Development Economics of China
2024, VOL. 8, NO. 2, 111-120
DOI: 10.47297/wspdecWSP2515-797315.20240802

Research on the motivation and economic consequences of the new third Board enterprises-- Taking Tianyuan Environmental Protection as an example

Qian Liu

School of Management, Xi 'an Polytechnic University, Xi'an, Shaanxi, 710600, China

ABSTRACT
Strengthening the construction of ecological civilization and promoting green and low-carbon development were mentioned several times in the government work report and important speeches of leaders. The rapid development of environmental protection enterprises is closely related to our lives. This paper studies the financial performance of Tianyuan Environmental Protection before and after the board transfer, compares its differences before and after the board transfer, analyzes and reveals the causes and consequences of the board transfer behavior, and then brings certain reference and reference for the NEEQ companies that plan to seek better development.

KEYWORDS
Tianyuan environmental protection; New Third Board; Rotating plate

The New Third Board market provides a financing service platform for many small and medium-sized, innovative and entrepreneurial enterprises, alleviating their liquidity needs, and is of great significance to the development of China's capital market. As can be seen from the figure, since 2017, the expansion of the New Third Board has encountered a bottleneck, the total number of listings no longer increases, and its poor liquidity makes many enterprises choose to actively delisting or switching to the board. After 2016-20183, in 2019 alone, the number of enterprises delisting from the New Third Board has reached 1,738. As of the end of April 2024, there are only 6, 139 listed enterprises (including 4,207 in the basic layer and 1,932 in the innovation layer).

Table 1 from the National SME Share Transfer system market Statistics Bulletin

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Number of listed companies	6241	6580	6932	8187	8953	10691	11630	10163	5129	1572	356

The Growth Enterprise Market was established in 2019. With its clearer market positioning, lower investor entry threshold and other advantages, it has attracted the attention of many high-quality enterprises on the New Third Board, and has become the first choice for listing on the board.

On July 22 of the same year, the science and Technology board opened the board. Two years later, in December 2021, Tianyuan Environmental protection listed on the GEM. For this reason, this paper explores the motivation of Tianyuan Environmental Protection to change the board and compares the difference in its financial performance before and after the change, in order to reveal the causes and consequences of the change behavior, and then bring certain reference and reference for the companies that plan to seek better development in the New third Board.

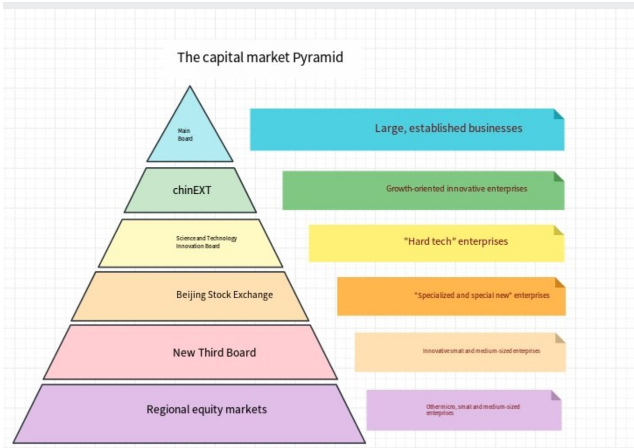


Figure 1 China's capital market

1 Literature Review

Scholars at home and abroad focus on the motivation, mechanism and effect of enterprise redirection.

1.1 The motivation of turning the board

Wu Xiubo (2008) found that the GEM has become the "chicken rib" of the Stock Exchange, unable to provide a way out for venture capital withdrawal. It is urgent to provide a way out for venture capital through reform, so as to develop the GEM, enhance the financing function and pave the way for institutional investors. [1] Li Jintian, Zheng Jianming and Wang Yibin (2019) used PSM-DID to test the impact of market-making transfer agreements on stock liquidity by selecting the data of listed companies on the New Third Board from 2016 to 2017. The study found that the NEEQ companies withdrew from the market making transfer not only because of their own insufficient conditions and the limitations of the market maker system, but also because they were willing to do so for better market transactions. [2] Feng Yanni and Shen Peilong (2020) found that the NEEQ can provide listed companies with higher quality and play the role of multi-level capital market as a link between the previous and the next; At the same time, small and medium-sized enterprises and private enterprises can be cultivated to make up for the shortcomings of the capital market. Building a multi-level capital market is an important feature. Promote the development of the Shanghai and Shenzhen stock exchanges and the entire capital market system, and realize an interconnected system of capital markets. [3]

1.2 Rotating board mechanism

Zhang Yan (2009) found clear positioning, clear hierarchy of OTC market and their respective service objects, promote the institutional design of the OTC market with perfect functions, and establish a standardized, orderly, fair and transparent OTC trading venue. [4] Zhang Lingsong and Xia Xuebing (2009), by comparing the listing conditions of the United States and Germany, found that the GEM market could be developed from five aspects: appropriately tightening listing conditions, appropriately simplifying listing review procedures, establishing the transfer mechanism between markets at different levels, perfecting the exit mechanism and developing the GEM market with strict supervision system. [5] Zhang Yan (2010) To solve the issue, circulation and trading of non-listed public companies, the core is to establish a standardized, orderly, fair and transparent OTC trading venue, and on this basis, establish a new OTC trading venue or complete the docking with the exchange market. [6] Hechuan (2011) gradually introduced the New Third Board transfer system. The flexible transfer mechanism can increase the listing power of the third board market for high-tech enterprises, so that OTC transactions can play the role of incubating and cultivating high-quality enterprises on the main board. [7] Liu Guosheng (2011) took two decades of capital market legislation as the path, proposed to build a benign interaction of the capital market "transfer board" mechanism, "play the role of the New Third Board -- listed companies as" training ground "and" reservoir "to further improve China's multi-level capital market system. [8]

1.3 Turning board effect

LiuJianhua (2006) found that the capital market provides a financing platform and conditions for enterprises, and the capital market requires listed companies to perform well. [9] Xu Yanfang and Ni Yan (2007) A better financing platform can force enterprises to enhance their financing ability. [10] He Jun, Han Wenyan and Bi Gongbing (2021) The increase in the proportion of equity financing can promote enterprises to increase investment in technological innovation, so as to promote the mutual promotion between the real economy and the financial system and enter a positive cycle. [11] Zuo Yuehua, LiuMeng andLiuXiaojun (2022) took the New Third Board high-tech enterprises as samples, adopted PSM-DID method for empirical test, and took the financing constraints faced by enterprises in the process of development as the entry point, and found that :(1) the successful transition of new Third Board high-tech enterprises into the internal market can effectively promote enterprise innovation; (2) the new Third Board can relax the financing constraints of enterprises, thus promoting enterprise innovation. [12] Based on heterogeneity analysis, Xue Haiyan, Zhang Xindong and He Yanan (2022) found that the innovation investment and innovation output of enterprises with stronger competitive ability increased significantly after switching to the board. [13]

2 Case study

2.1 Company profile

Wuhan Tianyuan Environmental Protection Co., LTD. (hereinafter referred to as Tianyuan Environmental Protection Co., LTD.), a national high-tech enterprise, is engaged in water environment management, solid waste disposal and resource utilization, green energy, etc. It is a national specialized and special "little giant" enterprise, Hubei Enterprise Technology Center unit, Hubei Province manufacturing individual champion enterprise, Wuhan Science and Technology Small Giant Enterprise, Wuhan expert science and technology innovation workstation unit, won the third prize of Hubei Province Science and Technology Progress Award, and has 111 independent innovation and development patents; The joint research Center of key technology development was established with Huazhong University of Science and Technology, and the Master and Bo workstation was jointly established with Wuhan University of Science and Technology.

2.2 Turning board event

Tianyuan Environmental Protection (stock code: 301127) was officially listed on the New Third Board in 2014, and on January 14, 2015, the company was listed and transferred on the New Third Board. The listing was terminated on April 27, 2018. On July 22, 2021, Tianyuan Environmental Declaration was listed on the GEM, and it was successfully listed on September 2, 2021. It was successfully listed on the GEM on December 30 of the same year.

Tianyuan Environmental Protection issued 10, 2.5 million shares, including 10, 2.5 million new shares at the issue price of 12.03 yuan/share. The new shares raised 1,233 million yuan, and the total share capital after issuance was 40, 995, 800 shares. Tianyuan Environmental Protection is mainly engaged in garbage leachate and high-difficulty waste water treatment comprehensive services.

The total fund raised by Tianyuan amounted to 123, 070, 500 yuan. After deducting the underwriting and sponsorship fees, issuance registration fees and other transaction fees totaling 10, 5.182 million yuan, the net fund raised was 112, 789.30 million yuan. It mainly invested in five projects of the company, including: 1. Tianbai Sewage Treatment Plant (Phase III) construction project in Cuiping District of Yibin City. 2. Environmental protection equipment intelligent manufacturing production line upgrade project. 3. R&d center upgrading and reconstruction project. 4. Marketing center and marketing network construction project. 5. Replenishing working capital, committed investment project subtotal 62,543,700 yuan. The remaining funds will be used for 1. Concession project of sewage treatment plant and supporting pipe network project in Tianjing Area of Dali Economic and Technological Development Zone 2. Linfen City Longci water source water purification plant renovation and expansion project PPP project.

2.3 Driving force

From the existing information, the possible motivations of Tianyuan Environmental Protection to choose to switch to the GEM include:

Improve financing ability. With more and more problems exposed on the New Third Board, the financing capacity of the whole board has gradually declined. Figure 3 shows that the financing amount of the New Third Board market increased rapidly from 2014 to 2015, and also maintained a good level in the three years from 2015 to 2017, both due to the increase in the number of listed enterprises on the New Third Board in recent years. However, after 2017, the number of enterprises delisted from the New Third Board continues to increase and a boom of transferring to the New Third board broke out, and their financing ability also dropped off a cliff. In 2023, the annual financing amount of the New Third Board is only 18.019 billion yuan. The declining financing ability of the New Third Board forces enterprises with higher financing needs to migrate to a higher level of capital market.

As for the determination of financing ability, some scholars have found that under certain circumstances, when the enterprise interest guarantee multiple increases, the external financing cost decreases. Later, many scholars began to use this index to determine the financing ability. From

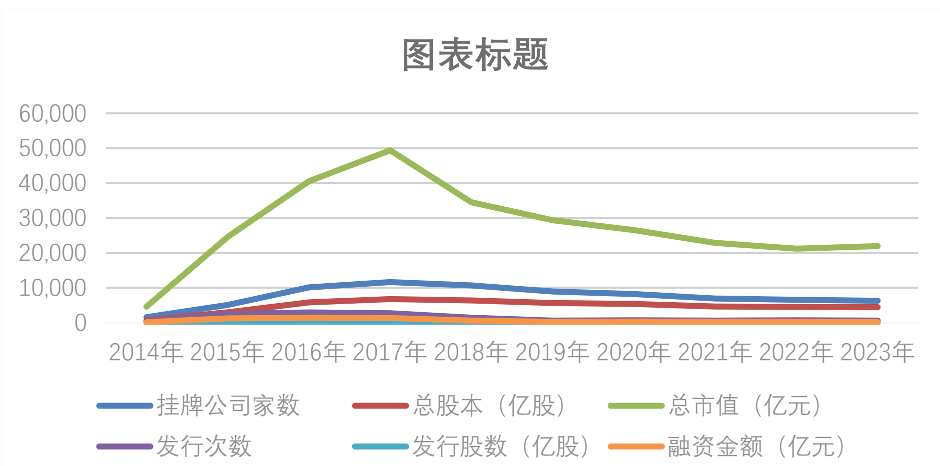


Figure 2 Transfer from the national SME share transfer system market statistics bulletin

2020 to 2023, the interest protection multiple of Tianyuan Environmental Protection will be 13.20, 12.65, 26.88 and 7.85, respectively. The company's profit situation can better cover the interest expense, and the interest payment ability is strong. At the end of 2022, the company added special loans for large projects, resulting in relatively high interest expense in the current period. Increase stock liquidity. The daily turnover and turnover of a stock is an important manifestation of stock liquidity. Research shows that the NEEQ has poor liquidity and its liquidity is also very unstable compared with other domestic boards. Figure 2 shows that the liquidity of Tianyuan Environmental Protection stock in the New Third Board is very poor, the trading is very inactive, and the turnover and turnover are bleak, which greatly affects its development.

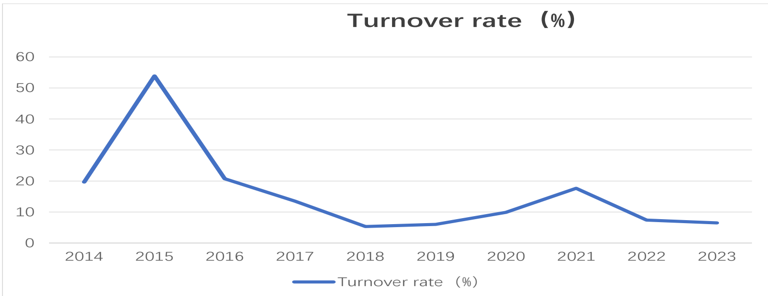


Figure 3 New third board stock trading situation

Figure 3 shows that during the period of listing on the New Third Board, there were almost no large transactions in the company's stock trading. However, after the board change, relying on the stronger liquidity of GEM, the turnover and turnover of the company's shares increased rapidly. On the first day after listing on GEM, the turnover reached 691,000 lots, with a turnover of 1.483 billion yuan, and the turnover rate was 71.79%. Within five trading days after listing, the number of stock transactions also remained at more than 300,000 lots, and the number of stock transactions also increased. The stock liquidity of the company was indeed greatly improved by switching to the board listing (see Table 2). The stock turnover rate is also an important indicator to measure the stock liquidity. Figure 4 shows that the turnover rate of Tianyuan Environmental Protection has been kept at an extremely low state during the period of listing on the New Third Board.

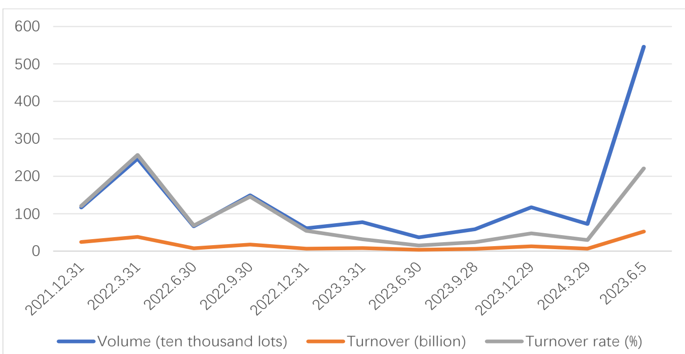


Table 2 is summarized according to Baidu Stock Market Monthly K

After turning the board, the turnover rate has greatly increased. As for the gradual decline in the turnover rate within half a year after listing, it is because the heat of listing on the board gradually subsided, and the stock turnover rate tended to be stable, but compared with before the board, it was still significantly improved. In summary, whether it is turnover, turnover or turnover rate, the company's stock liquidity has been significantly improved, and the pursuit of liquidity may be another motivation for Tianyuan environmental protection to switch to the board.

Enhance market attention. There is a huge base of individual investors in China's capital market, so this paper reflects market attention from both individual investors and institutional investors. Generally, individual investors will collect corporate information through common search engines in the market, and Baidu Index is one of the most important data statistical analysis platforms on the domestic Internet at present, which can more representative reflect the search popularity of keywords in the whole network. Therefore, this paper uses the index value of Baidu index to depict the attention of individual investors; The information of institutional investors mainly comes from analyst reports, so the number of securities analyst reports is used to represent institutional investors' attention. (1) Attention of individual investors. Before the listing of Tianyuan Environmental Protection, the attention of the whole network is very low, and there is almost no search heat before the listing of GEM from 2014 to 2021, indicating that the attention of individual investors is very low during the listing of the new Third Board. After 2021, the company's search popularity began to increase, and reached a peak on the day of the board change. After the "reboard boom", its search popularity began to decline and fluctuated, but its attention was still higher than that of the years before the reboard. It can be seen that the board has indeed improved the company's individual investor attention. (2) Institutional investor attention. Before turning to the board, many parties looked for research on Tianyuan environmental protection institutions in the market, and there was no data, indicating that the degree of market concern was not high, and institutional investors did not have much enthusiasm for investing in Tianyuan environmental protection. After the board transfer, the institutional research on the company increased significantly, with a jump to 48 batches in 2023, which shows that the market is optimistic about Tianyuan environmental protection behavior. To sum up, improving the level of market attention may be another motivation for Tianyuan environmental protection to turn the board.

3 This paper considers the performance of Tianyuan Environmental Protection from the financial aspect.

3.1 Profitability

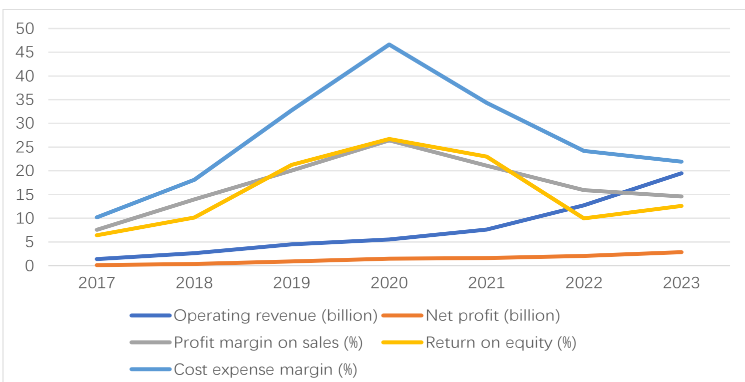
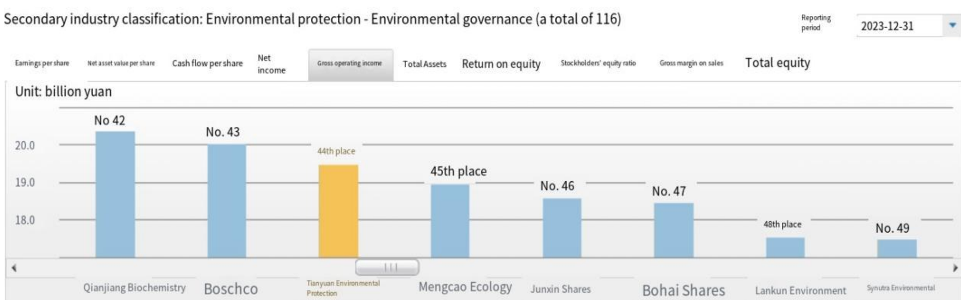
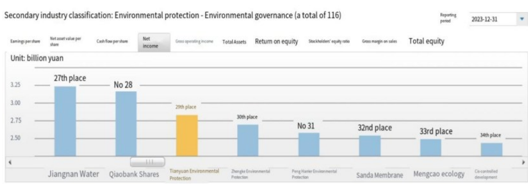


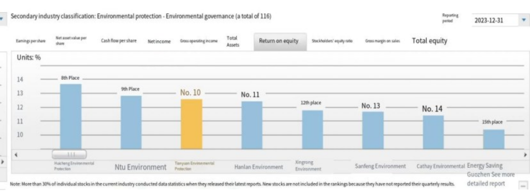
Table 3 from Choice Financial Terminal and Sina Finance.

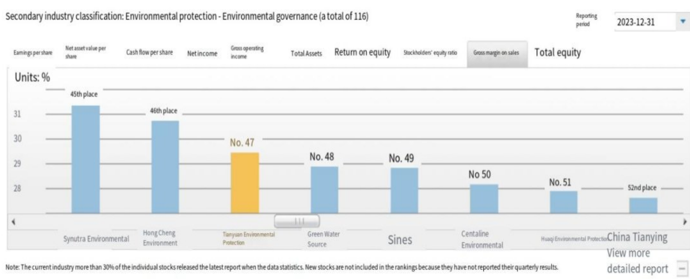
Redirected from Flush Environmental Month K

In this paper, we use operating income, net profit, sales profit rate, return on equity and cost expense profit rate to measure the profitability of Tianyuan environmental protection. Table 3 shows that these five indicators have improved from 2017 to 2023, among which, operating income and



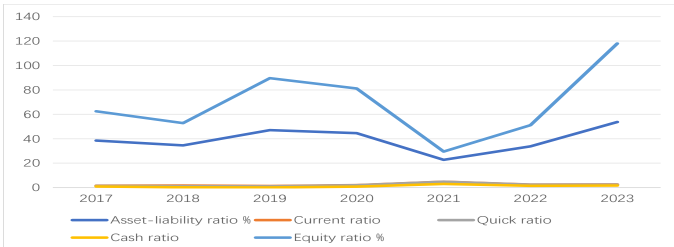






net profit have maintained steady growth from 2017 to 2023, and sales profit rate has also remained stable from 2017 to 2020. After the board change in 2021, the sales profit margin exceeded 20% for the first time, which shows that the board change has improved the sales profit margin level of Tianyuan Environmental Protection. From the perspective of return on equity, the return on equity in the year of the board change was slightly lower than that of the previous year, which was caused by the dilution of a large number of shares listed for the first time. Vertically, its return on equity remained in a stable range. From 2017 to 2021, the profit rate of cost and expense increased year by year, and the cost operation efficiency became better and better. After the board change, it decreased year by year, but it improved compared with 2017 and 2018. Compared with the data of other enterprises in the industry affected by the novel coronavirus epidemic since 2020, it shows that the profit rate of cost and expense of enterprises has improved under certain circumstances after the board change. To sum up, the profitability of Tianyuan Environmental Protection has been improved after the board transfer.

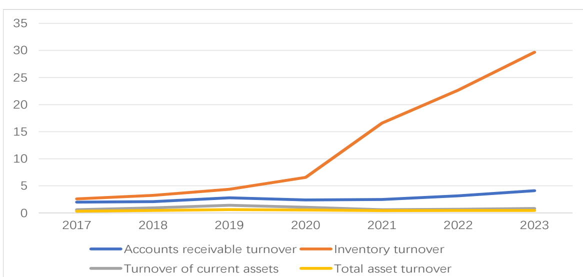
3.2 Solvency



Redirected from EastMoneynet

Its solvency can be seen by observing five indicators: Tianyuan Environmental protection asset-liability ratio, current ratio, quick ratio, cash ratio and property rights ratio. The company's current ratio, quick ratio and cash ratio have been greatly improved in the year of the board change in 2021, which is mainly due to the fact that Tianyuan Environmental Protection has invested part of the raised funds into the working capital. The large amount of working capital significantly improved Tianyuan Environmental Protection's short-term debt repayment ability. In the long run, the asset-liability ratio of Tianyuan Environmental Protection has maintained a high level before the board transfer, but dropped significantly in the year of the board transfer, indicating that the large amount of financing brought to Tianyuan Environmental Protection has effectively improved the structure of assets and liabilities. Affected by the new coronavirus epidemic, the data in 2022 declined, but most of the data were better than that in 2019 before the board transfer. In addition, the company's equity ratio reached 118% in 2023, indicating that the proportion of enterprises' own capital has been increasing after the board change, improving the long-term debt repayment ability. To sum up, the board transfer has greatly improved the company's long-term and short-term solvency.

3.3 Operation capacity



Redirected from Flush, EastMoney.com

The higher the turnover efficiency of the general enterprise, the stronger the capital allocation and processing capacity of the enterprise will be, thus improving the ability of the enterprise to create income and make profits. Accounts receivable turnover rate reflects an important indicator of the efficiency of enterprise accounts receivable management. The higher the turnover rate of accounts receivable, the higher the collection efficiency, and the significantly improved after the board transfer.

Inventory turnover reflects whether the liquidity of inventory and the amount of inventory funds occupied are reasonable, and Tianyuan Environmental Protection shows an upward trend from 2017 to 2023. The inventory management level is high.

The turnover rate of current assets reflects the turnover speed of the enterprise's current assets. The reason for the decline in the year before the board change was that the non-current assets were significantly heavier than the contract, increasing by 191.5% over the previous year, and then maintaining the growth trend in 2022 and 2023.

Total assets turnover reflects the ability of total assets to support sales revenue in a certain period of time. The turnover rate decreased slightly in the year compared with the previous year. The main income of Tianyuan Environmental Protection comes from the research and development, manufacturing and integration of environmental protection equipment, environmental protection engineering construction and environmental protection project operation services.

The R & D, manufacturing and integration of environmental protection equipment shall be confirmed after obtaining the acceptance report of Party A; The revenue of the construction of environmental protection projects shall be confirmed within a period of time according to the performance progress; Environmental protection project operation services monthly according to the completed leachate and high-difficulty waste water actual treatment volume or the agreement agreed minimum amount to confirm the environmental protection project operation service income. It can be seen from the table that there are certain fluctuations in 2017-2023, but the overall stability.

	Total market value	Net worth	Net profit	Price-to-earnings ratio (move)	Price/book ratio	Gross margin	Net profit margin	ROE
Tianyuan Environmental Protection	4.908 billion	2.627 billion	26.63 million	46.07	2.06	32.72%	11.13%	1.03%
Environmental protection industry (Industry average)	4.115 billion	3.429 billion	39.03 million	12.39	1.860	26.69%	- 175.34%	0.60%
Industry rankings	26| 123	47 123	48 | 123	64 123	95 | 123	39 | 123	37 | 123	52 | 123
Quartile properties	high	Taller	Higher	Lower	low	Higher	Higher	Higher

From Eastern Wealth

4 Conclusions and Suggestions

This paper takes Tianyuan environmental protection enterprise as an example, deeply excavates the motivation of board change, and discusses the change of performance before and after board change from the financial aspect. The research finds that: the board change has improved the company's profitability and solvency, while the total asset turnover and current asset turnover, which measure the operating capacity, have a small change range, which requires the company to pay attention to the cultivation of operating capacity in the future development. In addition, the stock liquidity, market attention, valuation, market value and innovation ability were improved, and financing ability was improved.

About the Author

Qian Liu (1990.7-), female, Han nationality, born in Xi 'an, Shaanxi Province, postgraduate student. Her research direction: Motivation of New Third Board enterprises to change board

References

[1] Wu Xiubo, Hong Kong GEM on the road to reform [J]. International Financing,2008(7):58-61.

[2] Li Jintian 1 Zheng Jianming 1 Wang Yibin 2 New Third Board enterprises exit Market making transfer: "Feeling must

have already" or "Willing" [J] Securities Market Guide,2019(1):11-19

[3] Feng Yanni, Shen Peilong. Research on multi-level capital market system in China [J]. Economic Issues 2020(10) : 46-52.

[4] Zhang Yan Analysis on the development mode of OTC securities market in China [J]. Technical Economics and Management Research,2009(5):98-101

[5] Zhang Lingsong Xia Xue-bing American and German GEM Markets and its Enlightenment to China [J]. Modern Management Science 2009(9):115-116.

[6] Zhang Yan Tries to discuss the function loss and System Design of China's OTC Securities Market [J]. Technical Economics and Management Research,2010(3):115-119.

[7] Hechuan introduced the New Third Board Transfer System step by step [J]. China Finance,2011(12):73-74.

[8] Liu Guosheng: A Probe into the Mechanism of "turning the Board" under the Structure of China's Capital Market [J]. Reform and Strategy,2011(9):36-40.

[9] Liu Jianhua: The Enlightenment of Private Enterprises in the United States to turn to the Board [J]. China Investment, 2006(03):106-107.

[10] Xu Yanfang Ni Yan SPAC: Chinese enterprises have strong financing ability in new ways of overseas listing [J]. Finance and Accounting,2007(12):64-65.

[11] He Jun, Han Wenyan, Bi Gongbing. Nonlinear effects of direct financing structure on economic growth [J]. China Management Science, 2021(7) : 5-17.]

[12] Zuo Yuehua, Liu Meng, Liu Xiaojun: The Impact of board change on Innovation of high-tech enterprises: from the perspective of financing constraints [J]. Financial Forum,2022(2):38-47.]

[13] Xue Haiyan 1, Zhang Xindong2, He Yanan Can board turning promote innovation in smes? -- New evidence from the New Third Board enterprises [J]. Financial Forum,2022(2):123-139