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Research Progress on the Impact of Non-Financial Information Disclosure on the Hub Function of the Capital Market

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Abstract: Compared with traditional financial information, non-financial information accounts for a larger proportion of the company's external disclosure, has a more flexible form of expression, and has more diverse release channels. It is more likely to affect the hub functions of the capital market, such as asset pricing, resource allocation, and risk management, and also brings new opportunities and challenges to market supervision. However, both in theory and practice, there is still a lack of in-depth understanding of the impact of non-financial information disclosure on the hub function of the capital market. Therefore, this article sorts out the definition and disclosure motivation of non-financial information, and reviews and analyzes the literature on its impact on the hub function of the capital market in terms of economic consequences, impact mechanism, and regulatory research, in order to provide meaningful reference and reference for capital market supervision and resource allocation.

Keywords: Non-Financial Information Disclosure; Capital Market Hub Function; Financial Supervision

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1. Introduction

Non-financial information disclosure is the core and general grasp of continuous supervision of the capital market. It is also one of the most basic and iconic superstructures that distinguishes the modern direct financing system from the indirect financing system. It covers three major functions: asset pricing, resource allocation and risk management, which are the hub functions of the capital market. The hub function of the capital market was first proposed by the Financial Stability and Development Committee of the State Council in October 2018. Its essence is to vigorously develop direct financing and give full play to its functional advantages such as market pricing, resource allocation and risk management.

How does non-financial information disclosure affect the hub function of the capital market? Mainstream economics believes that information problems and agency problems hinder the hub function of the capital market, and information disclosure plays a very important role in alleviating these problems. Especially in the past 10 years, with the evolution of new information technology, artificial intelligence and trading strategies, research on non-financial information disclosure based on massive big data analysis is gradually becoming a new direction in the field of finance. Compared with the standardized traditional financial digital information, non-financial information accounts for a larger proportion of the company's external disclosure, has a more flexible form of expression, and has more diverse channels of communication. It also has rich connotations that are difficult to reflect in financial digital information. Especially in China's special investor structure and high-context communication environment, it is more likely to affect the hub function of the capital market.

Based on the above situation, scholars are also paying more and more attention to the impact of non-financial information disclosure. For example, can non-financial information disclosure improve stock pricing efficiency and reduce the degree of market mispricing, so as to better play the role of the stock market barometer? Can non-financial information disclosure affect the financing decisions of listed companies and the investment decisions of outsiders, and optimize the economic industrial structure at the macro level? With the wave of the information technology revolution, does non-financial information disclosure reduce or aggravate the degree of information asymmetry and the risk of stock price collapse, and ultimately alleviate or cause systemic financial risks? These questions have high scientific value. Therefore, this paper attempts to systematically sort out the literature on the impact of non-financial information disclosure on the hub function of the capital market, in order to provide reference and reference for macro-prudential financial supervision.

At the same time, the capital market's attention to non-financial information disclosure has also increased unprecedentedly. According to the results of Ernst & Young's global investment institution survey, 97% of investors said that they would conduct corporate valuation based on the company's non-financial information disclosure, and 85% of investment institutions would exclude companies with negative impacts on society from their investment portfolios. Judging from the news related to non-financial information, even the world's best emerging companies are facing the troubles and challenges of non-financial information disclosure. For example, on August 7, 2018, Tesla CEO Musk was investigated by the US securities regulator for disclosing the company's privatization plan on social media Twitter. Alibaba was sued by international law firms shortly after its listing in the United States, directly pointing to the core issue of continuous supervision - non-financial information disclosure. It was accused of making false statements or omitting important facts in the company's business operations and regulatory risks.

From the perspective of the acquisition and interpretation of non-financial information, the combination of artificial intelligence and quantitative trading has brought about a subversive change in the impact mechanism of non-financial information. On Wall Street, the information disclosed by listed companies is gradually being automatically processed by computer programs, and machines are gradually replacing humans in the analysis of financial information and the formulation of trading strategies. A large amount of non-financial information that was previously ignored by humans is no longer just a "vase" for display, but a wealth that can be captured and decoded by machines, thereby achieving the optimal allocation of resources.

From the top-level design of non-financial information disclosure, the regulatory authorities are obviously aware of these changes. Europe has elevated non-financial information disclosure to the level of EU and member state legislation. According to the revised EU directive on information disclosure by large enterprises and groups, more than 6,000 large companies must begin to disclose non-financial information, policies and results in 2018. In my country's reform of the registration system piloted by the Science and Technology Innovation Board, information disclosure is the center of the stock issuance and listing system and the most important part. Although the institutional norms of non-financial information disclosure in my country's capital market have made great progress, the regulatory and law enforcement experience is relatively limited, and investor protection is weak. Coupled with the unique equity structure and investor structure, the motivation, impact mechanism and economic consequences of non-financial information disclosure of listed companies in my country are far more complex than those in mature market countries. Therefore, this paper is divided into the following five parts for literature review. First, the definition and disclosure motivation of non-financial information are sorted out. Secondly, the relevant literature discussing the impact of non-financial information disclosure on the hub function of the capital market is divided into three levels: whether it affects, the level affected and the impact mechanism. Finally, the literature on how to regulate non-financial information disclosure is reviewed.

2. Definition and Motivation for Disclosure of Non-Financial Information

2.1 Definition and Characteristics of Non-Financial Information

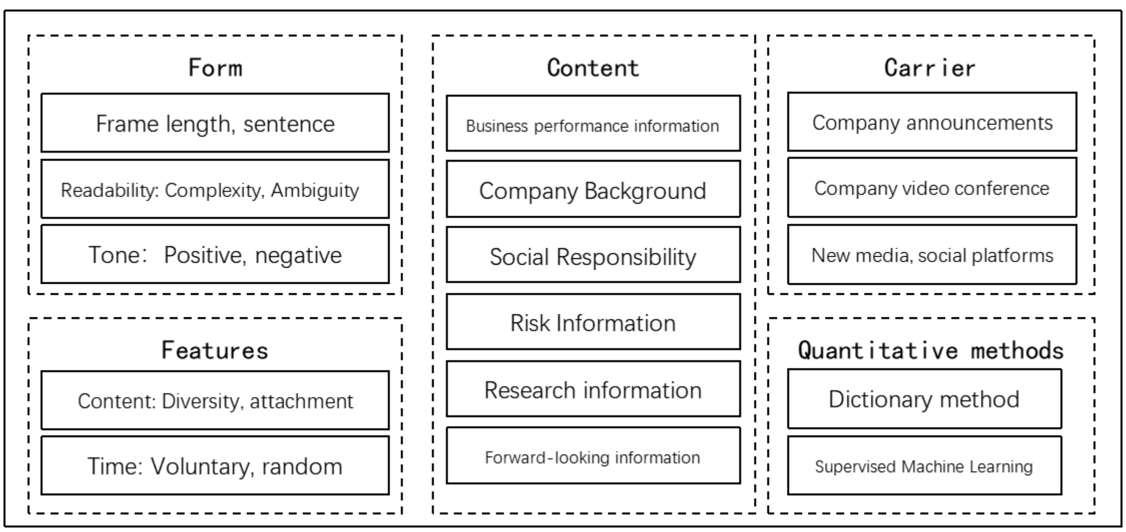
Financial information refers to economic information mainly in the form of currency data, combined with other data, used to indicate the status and characteristics of an enterprise's capital flow. Non-financial information refers to various information materials in the form of non-financial information that are directly or indirectly related to the production and operation activities of an enterprise. According to characteristics such as content, form, and carrier, non-financial information can be divided into the following categories. The summary diagram is shown in Figure 1.

Classified in terms of content, non-financial information research mainly includes: ① disclosures related to the company's production and operations, such as company product information disclosure (Cao et al. 2018); ② information related to the company's background, such as management experience (Adams et al. . 2018); ③ company ESG information, such as environment (Shen Hongtao et al. 2010; Li Zhe 2018), social responsibility (Dhaliwal et al. 2011; Dhaliwal et al. 2012), governance information; ④ company risk (Yao Yi & Zhao Mei 2016; Chiu et al. 2019), research and development (Merkley 2014), forward-looking information (Cheng Xinsheng et al. 2015), etc.

From the formal classification, non-financial information research mainly includes: ① Readability (Hwang & Kim 2017; Allee et al. 2018), such as complexity (Wang Kemin et al. 2018), ambiguity (Bushee et al. 2018) ; ② Information disclosure enthusiasm (Loughran & McDonald 2011), voice intonation (Jegadeesh & Wu 2013; Tan et al. 2014; Zeng Qingsheng et al. 2018); ③ Sentence structure (Allee & Deangelis 2015), frame length (Cohen et al. . 2020) etc.

Classified from the carrier, non-financial information research mainly includes: ① company annual report, prospectus (Yao Yi & Zhao Mei 2016), management analysis and discussion (Xue Shuang et al. 2010; Mayew et al. 2015), ② performance description meetings (Lin Le & Xie Deren 2017), ③ telephone conferences (Davis et al. 2015; Cao Tingqiu & Zhang Guangli 2020), ④ new media and social platforms (Blankespoor et al. 2013; Lee et al. 2015; Hu Jun & Wang Zhen 2015 ; Ding Hui et al. 2018).

Figure1: Non-financial information research system.



2.2 Motivations for Disclosing Non-Financial Information

Non-financial information disclosure is a type of information disclosure, so why do listed companies disclose information? Early literature believes that information disclosure can alleviate information asymmetry, help companies transmit value signals, and reduce corporate financing costs, thereby generating value signal transmission motivation and capital market transaction motivation. However, some scholars believe that although information disclosure can help companies transmit signals, it will also increase other costs. For example, helping competitors obtain private information of the company will generate indirect costs. The proprietary cost motivation is based on this view. Research on the motivation for non-financial information disclosure is also centered around the above hypothesis. According to the motivation for value signal transmission, non-financial information disclosure can transmit signals about the company's fundamentals and future development. Rational investors will make judgments on the company's value after receiving the signal. Even if it is a simple repetition of the previous report, it has the effect of signal transmission (Cheng Xinsheng et al. 2011; Cheng Xinsheng et al. 2015; Cohen et al. 2020). Studies have shown that when a company's performance is poor, management tends to use more vague language and more lengthy reports to explain the development (Li 2008). However, Merkley (2014) proved that when performance is poor, companies will make more qualitative R&D disclosures, and their main purpose is to convey supplementary information to investors, not to cover up poor performance. Mayew et al. (2015) also found that the information disclosure in the MD&A section of the annual report can provide predictive information on the company's ability to continue operations. Bourveau and Schoenfeld (2017) found that when a company faces shareholder activism, management will disclose more earnings forecasts and non-financial information, and reduce the possibility of intervention by activist shareholders by transmitting value signals. In addition, Zhao Liangyu and Lin Ruichen (2020) also found that in order to alleviate the information asymmetry caused by tax avoidance activities, management will increase information disclosure to meet the information needs of external investors. Jayaraman et al. (2020) even found that management adjusts its annual capital expenditures through the stock market's feedback on voluntary information disclosure.

Capital market transaction motivation refers to the disclosure of information by management companies when issuing stocks or conducting external equity mergers and acquisitions to reduce information asymmetry, thereby reducing the company's transaction costs (Lang & Lundholm 1993; Frankel et al. 1995; Healy et al. 1999; Shen Hongtao et al. 2010). First, information disclosure can improve investors' understanding of the company, increase their willingness to share risks with the company and stock liquidity, thereby reducing capital costs (Merton 1987; Diamond & Verrecchia 1991). Second, Dhaliwal et al. (2011) found that companies with higher capital costs tend to disclose social responsibility reports to reduce capital costs. By disclosing more accurate and detailed idiosyncratic information, the correlation with other companies' earnings can be reduced, and the company's beta can be reduced, thereby indirectly reducing capital costs. In addition, Ahern and Sosyura (2014) also found that the acquirer will release more news from the start of merger and acquisition negotiations to the public disclosure of information, increase the stock price in the short term, and affect the acquisition price when the exchange ratio is certain.

The proprietary cost motivation believes that excessive information disclosure will also indirectly generate proprietary costs, and the increase in proprietary costs will reduce the possibility of voluntary information disclosure (Verrecchia 1983; Wagenhofer 1990; Hayes & Lundholm 1996; Hermalin & Weisbach 2012). Cao et al. (2018) believe that information disclosure will only generate proprietary costs when the type of non-financial information is related to product market competition. Li Huiyun et al. (2020) proved that in the case of fierce product market competition, the information effect brought by information disclosure is greater than the proprietary cost. Li et al. (2018) found that after the implementation of new trade confidentiality laws in various parts of the United States, the degree of disclosure of the identity of its customers by enterprises has significantly decreased. Chen Songsheng et al. (2020) also found that excessive voluntary information disclosure will also cause information redundancy and increase information processing costs, thereby exacerbating information asymmetry. In addition, Cao et al. (2021) even found that some companies will disclose negative information about peer companies, thereby gaining advantages in subsequent product market competition.

In recent years, many scholars have also examined the motivations for non-financial information disclosure from other perspectives. Zeng Qingsheng et al. (2018) found that management was opportunistic. The more positive the tone of the annual report, the larger the net stock sales of executives after the announcement. Changes in equity split reform, regulatory rules, market environment, litigation costs and risks will also change the motivation for non-financial information disclosure (Zhang Xueyong & Liao Li 2010; Bourveau et al. 2018). In addition, Zou Ping (2020) also found that traditional Chinese Confucian culture will also promote the company's non-financial information disclosure and improve the quality of disclosure.

In short, from the perspective of information producers, non-financial information is not just a template disclosure, but contains complex motivations in different market environments. Especially under the condition that financial information cannot play a role, non-financial information may even affect the survival of listed companies.

3. Non-financial information disclosure affects the function of capital market intermediaries.

Many previous studies have shown that financial information disclosure can have an impact on the capital market (Brown et al. 1987; Lang & Lundholm 1996; Core 2001). In contrast, the impact of non-financial information disclosure on the capital market has not received much attention from scholars. Although financial information can partially reflect the past financial status and operating performance of an enterprise, it is constrained by many factors such as accounting rules and quantitative convenience, and its timeliness and relevance are poor. Many important information cannot be presented through traditional financial statements. Therefore, it is increasingly difficult for pure financial information disclosure to meet the needs of national economic and social development. With the development of financial accounting theory and the improvement of big data analysis capabilities, the study of non-financial information disclosure has become possible. After the pioneering papers of Das and Chen (2007), Tetlock (2007), Li (2008) and Dhaliwal et al. (2011), non-financial information disclosure has gradually become a hot topic in financial accounting research at home and abroad, and its connotation is also constantly expanding. However, some scholars have pointed out that the current research on non-financial information is still very imprecise, with both scientific and artistic elements (Loughran & Mcdonald 2016).

Some scholars believe that non-financial information disclosure will not affect the capital market. They believe that non-financial information disclosure is mainly based on common templates, which only contain standardized sentences, boilerplate text, disclaimers and other irrelevant details, and do not have information value (both positive and negative). Therefore, the impact of non-financial information disclosure on the real economy is neutral, and at best it is just a “vase” for display (Li 2010; Hu Yuanmu & Tan Youchao 2013; Xiao Hao et al. 2016), and it will not affect the hub function of the capital market. For example, some studies have proposed that risk information is a template-based disclosure and has no significant guiding role for information users (Campbell et al. 2014; Hope et al. 2016). In addition, since non-financial information disclosure is mostly voluntary and less regulated, its credibility cannot be guaranteed (Ingram & Frazier 1980; Hobson & Kachelmeier 2005). At the same time, Mayew et al. (2015) also noted that some early studies had problems such as small sample size, few industries included, and the extraction of non-financial information was not objective, which had certain research limitations.

In recent years, studies have shown that non-financial information disclosure will affect the capital market. Healy and Palepu (2001) pointed out that due to information asymmetry, corporate insiders always have more private information than outsiders, so it is difficult for investors to understand the true value of the company before the transaction, and there is an “information problem” (Information Problem), and after the transaction, they face an “agency problem” (Agency Problem). These problems hinder the effective allocation of market resources, and voluntary information disclosure can effectively alleviate information problems and agency problems (Luo Wei & Zhu Chunyan 2010). Subsequently, many scholars found that non-financial information disclosure can affect corporate operating performance (Xue Shuang et al. 2010; Merkley 2014) and capital market performance (Dhaliwal et al. 2011). According to the efficient market hypothesis (Fama 1970), if non-financial information disclosure is related to stock prices, it contains valid information. In addition, some scholars use non-financial information to extract proxy variables such as financing constraints (Jiang Fuxiu 2017; Buehlmaier & Whited 2018) and management characteristics (Adams et al. 2018) to study its impact on the capital market. Therefore, although scholars are still discussing whether non-financial information disclosure affects the capital market, according to the shift in research focus from “whether it affects” to “how it affects” in recent years, it is not difficult to see that most scholars have a consensus that non-financial information disclosure will affect the capital market.

4. Non-financial information disclosure influences various critical functions of capital market intermediaries.

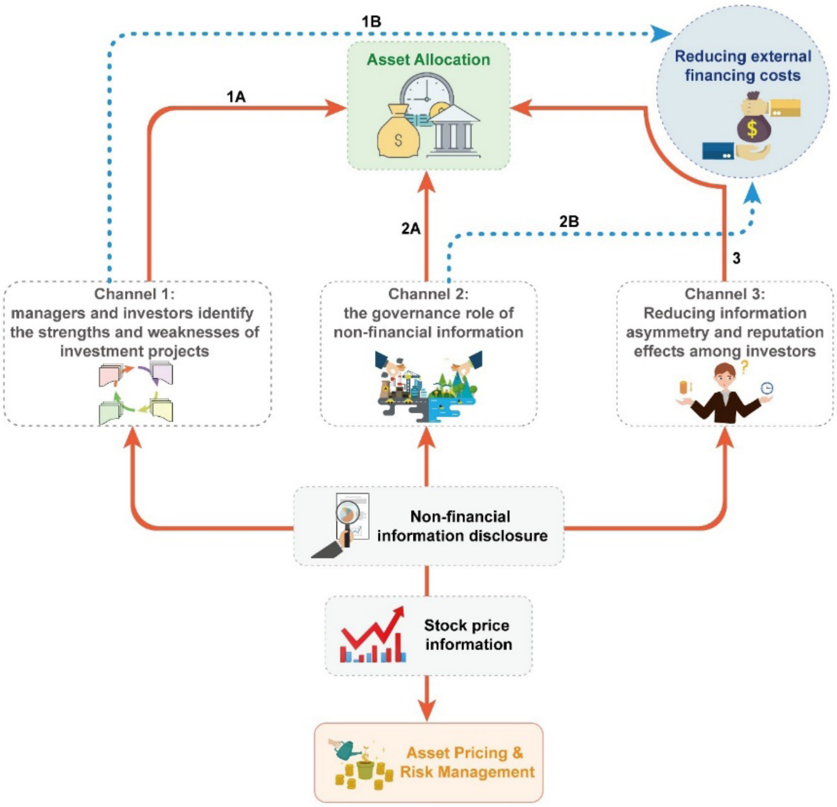
Nobel Prize winner in economics Robert Merton pointed out that the three pillars of finance are asset pricing, resource allocation and risk management. Drawing on this view, this article also sorts out which hub functions of the capital market are affected by non-financial information disclosure (Figure 2), i.e., economic consequences, from the following three aspects.

4.1 Impact on asset pricing

（1）Short-term market reaction

Non-financial information disclosure can not only affect stock trading volume (Miller 2010) and liquidity (Balakrishnan et al. 2014), but also affect stock prices. Loughran and Mcdonald (2014) found that the semantic ambiguity of annual reports is significantly related to excess returns around the annual report disclosure date. Yao Yi and Zhao Mei (2016) found that the more detailed the disclosure of risk factors in the prospectus, the lower the company’s IPO underpricing and the stronger its liquidity. Yi Zhigao et al. (2017) found that executives will take advantage of investors’ irrational psychology to conduct strategic media disclosures during the period of shareholding reduction, boosting stock prices in the short term to facilitate high-level shareholding reductions and achieve wealth transfer.

Figure2: The Impact of Non-financial Information Disclosure on Asset Pricing and Risk Management



（2）Long-term corporate value

Non-financial information disclosure can also affect the long-term value of a company (Hwang & Kim 2017). Besser and Miller (2001) research shows that the disclosure of corporate social responsibility reports is positively related to operating efficiency, and good corporate social responsibility performance can improve operating efficiency. Xu Longbing et al. (2018) found that some listed companies change their names to attract investors' attention, which increases abnormal trading volume in the short term, but does not affect long-term operating performance. Fu Chuanrui et al. (2020) found that intellectual capital information disclosure can significantly improve stock price synchrony by reducing information asymmetry.

4.2 Impact on resource allocation

（1）Investment efficiency

First, the information disclosure mechanism required by capital markets at all levels can affect the investment and financing decisions of enterprises. It mainly helps investors identify high-quality projects, helps management reduce external financing costs, facilitates investment in projects with longer cycles but higher returns, and expands the scale of investment (Myers & Majluf 2001; Wang Xuanyu & Chu Xiaoping 2002). Second, non-financial information disclosure can affect the efficiency of corporate investment. Management will disclose optimistic prospects to attract investors and reduce equity financing costs, which is more likely to lead to overinvestment; but on the other hand, non-financial information disclosure also has a supervisory function, prompting management to work harder to create value and avoid overinvestment (Cao Yayong et al. 2012). Chiu et al. (2019) even found that the more risk information disclosed in the annual report of a company, the higher the investment efficiency of its upstream suppliers, and the less underinvestment or overinvestment. In addition, non-financial information disclosure also has a reputation effect, which helps companies more easily obtain long-term bank loans (Tang Yuejun et al. 2008).

（2）Capital Operation

The impact of non-financial information disclosure on corporate capital operations is a unique phenomenon in the process of transformation of my country's capital market. A large number of cases show that listed companies or private equity institutions will conduct capital operations by controlling the content and rhythm of information disclosure. Zhang Xiaoyu and Xu Longbing (2017) found that major shareholders would use capital operation announcements to take advantage of investors' behavioral bias that they represent good news, send wrong signals, and cause stock prices to rise in the short term, and then sell off restricted shares at high levels to cash out. Wang Xiuli et al. (2020) found that when a company conducts capital operations through equity pledges, it tends to disclose more forward-looking information in the annual report text to beautify the prospects and stabilize stock prices to reduce equity pledge risks.

4.3 Impact on risk management

（1）Stock price fluctuations

Non-financial information disclosure can affect company stock price fluctuations. Bushee and Noe (2000) believe that information disclosure policy has a direct impact on stock price volatility and indirectly affects the company's stock price volatility through institutional investors as intermediaries. Kravet and Muslu (2013) empirically found that new risk information disclosure can significantly increase stock return volatility and stock trading volume; while Loughran and Mcdonald (2014) found that the frequency of phrases expressing uncertainty and weak modal verbs in annual reports is related to the following There is a significant positive correlation between stock return volatility in one period. These studies all show that semantic ambiguity in corporate information disclosure increases value uncertainty.

（2）Stock price crash

Non-financial information disclosure affects stock price crash risk. When listed companies have poor performance or significant negative news, the text of their financial reports may be lengthy, complex, and vague to reduce investor attention and conceal negative news, thereby causing stock price crashes in the future (Bloomfield 2008; Li 2008 ; Kothari et al. 2009). Kim et al. (2019) found that when the annual reports disclosed by listed companies are less readable, their future stock price crash risk will be significantly increased. When non-financial information disclosure plays a "communication" role, it can reduce the risk of collapse (Song Xianzhong et al. 2017; Cao Tingqiu & Zhang Guangli 2020), while when it plays a "concealing" role, it will increase the risk of collapse (Tian Lihui & Wang Kedi 2017) .

（3）Systemic Risk

Casey (2009) believes that the macroeconomic environment has an important impact on the quality of information disclosure by listed companies. When the macroeconomic environment is turbulent or during a financial crisis, investors hope that listed companies will disclose company information more comprehensively. Gao Yan et al. (2014) also pointed out through theoretical modeling that information disclosure is crucial in the process of financial crisis contagion, and information disclosure in stages will aggravate inter-market contagion. If information is disclosed in stages, the more information is disclosed in the early stage of its generation, the higher the degree of information relevance in the infected market at different times, and the more serious the contagion. Unfortunately, there is still a lack of sufficient research on the impact of non-financial information disclosure on systemic financial risks.

5. Non-financial information disclosure impacts the functions of capital market intermediaries

Although the impact mechanism of information disclosure on the capital market is very complex, it is mainly based on the market transaction mechanism and price mechanism, affecting the capital market and the real economy by affecting the behavioral decisions of information recipients. Therefore, when sorting out the impact mechanism of non-financial information disclosure, this article mainly examines it from the perspective of information recipients such as investors, analysts, and news media.

Non-financial information will affect investors' perception of information, thereby affecting investors' decision-making. Therefore, non-financial information will have a significant impact on investors' trading behavior, whether in terms of content or form. First, non-financial information disclosure can improve the information environment of the capital market. For example, companies increasing risk information disclosure can enhance investors' perception of risks (Yu Li Sheng & Wang Yanyan 2010; Kravet & Muslu 2013; Wang Yanyan et al. 2014; Hope et al. 2016). Secondly, Bushee and Noe (2000) found that different types of institutional investors will give different feedback to the company's information disclosure, and an increase in information disclosure will attract more institutional investors to invest. Loughran and Mcdonald (2014) and Davis et al. (2015) proposed from the perspectives of information readability and management tone respectively that non-financial information not only provides investors with useful information, but also affects their understanding of the information. In addition, Tan et al. (2014) based on experimental research methods proved that certain characteristics of non-financial information will create some "reliable" psychological implications for investors and affect the judgment of small and medium-sized investors.

Although analysts have stronger information analysis and processing capabilities than ordinary investors, existing research has found that company information disclosure still affects analysts' behavior, including affecting analysts' attention, accuracy of forecasts, and differences of opinion (Qiu Xinying et al. 2016). Dhaliwal et al. (2012) found that companies that disclose social responsibility reports for the first time and perform well will attract more attention from institutional investors and analysts, and increase the accuracy of analysts' forecasts. Merkley (2014) also found that non-financial information disclosure leads to more analyst tracking, more accurate earnings forecasts and less forecast disagreement. Allee and Deangelis (2015) studied a sample of conference call records and found that analysts will actively participate in conference calls and question management's speeches, thereby being able to make forecasts faster and more accurately. If the dispersion of positive modal particles in management reports is large, analysts will use more positive modal particles in the question and answer session, and the market will respond more positively, and vice versa (Lin Le & Xie Deren 2017). In addition, Boone and White (2015) also found that a high institutional shareholding ratio can promote management information disclosure, increase analyst coverage, improve stock liquidity, and ultimately reduce information asymmetry.

Compared with analysts, news media have a wider audience and the information they convey is easier to spread among investors. Therefore, the media catalyzes the market's reaction to corporate information disclosure. A large number of studies have shown that the communication role of news media contributes to "price discovery" in the capital market. First, news media can use plain language to help the market interpret the original information released by companies (Stice 1991), and news in emerging markets contains more incremental information (Calomiris & Mamaysky 2019). Secondly, news media can provide professional industry and trend analysis, and these supplementary contents will also affect investors' decision-making (Fang & Peress 2009; Bushee et al. 2010; Engelberg & Parsons 2011; Blankespoor et al. 2018). Thirdly, the news media can monitor the company's non-financial information disclosure and is usually more objective and impartial than company executives or analysts. They tend to focus on "eyeball" events in non-financial information disclosure (Kothari et al. 2009). However, the relationship between the company and the media Business relationships will also affect its independence and reduce the quality of reporting (Xue Jian & Ru Yi 2020). Finally, recent research has also confirmed that the capital market's response to corporate information disclosure is significantly affected by financial news releases (Guest 2021), but the information intermediary role of China's capital market media is controversial (Fang Junxiong 2014).

6. Regulating Non-Financial Information Disclosure

Information disclosure can convey corporate value signals, reduce capital costs, improve investment efficiency, and thus increase corporate value. However, corporate non-financial information disclosure is a "double-edged sword". On the one hand, in a market with a sound rule of law, if the non-financial information disclosure of an enterprise is true, it will convey the company's values and morals to the market. This is conducive to long-term stock price stability, but the public good attribute of non-financial information will lead to the "free-rider" phenomenon, that is, insufficient information production. On the other hand, if there are deficiencies in the design and implementation of the information disclosure system, information disclosure may also be used or even abused by management with ulterior motives, resulting in excessive information production. Both excessive and insufficient information production will make it impossible for the production of non-financial information to achieve the Pareto optimality of social welfare, and the capital market will not be able to play a hub function. To solve these problems, the government needs to carry out necessary supervision on the disclosure of non-financial information, such as formulating relevant guidelines. However, in practice, non-financial information is more of an equilibrium result of the game between all parties. This article mainly sorts out the academic research on the supervision of non-financial information disclosure from the perspective of governance incentives and supervision mechanisms.

6.1 Governance Incentives

First, non-financial information disclosure itself has a certain governance function, which can inhibit the motivation of management to excessively pursue enterprise scale and damage the company's value. Hui and Matsunaga (2015) found that changes in disclosure quality are positively related to changes in management bonuses, and the relationship is more significant when there is high growth, better governance structures, and lower executive shareholding ratios. This proves that the board of directors indeed regards effective communication with investors as an important responsibility of management and incorporates disclosure quality as an assessment indicator into contractual incentives to resolve the moral hazard associated with voluntary disclosure. In addition, public pressure, social reputation, and internal governance all have a certain impact on non-financial information disclosure.

6.2 Supervision Mechanism

In terms of the design of the regulatory system for information disclosure, existing studies have shown that China has made great progress since the establishment of the securities market (Allen et al. 2005; Xu Nianxing & Wu Shinong 2006), and the regulatory system for the capital market has even surpassed that of Western countries and regions. What is lacking is the implementation of supervision. Regarding some sub-sectors, Wang Xiongyuan and Gao Xi (2018) believe that the risk disclosure in my country's annual reports is more of an explanation and description of known risks in the market, rather than a reminder of unknown risk factors. Although my country's risk disclosure standards are beneficial to investor protection to a certain extent, there is still insufficient disclosure of substantial and idiosyncratic risks, and my country's risk disclosure regulations and regulatory focus need to be further improved and strengthened.

The implementation of the regulatory system for information disclosure has a strong externality on the capital market (Brown et al. 2018). Some scholars believe that the repeated occurrence of non-financial information disclosure violations in the Chinese securities market is mainly due to loopholes in the government's information disclosure supervision and enforcement. Li Zhe (2018) believes that in a relaxed regulatory environment, non-financial information disclosure will weaken the role conflict between regulators and regulated entities through visual communication, thought induction, and even evasion, so that regulators can relax their vigilance, and may even be a tool for management to gain the trust of regulators at a low cost (Hobson et al. 2012; Liu Chunlin & Zhang Ning 2012). There are also many scholars who explore the issue of non-financial information disclosure supervision from other perspectives, such as the role of shareholder lawsuits in supervising the performance of management duties and the enforcement of securities laws (Bourveau et al. 2018) and the impact of regulatory inquiry letters from exchanges on corporate operations, mergers and acquisitions, and stock markets (Chen Yunsen et al. 2018; Li Xiaoxi et al. 2019; Hu Ning et al. 2020).

In summary, the existing literature believes that in a sound legal system and strict law enforcement environment, management behavior can be effectively constrained, so that non-financial information disclosure can have a positive impact on the company and ultimately promote the development of the capital market and even the economy (La Porta et al. 2000; La Porta et al. 2008).

7. Research Prospects

This paper first summarizes the definition and classification of non-financial information, and sorts out its disclosure motivation from the perspective of information producers. Secondly, it summarizes the relevant research on whether non-financial information disclosure affects the hub function of the capital market, and then sorts out the economic consequences of non-financial information disclosure based on asset pricing, resource allocation and risk management, and sorts out its impact mechanism from the perspective of information dissemination and receivers. Finally, it sorts out the regulatory research on non-financial information disclosure from the perspective of incentive mechanism and supervision mechanism. The research prospects of the impact of non-financial information disclosure on the hub function of the capital market are as follows:

First, regarding the motivation of non-financial information disclosure, existing studies mainly provide explanations from the dimensions of non-financial information disclosure can transmit value signals, reduce transaction costs, and increase proprietary costs. However, a large amount of non-financial information cannot transmit fundamental information, nor will it generate value or direct losses to the company itself. It is more likely to be ignored by academic research, but will be used by management with ulterior motives in the transition economy to seek personal gain, thereby seriously undermining the hub function of the capital market. Therefore, it is necessary to examine the motivation of non-financial information disclosure from the perspective of transmitting behavioral signals, management information disclosure speculation and the rule of law environment.

Second, there is controversy in existing research on whether non-financial information disclosure affects the hub function of the capital market. One view is that non-financial information disclosure cannot provide valuable information, so it will not have a substantial impact on the capital market and the real economy; another view is that non-financial information disclosure can provide incremental information, alleviate information asymmetry and agency problems, and thus affect the hub function of the capital market. This paper believes that the key to answering the above questions lies in clearly defining the main content, quantitative methods and dissemination channels of non-financial information, as well as the difference from traditional financial information, that is, examining the connotation characteristics of non-financial information disclosure from these perspectives.

Third, regarding which hub functions of the capital market are affected by non-financial information disclosure, existing studies have mainly examined the impact of non-financial information disclosure on short-term stock price trends, stock price volatility and capital costs, mostly staying at the micro-individual stock level, ignoring the disruptive impact of the information technology revolution and the impact of the development trend of non-financial information disclosure on the degree of capital market mispricing, capital operation, stock market barometer function, economic industrial structure and systemic financial risks. To this end, future researchers need to conduct in-depth and systematic research on the economic consequences of non-financial information disclosure from these aspects.

Fourth, regarding how non-financial information disclosure affects the hub function of the capital market, existing studies have mainly examined the impact of non-financial information disclosure on market information intermediaries such as rational investors, analysts and news media. Based on these perspectives, funds and information are still limited to the capital market, and they are not linked to the real economy, thus seriously underestimating the impact of non-financial information disclosure on the hub function of the capital market. In the real world, behavioral (noise) traders, smart (informed) traders, and even behavioral decisions and deviations of machines and financial intermediaries may multiply the impact of non-financial information disclosure on resource allocation and the real economy. For this reason, examining the impact mechanism of non-financial information disclosure from these aspects is an urgent problem to be solved in the academic and practical circles.

Fifth, regarding the supervision of non-financial information disclosure, most of the existing studies are based on the experience of mature Western markets and are examined from the perspective of incentives and supervision. However, combined with the actual situation of my country's capital market and the national strategy of implementing the registration system reform internally and accelerating opening up externally, from the perspective of investors, the research progress on exploring the continuous supervision system with non-financial information disclosure as the core is slightly slow.

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