the hypotheses, the present study will employ two statistics software, i.e., Microsoft Excel 2019 and STATA 15.0. Through these statistics' software, the following tests are performed.

3.10.1 Identification of Outliers

Outliers are those observations that are particularly different from other observations because of their unique characteristics. The outliers can result from the data entry error, an unexpected extraordinary event, or an unusual event that has an explanation (Hair, 2009). However, outliers can be questionable because they may misrepresent or mislead the results (Tabachnick & Fidell, 2007). Tabachnick and Fidell (2007) purported that there are two ways to identify the outliers in the data, i.e., statistical and graphical methods.

In the graphical method, the histogram can be used to identify the outliers. In the statistical method, the Mahalanobis distance can be calculated to identify the outliers (Mahalanobis, 1936). Furthermore, Cook's distances can also be calculated to further detect the outliers (Tabachnick & Fidell, 2007).

3.10.2 Descriptive Statistics and Univariate Analysis

Descriptive statistics use mean, median, and mode to measure the central tendency of a variable. It provides essential information about the variables to be analyzed (Park, 2008). Descriptive statistics is employed to describe and summarize the data of the study.

"Univariate analysis is the first step of data analysis once a data set is ready" (Park, 2008). It examines each variable in a data set and focuses on the range of values and

the central tendency of the values. This study will conduct T-test and Wilcoxon-test to analyze the voluntary delisting firms and retention firms to explore the significant differences in the key variables.

3.10.3 Identification of Multicollinearity

Multicollinearity means that two or more independent variables are extremely correlated, which affects the analysis outcomes (Guizani, 2018). To test the multicollinearity among the independent variables, the current study will employ two tests. One test estimates a Pearson correlation matrix. There is multicollinearity exists in these independent variables if the Pearson correlation coefficient is more than 0.7 (Kervin, 1995).

Furthermore, the study calculates the variance inflation factor (VIF), which is known to be more appropriate for providing precise information on the multicollinearity test (Kang, 2017). Chatterjee and Hadi (1977) posited that multicollinearity would not exist if the VIF is lower than 10 or the tolerance is greater than 0.1.

3.10.4 Log-linear Model

To investigate the determinants of delisting, most previous researchers used the log-linear model (e.g., Balios et al., 2015, 2016; Bharath & Dittmar, 2010; Bortolon & Junior, 2015b; Brau et al., 2013; Makrominas & Yiannoulis, 2021; Pour & Lasfer, 2013; You et al., 2012). Log-linear model is also called the logit model or logistic regression model (Christensen, 2006; Morgan & Teachman, 1988). The dependent variable is a nominal-level variable (Morgan & Teachman, 1988). The dependent variable of this study is dichotomous (one is voluntary delisting, zero is others), and the types of independent variables are various. Therefore, this study uses the log-linear

model to investigate the determinants of the likelihood of voluntary delisting. In particular, this study employs a logistic regression model.

The logistic regression model has the following assumptions discussed (Hosmer et al., 2013; Kleinbaum & Klein, 2022; Long & Freese, 2006; Marcon et al., 2022; Morgan & Teachman, 1988) :

- a. The dependent variable is dichotomous, and the error distribution is binomial;
- b. There is a nonlinear relationship between the independent variables and dependent variables. The influence of each variable on the results depends on the level of all variables in the model;
- c. The model overcomes the heteroscedasticity problem.

In addition, logistic regression needs large samples to warrant the accuracy of results. Previous studies purported that the minimum sample size is 60 cases (Algebaly, 2011; Leech et al., 2013; Pallant, 2020). However, other researchers proposed that the sample size constructed by 10 cases for each independent variable is sufficient (Long & Freese, 2006; Pallant, 2020). The sample size of this study is 1045 for the test group and 1388 for the control group. Thus, the average number of samples per variable is well over 10. Therefore, the sample size of this study is sufficient to employ a logistic regression model.

3.10.5 The Hierarchical Regression

To examine the moderating effects of demographic characteristics of TMT on the relationship between internal corporate governance and voluntary delisting, this study employs the hierarchical regression analysis. Al-Ebel (2013) pointed out that

"Hierarchical regression determines the order of entry of the variables." Hierarchical multiple regression includes a set of regressions for every moderating impact on the relationship between the independent and dependent variables (AL-Rassas, 2015; Zikmund et al., 2013).

The moderating variables of this study are the TMT average age, TMT average education level, and TMT political background. They are introduced to moderate the relationship between internal corporate governance and voluntary delisting. It needs to conduct four steps to test the moderate effect by using hierarchical regression.

The first step only involves control variables (firm size, leverage, performance, and ownership concentration) and dependent variables (voluntary delisting).

The independent variables are included in step two to test the relationship between corporate governance and voluntary delisting.

The third step introduces the moderator variables in the model.

The last step is used to test the moderating effect. All moderator variables are multiplied by internal corporate governance variables and regress with the dependent variables.

Step1

$$VOLDELIST = \alpha_0 + \beta_1 CONTROL + Industry + Year + error$$

Step 2

$$VOLDELIST = \alpha_0 + \beta_1 CONTROL + \beta_2 INTERNALCG + \beta_3 EXTERNALCG + Industry + Year + error$$

Step 3

$$VOLDELIST = \alpha_0 + \beta_1 CONTROL + \beta_2 INTERNALCG + \beta_3 EXTERNALCG + \beta_4 MODERATORS + Industry + Year + error$$

Step 4

$$VOLDELIST_i = \alpha_0 + \beta_1 CONTROL + \beta_2 INTERNALCG + \beta_3 EXTERNALCG + \beta_4 MODERATORS + \beta_5 INTERNALCG * MODERATORS + Industry + Year + error$$

Where

CONTROL = the control variables of the study: firm size, leverage, performance, and ownership concentration

INTERNALCG = the internal governance variables of this study: board size, board independence, CEO duality, institutional ownership, and insider ownership

EXTERNALCG = the external corporate governance variable of the study: lead security trader and external auditor

MODERATORS = the moderator variable of the study: TMT average age, TMT average education level, and TMT political background

Industry = industry fixed-effect

Year = listed year fixed-effect and delisted year fixed-effect

3.11 Summary

This chapter discusses the research methodology of the study. It involves the theoretical framework of the research, hypotheses, research design, population and sample of the study, operational definition and measurement of variables, research

model specification, data collection and procedure, and the data analysis technique of the study.



Chapter FOUR

DATA ANALYSIS AND RESULTS

4.0 Introduction

This chapter reports the data analysis and the results of the relationship between corporate governance and voluntary delisting in the firms listed in China's NTBM during the period from 2014 to 2019. The remainder of this chapter is organized as follows:

Section 4.2 presents the descriptive statistics of dependent, independent, moderator, and control variables. Section 4.3 reports and discusses the univariate analysis of the continuous and dichotomous independent and control variables. After conducting the necessary diagnostic test in section 4.4, section 4.5 provides the empirical results of the logistic regression analysis. The hierarchical regression results utilized to check the moderating effects are also reported in section 4.5. Furthermore, section 4.5 also performs additional tests to check the robustness of the regression model. Section 4.6 summarizes the results of the hypotheses of the current study. Section 4.7 summarizes this chapter.

4.1 Descriptive Statistics

Tables 4.1, Table 4.2, and Table 4.3 list the descriptive statistics of the current study. Table 4.1 describes the industry distribution (excluding financial-related industries) of delisting firms in the population and the sample from the year 2014 to 2019. Table 4.1

also compares the industry distribution of delisting firms and firms that remained in the NTBM in the population. Table 4.2 presents the percentage of voluntary delisting in the delisting population and also lists the industry distribution of voluntary delisting in the population and sample.

The descriptive statistics of independent variables based on the sample are shown in Table 4.3. For a basic comprehension of corporate governance within the NTBM-listed firms, descriptive statistics are useful. This study also compares descriptive statistics results with those of other researchers and the A-share market. This comparison facilitates a greater comprehension of the NTBM-listed firms' corporate governance.

Therefore, Table 4.3 is divided into three panels (panel A, B and C). Panel A lists the descriptive statistics of the continuous variables. Panel B shows the percentage of dichotomous Variables. In order to further analyze the corporate governance of firms listed in the NTBM, this study describes the main factors of corporate governance of firms listed in the A-share market, which is presented in Panel C.

4.1.1 Descriptive Statistics of the Dependent Variable

Excluding firms without industry information and financial-related firms, the delisting firms and their industry are listed in Table 4.1.

Table 4.1 listed the industry distribution of the delisting firms, firms that remained in the NTBM, and the percentage of delisting^I. Table 4.1 shows that more than 50% of the firms on the NEEQ are in the Manufacturing industry, followed by firms in the Information transmission & Software service industries. In contrast, companies in the four sectors of Mining, Residential services, Repairs & Other services, Accommodation & Catering, and Health & Social work are rarely listed on the NEEQ. The reason is that the NEEQ supports the listing of small and medium technology companies, and according to the classification and definition of China's National Bureau of Statistics^{II}, technology companies are concentrated in the Manufacturing and Information transmission & Software service industries.

Considering the percentage of delisting firms, more than half of the industry of Real estate has delisted, the percentage is about 54.44%. It is in line with China's Central Economic Work Conference's positioning of the Real estate "houses are for the living, not for speculation" in 2016. That positioning emphasizes that the primary goal of Real estate development is to achieve 'everybody has housing.' The Real estate industry has become more rational, and most small and medium-sized real estate firms exit from the market (Zhu, 2018). In addition, the Health & Social work and Residential services,

^I The percentage of delisting is calculated by the formula: $(\text{delisting} / (\text{delisting} + \text{firms that remained in the NTBM})) * 100\%$

^{II} Collate and infer based on two documents published by China's National Bureau of Statistics: High-tech industry (manufacturing) classification (2017); High-tech industry (service industry) classification (2018)

Repairs & Other services industries had a delisting ratio of 49.06% and 46.67%, respectively. That is because technical factors account for a relatively small proportion of these two industries, and they are difficult to obtain relevant discounts given by the NEEQ (Wang, 2018; Xie, 2018).

Table 4.1

The Industry Distribution of Delisting Firms, Retention Firms in the NTBM

sectors	Delisting	Percent	Retention	Percent	Percentage of delisting
Transport, Storage & Post	67	1.71%	124	2.03%	35.08%
Accommodation & Catering	14	0.36%	22	0.36%	38.89%
Information transmission & Software service industries	799	20.41%	1313	21.53%	37.83%
Agriculture, Forestry, Animal husbandry & Fishery	62	1.58%	153	2.51%	28.84%
Manufacturing	2121	54.18%	3160	51.81%	40.16%
Health & Social work	26	0.66%	27	0.44%	49.06%
Residential services, Repairs & Other services	14	0.36%	16	0.26%	46.67%
Construction industry	124	3.17%	226	3.71%	35.43%
Real estate	49	1.25%	41	0.67%	54.44%
Wholesale & Retail	212	5.42%	275	4.51%	43.53%
Education	42	1.07%	56	0.92%	42.86%
Culture, Sports & Entertainment	99	2.53%	142	2.33%	41.08%
Water, Environment & Public facilities management	77	1.97%	129	2.12%	37.38%
Energy & Resources	53	1.35%	78	1.28%	40.46%
Science research & Technology services	137	3.50%	314	5.15%	30.38%
Mining	19	0.49%	23	0.38%	45.24%
Total	3915	100.00%	6099	100.00%	39.10%

Source: Collation based on the data provided by Wind Database and NEEQ. <http://www.neeq.com.cn/>

Note: 1. Percentage of delisting = Delisting/(Delisting+Retention)

2. Excluding financial-related industry

Table 4.2 presents the percentage of voluntary delisting among delisting from 2014 to 2019. Without considering financial-related industries, the proportion of voluntary delisting in delisting was 34.36%. That shows voluntary delisting is one of the main types of delisting in the NEEQ.

Specifically, the proportion of voluntary delisting in the Residential services, Repairs & other services industry accounted for the largest proportion of the total delisting firms in this sector, accounting for 57.14%, followed by Mining and Energy & Resources industries, accounting for 47.37% and 45.28%, respectively. Agriculture, Forestry, Animal husbandry, & Fishery have the smallest proportion of voluntary delisting. The possible explanation is that the accounting standards for biological assets are relatively complicated. Such firms are likely to violate the registration rules due to accounting issues, resulting in involuntary delisting.

Table 4.2

The Percentage of Voluntary Delisting in Delisting and the Industry Distribution of Voluntary Delisting

sectors	Voluntary delisting /Delisting	voluntary delisting (population)	Percent	voluntary delisting (Sample)	Percent
Transport, Storage & Post	26.87%	18	1.34%	18	1.72%
Accommodation & Catering	42.86%	6	0.45%	4	0.38%
Information transmission & Software service industries	35.92%	287	21.34%	217	20.77%
Agriculture, Forestry, Animal husbandry & Fishery	22.58%	14	1.04%	9	0.86%
Manufacturing	33.57%	712	52.94%	566	54.16%
Health & Social work	38.46%	10	0.74%	8	0.77%
Residential services, Repairs & Other services	57.14%	8	0.59%	4	0.38%
Construction industry	32.26%	40	2.97%	35	3.35%
Real estate	44.90%	22	1.64%	20	1.91%
Wholesale & Retail	30.66%	65	4.83%	43	4.11%
Education	42.86%	18	1.34%	13	1.24%
Culture, Sports & Entertainment	37.37%	37	2.75%	27	2.58%
Water, Environment & Public facilities management	31.17%	24	1.78%	18	1.72%
Energy & Resources	45.28%	24	1.78%	12	1.15%
Science research & Technology services	37.23%	51	3.79%	46	4.40%
Mining	47.37%	9	0.67%	5	0.48%
Total	34.36%	1345	100.00%	1045	100.00%

Source: Collation based on the data provided by Wind Database and NEEQ. <http://www.neeq.com.cn/>

Note: 1. Excluding financial-related industry

Table 4.2 also listed the industry distribution of voluntary delisting in the sample of this study. Same to the industry distribution in the population, the proportion of the Manufacturing industry accounts for the largest percentage. However, the portion of Mining, Residential services, Repairs & other services, Accommodation & Catering, and Health & Social work industries account for the smallest proportion.

4.1.2 Descriptive Statistics of Independent Variables

4.1.2.1 Continuous Variables

Table 4.3 presents the descriptive statistics of continuous and discrete variables of the current study. The mean and median of board size are 5.492 and 5, respectively. The average value of board size is smaller than the studies done by Abdullahi (2018) and Thakolwiroj and Sithipolvanichgul (2021) in other countries. For example, the mean of board size is 8.701 for Nigerian companies, 10.252 in Thailand. Meanwhile, the mean and median value of board size for the NTBM-listed firms is much smaller than those of firms listed on the Main market. They are 8.345 and 9, respectively. However, this board size is similar to the research done by Kang and Kim (2011) and Yiannis K. Yiannoulis (2019). In their study, the average value of board size in Korea is about 5-6, in Athens is 6.62. According to the Talab (2019) study, the number of directors on the board was less than 7. Therefore, the board size of many NTBM-listed firms is small.

Regarding the mean and median of board independence, this study reports 2% and 0, respectively, which is also lower than in the firms listed in the Main market (mean and median are 37.8% and 33%, respectively). The results of descriptive statistics verify that the corporate governance code of the NTBM is looser than in the Main market. The corporate governance code requires the firm listed in the Main market to have at least one-third of the independent directors on the board (Company Law of the People's Republic of China, 2018). However, the corporate governance code in the NTBM does not regulate the minimum number of independent directors (Governance Rules for Companies Listed on the National Equities Exchange and Quotations, 2020).

Furthermore, compared with the proportion of independent directors in other countries, the board independence percentage for the NTBM-listed firms is small. For example, the mean and median of independent directors in Thai listed firms are 40.9% and 38.5%, respectively (Thakolwiroj & Sithipolvanichgul, 2021), and in Bangladesh listed non-banking financial firms, the mean and median of board independence are 20.06% and 20%, respectively (Sobhan, 2021). However, Table 4.3 shows that the maximum percentage of independent directors is 60%. Although the means value of independent directors in the firms listed in the NTBM is small, some firms still have a larger independent directors proportion on the board. That means the percentage of board independence of the NTBM-listed firms is heterogeneous.

The mean and median value of institutional ownership percentage is 18.829% and 10%, respectively. These values are smaller than firms listed in the Main market (mean and median are 35.569% and 34.604%, respectively). Additionally, the value of institutional ownership in the current study is lower than the study done by Tsouknidis (2019), who found 25.16% (mean) and 23.05% (median) in U.S.-listed shipping companies. Furthermore, the statistics show that most of the firms in the NTBM have an average institutional ownership of less than 18.829% because the median is 10%.

Comparatively, the mean and median of insider ownership in this study are lower than the study researched by Balachandran et al. (2017), who documented 22.3% (mean) and 12.6% (median), respectively. The mean and median of this study are only 11.65% and 6.667%, respectively. And the minimum value is 0. However, the maximum value is 100%. Although, some company insiders hold 100% equity. But the descriptive analysis results show that most NTBM-listed firms have an insider shareholding ratio of less than 11.65%. Furthermore, the average insider shareholding ratio of NTBM companies is slightly lower than that of main board-listed companies (12.667%).

4.1.2.2 Dichotomous Variables

Panel B of Table 4.3 in this study indicates that the chairperson of directors of the board and CEO is the same person in most of the firms listed in the NTBM, which takes out 55.86%. However, only 33.06% of firms in the A-share market have a dual leadership structure.

With respect to the leader security trader, Panel B of Table 4.2 indicates 35.22% of firms choose the high reputation security trader to supervise them and provide recommendations, acting and other business.

Regarding external auditor, more than half (59.35%) of firms in the A-share market select the reputation auditor. However, only 31.94% of NTBM-listed firms employ the reputation auditor. It can be drawn from the above discussion that the corporate governance in firms of the NTBM shows a significant difference from firms listed in the A-share market.

4.1.3 Descriptive Statistics of Moderators

Table 4.3 also presents the descriptive analysis (mean, standard deviation, median, minimum and maximum) of moderating variables of this study.

The mean and median of TMT average age is 43.552 and 43.5, respectively. The average value of age is smaller than the study done by Ratulangi (2020) in Indonesia. Ratulangi (2020) found that the average value of age is 56.17 in Indonesian banks from 2014 to 2018. These values are also lower than firms listed in the Chinese Main market. Zhu et al. (2018) found the mean and median for listed firms in the Shanghai and Shenzhen markets are 48.224 and 48.2, respectively. Therefore, the descriptive results of this study show that the TMT of firms in NTBM is younger than listed firms in the A-share stock market but is similar to Chinese IT listed firms. A study done by Cui et al. (2019) shows that the average age of TMT in IT listed firms is 44.723.

With respect to the average education level of TMT for firms listed in the NTBM, this study finds that the mean and median of the average education level are 1.698 and 1.714, respectively. The average education level of TMT for a majority of firms is greater than 1.698. However, the TMT average education level in the NTBM-listed firms is lower than a study done by Ratulangi (2020), who purported that the average education level of TMT for Indonesian banks is 1.78.

In addition, Table 4.3 presents that 23.30% of firms' TMT in the NTBM have the political background, which means that only 23.30% of firms in the NTBM have the political connection.

4.1.4 Descriptive Statistics of Control Variables

The current study adopts firm size (LnTA), leverage (LEVERAGE), performance (ROE), and ownership concentration (TOP10) as the control variables. Table 4.3 shows that mean of firm size (LnTA) is 18.538 with a median of 18.559, and a minimum (maximum) size of 13.687 (24.041). On the mean (median), the leverage of the sample firms is about 43.528 (42.067), and the minimum is 0.324, but the maximum is very high and reached 436.842. The high leverage means the firm is at high risk.

Panel A of Table 4.3 shows that the ROE ranges between -634.99 and 253.63 with a mean (median) of 6.576 (6.892). The negative sign of ROE indicates that some firms lost money during the investigation period. In addition, the ownership concentration

ranges from 26.97% to 100%, the average firm's ownership concentration is 93.283%, and the median is 98.27%. Most firms registered in the NTBM have concentrated ownership.

Table 4.3

Descriptive Statistics of Independent Variables

Panel A Continuous Variables						
Full sample (N=2433)						
Variables	Mean	Std.Dev	Median	Min	Max	
BDSIZE	5.492	1.072	5	4	13	
BDINDEP	0.020	0.083	0	0	0.6	
INSTITUTIONAL	18.829	19.789	10	0	100	
INSIDER	11.650	13.956	6.667	0	100	
AVAGE	43.552	4.679	43.5	29.22	58.09	
AVEDU	1.698	0.562	1.714	0.091	3.545	
LnTA	18.538	1.119	18.559	13.687	24.041	
LEVERAGE	43.528	26.713	42.067	0.324	436.842	
ROE	6.576	29.565	6.892	-634.99	253.63	
TOP10	93.283	19.858	98.27	26.97	100	
Panel B Dichotomous Variables						
Variables	Frequency		Percent		Total	
	1	0	1	0	Frequency	Percent
DUALITY	1,359	1,074	55.86%	44.14%	2,433	100%
LEADSECUTR	857	1,576	35.22%	64.78%	2,433	100%
EXTERNALAU	777	1,656	31.94%	68.06%	2,433	100%
POLITICAL	567	1,866	23.30%	76.70%	2,433	100%
Panel C Corporate Governance of Main Market (A share)						
Variables	Mean	Std.Dev	Median	Min	Max	
ABDSIZE	8.345	1.747	9	3	19	
ABDINDEP	0.378	0.056	0.33	0.143	0.8	
AINSTITUTIONAL	35.569	23.393	34.604	0.001	147.913	
AINSIDER	12.667	18.996	0.578	0	89.990	
Dichotomous Variables		1	0	total		
ADUALITY		1,536 (33.06%)	3,110 (66.94%)	4,646 100		
AEXTERNALAU		2,758 (59.35%)	1,889 (40.65%)	4,647 100		

Notes: BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, AVAGE=TMT average age, AVEDU= TMT average education level, POLITICAL=TMT political background, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration. ABDSIZE=Board size of firms listed in the Main market, ABDINDEP=Board independence of firms listed in the Main market, INSTITUTIONAL=Institutional ownership of firms listed in the Main market, AINSIDER=Insider ownership of firms listed in the Main market, ADUALITY = CEO duality of firms listed in the Main market, EXTERNALAU=External auditor of firms listed in the Main market.

4.2 Univariate Analysis

The univariate analysis aims to examine the significant differences between voluntarily delisted and remained listed firms in the critical variables. The current study conducts T-test and Wilcoxon-test analyses, respectively. The results are presented in Table 4.4.

Table 4.4
T-test and Wilcoxon-test Analyses, Respectively

Panel A Continuous Variables						
Variable	Mean		t-Value	Median		z-Value
	Voluntarily delisted	Matching firms		Voluntarily delisted	Matching firms	
BDSIZE	5.428	5.540	2.600***	5	5	2.033**
BDINDEP	0.016	0.024	2.364**	0	0	2.722***
INSTITUTIONAL	15.416	21.398	7.593***	10	20	7.879***
INSIDER	11.060	12.094	1.818*	6	7.265	2.613***
LnTA	18.583	18.504	-1.727*	18.565	18.550	-1.076
LEVERAGE	45.939	41.712	-3.874***	44.479	40.592	-4.739***
ROE	6.711	6.475	-0.186	6.892	8.52	0.143
TOP10	87.079	92.435	6.145***	98.31	98.26	0.064
Panel B Dichotomous Variables						
Variables		Voluntarily delisted	Matching firms	Chi-square value		
DUALITY	1	58.18%	54.11%	4.015**		
	0	41.82%	45.89%			
LEADSECUTR	1	39.90%	31.70%	17.586***		
	0	60.10%	68.30%			
EXTERNALAU	1	35.69%	29.11%	11.900***		
	0	64.31%	70.89%			

Notes: 1. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

2. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration

Regarding the board characteristics variables, the average value of the board size variable (BDSIZE) and board independence (BDINDEP) for voluntarily delisted and matching firms (the firm that remains listed in the NTBM firms) are 5.428 versus 5.540 and 0.016 versus 0.024, respectively. The significant difference for these variables is at the 1% and 5% significance levels, respectively. Therefore, the average value of these two variables for voluntarily delisted firms is statistically significantly smaller than for

matching firms. Furthermore, there is a significant difference between voluntarily delisted and listed firms because the chi-square value is at the 1% and 5% significance level, respectively.

The average value of institutional ownership for voluntarily delisted firms is statistically and significantly lower than matching firms. The mean and median value is 15.416 and 10 for voluntarily delisted firms and 21.398 and 20 for matching firms, respectively. The significant difference for the t-test and Wilcoxon-test are all at the 1% significance level.

The mean value of insider ownership for voluntarily delisted firms is 11.060 and 12.094 for matching firms, and statistically significant at the 10% level. However, the median value is 6 for voluntarily delisted firms and 7.265 for matching firms, respectively, and the significant difference for the Wilcoxon test is at the 1% level. There is a statistically significant difference between the two types of firms in the median value of insider ownership.

Regarding CEO duality (DUALITY), the voluntarily delisted firms show a significantly higher percentage than matching firms (58.18% versus 54.11%). The chi-square test is at the 5% significance level.

For external corporate governance, the delisting firms are likely to employ the lead security trader with high reputational. The descriptive statistics results show that there is 39.90% of delisting firms hire the high reputational lead security trader. However,

only 31.70% of retention firms employed the high reputational lead security trader. The Chi-square value is significant at the 1% level.

Table 4.4 shows that the voluntarily delisted firms show a significantly higher percentage of high-quality and reputation external auditor (35.69%) than matching firms (29.11%). The chi-square test is significant at the 1% level.

Regarding the control variables: firm size (LnTA), leverage (LEVERAGE), performance (ROE), and ownership concentration (TOP10), the mean values of leverage and ownership concentration show significant differences at the 1% level between delisted firms and matching firms. The mean value of firm size (LnTA) for two groups (voluntary delisting firms and matching firms) is statistically significant at the 10% significance level. Only the average value of ROE has no difference between the two types of firms.

The above discussed the difference of independent and control variables between test groups and matching groups. The multivariate regression is run in the next section to ascertain the factors that cause voluntary delisting from the perspective of corporate governance.

4.3 Diagnostic Test

Before running the multivariate analysis, some necessary assumptions should be satisfied. The dependent variable of this study is dichotomous. The logistic regression

is better suited. As discussed in Chapter 3, normality, linearity, and heteroscedasticity don't need to be considered in the logistic regression model. Therefore, the current study considers the following tests: outliers and multicollinearity.

4.3.1 Outliers

Outliers are points whose values are significantly unique from other observations. The outliers can result from data entry error, an unexpected extraordinary event or an unusual event that has an explanation (Hair, 2009). A problem outlier may result in distorted statistical results (Tabachnick & Fidell, 2007). However, removing outliers from the data set can significantly impact the performance of a regression model. AL-Rassas (2015) referred that the winsorized variables distributions is a common way to mitigate possible outliers. Most researchers use this method to solve the outliers problem in their studies (Cumming et al., 2020; Guan, 2021; Harper & Sun, 2019; Lauterbach & Mugerman, 2018). Therefore, this study winsorizes the variables at 1 percent level to mitigate the influence of outliers.

4.3.2 Multicollinearity Tests

Multicollinearity means that two or more independent variables are extremely correlated, which affects the analysis outcomes (Guizani, 2018). Previous studies usually employ two methods to do the multicollinearity tests: a correlation matrix and the variance inflation factor (VIF). Kervin (1995) suggested that multicollinearity may cause a problem if the correlation coefficient in the correlation matrix that includes all

independent variables is more than 0.7. Table 4.5 indicates that there is no multicollinearity problem between independent variables as all the correlation coefficients are lower than 0.7.

In addition, this study employs the VIF test to confirm the multicollinearity problem. The VIF test suggests that the tolerance is greater than 0.1 or a VIF is lower than 10 means no multicollinearity existed between independent variables (Hair, 2009). Table 4.6 shows that there is no multicollinearity issue in this study because the tolerance and VIF of all variables are greater than 0.1 and lower than 10 value, respectively.

4.4 Logistic Regression Analysis Results

This section displays the results of the logistic regression models and then briefly interpretation. Hosmer et al. (2013) referred that the interpretation of the model covered two sides: identifying the functional association between the dependent and independent variables, as well as defining the independent variable's change unit appropriately.

Table 4.5

Pearson's Correlation Coefficients

	VOLDELIST	BDSIZE	BDINDEP	DUALITY	INSTITUTIONAL	INSIDER	LEADSECUTR	EXTERNALAU	AVAGE
VOLDELIST	1.0000								
BDSIZE	-0.052**	1.000							
BDINDEP	-0.051***	0.460***	1.000						
DUALITY	0.041**	-0.081***	-0.052***	1.000					
INSTITUTIONAL	-0.154***	0.251***	0.150***	-0.010	1.000				
INSIDER	-0.037*	0.017	0.005	-0.069***	-0.213***	1.000			
LEADSECUTR	0.085***	0.029	0.001	-0.001	0.002	-0.009	1.000		
EXTERNALAU	0.070***	0.093***	0.088***	-0.036*	0.099***	-0.007	0.006	1.000	
AVAGE	-0.103***	0.139***	0.156***	-0.115***	-0.001	0.107***	-0.000	0.031	1.000
AVEDU	0.068**	0.174***	0.177***	0.014	0.268***	-0.026	0.056***	0.110***	-0.002
POLITICAL	0.199***	0.097***	0.058***	-0.019	0.021	0.012	0.013	0.029	0.158***
LnTA	0.033	0.316***	0.295***	-0.126***	0.276***	-0.091***	0.042**	0.160***	0.266***
LEVERAGE	0.101***	-0.058***	-0.031	-0.035*	-0.065***	-0.016	0.051**	-0.005	0.003
ROE	0.020	-0.014	0.031	-0.008	-0.032	0.029	0.014	0.074***	-0.020
TOP10	-0.134***	-0.145***	-0.136***	0.024	0.075***	-0.025	-0.007	-0.077***	-0.093***

Table 4.5 (Continued)

	AVEDU	POLITICAL	LnTA	LEVERAGE	ROE	TOP1
AVEDU	1.000					
POLITICAL	0.074***	1.000				
LnTA	0.082***	0.126***	1.000			
LEVERAGE	-0.102***	0.074***	0.133***	1.000		
ROE	-0.039*	-0.040*	0.195***	-0.132***	1.000	
TOP10	-0.130***	-0.089***	-0.257***	0.052**	-0.042***	1.000

Notes: 1. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

2. VOLDELIST=Voluntarily delisted, BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, AVAGE=TMT average age, AVEDU= TMT average education level, POLITICAL=TMT political background, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration.

Table 4.6

Testing for Multicollinearity based on Tolerance and VIF Value

	Tolerance	VIF
BDSIZE	0.717	1.39
BDINDEP	0.759	1.32
DUALITY	0.968	1.03
INSTITUTIONAL	0.759	1.32
INSIDER	0.926	1.08
LEADSECUTR	0.991	1.01
EXTERNALAU	0.959	1.04
AVAGE	0.874	1.14
AVEDU	0.867	1.15
POLITICAL	0.951	1.05
LnTA	0.644	1.55
LEVERAGE	0.906	1.10
ROE	0.903	1.11
TOP10	0.870	1.15
Mean VIF		1.18

Notes: BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, AVAGE=TMT average age, AVEDU= TMT average education level, POLITICAL=TMT political background, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration.

In particular, the interpretation of the logistic regression coefficient is not the same as with a linear regression model. In the linear regression model, the coefficient's interpretation of the independent variable expresses the change in the dependent variable's measurement scale as a result of a unit change in the independent variable.

While for the logistic regression model, the coefficient represents the logit difference that corresponds to a one-unit change in the independent variable (Hosmer et al., 2013).

The logit difference can be interpreted by the odds ratio. The odds ratio, a measure of association, is the ratio of two odds (Morgan & Teachman, 1988).

An odds ratio of more than 1.0 represents an increase in the occurrence of an event, while an odds ratio of lower than 1.0 represents a decrease in the occurrence of an event (Morgan & Teachman, 1988). Therefore, the amount of the odds ratio indicates whether

the independent variable has a positive or negative influence on the dependent variable (Morgan & Teachman, 1988).

4.4.1 Direct Results

Model 1 is estimated by the logistic regression with voluntary delisting as the dependent variable. The independent variables include board characteristics (board size (BDSIZE), board independence (BDINDEP), and CEO duality (DUALITY)), institutional ownership (INSTITUTIONAL) and insider ownership (INSIDER), and external corporate governance proxied by the lead security trader (LEADSECUTR) and external auditor (EXTERNALAU). The control variables cover firm size (lnTA), leverage (LEVERAGE), performance (ROE), and ownership concentration (TOP10). The outputs for the multivariate regression are presented in Table 4.7.

Table 4.7 presents that the chi-square statistics of Model 1 is significant at the 1 percent level, indicating Model 1 is significant and all the predictors have a significant influence on dependent variables. Pseudo R^2 and Cragg & Uhler's R^2 are 6.2% and 10.8%, respectively. AIC and BIC_k are other indicators to explain the model's goodness of fit. Long and Freese (2006) mentioned that the model with the smaller AIC and more negative BIC_k is considered the better fitting model. Furthermore, Gujarati and Porter (2009) suggested that the expected sign of the regression coefficients and their statistical and/or practical significance is more important than the goodness of fit for

the binary regression model. Therefore, the expected sign of the regression coefficients and significant of predictors is critical in the model of the current study.

Furthermore, Table 4.7 displays the multiple regression outcomes for Model 1 using robust logistic regression with industry and time fixed technique to estimate the direct relationship between dependent variables (VOLDELIST) and independent variables (BDSIZE, BDINDEP, DUALITY, INSTITUTIONAL, INSIDER, LEADSECUTR, and EXTERNALAU), and control variables (LnTA, LEVERAGE, ROE, and TOP10).

The statistical results of Model 1 show that the relationship between board independence (BDINDEP) and voluntary delisting is negative and significant. The p-value is at 5%. Moreover, institutional ownership (INSTITUTIONAL), and insider ownership (INSIDER) are significantly and negatively related to voluntary delisting because of their odds ratio is less than 1, and the significance level is at 1%.

However, CEO duality (DUALITY), leader security trader (LEADSECUTR), and external auditor (EXTERNALAU) show a significant and positive relationship with voluntary delisting as their odds ratio is greater than 1 and the significance level is less than 5% level. Furthermore, the relationship between board size (BDSIZE) and voluntary delisting is negative but not significant. The p-value is greater than 10%.

Regarding the control variables, the relationship between ROE and voluntary delisting is insignificant. Firm size (LnTA) and leverage (LEVRAFE) display the positive effect on voluntary delisting with the significant level of 1% level. However, ownership

concentration (TOP10) is negatively and significantly related to voluntary delisting. A more detailed discussion about the relationship between independent variables and voluntary delisting will be discussed in Chapter 5.

4.4.2 Hierarchical Regression Results

Previously discussion has mentioned that the demography characteristics of TMT affect an organization's decision-making process and performance (Hambrick & Mason, 1984). The demography characteristics of TMT also can affect the voluntarily delisting decision of a firm. The variance of TMT demographic characteristics may result in different results when examining the factors that cause voluntary delisting in the view of corporate governance. Therefore, this section tests the moderating effect of TMT demographic characteristics (TMT average age, TMT average education level and TMT political background) on the relationship between internal corporate governance (board size, board independence, CEO duality, institutional ownership and insider ownership) and voluntary delisting.

In particular, the interaction of moderating variables and predictor variables is created to test the moderating effect (Baron & Kenny, 1986; Imen & Anis, 2021). The so-called interaction refers to the product of two variables (Imen & Anis, 2021). Moreover, this study introduces hierarchical multiple regression to test the effects of the TMT demography characteristics as moderators on the relationship between internal corporate governance and voluntary delisting. In the hierarchical multiple regression

method, four steps are needed. The change of R^2 for each step is used to test whether the moderators are significant or not (Hair, 2009).

Table 4.7

Logistic Regression (Model 1 Direct Relationship between IV and DV)

Voluntary Delisting= '1 '	Predicted sign	Sign	Odds Ratio	Robust Standard Errors	Z Statistics	P-Value
BDSIZE	+	-	0.956	0.047	-0.91	0.364
BDINDEP	-	-	0.265	0.182	-1.94	0.053**
DUALITY	+	+	1.213	0.108	2.18	0.029**
INSTITUTIONAL	-	-	0.981	0.003	-7.41	0.000***
INSIDER	-	-	0.989	0.003	-3.08	0.002***
LEADSECUTR	+	+	1.413	0.127	3.84	0.000***
EXTERNALAU	+	+	1.409	0.132	3.65	0.000***
LnTA		+	1.147	0.058	2.70	0.007***
LEVERAGE		+	1.010	0.002	4.58	0.000***
ROE		+	1.001	0.002	0.31	0.756
TOP10		-	0.986	0.002	-5.69	0.000***
Constant			0.382	0.809	-0.45	0.649
Industry				Yes		
Listed year				Yes		
Delisted year				Yes		
Wald chi2				181.29***	df(34)	
P-value				0.00		
Pseudo R2				0.062		
Cragg & Uhler's R2				0.108		
AIC				1.315		
BIC _k				-15530.528		

Notes: The model is significant at 1% level; *** Significant at 1% level ** Significant at 5% level
*Significant at 10% level. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO
duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership,
LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm
of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration.

There are three moderators in this study. Thus, Model 2 needs to run three times. They are an interaction between TMT average age and internal corporate governance, an interaction between TMT average education level and internal corporate governance, and an interaction between TMT political background and internal corporate governance. The results are shown in Table 4.8, Table 4.9, and Table 4.10.

As presented in Table 4.8, Table 4.9, and Table 4.10, the first step covered control variables (LnTA, LEVERAGE, ROE, and TOP10) of the current study. The R^2 is 0.031. The second step adds the independent variables on the basis of the first step. The R^2 increased to 0.062. This R^2 change (0.031) is significant. That indicates that the added independent variable increases the explanatory power of the model for voluntary delisting by 0.031.

In the third step, Tables 4.8, Table 4.9, and Table 4.10 show the results where TMT average age, TMT average education level, and TMT political connection are inputted, respectively. Pseudo R^2 increased by 0.007, 0.006, and 0.030, respectively. These results suggest that TMT demographic characteristics have a significant influence on voluntary delisting.

In the fourth step, the interaction items correspond to input table 4.8, table 4.9, and table 4.10. The R^2 increased by 0.004, 0.005, and 0.003, respectively. And these R^2 changes are significant. According to the above discussion, TMT demography characteristics (average age, average education level, and political background) have an impact on the relationship between internal corporate governance and voluntary delisting.

Table 4.8 shows the results of the moderating effect of TMT average age on the relationship between internal corporate governance and voluntary delisting. The coefficient for the interaction of TMT average age and board size (BDSIZE* AVAGE) (Odds ratio=0.980, $p=0.074$) was significant at the level of 10%. This result indicates

that TMT average age has a negative and significant effect on the correlation between board size and voluntary delisting. Furthermore, the coefficient for the interaction of TMT average age and insider ownership (INSIDER*AVAGE) (Odds ratio=0.998, $p=0.038$) was statistically significant at the 5% level, which indicates that TMT average age negatively and statistically significantly affects the relationship between insider ownership and voluntary delisting. However, the coefficients of BDINDEPE* AVAGE, DUALITY * AVAGE, and INSTITUTIONAL * AVAGE are not significant. These statistical analyses indicate that TMT average age does not moderate the relationship between board independence, CEO duality, institutional ownership, and voluntary delisting.

Table 4.9 lists the results of the moderating effect of TMT average education level on the relationship between internal corporate governance and voluntary delisting. The statistical results show that except for the interaction terms of TMT average education level with CEO duality and institutional ownership, the coefficients for the interaction terms of TMT average education level with board size (BDSIZE*AVEDU) (Odds ratio=1.185, $p=0.056$) and board independence (BDINDEPE*AVEDU) (Odds ratio=0.107, $p=0.060$) are significant at the 10% level. The coefficient for the interaction terms of TMT education level and insider ownership (INSIDER*AVEDU) (Odds ratio=0.985, $p=0.013$) is significant at the 1% level. Therefore, it can be concluded that TMT average education level moderates the relationship between board size, board independence and insider ownership, and voluntary delisting. However,

TMT average education level does not moderate the correlation between CEO duality, institutional ownership, and voluntary delisting.

Table 4.10 presents the empirical results of moderating effect of TMT political background on the relationship between internal corporate governance and voluntary delisting. The coefficients of DUALITY * POLITICAL (Odds ratio=0.650, $p=0.042$) and INSTITUTIONAL * POLITICAL (Odds ratio=0.988, $p=0.031$) are significant at the 5% level. However, the coefficients of BDSIZE* POLITICAL, BDINDEPE* POLITICAL and INSIDER* POLITICAL are not significant. The results indicate that TMT political background can affect the relationship between CEO duality, institutional ownership, and voluntary delisting.

From the foregoing analysis, this study finds that TMT demographic characteristics moderate the relationship between internal corporate governance and voluntary delisting.

4.4.3 Additional Empirical Analysis

This section intends to perform additional tests to check the robustness of the regression model to provide further complementary results.

4.4.3.1 Robustness Analysis by Changing the Regression Method

The robustness method is used to check the model's robustness. Previous studies often conduct the robustness analysis by changing the measurement scales of variables,

changing the number of control variables, and changing the regression technique (Kao et al., 2019; Khan et al., 2019; Liang et al., 2014; Sial et al., 2018). The current study plans to follow previous scholars' methods to check the model's robustness.

Firstly, this study reruns regression Model 1 by changing the board independence and performance measurement scales. In this test, the measurement of board independence changes from the percentage of independent directors to the number of independent directors on the board. Additionally, the measurement of performance changes from ROE to ROA.

Part A of Table 4.11 shows that the sign and significance of independent variables are congruent with the previous results in the main analysis in Table 4.7. Therefore, the results of Model 1 did not affect by the changing of the measurements of variables, which gives evidence for the robustness of Model 1.

The second way is to rerun regression Model 1 by deleting one of the control variables—ownership concentration. This method aims to check whether the model will change or not when the number of variables changes. The analysis results of Table 4.11 Part B show that the sign and significance of predictors are similar to the main analysis in Table 4.7. The robustness of Model 1 is supported based on this evidence.

Table 4.8

The Moderating Effect of TMT Average Age on the Relationship between Internal Corporate Governance and Voluntary Delisting

Variables	Step1	Step2	Step3	step4
LnTA	0.992 (-0.17)	1.147(2.70)***	1.202 (3.54)***	1.194 (3.38)***
LEVERAGE	1.012 (5.54)***	1.010(4.58)***	1.009 (4.32)***	1.009 (4.42)***
ROE	1.003(1.40)	1.001(0.31)	1.000(0.01)	1.000 (0.03)
TOP10	0.984 (-7.19)***	0.986(-5.69)***	0.986 (-5.81)***	0.985 (-5.86)***
BDSIZE		0.956(-0.91)	0.964(-0.75)	0.987(-0.26)
BDINDEP		0.265(-1.94)**	0.321 (-1.66)*	0.315(-1.49)
DUALITY		1.213(2.18)**	1.176 (1.82)*	1.174 (1.80)*
INSTITUTIONAL		0.981(-7.41)***	0.980 (-7.65)***	0.980 (-7.67)***
INSIDER		0.989(-3.08)***	0.991 (-2.49)***	0.992 (-2.27)**
LEADSECUTR		1.413(3.84)***	1.422 (3.89)***	1.430 (3.93)***
EXTERNALAU		1.409(3.65)***	1.411 (3.64)***	1.392 (3.49)***
AVAGE			0.949 (-4.99)***	0.936 (-4.20)***
BDSIZE* AVAGE				0.980 (-1.79)*
BDINDEPE*				1.085 (0.46)
AVAGE				
DUALITY *				1.020 (1.03)
AVAGE				
INSTITUTIONAL				1.000(-0.28)
* AVAGE				
INSIDER*AVAGE				0.998 (-2.08)**
Constant	3.408(0.68)	0.382 (-0.45)	1.880 (0.32)	3.500 (0.59)
Industry	Yes	Yes	Yes	Yes
Listed year	Yes	Yes	Yes	Yes
Delisted year	Yes	Yes	Yes	Yes
Wald chi2	97.01***	181.29***	201.08***	203.29***
df(27)		df(34)	df(35)	df(40)
Pseudo R2	0.031	0.062	0.069	0.073
AIC	1.351	1.315	1.305	1.304
BIC _k	-15482.108	-15530.528	-15548.562	-15520.660

Notes: 1. The model is significant at 1% level.

2. *** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration, BDSIZE* AVAGE, BDINDEPE* AVAGE, DUALITY * AVAGE, INSTITUTIONAL * AVAGE and INSIDER*AVAGE are the interaction term that are created to test the moderating effect of TMT average age on the relationship between internal corporate governance and voluntary delisting.

Table 4.9

The Moderating Effect of TMT Average Education Level on the Relationship between Internal Corporate Governance and Voluntary Delisting

Variables	Step1	Step2	Step3	step4
LnTA	0.992 (-0.17)	1.147(2.70)***	1.137 (2.52) ***	1.133 (2.43) **
LEVERAGE	1.012 (5.54) ***	1.010(4.58)***	1.010 (4.81) ***	1.010 (4.84) ***
ROE	1.003(1.40)	1.001(0.31)	1.001(0.61)	1.002(0.86)
TOP10	0.984 (-7.19) ***	0.986(-5.69)***	0.987 (-5.27) ***	0.987 (-5.29) ***
BDSIZE		0.956(-0.91)	0.949 (-1.06)	0.910 (-1.75)*
BDINDEP		0.265(-1.94)**	0.196 (-2.33)**	0.407(-1.14)
DUALITY		1.213(2.18)**	1.211 (2.15)**	1.210 (2.13) **
INSTITUTIONAL		0.981(-7.41)***	0.978 (-8.09) ***	0.977 (-8.16) ***
INSIDER		0.989(-3.08)***	0.989 (-3.16) ***	0.988 (-3.50) ***
LEADSECUTR		1.413(3.84)***	1.382 (3.57) ***	1.378 (3.53) ***
EXTERNALAU		1.409(3.65)***	1.366 (3.31) ***	1.373 (3.36) ***
AVEDU			1.495 (4.54) ***	1.469 (2.96) ***
BDSIZE*				1.185 (1.91)*
AVEDU				
BDINDEPE*				0.107 (-1.88)*
AVEDU				
DUALITY *				1.105(0.62)
AVEDU				
INSTITUTIONAL				
* AVEDU				1.007(1.39)
INSIDER*				0.985 (-2.48) ***
AVEDU				
Constant	3.408(0.68)	0.382 (-0.45)	0.245 (-0.67)	0.337 (-0.51)
Industry	Yes	Yes	Yes	Yes
Listed year	Yes	Yes	Yes	Yes
Delisted year	Yes	Yes	Yes	Yes
Wald chi2	97.01 ***	181.29***	203.78 ***	213.44 ***
	df(27)	df(34)	df(35)	df(40)
Pseudo R2	0.031	0.062	0.068	0.073
AIC	1.351	1.315	1.307	1.304
BIC _k	-15482.108	-15530.528	-15543.345	-15520.762

Notes: 1. The model is significant at 1% level.

2. *** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration, BDSIZE* AVEDU, BDINDEPE* AVEDU, DUALITY * AVEDU, INSTITUTIONAL * AVEDU and INSIDER*AVEDU are the interaction term that are created to test the moderating effect of TMT average education level on the relationship between internal corporate governance and voluntary delisting.

Table 4.10

The Moderating Effect of TMT Political Connection on the Relationship between Internal Corporate Governance and Voluntary Delisting

Variables	Step1	Step2	Step3	step4
LnTA	0.992 (-0.17)	1.147(2.70)***	1.114 (2.06) **	1.120 (2.14) **
LEVERAGE	1.012 (5.54) ***	1.010(4.58)***	1.009 (4.10) ***	1.009 (4.04) ***
ROE	1.003(1.40)	1.001(0.31)	1.002(0.79)	1.002(0.72)
TOP10	0.984 (-7.19) ***	0.986(-5.69)***	0.987 (-5.28) ***	0.987 (-5.17) ***
BDSIZE		0.956(-0.91)	0.926(-1.57)	0.883 (-2.04) **
BDINDEP		0.265(-1.94)**	0.271 (-1.91) *	0.283 (-1.47)
DUALITY		1.213(2.18) **	1.218 (2.17) **	1.344 (2.85) ***
INSTITUTIONAL		0.981(-7.41) ***	0.980 (-7.34) ***	0.983 (-5.46) ***
INSIDER		0.989(-3.08)***	0.988 (-3.34) ***	0.989 (-2.83) ***
LEADSECUTR		1.413(3.84)***	1.413 (3.76) ***	1.428 (3.87) ***
EXTERNALAU		1.409(3.65)***	1.408 (3.57) ***	1.411 (3.58) ***
POLITICAL			2.894 (10.09) ***	3.719 (8.22) ***
BDSIZE*				1.145(1.30)
POLITICAL				
BDINDEPE*				0.875(-0.10)
POLITICAL				
DUALITY *				0.650 (-2.04) **
POLITICAL				
INSTITUTIONAL *				0.988 (-2.16) **
POLITICAL				
INSIDER*				0.998 (-0.23)
POLITICAL				
Constant	3.408(0.68)	0.382 (-0.45)	0.453(-0.45)	0.61(-0.25)
Industry	Yes	Yes	Yes	Yes
Listed year	Yes	Yes	Yes	Yes
Delisted year	Yes	Yes	Yes	Yes
Wald chi2	97.01 ***	181.29 ***	259.86 ***	268.40 ***
	df(27)	df(34)	df(35)	df(40)
Pseudo R2	0.031	0.062	0.092	0.095
AIC	1.351	1.315	1.273	1.273
BIC _k	-15482.108	-15530.528	-15624.855	-15596.037

Notes: 1. The model is significant at 1% level.

2. *** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration, BDSIZE* POLITICAL, BDINDEPE* POLITICAL, DUALITY * POLITICAL, INSTITUTIONAL * POLITICAL and INSIDER* POLITICAL are the interaction term that are created to test the moderating effect of TMTpolitical background on the relationship between internal corporate governance and voluntary delisting.

Thirdly, the current study reruns the regression by using the linear probability model

(LPM). LPM is often is used by scholars to test the model when the dependent variable

is dichotomous (Aldrich & Nelson, 1984). However, sociologists often preferred to use

logit and probit models when these two models were introduced because the predicted probabilities of LPM are not ranged from 0 and 1 (Breen et al., 2018). But, recently, the LPM has made a significant resurgence due to its straightforward interpretation, particularly among economists (Breen et al., 2018). The results of the linear probability model are listed in Table 4.11 Part C.

The statistics results of the LPM indicate that the sign and significance of variables are consistent with Table 4.7, which suggests that different regression method does not affect the robustness of Model 1.

Regarding the robustness test of Model 2, this study employs three test methods, the same as the robustness check of Model 1. Those are changing the measurement of board independence and performance, moving ownership concentration from the model, and using the LPM to rerun the model. Note that new interaction terms need to be created when changing the board size measurement. The regression results are presented in Table 4.12, Table 4.13, and Table 4.14. These results show similar conclusions as in Table 4.8, Table 4.9, and Table 4.10, which suggest that the empirical results of this study are robust and do not change with the choice of method.

4.4.3.2 Robustness Analysis by Considering the Endogenous Issue

The endogeneity issue is the ubiquitous challenge faced in corporate governance research (Patro et al., 2018). Endogeneity issues can arise from reverse causality, omitted variables, and measurement error (Roberts & Whited, 2013). Previous studies

suggested that the standard methods for amending endogeneity in linear models are not in line with nonlinear regression models, such as the logistic regression models are used in this study (Terza et al., 2008).

Table 4.11

Robustness Test of Model 1

		Part A		Part B		Part C	
Voluntary Delisting=‘1’	sign	Odds Ratio	Z-value	sign	Odds Ratio	Z-value	coefficient t-value
BDSIZE	-	0.970	-0.60	-	0.975	-0.51	-0.010 -0.94
BDINDEP	-	0.836**	-1.94	-	0.304*	-1.81	-0.275** -1.99
DUALITY	+	1.213**	2.18	+	1.222**	2.28	0.044** 2.21
INSTITUTIONAL	-	0.981***	-7.26	-	0.978***	-8.54	-0.004*** -7.92
INSIDER	-	0.989***	-3.11	-	0.990***	-3.06	-0.002*** -3.12
LEADSECUTR	+	1.408***	3.79	+	1.405***	3.80	0.079*** 3.82
EXTERNALAU	+	1.401***	3.59	+	1.437***	3.91	0.077*** 3.63
LnTA		1.128**	2.32		1.238***	4.38	0.031*** 2.75
LEVERAGE		1.010***	4.78		1.008***	4.07	0.002*** 4.60
ROA		1.004	1.28		1.000	0.08	0.000 0.32
TOP10		0.986***	-5.71				-0.003*** -6.69
Constant		0.450	-0.38		0.021*	-1.88	-0.071 -0.14
Industry	Yes			Yes			Yes
Listed year	Yes			Yes			Yes
Delisted year	Yes			Yes			Yes
Wald chi2/ F-value	182.57*** df (34)			156.69*** df (33)			8.44 (F-value)
P-value	0.00			0.00			0.00
Pseudo R2/ R ²	0.062			0.052			0.081 (R ²)
AIC	1.314			1.327			1.379
BIC _k	-15532.02			-15505.796			-15388.070

Notes: 1. The model is significant at 1% level.

2. *** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL =Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration

Table 4.12

Robustness Test of Model 2 (Changing the Measurement of Board Independence and Performance)

Variables	Moderator: AVAGE		Moderator: AVEDUE		Moderator: POLITICAL	
	Odds ratio	Z-value	Odds ratio	Z-value	Odds ratio	Z-value
LnTA	1.174***	3.00	1.106**	1.92	1.099*	1.76
LEVERAGE	1.010***	4.60	1.011***	5.22	1.010***	4.31
ROA	1.004	1.03	1.007**	2.07	1.006*	1.70
TOP10	0.985***	-5.88	0.987***	-5.32	0.987***	-5.19
BDSIZE	0.997	-0.05	0.924	-1.42	0.897*	-1.71
BDINDEP	0.848	-1.60	0.885	-1.20	0.827	-1.60
DUALITY	1.173*	1.78	1.210**	2.13	1.344***	2.85
INSTITUTIONAL	0.980***	-7.53	0.977***	-8.03	0.984***	-5.31
INSIDER	0.992**	-2.31	0.988***	-3.53	0.989***	-2.85
LEADSECUTR	1.425***	3.90	1.369***	3.45	1.421***	3.81
EXTERNALAU	1.386***	3.44	1.360***	3.24	1.402***	3.52
AVAGE	0.938***	-3.98				
BDSIZE* AVAGE	0.977**	-1.99				
BDINDEP E* AVAGE	1.020	0.84				
DUALITY * AVAGE	1.020	1.02				
INSTITUTIONAL*	1.000	-0.32				
AVAGE						
INSIDER* AVAGE	0.998**	-2.04				
AVEDU			1.447***	2.85		
BDSIZE* AVEDU			1.216**	2.10		
BDINDEP E* AVEDU			0.730**	-1.99		
DUALITY * AVEDU			1.104	0.62		
INSTITUTIONAL*			1.007	1.42		
AVEDU						
INSIDER* AVEDU			0.985***	-2.48		
POLITICAL					3.735***	8.23
BDSIZE* POLITICAL					1.145	1.25
BDINDEPE*					1.011	0.06
POLITICAL						
DUALITY*					0.653**	-2.02
POLITICAL						
INSTITUTIONAL*					0.988**	-2.18
POLITICAL						
INSIDER*					0.998	-0.22
POLITICAL						
Constant	3.950	0.64	0.446	-0.39	0.728	-0.16
Industry	Yes		Yes		Yes	
Listed year	Yes		Yes		Yes	
Delisted year	Yes		Yes		Yes	
Wald chi2	204.66*** df (40)		216.33*** df (40)		271.87*** df (40)	
Pseudo R2	0.073		0.074		0.096	
AIC	1.304		1.303		1.272	
BIC _k	-15522.005		-15524.202		-15598.678	

Notes: 1. The model is significant at 1% level.

2. *** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3. BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration, the interaction term that are created to test the moderating effect of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.

Table 4.13

Robustness Test of Model 2 (Moving Ownership Concentration)

Variables	Moderator: AVAGE		Moderator: AVEDUE		Moderator: POLITICAL	
	Odds ratio	Z-value	Odds ratio	Z-value	Odds ratio	Z-value
LnTA	1.294***	5.11	1.214***	3.93	1.201***	3.61
LEVERAGE	1.008***	3.88	1.009***	4.43	1.008***	3.56
ROE	1.000	-0.20	1.001	0.68	1.001	0.52
BDSIZE	1.006	0.13	0.927	-1.44	.898*	-1.80
BDINDEP	0.346	-1.40	0.439	-1.08	0.357	-1.25
DUALITY	1.184 *	1.90	1.218**	2.22	1.358***	2.98
INSTITUTIONAL	0.977***	-8.82	0.974***	-9.16	0.981***	-6.19
INSIDER	0.992**	-2.30	0.988***	-3.48	0.989***	-2.81
LEADSECUTR	1.421***	3.90	1.367***	3.46	1.424***	3.85
EXTERNALAU	1.422***	3.76	1.392***	3.54	1.436***	3.80
AVAGE	0.938***	-4.13				
BDSIZE* AVAGE	0.982*	-1.61				
BDINDEP E* AVAGE	1.099	0.55				
DUALITY * AVAGE	1.020	1.03				
INSTITUTIONAL *	1.000	-0.57				
AVAGE						
INSIDER* AVAGE	0.999*	-1.80				
AVEDU			1.543***	3.38		
BDSIZE* AVEDU			1.185**	1.95		
BDINDEP E* AVEDU			0.109*	-1.88		
DUALITY * AVEDU			1.104	0.62		
INSTITUTIONAL*			1.006	1.29		
AVEDU						
INSIDER* AVEDU			0.985**	-2.42		
POLITICAL					3.787***	8.40
BDSIZE*					1.152	1.35
POLITICAL						
BDINDEPE*					0.671	-0.29
POLITICAL						
DUALITY*					0.644**	-2.09
POLITICAL						
INSTITUTIONAL*					0.987**	-2.32
POLITICAL						
INSIDER*					0.998	-0.22
POLITICAL						
Constant	0.150	-0.93	0.023*	-1.85	0.044*	-1.65
Industry	Yes		Yes		Yes	
Listed year	Yes		Yes		Yes	
Delisted year	Yes		Yes		Yes	
Wald chi2	180.02 *** df (39)		190.61 *** df (39)		251.58 *** df (39)	
Pseudo R2	0.062		0.064		0.087	
AIC	1.318		1.315		1.284	
BIC _k	-15492.228		-15500.770		-15576.791	

Notes: 1. The model is significant at 1% level.

2.*** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3.BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration, the interaction term that are created to test the moderating effect of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.

Table 4.14

Robustness Test of Model 2 (Using the LPM to Rerun the Model)

Variables	Moderator: AVAGE		Moderator: AVEDUE		Moderator: POLITICAL	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
LnTA	0.040***	3.44	0.028**	2.44	0.024**	2.12
LEVERAGE	0.002***	4.44	0.002***	4.87	0.002***	4.03
ROE	0.000	0.04	0.000	0.86	0.000	0.71
TOP10	-0.003***	-7.02	-0.003***	-6.14	-0.003***	-5.83
BDSIZE	-0.002	-0.16	-0.020*	-1.83	-0.025**	-2.07
BDINDEP	-0.263	-1.59	-0.184	-1.16	-0.223	-1.44
DUALITY	0.039*	1.79	0.043**	2.15	0.065***	2.92
INSTITUTIONAL	-0.004***	-8.23	-0.005***	-9.03	-0.004***	-5.88
INSIDER	-0.002**	-2.16	-0.003***	-3.54	-0.002***	-2.90
LEADSECUTR	0.080***	3.90	0.072***	3.50	0.079***	3.90
EXTERNALAU	0.074***	3.46	0.070***	3.31	0.074***	3.55
AVAGE	-0.014***	-4.23				
BDSIZE* AVAGE	-0.004*	-1.90				
BDINDEP E* AVAGE	0.025	0.71				
DUALITY * AVAGE	0.004	0.95				
INSTITUTIONAL*	0.000	0.00				
AVAGE						
INSIDER* AVAGE	-0.000**	-1.95				
AVEDU			0.084***	2.94		
BDSIZE* AVEDU			0.036**	1.99		
BDINDEP E* AVEDU			-0.491**	-2.00		
DUALITY * AVEDU			0.022	0.61		
INSTITUTIONAL*			0.001	1.26		
AVEDU						
INSIDER* AVEDU			-0.003***	-2.46		
POLITICAL					0.290***	8.67
BDSIZE* POLITICAL					0.026	1.18
BDINDEP*					-0.080	-0.28
POLITICAL						
DUALITY*					-0.093**	-2.07
POLITICAL						
INSTITUTIONAL*					-0.003**	-2.32
POLITICAL						
INSIDER* POLITICAL					-0.000	-0.18
Constant	0.331	0.63	-0.091	-0.18	-0.114	-0.23
Industry	Yes		Yes		Yes	
Listed year	Yes		Yes		Yes	
Delisted year	Yes		Yes		Yes	
F-value	8.30***		8.85***		11.58***	
R-square	0.094		0.095		0.123	
AIC	1.370		1.369		1.337	
BIC _k	-15376.657		-15377.487		-15456.238	

Notes: 1. The model is significant at 1% level.

2.*** Significant at 1% level ** Significant at 5% level *Significant at 10% level.

3.BDSIZE=Board size, BDINDEP=Board independence, DUALITY=CEO duality, INSTITUTIONAL=Institutional ownership, INSIDER=Insider ownership, LEADSECUTR=Lead security trader, EXTERNALAU=External auditor, LnTA=The natural logarithm of total assets, LEVERAGE=Leverage, ROE=Performance, TOP10= Ownership concentration, the interaction term that are created to test the moderating effect of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.

Although the current study uses the one-year lagged values of independent variables to conduct the regression analysis to mitigate the endogeneity problem, the endogeneity issues need to be checked carefully in this section to test the robustness of the regression model of this study. Following previous studies (Goktan et al., 2018; Terza et al., 2008), this study introduces the control function approach (CFA for short) to consider the effects of the suspected endogenous.

The control function is the residual value of the regression of the instrumental variable on the endogenous variable, and when added as a variable to the regression, it makes the policy variable appropriately exogenous (Maher & Andersson, 1980). Wooldridge (2015) purported that CFA to estimation is an instrumental variable approach in nature. Therefore, this study identifies instrumental variables for each of the main explanatory variables suspected of endogeneity.

Introducing the industry mean value of explanatory variables as instrumental variables is the common method that prior researchers often used (Correia, 2014; Patro et al., 2018). Followed previous studies, this study calculated the industry mean value^I of independent variables except for the lead security trader.

^I The industry mean value (board size, board independence, CEO duality, institutional ownership, insider ownership and external audit) is calculated as the average value (board size, board independence, CEO duality, institutional ownership, insider ownership and external audit) of firms in the same industry-year (excluding the firm in question)

The choice of lead security trader for the NTBM-listed firms is related to the district the firm is located (Wang, 2017). The regional difference of China's marketization process results in the firms in the different regions facing differentiated external formal. For example, the number of high reputation security traders is higher in the East than in the Middle and West districts because the economy in the East is the best (Chen, 2018; Wang, 2017). Therefore, this study introduces *district* (coded 0 = the East, 1 = the Middle, 2 = the West) as an instrumental variable for the lead security trader.

Like the 2SLS (two-stage least square) method, the CFA needs two-stage to handle endogenous issues. The relationship between instrumental variables and endogenous variables is tested in the first stage. The control function (residuals) is created by using the first stage estimation. Then, this study incorporated this residual in the regression model, and the results were reported in Table 15.

The results in Table 15 revealed that the effects of the main variables on voluntary delisting for this study did not significantly change when considering the endogenous issues. Therefore, the results of this study are robust.

Table 4. 15

Endogenous Test for Main Effects of this Study

	Voluntary delisting	Voluntary delisting	Voluntary delisting	Voluntary delisting	Voluntary delisting	Voluntary delisting	Voluntary delisting
BDSIZE	0.047(-0.35)						
BDINDEP		0.034(-1.72)*					
DUALITY			5.188(1.70)*				
INSTITUTIONAL				0.956 (-1.96)**			
INSIDER					0.944 (-2.18)**		
LEADSECUTR						59.471(1.94)**	
EXTERNALAU							3.775(1.68)*
BDSIZE <i>resid</i>	18.595(0.34)						
BDINDEP <i>resid</i>		4872.544(1.45)					
DUALITY <i>resid</i>			0.492(-1.51)				
INSTITUTIONAL <i>resid</i>				1.029(1.23)			
INSIDER <i>resid</i>					1.049 (1.79)*		
district <i>resid</i>						0.170(-1.78)*	
EXTERNALAU <i>resid</i>							0.636(-1.25)
LnTA	2.819(0.35)	1.231(1.56)	1.245(3.00)***	1.615(3.01)***	1.063(1.23)	1.089(1.44)	1.077(1.03)
LEVERAGE	0.997(-0.08)	1.010(4.01)***	1.010(4.70)***	1.005(1.71)*	1.011(5.30)***	1.005(1.75)*	1.010(4.68)***
ROE	0.989(-0.28)	1.002(0.86)	0.999(-0.09)	0.996(-1.27)	1.001(0.55)	0.999(-0.07)	0.999(-0.14)
TOP10	0.976(-1.09)	0.982(-7.15)***	0.987(-5.36)***	0.996(-0.93)	0.985(-6.60)***	0.986(-5.74)***	0.987(-5.15)***
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Listed year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Delisted year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	4.569(0.77)	1.354(0.15)	0.006(-2.52)***	0.001(-2.05)**	0.803(-0.11)	0.333(-5.04)	0.694(-0.17)
Pseudo R-square	0.033	0.034	0.062	0.045	0.05	0.063	0.062
Wald chi2	103.67***	104.28***	182.43***	137.41***	150.23***	180.90***	178.91***

Note: 1. The control function (residual) for BDSIZE, BDINDEP, DUALITY, INSTITUTIONAL, INSIDER, LEADSECUTR and EXTERNALAU are BDSIZE resid, BDINDEP resid, DUALITY resid, INSTITUTIONAL resid, INSIDER resid, LEADSECUTR resid, EXTERNALAU resid, respectively. 2. Each regression is estimated using the robust logistic regression model. Z-statistics is reported in the parentheses. 3. Each regression model is significant at 1% level; *** Significant at 1% level ** Significant at 5% level *Significant at 10% level

4.5 Summary of the Results for the Hypotheses

The present study tests twenty-two hypotheses to support the research objectives. Table 4.16 exhibits the summary of the results. That summary table shows that thirteen out of the twenty-two hypotheses were examined to have significant effects in this study.

Table 4.16
Summary of The Results for The Hypotheses

	Variables	Predicted Sign	Finding (Direction)
Direct Relationship			
Internal corporate governance			
H1	Board Size (BDSIZE)	+	Not Supported
H2	Board Independence (BDINDEP)	-	Supported
H3	CEO Duality (DUALITY)	+	Supported
H4	Institutional Ownership (INSTITUTIONAL)	-	Supported
H5	Insider Ownership (INSIDER)	-	Supported
External corporate governance			
H6	Lead Security Trader (LEADSECUTR)	+	Supported
H7	External auditor (EXTERNALAU)	+	Supported
Moderate Relationship			
TMT average age as a moderator			
H8	TMT average age moderates Board Size	+/-	Moderated (-)
H9	TMT average age moderates Board Independence	+/-	Not Moderated
H10	TMT average age moderates CEO Duality	+/-	Not Moderated
H11	TMT average age moderates Institutional Ownership	+/-	Not Moderated
H12	TMT average age moderates Insider Ownership	+/-	Moderated (-)
TMT average education level as a moderator			
H13	TMT average education level moderates Board Size	+/-	Moderated (+)
H14	TMT average education level moderates Board Independence	+/-	Moderated (-)
H15	TMT average education level moderates CEO Duality	+/-	Not Moderated
H16	TMT average education level moderates Institutional Ownership	+/-	Not Moderated
H17	TMT average education level moderates Insider Ownership	+/-	Moderated (-)
TMT political background as a moderator			
H18	TMT political background moderates Board Size	+/-	Not Moderated
H19	TMT political background moderates Board Independence	+/-	Not Moderated
H20	TMT political background moderates CEO Duality	+/-	Moderated (-)
H21	TMT political background moderates Institutional Ownership	+/-	Moderated (-)
H22	TMT political background moderates Insider Ownership	+/-	Not Moderated

4.6 Summary

The current chapter first conducts the descriptive statistics of the dependent, independent, moderating, and control variables. The results of the univariate analysis are reported and discussed. Before running the logistic regression, this chapter conducts the diagnostic tests for detecting outliers and multicollinearity. And then, this

chapter finalizes the empirical examination and presents new evidence regarding the relationship of corporate governance with voluntary delisting.

Further, this chapter also completes the empirical investigation and demonstrates new evidence regarding the moderating impact of TMT demographic characteristics on the internal corporate governance and voluntary delisting relationship. Furthermore, this chapter does the additional empirical analysis to check the robustness of the regression model. Finally, this chapter summarizes the empirical results of the hypothesis. The next chapter will discuss the findings of the study, research implications, limitations of the study, suggestions for future study, and conclusions.



CHAPTER FIVE

DISCUSSIONS AND CONCLUSION

5.0 Introduction

This chapter intends to discuss the findings as well as the implication of this study. It also provides the future directions that might help policymakers make policies and regulations to improve the level of corporate governance of firms listed in the NTBM, and deepen the reform of the financial system. Furthermore, the limitations and future recommendations of the current study are discussed in this chapter. The last part of this chapter presents the concluding remarks of the current study.

5.1 Recapitulations of the Study

The main subject of this study is to examine the factors that drive voluntary delisting for the firm listed in the NTBM under the perspective of corporate governance. In more detail, the current study examines the relationship among board size, board independence, CEO duality, institutional ownership, insider ownership, lead security trader, and external auditor and voluntary delisting in China's NTBM-listed firms. Moreover, this study investigates the moderating effect of TMT homogeneity demographic characteristics on the relationship among board size, board independence, CEO duality, institutional ownership and insider ownership, and voluntary delisting.

The present study is primarily driven by the comprehensive findings in the existing literature regarding corporate governance, the effects of TMT's demographic characteristics, and voluntary delisting. This study is also strongly motivated by the

phenomenon of the mass delisting of the NTBM. Furthermore, this study is also inspired by the fact that China's government has formulated a series of policies aiming to improve the level of corporate governance and improve the delisting mechanism of the security market to deepen the reform of the financial system.

Therefore, the current study constructs a theoretical framework underpinned by Agency theory and supported by CBA theory, and Upper Echelons theory. Independent variables of this study are categorized into internal corporate governance factors of board size, board independence, CEO duality, institutional ownership and insider ownership; external corporate governance factors of lead security trader and external auditor. The internal and external corporate governance factors could influence a firm's voluntary delisting decision. Furthermore, the influence of internal corporate factors on voluntary delisting is moderated by the firm's TMT homogeneity demographic characteristics.

This study is suitable to employ a quantitative method. The data required for this study can be collected from Wind Database, the website of NEEQ, the website of CSRC, the website of CICPA, and the annual report of sampled firms. Following previous studies (Balios et al., 2015, 2016; Bharath & Dittmar, 2010; Chevalier & Sannajust, 2020; Guan, 2021; Magni et al., 2022; Pour & Lasfer, 2013), considering the given criteria, the final sample size is 1045 delisted voluntarily firms and 1388 matching firms, the total sample size is 2433. All data are collected from authoritative databases and compared with each firm's financial report. The logistic regression model and the

hierarchical regression analysis are done to examine the relationship between research variables, and the moderating effects of TMT demographic characteristics.

To sum up, the main objective of this study is to investigate the factors that cause voluntary delisting for firms under the perspective of corporate governance in the context of China's NEEQ. Based on that main objective, three detailed objectives are stated in accordance with the research questions discussed in the previous chapters. Moreover, twenty-two hypotheses are developed based on the research objectives of this study. Consequently, the empirical results support 13 of 22 hypotheses, six of which are direct and seven moderating hypotheses.

More detailed information about the research questions, research objectives, hypotheses, and empirical results are presented in Table 5.1.

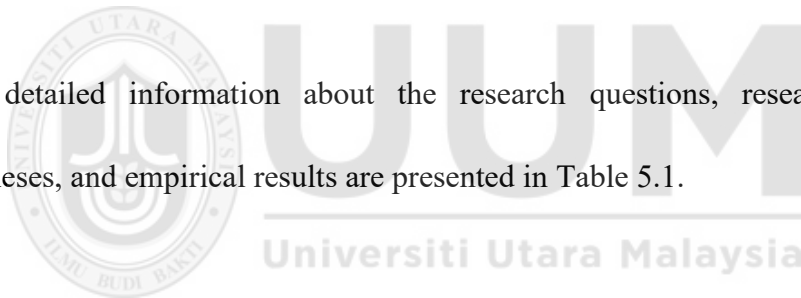


Table 5.1

Summary of Research Objectives, Hypotheses, and Empirical Results of this Study

Research Question	Research Objectives	Research Hypotheses	Finding (Direction)
Q1: Does the internal corporate governance can significantly influence voluntary delisting?	O1: To examine the significant effect of internal corporate governance on the firm's voluntary delisting decision.	H1: Board size can significantly and positively affect voluntary delisting.	Not
		H2: Board independence can significantly and negatively affect voluntary delisting.	-
		H3: CEO duality can significantly and positively affect voluntary delisting .	+
		H4: Institutional ownership can significantly and negatively affect voluntary delisting.	-
		H5: Insider ownership can negatively and significantly affect voluntary delisting.	-
Q2: Does the external corporate governance can significantly affect voluntary delisting?	O2: To investigate the significant effect of external corporate governance on the firm's voluntary delisting decision.	H6: Lead security trader can significantly and positively affect voluntary delisting.	+
		H7: External auditor can significantly and positively affect voluntary delisting.	+
		H8: The average age of TMT moderates the relationship between board size and voluntary delisting.	-
		H9: The average age of TMT moderates the relationship between board independence and voluntary delisting.	Not
		H10: The average age of TMT moderates the relationship between CEO duality and voluntary delisting.	Not
		H11: The average age of TMT moderates the relationship between institutional ownership and voluntary delisting.	Not
		H12: The average age of TMT moderates the relationship between insider ownership and voluntary delisting.	-

Table 5.1 (Continued)

Research Question	Research Objectives:	Research Hypotheses	Finding (Direction)
Q3: Does the TMT demographic characteristics moderate the relationship between internal corporate governance and voluntary delisting?	O3: To examine the moderating effect of the TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting.	H13: The average education level of TMT moderates the relationship between board size and voluntary delisting.	+
		H14: The average education level of TMT moderates the relationship between board independence and voluntary delisting.	-
		H15: The average education level of TMT moderates the relationship between CEO duality and voluntary delisting.	Not
		H16: The average education level of TMT moderates the relationship between institutional ownership and voluntary delisting.	Not
		H17: The average education level of TMT moderates the relationship between insider ownership and voluntary delisting.	-
		H18: The political background of TMT moderates the relationship between board size and voluntary delisting.	Not
		H19: The political background of TMT moderates the relationship between board independence and voluntary delisting.	Not
		H20: The political background of TMT moderates the relationship between CEO duality and voluntary delisting.	-
		H21: The political background of TMT moderates the relationship between institutional ownership and voluntary delisting.	-
		H22: The political background of TMT moderates the relationship between insider ownership and voluntary delisting	Not

5.2 Interpretation and Discussion

The following section interprets and discusses the findings of the hypotheses-testing in the same order as the research objectives.

5.2.1 The Relationship between Independent Variables and Voluntary Delisting

The following section interprets and discusses the findings of the hypotheses-testing of the relationship between independent variables and voluntary delisting.

5.2.1.1 The Relationship between Internal Corporate Governance and Voluntary Delisting

Internal corporate governance that covers five variables in the current study includes board size, board independence, CEO duality, institutional ownership, and insider ownership. These predictors could reflect the level of governance of a firm, and then predict a firm's decision about voluntary delisting.

5.2.1.1.1 The Relationship between Board Size and Voluntary Delisting

The regression analysis results in Table 4.7 show that the odds ratio of board size is 0.956 (lower than one), but the p-value is 36.4%, which is much larger than the benchmark value for p of 10%. Therefore, the finding of this study shows that there is a negative but insignificant relationship between board size and voluntary delisting. This finding does not support hypothesis 1: Board size can significantly and positively affect voluntary delisting.

Obviously, in the current study, the scale of the board did not show support for the Agency theory that a large board size leads to higher agency conflict, which in turn affects corporate governance effectiveness (Guizani, 2018; Hermalin & Weisbach,

2001; Jensen, 1993; Sobhan, 2021). Furthermore, the higher agency conflict may lead to a higher likelihood of voluntary delisting (Fidanza et al., 2018a). Moreover, this finding was also inconsistent with the opinion that a large board size can provide effective monitoring, and minimizes agency cost and money misallocation (Baluja, 2019).

In contrast, the results of this study concluded that board size did not significantly affect the likelihood of voluntary delisting. The findings of the current study is consistent with the results done by Bortolon & Junior (2015b), Chancharat et al. (2012), Du et al. (2013) and Sudarsanam et al. (2011). They suggested that the board size is not a significant determinant when explaining delisting due to takeover and acquisition.

One possible explanation for this finding might be that NTBM-listed firms typically have smaller board sizes. The average value of board size of NTBM-listed firms is only 5.492. This value is far less than previous scholars' criteria that Talab (2019) suggested the number of directors on the board was less than 7 as small size board. Furthermore, Lipton and Lorsch (1992) and Jensen (1993) suggested the board with less than ten members is the small board. The board of the NTBM-listed firms is so small that the addition of board members cannot significantly affect the efficiency of corporate governance and therefore does not affect the voluntary delisting of the company.

5.2.1.1.2 The Relationship between Board Independence and Voluntary Delisting

The statistics results of Table 4.7 indicate the odds ratio of board independence (BDINDEP) is 0.265 and the p-value is 0.053, which shows that board independence is negatively related to voluntary delisting with the significance at the 5% level.

Therefore, the finding supports hypothesis 2: Board independence can significantly and negatively affect voluntary delisting. Furthermore, the result shows that for each additional percentage of independent director, the odds of being voluntarily delisted of NTBM-listed firms decrease by a factor of 0.735, holding all other variables constant.

The finding of the current study is congruent with the results done by Fidanza et al. (2018c), Hostak et al. (2013) and Liao (2020). They mentioned that firms with weak corporate governance were likely to be delisted voluntarily. Agency theory revealed that effective boards must have a large proportion of outside independent directors because independent directors can separate the issue of decision management and decision control, and mitigate the conflicts between manager and shareholder (Fama & Jensen, 1983). The effective board represents effective corporate governance (Chancharat et al., 2012; McColgan, 2001) and mitigates the likelihood of voluntary delisting (Brau et al., 2013; Fidanza et al., 2018c; Leuz et al., 2008).

Although the proportion of independent directors for NTBM-listed firms is lower than in A-share firms, independent directors play a vital role in reducing the conflicts between managers and shareholders in the NTBM-listed firms, the same as in firms listed in other security markets. The existence of them improves the effectiveness of corporate governance (Chancharat et al., 2012; McColgan, 2001), in turn reducing the likelihood of managers deciding to delist to pursue their private benefits (Brau et al., 2013; Leuz et al., 2008). Therefore, board independence is negatively related to the probability of the firm voluntarily delisted and going private (Fama & Jensen, 1983).

On the other hand, this study is inconsistent with the results of Sudarsanam et al. (2011), whose empirical evidence suggested that the percentage of independent directors

facilitates going-private transactions and reduces the chance of post-acquisition bankruptcy in the sample of publicly listed companies in the UK.

5.2.1.1.3 The Relationship between CEO Duality and Voluntary Delisting

The statistics results of Table 4.7 indicate the odds ratio of CEO duality (DUALITY) is 1.213, and the p-value is 0.029, which shows that CEO duality is positively related to voluntary delisting with the significance at the 5% level. Therefore, the finding supports hypothesis 3: CEO duality can significantly and positively affect voluntary delisting.

Agency theory suggests that the positions of the chairman and the CEO should be held by two men (Fama & Jensen, 1983; Jensen, 1993). The reason is to provide a stronger degree of monitoring by firm boards by preventing anyone from dominating the board (Hayward & Hambrick, 1997; McColgan, 2001). The post of chairperson and the CEO is held by one individual means this person can dominate the board. The governance ability of board is reduced (Rechner & Dalton, 1991). It could be a clear conflict of interest and then the efficiency of governance has been influenced (Dayton, 1984). The delisting decision could be made by a firm to align the interests between managers and shareholders and mitigate the agency costs (Kaplan, 1989b; Leuz et al., 2008; Liao, 2020; Martinez & Serve, 2017). Therefore, the findings of this study are in line with the Agency theory that CEO duality can weaken the efficiency of corporate governance and then positively and significantly relate to voluntary delisting.

Meanwhile, this finding is in line with the results studied by Djerbi and Anis (2015), Liu et al., (2013), Martinez and Serve (2017) and Weir et al. (2003). The abovementioned scholars argued that firms that showed CEO duality are more likely

to go private because firms with weak governance have motivations to delist to coincide the benefits between managers and stockholders. Furthermore, this finding is also consistent with the Pour (2015), the result of his article revealed that a firm that showed CEO duality is less likely to survive.

Whereas the findings of this study are incongruent with Sudarsanam et al. (2011) and Hostak et al. (2013). They documented that CEO duality is not significantly related to delist from the security markets.

5.2.1.1.4 The Relationship between Institutional Ownership and Voluntary Delisting

The logistics regression analysis results of Table 4.7 present that the odds ratio of institutional ownership is 0.981, and the p-value is 0.000, which indicates that institutional ownership is negatively and significantly related to voluntary delisting with the significance at the 1% level.

This finding supports hypothesis 4: Institutional ownership can significantly and negatively affect voluntary delisting. Furthermore, the results show that for each additional percentage of institutional ownership, the odds of being voluntarily delisted of NTBM-listed firms decrease by a factor of 0.019, holding all other variables constant.

The finding is in line with the Agency theory that principals can limit divergences in their interests by incurring monitoring costs designed to limit anomalous activities of agents. Large institutional shareholders have more skill, more time, and more financial incentive to monitor management than ordinary atomistic shareholders (Lin & Fu, 2017; McColgan, 2001; Moon, 2006). The agency and information asymmetry

problems would be reduced by good monitoring (Renneboog et al., 2007). Therefore, corporate governance with large institutional investors has become more efficient (Shleifer & Vishny, 1986). The management is more inclined to make decisions that benefit shareholders. Therefore, the likelihood of voluntary delisting decreases as institutional ownership increases.

Meanwhile, the result of this study is consistent with the prior studies done by Guan, (2021), Lauterbach and Murgeman, (2018), Rath and Rashid, (2016) and Mehran & Peristiani (2010). The results obtained in those previous articles have suggested that firms with lower institutional ownership are likely to choose to delist via going private. Also, the result of the current study is similar to Marosi and Massoud (2007) and Leuz et al. (2008). Their articles support the opinion that institutional ownership is negatively related to the firm's delisting decision via going dark.

However, the finding of this study is contrary to Cumming et al. (2019), Weir et al., (2005a) and (Renneboog et al., 2007). Weir et al. (2005a) and Cumming et al. (2019) argued institutional investors have remarkably higher stockholdings in firms going private. Their arguments support the motivations that large shareholders protect and extract private benefits from minor shareholders (Leuz et al., 2008; Marosi & Massoud, 2007; Martinez & Serve, 2017; Weir et al., 2005a). Another probable explanation is that these institutional investors are locked into poorly performing firms with little prospect of improvement (Renneboog et al., 2007). Therefore, institutional investors make little monitoring-related contributions and are happy to sell out (Franks & Mayer, 2001; Renneboog et al., 2007).

However, the NTBM-listed firms are characterized by fewer minor shareholders because the Investor Requirements coded by NEEQ are very serious. Furthermore,

most of the NTBM-listed firms are high-tech and innovative firms with good development prospects (He et al., 2014; Li et al., 2015; Liu & Liu, 2017). The institutional investors in the NTBM-listed firms show an active monitoring view and improve the level of the firm's governance.

It can be concluded from the above discussion that the findings of this study support the idea that institutional investors of NTBM-listed companies have well fulfilled their monitoring responsibilities and mitigate the likelihood of a firm delisting voluntarily from the NTBM.

5.2.1.1.5 The Relationship between Insider Ownership and Voluntary Delisting

The statistics results of Table 4.7 present the odds ratio of insider ownership is 0.989 and the p-value is 0.002, which indicates that insider ownership is negatively and significantly related to voluntary delisting, with the significance is at the 1% level.

The findings support hypothesis 5: Insider ownership can negatively and significantly affect voluntary delisting. Furthermore, the results show that for each additional proportion of insider ownership, the odds of being voluntarily delisted of NTBM-listed firms decrease by a factor of 0.011, holding all other variables constant.

This finding aligns with the Agency theory that the firm can mitigate agency conflicts by providing incentive measures to managers. Insider ownership is one of the managerial incentives (Haugen & Senbet, 1981; Jensen & Meckling, 1976). In the view of the incentive realignment hypothesis, the reunification of ownership and control would better the incentive structure and is projected to raise management efforts to optimize company value (Guizani, 2018; Martinez & Serve, 2017). Given that voluntary delisting is the result of ineffective corporate governance, the increase

of insider ownership would decrease the probability of a firm making the voluntarily delisted decision.

Therefore, this finding supports the alignment effect of insider ownership that with the increase of insider ownership, the agency costs decline, and interests between shareholders and managers converge (Guizani, 2018; Jensen & Meckling, 1976). Insider ownership is negatively related to agency problems (Zhang et al., 2012), and negatively and significantly affects the likelihood of a firm voluntary delisting (Hostak et al., 2013; Sannajust, 2009). This result is consistent with the research done by Algebaly (2011), who examined that insider ownership is negatively related to the delisting risk.

On the other hand, this finding does not support the entrenchment effect of insider ownership that entrenchment managers have sufficient control to achieve their goals without fear of constraints from other ownership interests (Berger et al., 1997; Chen et al., 2012; Fama & Jensen, 1983; Jensen & Meckling, 1976). A higher level of insider ownership could cause entrenchment (Morck et al., 1988), and corporate governance become ineffective. Therefore, the result of this study is inconsistent with previous research done by Pour and Lasfer (2013). They found that insider ownership was positively and significantly related to the firm voluntarily making the delisting decision.

It can be drawn from the above discussion that the NTBM-listed firms are characterized by weak corporate governance, but institutional investors play an essential role in the monitoring activities, and insider ownership realigns the interests between shareholders and managers. Those two governance mechanisms better the efficiency of corporate governance and reduce the likelihood of voluntary delisting.

5.2.1.2 The Relationship between External Corporate Governance and Voluntary Delisting

External corporate governance refers to external monitoring provided by outside parties, such as lead security trader and external auditor in the current study. Previous scholars argued that strong external monitoring could enhance corporate governance (Bancel & Mittoo, 2009), but increase the monitoring cost and disclosure cost (Zhu, 2018).

5.2.1.2.1 The Relationship between Lead Security Trader and Voluntary Delisting

The statistics results of Table 4.7 show the odds ratio of lead security trader is 1.413 and the p-value is 0.000, which indicates that the reputation of lead security trader is positively and significantly related to voluntary delisting with the significance at the 1% level.

The findings support hypothesis 6: Lead security trader can significantly and positively affect voluntary delisting. For the likelihood of firms employing the high reputation lead security trader increases 1, the odds ratio of voluntary delisting for the NTBM-listed firms increases by a factor of 0.413, holding all other variables constant.

The results provide evidence for the Agency theory that delisting via going private and leverage buyout (LBO) can control the agency cost by creating a new organization form (Jensen, 1986). The responsibility of the lead security trader of NTBM-listed firms is not only to engage in activities such as underwriters, but also to monitor whether listed companies follow the rules set by NEEQ based on the IMANEEQ (CSRC Order No. 89, 2013).

Furthermore, this finding aligns with the CBA theory that firms would tradeoff cost and benefit when they make strategic decisions (Drèze & Sten, 1987). The quality of practice score published by NEEQ includes this indicator of post-listing supervision. Therefore, it can be considered that the higher the score of the lead security trader, the higher the requirements for the information disclosure, corporate governance, etc., of the companies they supervise, and the higher the monitoring cost of these companies (Sun et al., 2018). When the costs outweigh the benefits of going public, these firms choose to delist (Bharath & Dittmar, 2010; DeAngelo et al., 1984; Mehran & Peristiani, 2010; Tutino et al., 2013). This result is consistent with the argument suggested by Zhu (2018), who argued that the higher registration cost was one of the main reasons that firms deregistered voluntarily from the NTBM.

However, the results of this study are not in line with the arguments that the reputation of Nomads can delay a firm's delisting from 78 months to 103 months in the Alternative Investment Market (AIM) (Espenlaub et al., 2012). The reason is that the effect of lead security trader in the NTBM is different from the Nomads in the AIM market may be as follows: First, the listing requirements and corporate governance norms formulated by the NEEQ are relatively loose, resulting in a relatively weaker corporate governance structure of the NTBM-listed firms; Second, NTBM's liquidity and financing capabilities are weaker than other securities markets (Li & Qiao, 2017; Li et al., 2018; Zhu & Shen, 2016). These two reasons lead to the decision to delist when the management of an NTBM-listed company forecasts that there is no chance of obtaining sufficient listing benefits, but compliance costs are high.

At the same time, the increased supervision of high-reputation lead security trader may also increase the possibility of punishment for the NTBM-listed firms' management.

In order to avoid penalties, the management will also make delisting decisions (Leuz et al., 2008).

5.2.1.2.2 The Relationship between the External Auditor and Voluntary Delisting

The results of Table 4.7 present the odds ratio of the external auditor is 1.409, and the p-value is 0.000, which shows that the reputation of the external auditor is positively and significantly related to voluntary delisting with the significance is at the 1% level.

The findings support hypothesis 7: External auditor can significantly and positively affect voluntary delisting. The likelihood of the NTBM-listed firms employing high reputation auditor increase 1, the odds ratio of voluntary delisting for the firms increases by a factor of 0.409, holding all other variables constant.

The audit cost is one of the supervision costs paid by the principal to alleviate the divergence of interests between the agent and the principal. In addition, high reputation auditors require high audit fees (Zoe-Vonna Palmrose, 1986). It will increase the agency costs of the company. Although previous studies have pointed out that high reputation auditors can improve the effectiveness of corporate governance. However, when the agency cost is higher than the listing benefits obtained by the company, the company will choose to delist (Bessler et al., 2022; Marosi & Massoud, 2007). That is consistent with the Agency theory that delisting via going private and leverage buyout (LBO) can control the agency cost (Jensen, 1986).

The liquidity and financing ability is weak of the NTBM (Li & Qiao, 2017; Li et al., 2018; Zhu & Shen, 2016). Suppose the benefits of improving governance brought by hiring high reputation auditors for the NTBM-listed firms are lower than the costs of

paying audit fees. In that case, the NTBM-listed firms will choose to delist when the listing benefits cannot cover agency costs.

Therefore, this result agrees with Marosi and Massoud (2007) that higher audit fees are the main driver of the going dark phenomenon. This finding is in line with the CBA theory that firms would make the voluntary delisting decision when listing costs exceed listing benefits (Bharath & Dittmar, 2010; Martinez & Serve, 2017). Furthermore, this finding also is consistent with Bessler et al. (2022) that higher audit fees positively affect the likelihood of firms voluntarily going private.

However, this study is not consistent with previous studies done by Yiannoulis (2018). The current research from Yiannoulis (2018) and Makrominas and Yiannoulis (2021) has exposed audit quality negatively related to the probability of delisting and is accentuated in instances of voluntary delisting. This study also differed from the research done by Mangena and Chamis (2008), who documented no significant relationship between audit quality and the probability of suspension.

In summary, the empirical results of this study support the arguments that a firm with weak corporate governance is likely to voluntarily delist from the stock exchange (Fidanza et al., 2018c; Goktan et al., 2018; Hermalin & Weisbach, 2001; Martinez & Serve, 2017). Furthermore, this study also provides evidence that a firm with high external monitoring is likely to delist because of the consideration of the cost-benefit tradeoff (Konno & Itoh, 2018; Leuz et al., 2008; Zhu, 2018). This kind of likelihood will increase for a firm with weak corporate governance (Leuz et al., 2008; Zhu, 2018).

5.2.2 The Moderating Effect of the Demographic Characteristics of TMT

From the perspective of Upper Echelons theory, the organization's strategic decision would reflect the TMT's demographic characteristics, such as its age, education level, and political background, etc. (Carpenter & Weikel, 2011; Finkelstein & Hambrick, 1996; Goll & Rasheed, 2005; Hambrick, 2007; Hambrick & Mason, 1984; Liu, 2018; Zhu et al., 2018). Regarding the firm's voluntary delisting as a strategic decision made by the TMT (Vismara & Signori, 2014), the relationship between internal corporate governance and voluntary delisting decision also can be affected by the TMT's demographic characteristics.

The regression results of the moderating effect of the TMT demographic characteristics on the relationship between internal corporate control and voluntary delisting has shown in Table 4.8, Table 4.9, and Table 4.10, respectively. The following section interprets and discusses the findings of the hypothesis-testing of the moderating effect of the demographic characteristics of TMT on the base of the regression results.

5.2.2.1 TMT Average Age as a Moderator between Internal Corporate Governance and Voluntary Delisting

5.2.2.1.1 TMT Average Age as a Moderator between Board Size and Voluntary Delisting

The study has hypothesized that firms' board size is positively and significantly related to voluntary delisting. The finding in the direct model in Table 4.7 showed an insignificant and negative relationship between board size and voluntary delisting. However, Table 4.8 shows that when the TMT average age is used as a moderator in

the relationship between board size and voluntary delisting, the relationship becomes significant and negative at the level of 10% percent ($z=-1.79$, $p<0.1$).

This finding indicates that TMT average age did negatively moderate the relationship between board size and voluntary delisting, supporting hypothesis 8: The average age of TMT moderates the relationship between board size and voluntary delisting.

The result of this study indicates that the firm with the older average age of TMT has low intention to delist voluntarily to a greater extent than those with younger TMT when board size was increasing. In other words, for a firm with a large board size where the TMT average age is older, the likelihood of the firm making the voluntary delisting decision is low.

In essence, this finding highlights the significant role of TMT average age in moderating the relationship between board size and the NTBM-listed firm voluntary delisting. Even though the board size of NTBM-listed firms is small size (the mean value is only 5.492), but is far less than previous scholars' criteria. Talab (2019) suggested the number of directors on the board was less than 7 as small size board. Moreover, Lipton and Lorsch (1992) and Jensen (1993) suggested the board with less than 10 members is the small board.

However, the TMT age could affect the effectiveness of the board (Daily et al., 2003). Older TMT boost the effectiveness of the board, hence improving the corporate governance of the firm. The likelihood of voluntary delisting would reduce, and this negative effect of board size on voluntary delisting becomes significant for older TMT firms.

The possible explanation is that older upper echelons are more knowledgeable and more sophisticated than younger TMT. They can more easily defuse conflicts among directors and weigh their interests with those of shareholders (Barker & Mueller, 2002; Tanikawa et al., 2017). Thus, old TMT can enhance the monitoring role of the board of directors and improve the firm's corporate governance (Daily et al., 2003).

5.2.2.1.2 TMT Average Age as a Moderator between Board Independence and Voluntary Delisting

The study has hypothesized that firms' board independence is negatively and significantly related to voluntary delisting. The finding in the direct model in Table 4.7 showed a negative and significant relationship between board independence and voluntary delisting, supporting hypothesis 2. However, Table 4.8 shows that when the TMT average age was introduced as a moderator in the relationship between board independence and voluntary delisting, the relationship became insignificant ($z=0.46$, $p>0.1$).

This finding indicates TMT average age is not moderating the relationship between board independence and voluntary delisting, rejecting hypothesis 9: The average age of TMT moderates the relationship between board independence and voluntary delisting.

This finding implies that the TMT average age does not moderate the relationship between the independence of outside directors and voluntary delisting. The increased board independence can increase the effectiveness of corporate governance (Chancharat et al., 2012; McColgan, 2001), which can reduce the probability of

voluntary delisting (Fidanza et al., 2018c; Hostak et al., 2013; Liao, 2020). That effects of board independence on voluntary delisting are not affected by TMT average age.

The probability explanation for this result is that the IMANEEQ (CSRC Order No. 89, 2013) highlights the independence of outside directors in the NTBM-listed firms, and strengthens the supervision of outside directors from the regulation, thereby reducing the direct or indirect interference of the TMT on the perform duties by independent directors.

5.2.2.1.3 TMT Average Age as a Moderator between CEO Duality and Voluntary Delisting

The finding in Table 4.7 of the direct relationship between CEO duality and voluntary delisting indicates a significant positive association, supporting hypothesis 3. However, Table 4.8 shows that when the TMT average age was introduced to moderate the relationship between CEO duality and voluntary delisting, the relationship became insignificant ($z=1.03$, $p>0.1$).

This result implies no significant moderating effect of TMT average age on the relationship between CEO duality and voluntary delisting, rejecting hypothesis 10: The average age of TMT moderates the relationship between CEO duality and voluntary delisting. That means the relationship between CEO duality and voluntary delisting is not affected by the different TMT average age conditions. In other words, the effect of CEO duality on voluntary delisting was not significantly different between young TMT and old TMT.

One possible explanation for this result is that the CEO becomes more powerful when he is a chairman of the board (Hayward & Hambrick, 1997; McColgan, 2001). He can

dominate a board, and push on and support personal preferences relatively unchecked (Finkelstein & D'Aveni, 1994). CEO has a lot more say than other executives when CEO and chairman is one man (Hambrick, 2007). Therefore, it is difficult for other factors, such as TMT average age, to affect a CEO's decision when he also is a chairman.

The other possible explanation is when an individual consolidates CEO and board chairman, he is inclined to control the director nomination process, choosing individuals who are loyal to him (Finkelstein & D'Aveni, 1994). He also can control the management team nomination process because he has the dual powers of the board chairman and CEO. Therefore, the average age of TMT cannot moderate the relationship between CEO duality and voluntary delisting.

5.2.2.1.4 TMT Average Age as a Moderator between Institutional Ownership and Voluntary Delisting

The study has hypothesized that firms' institutional ownership is negatively and significantly related to voluntary delisting. The finding in the direct model in Table 4.7 showed a significant and negative relationship between institutional ownership and voluntary delisting. However, Table 4.8 shows that when the TMT average age was used as a moderator in the relationship between institutional ownership and voluntary delisting, the relationship became insignificant ($z=-0.28$, $p<0.1$).

This finding indicates that TMT average age has not a moderating effect on the relationship between institutional ownership and voluntary delisting, rejecting hypothesis 11: The average age of TMT moderates the relationship between institutional ownership and voluntary delisting. The result of this study implies that

the effect of institutional ownership on voluntary delisting shows no significant difference between the firm with younger TMT and older TMT.

One possible explanation for this result is that fewer individual investors are on the New Third Board. Institutional investors and market makers are dominant because the NEEQ has high requirements for individual investors. For example, the natural person investor requires the market value of the securities assets at the end of the previous trading day to be more than ¥ 5 million RMB and has more than two years of securities investment experience or relevant professional background or training experience in accounting, investment, finance and so on.¹ Therefore, institutional investors play a dominant role in the NTBM-listed firm's decision-making process. Institutional investors are more rational and have more experience, knowledge, and energy to monitor the firm's activity than individual investors (Lin & Fu, 2017; McColgan, 2001; Moon, 2006). Their monitoring ability would not be affected by TMT average age. Therefore, the average age of TMT cannot moderate the effect of institutional ownership on voluntary delisting.

5.2.2.1.5 TMT Average Age as a Moderator between Insider Ownership and Voluntary Delisting

The results in Table 4.7 show the direct relationship between insider ownership and voluntary delisting indicates a significant negative relationship, supporting hypothesis 5. The coefficient of the interaction of insider ownership and TMT average age as presented in Table 4.8, is negative and significant at the level of 5% ($z=-2.08$, $p<0.05$).

¹ CSRC. <http://www.csrc.gov.cn/pub/newsite/>

This result indicates a significant and negative effect of TMT average age on the negative relationship between insider ownership and voluntary delisting, supporting hypothesis 12: The average age of TMT moderates the relationship between insider ownership and voluntary delisting. The more shares held by insiders, the less likely the firm will delist voluntarily, and this relationship is more pronounced in firms with older TMT.

This finding agrees with the Upper Echelons theory that TMT demographic characteristics can affect the firm's strategy choice. Although many scholars thought increasing age could result in the deterioration of cognitive skills (Sturman, 2003). However, Mayr (2011) argued that the detrimental effects of aging could be compensated for by a bundle of knowledge, experience, and wisdom obtained over time, while the negative effects of aging increasingly lessen due to the complexity of management jobs and the requirement for particular abilities (Tulung & Ramdani, 2015). Older managers would spend more time and energy on making a decision by seeking more information and considering more carefully (Taylor, 1975). Therefore, older TMT is less likely to act against the interests of shareholders, especially when this TMT holds shares (Hermalin & Weisbach, 1991).

On the other hand, older managers are more conservative and risk-averse (Barker & Mueller, 2002; Zhu et al., 2018). From the angle of career concern, old managers have no less career pressure than their younger peers. The ownership incentive mechanism has a greater incentive effect on older managers than on the young (Aghion et al., 2013; Holmstrom, 1999). Older managers with ownership are more willing to make decisions that are in the interests of shareholders. The likelihood that the NTBM-listed

firms delist voluntarily from the market decreases when the TMT is old. This effect becomes more pronounced when they hold the firms' share.

5.2.2.2 TMT Average Education Level as a Moderator between Internal Corporate Governance and Voluntary Delisting

5.2.2.2.1 TMT Average Education Level as a Moderator between Board Size and Voluntary Delisting

The results in Table 4.7 show the direct relationship between board size and voluntary delisting indicates an insignificant negative relationship, rejecting hypothesis 1. However, when the TMT average education level was introduced to moderate the relationship between board size and voluntary delisting, the coefficient of interaction term presented in Table 4.9 is positive and significant at the level of 10% ($z=1.91$, $p<0.10$).

This result implies the TMT average education level moderates the relationship between board size and voluntary delisting, supporting hypothesis 13: The average education level of TMT moderates the relationship between board size and voluntary delisting. The average education level of TMT affects the relationship between board size and voluntary delisting.

This finding is consistent with the Upper Echelons theory that TMT's education level can affect a firm's strategy choice. The small board size of the NTBM-listed firms affects the effectiveness of the board (Andoh et al., 2023; Baluja, 2019). Furthermore, TMT with high education level are better at collecting information and have good ability to analyze information (Hambrick & Mason, 1984; Tulung & Ramdani, 2015; Zhu et al., 2018).

Therefore, the high education level TMT with internal information is more likely to serve its private interests in the case of weak corporate governance (Leuz et al., 2008). This behavior becomes significant when the board is less effective. For example, in order to avoid stock prices falling and thus affecting their reputations, they would decide to delist in advance when they predict the firm will operate poorly. This result is in line with the previous studies done by Leuz et al. (2008), who documented that controlling insiders (i.e., managers or large owners) could make the going dark decision to keep away from the outside scrutiny that comes with SEC reporting.

5.2.2.2.2 TMT Average Education Level as a Moderator between Board Independence and Voluntary Delisting

The results in Table 4.7 show the direct relationship between board independence and voluntary delisting indicates a significant negative relationship, supporting hypothesis 2. When the TMT average education level was introduced to moderate the relationship between board independence and voluntary delisting, the coefficient of interaction term presented in Table 4.9 is negative and significant at the level of 10% ($z=-1.88$, $p<0.10$).

This finding implies that the TMT average education level moderates the relationship between board independence and voluntary delisting, supporting hypothesis 14: The average education level of TMT moderates the relationship between board independence and voluntary delisting. The relationship between board independence and voluntary delisting becomes strong when TMT average education level is higher.

The result agrees with the Upper Echelons theory that the TMT demographic characteristics can affect an organization's strategic choice and outcome. Previous

studies argued that highly educated managers have accepted more specialized and focused training in experiences and paradigmatic perspectives; they have a greater conforming in cognitive models (Hitt & Tyler, 1991). A conforming cognitive model could push TMT to make good teamwork and long-term decisions (Lee & Moon, 2018; Tulung & Ramdani, 2015) and thereby affect the strategic choice (Hitt & Tyler, 1991).

The higher education level TMT would make more rational decisions and work more efficiently, thereby improving the firm performance when the firm has a strong and efficient corporate governance (Goll et al., 2008; Maram & Indraah, 2009; Tulung & Ramdani, 2015). The higher firm performance negatively affects voluntary delisting (Chaplinsky & Ramchand, 2012). Therefore, the likelihood of voluntary delisting decreased for the firm to have strong board independence in the context of the high level of TMT education level.

Besides, this study is consistent with the research done by Zhu et al. (2018), who argued the negatively moderating effect of TMT average education level on the relationship between investor sentiment and investment level by using the sample with Chinese listed A-share firms in the SHSE and SZSE from 2008 to 2012.

5.2.2.2.3 TMT Average Education Level as a Moderator between CEO Duality and Voluntary Delisting

The results in Table 4.7 show the direct relationship between CEO duality and voluntary delisting indicates a significant positive relationship, supporting hypothesis 3. However, when the TMT average education level was introduced to moderating the relationship between CEO duality and voluntary delisting, the coefficient of

interaction term presented in Table 4.9 is insignificant at the level of 10% ($z=0.62$, $p>0.10$).

This finding implies the TMT average education level does not moderate the relationship between CEO duality and voluntary delisting, rejecting hypothesis 15: The average education level of TMT moderates the relationship between CEO duality and voluntary delisting.

This finding is inconsistent with the Upper Echelons theory that TMT average education level affects the organization's strategic choice and outcome. The possible explanation is CEO who also is a board chairman has high managerial discretion, which provides an opportunity for him could dominate the board and nominates the TMT who are loyal to him (Finkelstein & D'Aveni, 1994; Hadani et al., 2015; McColgan, 2001), especially for the NTBM-listed firms that most of CEO also is a founder (Zhu et al., 2018). Therefore, the average education level of TMT cannot moderate the significant and positive relationship between CEO duality and voluntary delisting.

5.2.2.2.4 TMT Average Education Level as a Moderator between Institutional Ownership and Voluntary Delisting

The results in Table 4.7 show the direct relationship between institutional ownership and voluntary delisting indicates a significant negative relationship, supporting hypothesis 4. However, when the TMT average education level was introduced to moderating the relationship between CEO duality and voluntary delisting, the coefficient of interaction term presented in Table 4.9 is insignificant at the conventional level ($z=1.39$, $p>0.10$).

This finding implies the TMT average education level shows no moderating effect on the relationship between institutional ownership and voluntary delisting, rejecting hypothesis 16: The average education level of TMT moderates the relationship between institutional ownership and voluntary delisting.

This finding does not agree with the Upper Echelons theory. The possible explanation is that institutional investors are the dominant investors in the NEEQ security markets. Previous scholars suggested that institutional shareholders can significantly affect a firm's decision-making and operational activities by monitoring management behavior (Lin & Fu, 2017; McColgan, 2001; Moon, 2006). Furthermore, the NTBM-listed firms are small-medium-sized companies, are at a disadvantage in negotiating with institutional shareholders, and need institutional shareholders' help in corporate governance (Qian & Sun, 2019). The more percentage share the institutional investors held, the strong the influence of institutional ownership on the firms. Hence, the NTBM-listed firms' TMT cannot affect institutional shareholders' impact on the voluntary delisting regardless the education level of TMT is high or low. Therefore, the average education level of TMT cannot moderate the relationship between institutional ownership and voluntary delisting.

5.2.2.2.5 TMT Average Education Level as a Moderator between Insider Ownership and Voluntary Delisting

The direct relationship between insider ownership and voluntary delisting listed in Table 4.7 indicates a significant and negative with the p-value equaling 0.000, lower than the conventional level of 1%. Furthermore, with the introduction of TMT average education level as a moderator on the relationship between insider ownership and

voluntary delisting, the coefficient of interaction term contained in Table 4.9 shows negative with the significance is at the 1% level ($z=-2.48$, $p<0.01$).

This result indicates a significant moderating role of TMT average education level on the relationship between insider ownership and voluntary delisting, supporting hypothesis 17: The average education level of TMT moderates the relationship between insider ownership and voluntary delisting. TMT average education level strengthens the relationship between insider ownership and voluntary delisting.

This finding is congruent with the Upper Echelons theory that TMT demographic characteristics can affect the organization's strategic decision and outcome. Insider ownership is the incentive governance measurement that shareholders provide to managers to coordinate their interests with managers (Haugen & Senbet, 1981; Jensen & Meckling, 1976). Previous studies discussed that highly educated managers have higher knowledge, cognitive, and skill ability than managers without high-level formal education (Acar, 2016; Chen et al., 2010; Tulung & Ramdani, 2015; Zhu et al., 2018). Thus, TMT with high-level formal education can make forward-looking, rational, and long-term decisions (Lee & Moon, 2018; Zhu et al., 2018).

Furthermore, they become the firm's shareholders when they hold the stock shares. The agency conflicts decrease, and they are more likely to make decisions that are in the interests of shareholders (Hermalin & Weisbach, 1991). Therefore, the likelihood of voluntary delisting decreases. Hence, the TMT average education level negatively moderates the relationship between insider ownership and voluntary delisting.

5.2.2.3 TMT Political Background as a Moderator between Internal Corporate Governance and Voluntary Delisting

China's fifth-generation leadership under the leadership of Xi Jinping initiated a massive and unprecedented anti-corruption campaign, which clarified the relationship between government officials and enterprises, and reshaped the connection between companies and the government. The campaign endows the political connections with a new connotation in companies and government relations. Firms with political connection have stronger legitimizing motives because they are under more seriously public scrutiny and public monitoring than firms without political connection (Bayraktar & Moreno-Dodson, 2015; Faccio, 2010; Guo et al., 2021; Li, 2019; Qian & Chen, 2020).

5.2.2.3.1 TMT Political Background as a Moderator between Board Size and Voluntary Delisting

Table 4.7 shows that the relationship between board size and voluntary delisting is negative but insignificant, rejecting hypothesis 1. Furthermore, the result does not change when the TMT political background is introduced to moderate the relationship between board size and voluntary delisting. The hierarchical regression analysis results, as shown in Table 4.10, present that the coefficient of the interaction of board size and TMT political background is not significant ($z=1.30$, $p>0.1$).

The result shows that there is no moderating effect of TMT political background on the relationship between board size and voluntary delisting, rejecting hypothesis 18: The political background of TMT moderates the relationship between board size and voluntary delisting.

This result is contradictory to the Upper Echelons theory that TMT demographic characteristics can affect an organization's strategy choice and outcome. A possible explanation for this result is that although the political background strengthens the political sensitivity of TMT and keeps a good relationship with the government (Cui et al., 2019), the responsibilities and powers of the board of directors are different from those of the management (IMANEEQ (CSRC Order No. 89, 2013)). Furthermore, the anti-corruption campaign has limited the intervention of political connection in firms' behaviors (Guo et al., 2021; Qian & Chen, 2020). Therefore, the political background of TMT is not enough to have an impact on the boards' strategy choice and outcome.

Given that the NTBM-listed firms are small-medium-sized firms, the TMT political background cannot affect the size of the board of directors and its influence on the strategic decisions. Therefore, there was no difference in the effect of board size on voluntary delisting between political background and non-political background firms. This result is in line with the finding of the previous study by Wang and Zhang (2018) that the political background of TMT has no moderating effect on the impact of environmental risk on firm performance.

5.2.2.3.2 TMT Political Background as a Moderator between Board Independence and Voluntary Delisting

Table 4.7 shows that board independence significantly and positively affects voluntary delisting, supporting hypothesis 2. However, the result changes to insignificant, although still negative when the TMT political background is used as a moderator. The coefficient of the interaction of board independence and TMT political background shown in Table 4.10 is not significant ($z=-0.10$, $p>0.1$).

This finding indicates that the TMT political background does not moderate the relationship between board independence and voluntary delisting, rejecting hypothesis 19: The political background of TMT moderates the relationship between board independence and voluntary delisting. The influence of board independence on voluntary delisting has not varied on whether the firm's TMT has a political background.

This result contrasts with the Upper Echelons theory. The TMT political background does not affect the relationship between board independence and voluntary delisting. Corporate law has enhanced the independence of outside independent directors. The effect of board independence on voluntary delisting is so significant that TMT political background shows no impact on that relationship.

TMT political background can only mean the firm has a good relationship with the government and is more sensitive to the dynamic policy than non-connected firms (Cui et al., 2019). The composition of the board of directors is determined by the law. Therefore, TMT political background cannot affect the influence of board independence on voluntary delisting.

This finding is consistent with the study done by Erdayosi and Putri (2019), who revealed that the firm's political connections do not show any significant relationship with corporate social responsibility decision. Cui et al. (2019) also did not find the significant relationship between political background heterogeneity and financial performance.

5.2.2.3.3 TMT Political Background as a Moderator between CEO Duality and Voluntary Delisting

Previous analysis of the current study shows that CEO duality plays a positive and significant relationship with voluntary delisting, supporting hypothesis 3. However, Table 4.10 shows that when the TMT political background is introduced to moderate the relationship between CEO duality and voluntary delisting, the relationship becomes negative with significance at the 5% level ($z=-2.04$, $p<0.05$).

The result indicates that TMT political background negatively moderates the relationship between CEO duality and voluntary delisting, supporting hypothesis 20: The political background of TMT moderates the relationship between CEO duality and voluntary delisting. That means the effect of CEO duality on voluntary delisting has significant differences in the context of firms that have TMT political background or not.

This finding is consistent with the Upper Echelons theory that TMT demographic characteristics can affect an organization's strategy choice and outcomes. The TMT political background neutralized the powerful influence of the combination of CEO and chairman. There may be two explanations for that result. One possible explanation is that the engagement of political motivates the firm to seek stronger legitimizing because they are under more serious public scrutiny and public monitoring than firms without political connection (Bayraktar & Moreno-Dodson, 2015; Faccio, 2010; Guo et al., 2021; Li, 2019; Qian & Chen, 2020). The TMT with political background would promote CEO to act more legally. Furthermore, the political-connected TMT also positively affects the firms' information disclosure (Guo et al., 2021; Qian & Chen, 2020) and then reduces the agency costs by mitigating the information asymmetry.

Another possible explanation is that the Chinese government has formulated many regulations and policies to deepen the reform of the NEEQ and help SMEs develop. A

good understanding of these regulations and policies can facilitate a firm to operate through better application of these regulations and policies. The TMT with political background is politically sensitive, can understand the rules well and apply them well (Cui et al., 2019), which can well improve corporate governance and corporate performance, and reduce the possibility of voluntary delisting of the NTBM-listed firm.

5.2.2.3.4 TMT Political Background as a Moderator between Institutional Ownership and Voluntary Delisting

Table 4.7 shows that the relationship between institutional ownership and voluntary delisting is negative and significant, supporting hypothesis 4. When TMT political background is introduced as a moderator between institutional ownership and voluntary delisting, the results in Table 4.10 show that the coefficient of the interaction of institutional ownership and TMT political background is negative with significance at the level of 5% ($z=-2.16$, $p<0.05$).

This result indicates that TMT political background moderates the relationship between institutional ownership and voluntary delisting, supporting hypothesis 21: The political background of TMT moderates the relationship between institutional ownership and voluntary delisting. The association between institutional ownership and voluntary delisting varies significantly depending on whether the firm's management has a political tie.

The finding of this study is in line with the Upper Echelons theory that TMT demographic characteristics can affect an organization's strategic choice and outcome. Previous studies have pointed out that institutional investors may squeeze the interests of minority shareholders when institutional ownership increases, thus making delisting

decisions (Leuz et al., 2008; Marosi & Massoud, 2007; Martinez & Serve, 2017; Weir et al., 2005a). However, corporate law requires that the interests of small and medium investors should be protected. TMT with political backgrounds are better able to understand and cater to the regulations and policies stipulated by the government (Cui et al., 2019). They urge firms to consider the interests of small and medium shareholders when making decisions.

Additionally, the anti-corruption campaign created a new connection between companies and the government. The political connected firms are more likely to conduct legitimate behavior to seek the government's recognition, thereby obtaining benefits such as political status and state subsidies (Guo et al., 2021; Qian & Chen, 2020). Hence, the political background of TMT would encourage the monitoring behavior of institutional investors and protects the benefits of minor shareholders.

Therefore, the political background of TMT weakens the extraction effect caused by the increase of institutional ownership. But it strengthens the monitoring effect of institutional ownership and further strengthens the negative impact of institutional ownership on voluntary delisting.

5.2.2.3.5 TMT Political Background as a Moderator between Insider Ownership and Voluntary Delisting

Table 4.7 indicates that the relationship between insider ownership and voluntary delisting is significant and negative, supporting hypothesis 5. However, the result changes to insignificant when TMT political background is introduced as a moderator between insider ownership and voluntary delisting. Table 4.10 shows that the

coefficient of the interaction of insider ownership and TMT political background is not significant ($z=-0.23$, $p>0.1$).

This result shows that TMT political background does not moderate the relationship between insider ownership and voluntary delisting, rejecting hypothesis 22: The political background of TMT moderates the relationship between insider ownership and voluntary delisting. The relationship between internal ownership and voluntary delisting is not varied on whether the firm's TMT has a political background.

This result does not support the Upper Echelons theory that TMT demographic characteristics can affect an organization's strategic choice and outcome. Agency theory argues that insider ownership is one of the incentive mechanisms that align the benefits between shareholders and managers (Haugen & Senbet, 1981; Jensen & Meckling, 1976). This incentive mechanism can alleviate agency conflicts and promote the TMT following shareholders' interests (Phani et al., 2005).

This incentive effect has no difference between the firm with TMT political background and without TMT political background. One possible explanation is that since the Chinese government launched a massive anti-corruption campaign in 2013, the TMT with political backgrounds no longer has privileges, such as more accessible access to critical resources than TMT without political backgrounds. This far-reaching and unprecedented anti-corruption campaign initiated by President Xi Jinping not merely reduced corruption but strengthened and reinforced the rules of the link between firms and the government (Hao et al., 2020; Qian & Chen, 2020). It became more and more difficult for firms to obtain favorable discretion in rule enforcement through their political ties (Qian & Chen, 2020). Political background can no longer bring additional direct benefits to a firm.

Therefore, the result of this study not only documents the TMT political background does not moderate the relationship between insider ownership and voluntary delisting but also presents the changes in the role of political connections after the anti-corruption campaign.

5.2.3 Control Variables

Regarding the control variables, the relationship between firm size and voluntary delisting is statistically significant and positive at the 1% level ($z=2.70$, $p=0.00$). This result implies that the large the firm, the probability the firm chooses to delist voluntarily from the NTBM. This finding is in line with the study done by Bortolon and Junior (2015b). The possible explanation is that large firms are more prone to agency conflicts because of their management complexity.

Furthermore, the relationship between leverage and voluntary delisting is statistically significant and positive at the 1% level ($z=4.58$, $p=0.00$). This finding reveals that the firm with higher leverage is likely to make the delisting decision. Firms with high leverage have high financial risk, thereby choosing to delist when the listing costs increase to avoid suffering financial distress (Gunarathna, 2016). Moreover, this result is consistent with (Algebaly, 2011; Balios et al., 2016; Cai et al., 2018; Charitou et al., 2007; Kang, 2017; Liu et al., 2013; Martinez & Serve, 2011; Mohan & Chen, 2007; Pour, 2015; Pour & Lasfer, 2013; Siddiqui, 2021), they documented that firms with high leverage are more likely to make delisting decisions.

Moreover, the relationship between ROE and voluntary delisting is positive but not significant ($z=0.31$, $p>0.1$). This result is consistent with (Kang, 2017; Witmer, 2005), and implies there is no relationship between ROE and voluntary delisting. The possible explanation is that most of the NTBM-listed firms are small-medium sized, high-tech,

and innovative firms (Li & Qiao, 2017; Li et al., 2015; Wang & Yang, 2016; Yang, 2017). They are early in the firms' life cycle (Li et al., 2015; Xie, 2018). Therefore, ROE as a historical indicator of performance does not play its role in corporate decision-making.

Ownership concentration shows a significant and negative influence on voluntary delisting with significance at the level of 1% ($z=-5.69$, $p=0.00$). This result indicates that ownership concentration has a significant and negative effect on voluntary delisting. This finding is in contrast with the arguments provided by Bharath and Dittmar (2010), Martinez and Serve, (2011) and Moreira et al. (2017), they documented that the firm that has higher delisting probability has more concentrated ownership. The possible explanation for this difference is that the concentration of ownership strengthens the monitoring and thereby reduces agency conflicts (Renneboog et al., 2007; Weir et al., 2005a), especially for NTBM-listed firms that have fewer minority stockholders.

5.3 Research Implication

The current study highlights the insights of corporate governance, TMT demographic characteristics, and voluntary delisting in the context of China's NTBM. That is one of the frontier studies, in the perspective of the security market system-reforming of China's security market, in examining the impact of corporate governance on voluntary delisting in China's NTBM firms and investigating the moderating effect of TMT demographic characteristics. The current study enriches the existing literature on the factors that caused voluntary delisting, as well as gives some valuable suggestions to the relative stakeholders, such as scholars, investors, managers, and policymakers. More detailed implications of this study are discussed in the following sub-sections.

5.3.1 Theoretical Implication

Firstly, this study is underpinned by Agency theory and supported by other theories, such as CBA theory and upper echelon theory, to deepen the analysis. Those theories support that internal corporate governance factors, i.e., board size, board independence, CEO duality, institutional ownership and insider ownership, external corporate governance factors, i.e., lead security trader and external auditor could effectively affect the firm's voluntary delisting decision when holds other factors constant. Furthermore, those theories also verified that the demographic characteristics of the firm's upper echelons of management and internal corporate governance together could affect a firm's strategy choice. Therefore, this study answered the call for providing more detailed and depth research about the factors that caused delisting (Martinez & Serve, 2017).

Moreover, this study integrates the Agency theory, CBA theory, and Upper Echelons theory in establishing a theoretical framework in the context of China. Delisting is the reverse choice of going public. Previous scholars often analyze delisting by using the way and theory same as going public (Fidanza et al., 2018a). Several academics noted that it is justifiable to do research by incorporating Agency theory and other theories (Aguilera et al., 2016; Cuomo et al., 2016). Previous scholars also pointed out that it is necessary to adopt more than one theory in analyzing the choice and the timing of the firm's list decision (Bancel & Mittoo, 2009). Therefore, this theoretical framework not only answered the calls for incorporating Agency theory with other theories but also provides evidence for adding more than one theory in examine the choice and the timing of the firm's list decision.

Furthermore, Martinez and Serve (2017) suggested establishing a theoretical cost-benefit framework in the research field of voluntary delisting. Hambrick (2007) called for expanding the application of Upper Echelons theory to different research fields and institutional systems. The theoretical framework of this study answered the calls by considering a cost-benefit framework and expanding the application of Upper Echelons theory to the delisting research field and China's NTBM.

Secondly, plenty of previous studies have investigated the factors that could affect voluntary delisting decisions from the perspective of firm characteristics, corporate governance, culture distance, economic uncertainty, and offering features (Chaplinsky & Ramchand, 2012; Füss et al., 2016; Guan, 2021; Konno & Itoh, 2018; Martinez & Serve, 2011; Pour, 2015; Pour & Lasfer, 2013). They choose one or two variables from those perspectives to examine their influence on delisting. Limited scholars focus on one of the perspectives and deepen research from this perspective. This research focuses on the perspective of corporate governance and classifies it into internal corporate governance of board size, board independence, CEO duality, institutional ownership and insider ownership, and external corporate governance factors of lead security trader and external auditor. Therefore, this study provided a paradigm for an in-depth analysis of the factors that cause delisting from one perspective. And this study answered the calls from Moreira et al. (2017) that future research needs to further investigate the determinants of voluntary delisting from the perspective of corporate governance.

Thirdly, previous studies have argued the existing relationship between board characteristics (board size, board independence, and CEO duality) and voluntary delisting, institutional ownership and voluntary delisting, insider ownership and

voluntary delisting. However, the findings showed mixed or inconsistent. This study found that board independence, institutional ownership, and insider ownership negatively predicted voluntary delisting, while CEO duality was positively related to voluntary delisting. However, board size has no relation to voluntary delisting. Therefore, this study has presented additional empirical evidence to shed light on these relationships.

Besides, prior studies have documented the critical influence of the reputation of the investment banker, VC backing, and the Nomad's reputation on the IPO survival (Carpentier & Suret, 2007; Espenlaub et al., 2012). Pour (2015) has found the effects of the reputation of the underwriter on delisting decision. Lead security trader is a unique role in the NEEQ. The firm listed on the NEEQ must employ a lead security trader at all time based on the regulation formulated by IMANEEQ (CSRC Order No. 89, 2013). Judging from the responsibilities of the lead security trader, he not only undertakes the role of investor banker but also bears the role of underwriter and advisor. He is very similar to ATM's Nomad. To our knowledge, this study is an early effort in examining the effect of lead security trader on voluntary delisting in the context of China's NEEQ.

In addition, this study considers the external auditor as one of the external corporate governance factors and examines the relationship between the external auditor and voluntary delisting. Therefore, this study reinforces the suggestions done by Algebaly (2011) that future studies should consider new variables on delisting risk.

Fourthly, the current study contributes to the literature by examining the moderating effect of TMT demographic characteristics on the relationship between internal corporate governance and voluntary delisting. The results of the determinants of

voluntary delisting have drawn by previous studies are inconsistent. Based on the perspective of Baron and Kenny (1986), the moderator or mediator should be considered.

However, thus far, limited previous articles have introduced moderators or mediators to investigate the factors that cause voluntary delisting (Yiannoulis, 2018). A prior study from Yiannoulis (2018) has found that the interacting term of higher IPO activity and higher P/E ratios negatively affect the probability of delisting. However, to date, the studies of the TMT demographic characteristics as moderators in the relationship between internal corporate governance and voluntary delisting of the NTBM-listed firms are limited.

Furthermore, China's government initiated a massive and unprecedented anti-corruption campaign since the year of the end of 2012. The anti-corruption campaign created the new relationship between companies and the government, limiting the possibility that executives with political backgrounds can seek rent for the company (Guo et al., 2021; Qian & Chen, 2020). Re-examining the role of political connection in firms' decisions is necessary (Qian & Chen, 2020).

Additionally, TMT demographic characteristics are the predictors that can affect an organization's strategic choice and decision (Hambrick & Mason, 1984). As such, this study introduced TMT demographic characteristics, i.e., TMT average age, TMT average education level, and TMT political background as moderators in examining the relationship between internal corporate governance and voluntary delisting. The results of the moderation effects of TMT demographic characteristics in this study offer a better understanding of how TMT demographic characteristics modify the

relation between internal corporate governance and voluntary delisting among the firms in the NEEQ of China.

Therefore, this study not only examines the effects of internal corporate governance on voluntary delisting under different conditions but also answers the calls from previous scholars' comments that future research needs to further investigate the role of TMT demographic characteristics (Acar, 2016; Hambrick & Mason, 1984; Tanikawa et al., 2017).

Finally, although plenty of previous literature has investigated the determinants of going private, going dark, public to private, and delisting (voluntary and involuntary), limited studies were conducted in non-western economies such as China. Therefore, this study broadened the research to the NTBM-listed firms in a non-western context of China. The findings of this study provide a new perspective in the literature on delisting by focusing on corporate governance and investigating the difference in the relationship between internal corporate governance and voluntary delisting when the TMT demographic characteristics are used as moderators.

5.3.2 Practical Implication

The results of this study are helpful for investors, managers, and policymakers, especially concerning issues relating to voluntary delisting and corporate governance practices.

Firstly, the results of this study reveal the factors that cause voluntary delisting under the perspective of corporate governance. All the predictors, such as the board size, board independence, institutional ownership, the reputation of lead security trader, etc., are all easy to be collected from the public database and financial report. Hence,

investors could easily collect the information of those predictors and then predict the likelihood of voluntarily delisting decisions made by a firm before they make the investment decision. For example, investors could choose a firm with a higher percentage of independent directors, no CEO duality, high percentage of institutional ownership, and insider ownership because this kind of firm is less likely to make the voluntary delisting decision.

Secondly, this study supports the argument that firms with weak corporate governance are likely to delist voluntarily (Fidanza et al., 2018c; Hostak et al., 2013; Liao, 2020). That result suggests that the management of SMEs should strengthen corporate governance and thereby improve the investment attractiveness of the firm so that they can stay in the NTBM or even transfer to the other regulated stock markets, such as the mainboard market.

Specifically, this study found that more independent directors on the board of directors, more institutional ownership, and insider ownership are negatively related to the probability of voluntary delisting. The NTBM-listed firm could employ more independent directors and improve the independence of outside directors, choose more professional institutional investors and improve the ownership of institutional investors and insiders. The institutional investors could offer more knowledgeable, professional suggestions for the firm's operational activities and supervise the management activities, thereby reducing agency conflicts. The ownership of insiders could also alleviate the agency conflicts between shareholders and managers, thereby improving corporate governance.

Additionally, the management of the NTBM-listed firms does not need to seek to employ the high reputational lead security trader and external auditor. The high

reputational lead security trader and the external auditor need high transaction and audit fees (Blankley et al., 2012), which will increase the firm's listing cost. In fact, the IMANEEQ (CSRC Order No. 89, 2013) has regulated the responsibilities and rights of securities dealers and auditors. The results of this study support the opinion of Qomariyah (2019) that firm needs to trade off the cost and benefit when employing the lead security trader and external auditor.

Furthermore, it is important to note that investors and those responsible for hiring managers need to consider the demographic characteristics of managers to determine the impact of internal corporate governance factors on delisting.

Thirdly, the results of this study are also helpful to those policymakers, especially those formulating NTBM-related normative policies. Given that the companies on the NTBM are relatively young and small in scale, policymakers should develop more flexible policies based on the characteristics of NTBM firms, improve corporate governance, and reduce the possibility of delisting. The stable development of the NTBM will be beneficial to establishing an efficient multi-level capital market by CSRC.

For example, the regulators of NTBM could formulate relevant laws and regulations that are more suitable for NTBM-listed firms, clarify the appropriate corporate governance codes for such firms, and stipulate the appropriate minimum board size and the number of independent directors, suggest the percentage of insider ownership and increase the incentive level of managers. The regulators also need to clarify the responsibilities of the lead security trader and external auditor and then regulate the broker and audit market.

5.4 Limitations of the Study

This study examined the influence of internal corporate governance (board size, board independence, CEO duality, institutional ownership and insider ownership) and external corporate governance (lead security trader and external auditor) on voluntary delisting in the NTBM-listed firms of China. Moreover, the current study was the first to introduce TMT demographic characteristics as moderators in the relationship between internal corporate governance and voluntary delisting. As such, this study is exploratory in nature and has certain limitations.

Firstly, limitations related to the period of the sample. The period of sample in this study covered is only six years from 2014 to 2019. This limitation was challenging to overcome because this study focused on the voluntary delisting phenomenon in China's NTBM. China's NTBM was established in the year of 2006 and expanded to the whole country at the end of 2013 years. Therefore, the period of sample in this study started in 2014 years. Moreover, the COVID-19 epidemic changed the whole world at the beginning of 2020 (Pak et al., 2020; Shang et al., 2021). Hence, this sample period was at the end of 2019 years to avoid the possible heterogeneity resulting from the COVID-19 epidemic.

Secondly, limitations related to the generalization. The results of this study are difficult to generalize to financial-related industries. The financial-related industries are treated to be regulated industries (AL-Rassas, 2015). Firms in those industries have unique structures and accounting standards (Algebaly, 2011; Honjo & Kurihara, 2022; Kalak et al., 2018; Magni et al., 2022; Moreira et al., 2017).

Thirdly, limitations related to the choice of the variables. This study only considers three demographic characteristics of the executive teams, such as average age, average

education level, and political background. It does not consider demographic characteristics such as tenure and functional background. That is because most NTBM-listed firms are young, with very short tenures of top management and scattered functional backgrounds, which are not statistically significant.

Furthermore, performance is one of the motivations of firms deciding to delist voluntarily. However, the NTBM-listed firms lack liquidity (Li & Qiao, 2017; Li et al., 2018; Zhu & Shen, 2016). This study has to choose ROE and ROA-two accounting performance indicators- as the performance proxy variable. These two historical indicators may not be appropriate for accurately examining the relationship between performance and voluntary delisting.

5.6 Suggestions for Future Study

This study focuses on the factors that cause voluntary delisting from the view of corporate governance. In addition to overcoming its limitations, this study can be considered and expanded in future studies in a number of ways, as follows:

First, the sample of the current study only considered non-financial companies. Future studies could consider the factors that cause voluntary delisting in financial-related companies because the financial-related industries play a vital role in the development of the economy.

Second, the sample time span was six years from 2014 to 2019, and the post-COVID-19 epidemic period was not considered. Future research can compare the changes in the impact of relevant variables on voluntary delisting before and after the COVID-19 epidemic when enough data related to corporate governance and delisting can be collected in the post-COVID-19 period.

Third, this study focuses on the moderating of TMT political background on the relationship between internal corporate governance and voluntary delisting in the NEEQ of China. China is a collectivist society. However, the massive and unprecedented anti-corruption campaign was initiated since the year of the end of 2012. The anti-corruption campaign created a new relationship between companies and the government. Re-examining the role of the political connection of firms is necessary for the context of China. However, cross-cultural studies in future research in other countries with the prevalence of political connection would be helpful to deepen research on the factors that caused voluntary delisting and generalize the research model.

Furthermore, China's government has formulated many policies and established the Beijing stock exchange in 2021 to address the liquidity issue of the NTBM. Researchers will collect Tobin's Q and the PE ratio as the performance proxy in the future and accurately examine the relationship between performance and voluntary delisting.

5.7 Concluding

The NTBM not only provides the channel for SEMs to finance their fund but also is the foundation of China's multi-level stock markets (He & Zhang, 2017; Hui & Gu, 2017; Li et al., 2015; Wang & Yang, 2016). This OTC market plays a vital role in the development of the financial market in China (He & Zhang, 2017; Hui & Gu, 2017; Li et al., 2015). However, recently, a large number of firms delisted voluntarily from this market (Liu, 2022; Yang, 2021; Zhu, 2018). Therefore, investigating the factors that cause voluntary delisting is helpful for the development of China's financial system (Xu, 2018; Yang, 2017).

This study has focused on examining the factors in the perspective of corporate governance that affects voluntary delisting and the moderating effect of the TMT demographic characteristics over internal corporate governance, i.e., board size, board independence, CEO duality, institutional ownership, and insider ownership. A theoretical framework is set, and twenty-two hypotheses are presented underpinned by Agency theory, CBA theory, and Upper Echelons theory. All the objectives of this study as discussed in Chapter 1 are achieved.

This study reveals that most corporate governance variables have a significant relationship with the likelihood of voluntary delisting except for board size. For example, the relationship between board independence, institutional ownership, insider ownership, and voluntary delisting is negative and significant. The relationship of CEO duality with voluntary delisting is positive and significant. The lead security trader and external auditor show a significantly positive relationship with the likelihood of voluntary delisting. That means corporate governance can significantly affect the firm making the voluntary delisting decision.

Moreover, this study introduced TMT demographic characteristics as moderators to investigate the differences in the relationship of internal corporate governance with voluntary delisting under different conditions. Specifically, the results of this study find that TMT average age negatively and significantly moderates the relationship between board size, insider ownership, and voluntary delisting but has no moderating effect on the relationship between board independence, CEO duality, institutional ownership, and voluntary delisting.

This study also found that TMT average education level positively moderates the relationship between board size and voluntary delisting. TMT average education level

negatively moderates the effects of board independence and insider ownership on voluntary delisting. However, the influence of CEO duality and institutional ownership on voluntary delisting is not moderated by the TMT average education level.

Furthermore, this study finds that the political background of TMT has a significant moderating effect on the relationship between CEO duality, institutional ownership and voluntary delisting. But TMT political background could not moderate the relationship between board size, board independence, insider ownership, and voluntary delisting.

Therefore, this study provided a shred of additional evidence for the Upper Echelons theory that an organization's strategic choice and the outcome could be affected by its TMT demographic characteristics.

Broad speaking, this study contributes the theoretical and practical implications regarding the determinants of voluntary delisting. Although more than half of the hypotheses developed in the current study are verified, more studies still need to investigate the factors of the likelihood of voluntary delisting of the firms listed in NEEQ by broadening the sample size and extending the sample period. The researcher suggests that the findings of the current study can provide additional knowledge for studying the factors that cause the voluntary delisting of China's NTBM-listed companies. In addition, the empirical results of this study are hoped to provide guidance for firms' management to strengthen corporate governance practices and for regulators who are responsible for improving the NEEQ delisting mechanism.

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