The Impact of ESG Performance on Company Valuation: A Case Study Based on Industrial Bank

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Abstract. Contemporarily, ESG has become a hot topic, where more and more investors are aware of the importance of ESG and pay more attention to a company's performance in ESG when making investment decisions. As a result, companies are paying attention to improving their ESG performance, and many researches have shown that there is a relationship between ESG ratings of companies and the valuation of companies. This paper selects Industry Bank as a case study based on the results of MSCI's ESG rating as a measure of ESG performance. In addition, data from the company's annual report as well as investing.com and bloomberg.com is obtained to calculate various aspects of the company's indicators. In terms of the data, this paper analyzes and compares changes in Industry Bank's corporate value and performance before and after the change in ESG rating in 2019. This paper explores the relationship between ESG ratings and company valuation through specific case study, remedying the shortcomings of related studies that only stay at the theoretical level. Besides, these results explore the practical significance of ESG ratings which shed light on further study.

Keywords: ESG, ESG Rating, Enterprise Value, Corporate Performance.

1. Introduction

ESG, which is an acronym for Environment, Social and Governance, stands for the idea that corporations should take more obligations in both society and nature rather than just generating profits [1]. It also provides a new perspective for investors and the general public in the evaluation of the companies, which makes it an important element of an investor relations management system [2]. With the rapid development of the ESG concept in the past decade, the significance of ESG has been widely popularized, as the result of which the legislators and regulators are increasingly concerned about ESG-related disclosures. The European Union required large corporations with more than 500 employees to disclose ESG information in 2014; the Hong Kong Stock Exchange recommended all listed companies to disclose ESG information in 2012 and made it mandatory for each company to provide a board statement emphasizing environmental, social and governance considerations in 1st July 2020; the CSRC stipulated that listed companies have responsibility to disclose ESG information in 2018. Total ESG investment has grown exponentially in recent years. According to the GSIA, the total global sustainable investment has reached $35.3 trillion by 2020, a 15% increase over the 2018's statistics. Sustainable investment already accounts for more than a third of all investments within the scope of the statistics, at 35.9%, an increase of 33.4% from 2018. Compared to the higher percentages in other countries, China's share of sustainable investment assets is only 2%, well below the level of leading global capital markets. However, with the awakening of the concept of sustainable development and ESG, and since that ESG investment has become mainstream in international markets, the construction of ESG evaluation systems is accelerating in China, and the proportion of sustainable investment assets is increasing year on year.

ESG therefore is becoming increasingly important to companies, and companies in all industries are paying more attention to ESG ratings and related research. As a result, there has been a growing number of relevant studies on ESG and its impact on company performance in recent years. In the area of company valuation, the valuation system of enterprises has been established for a long time. Fisher published the capital value theory and interest theory in the early 20th century, which laid the foundation of company valuation research [3]. Then, Gorden proposed the dividend growth model, which calculates the present value of future dividends received by shareholders on the basis of assumptions about dividend indicators, thereby obtaining the intrinsic value of shares [4]. Rappaport proposed that the value of a firm can be measured by the sum of its future cash flows provided that the firm is a going concern [5]. Keller suggests that a more objective and accurate enterprise value can be obtained by choosing various enterprise valuation methods according to the characteristics of the industry. Based on the classical capital valuation system, scholars around the world have conducted more in-depth and diverse studies on the revision of enterprise valuation models. Valuation models such as discounted cash flow model, residual value return model, Eva model and real option model have been proposed. Zhang and Zhao argue that improved corporate ESG ratings can drive up firm value and that ESG performance has a more significant impact on the valuation aspects of non-polluting firms compared to heavily polluting industries [6]. Yin and Qiu argue that improved ESG performance can reduce corporate financing costs [7], which have a positive impact on corporate valuation. Corporate financing costs are more influenced by E and G. He, on the other hand, argues that corporate valuation is always positively influenced by ESG ratings and that good ESG performance contributes to corporate value regardless of the stage of corporate development [8]. This effect is strongest in the maturity period and weakest in the growth period of the firm. Wang, Chen, and He argue through regression empirical analysis that being selected for ESG rating can effectively improve firm valuation [9]. In fact, there is a positive relationship between ESG performance and firm valuation, while there is a decreasing effect of this relationship over time. Furthermore, ESG rating affects firm valuation through four channels: institutional ownership ratio, stock volatility, annual trading volume, and financing cost. They also suggest that low-carbon firms and service sector firms are more sensitive to ESG performance than high environmental pollution sectors. Foreign scholars have also conducted relevant studies on the relationship between the two. Nguyen found that good ESG performance can generate publicity for firms and higher firm value can be achieved with the help of media coverage of ESG practices [10]. Ghoul et al. evaluated firms in 53 countries and found that ESG performance was positively associated with firm value under a portion of market system performance [11]. MirallesQuiros finds that ESG performance is closely linked to stock prices and gradually increases in investment decisions after the end of the financial crisis by studying the impact of social responsibility activities on stock prices in 51 commercial banks after the financial crisis [12]. While much has been written about the relationship between ESG and companies, little research has been done on the impact of ESG on company valuation, and the few relevant papers have only explored the positive or negative correlation between ESG ratings and company valuation at a macro level. The significance of this paper is that it explores the impact of ESG on company valuation from a case-specific perspective, thus exploring the impact of ESG on corporate valuation in a more concrete and intuitive way, making the results of the study more relevant.

In this paper, Industrial Bank is selected to explore the impact of ESG on company valuation according to its specific company valuation and ESG rating performance. The remainder of the paper is organized as follows. In the second part, the theoretical basis, data sources and basic research methodology of the article are introduced. In the third part, the specific data of the company will be analyzed, first comparing the relationship between ESG performance and company valuation, further considering the situation of the company and analyzing the impact of ESG ratings on corporate value in different industries taking industry specificity into consideration. Finally, final conclusions and related recommendations are drawn.

2. Data & Methodology

2.1. Data

In order to understand the ESG performance of a company more specifically and intuitively, ESG rating agencies have emerged. By collecting information disclosed by companies on their own (annual reports, quarterly reports, sustainability reports, etc.), combined with negative information disclosed by mainstream media, the E, S and G related information of companies are screened out, weighted and analyzed, combining qualitative and quantitative indicators to obtain the corresponding ESG evaluation grade. MSCI is such a company, and it is more recognized internationally. Therefore, this paper will use the ESG rating data provided by MSCI as a reference for the analysis of the impact between the rating performance and corporate valuation of the three selected companies.

MSCI constructs 10 ESG rating themes starting from three dimensions: environment, social responsibility and corporate governance, and further refines them, finally dividing them into 37 key issues as shown in Figure 1. By weighting each key issue and adjusting the scores accounted for by each indicator, the ESG rating is finally derived. MSCI classifies ESG ratings into seven levels, from high to low, as follows, AAA, AA, A, BBB, BB, B and CCC. Companies in the first two tiers represent the industry leaders in ESG performance, companies in the middle three tiers represent the industry averages in ESG performance, and companies in the last two tiers represent the industry laggards in ESG performance. The article selects data for Industrial Bank for the five-year period 2017-2021 from its annual reports and investing.com, as well as industry-wide data for the banking industry, also from investing.com.

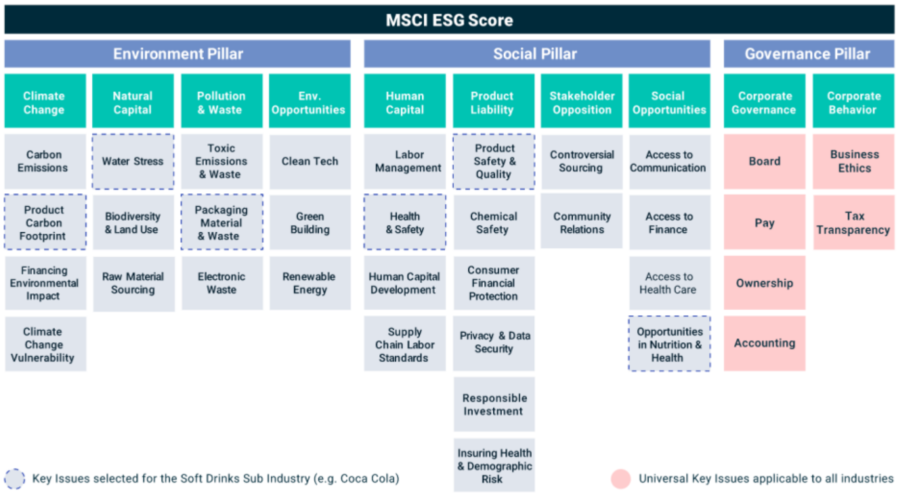

Figure 1. 37 Key issues MSCI selected

2.2. Method & Procedure

This study combs through a large body of domestic and international literature to analyze ESG ratings, company valuation, and the relationship between them. Additionally, the case studies in this paper incorporate multiple sources to obtain specific and accurate information about the selected companies and industries. Based on the literature, further specific calculations and case studies are conducted. In this paper, Industrial Bank is selected for specific company valuation by calculating the relevant specific data based on the company's annual report. Then, specific research and analysis is conducted in conjunction with the ESG ratings disclosed by MSCI. The impact of ESG rating performance on company valuation is then derived based on a comparative analysis of specific data from the industry. A combination of qualitative and quantitative methods will be adopted to conduct a specific case study. The qualitative analysis reflects the ESG rating performance and the theoretical analysis of the relationship between ESG rating performance and company valuation. The quantitative analysis is based on the valuation of the company using its specific financial data and the calculation of industry averages. The ESG situation of the company from E, S, and G perspectives will be evaluated, as well as the impact of ESG performance on company value from three perspectives (i.e., profitability, operational capacity and growth capacity) will be discussed.

Profitability usually refers to a company's ability to earn profits, which is one of the important parts of company valuation and one of the key elements for investors to focus on when choosing investment targets again. The article will use ROA (Return On Assets) and ROE (Return On Equity) to measure the change in the company’s profitability after being included in the MSCI ESG rating, and also compare it to the industry average to see the impact of ESG performance more visually.

$$\text{ROA} = \frac{\text{Net income+interest} \times (1-\text{tax rate})}{\text{total assets}} \tag{1}$$

$$\text{ROE} = \frac{\text{Net income+interest} \times (1-\text{tax rate})}{\text{total equity}} \tag{2}$$

Operating capacity mainly refers to the ability of an enterprise to operate in the economic market, i.e., the ability of an enterprise to make profits through the rational use of several assets. The article will use total asset turnover ratio to measure the change in the company's operational capability after being included in the MSCI ESG rating, and compare it to the industry average.

$$Total\ asset\ turnover\ ratio = \frac{\text{Net operating income}}{\text{average total assets}} \tag{3}$$

Growth capacity refers to the ability of a company to expand its operations, mainly through the acquisition of earnings, financing, etc. The study will use operating income growth rate and net profit growth rate to measure the change in the company's growth capability after being included in the MSCI ESG rating, and compare it to the industry average to see the impact of ESG performance.

$$\text{Operating income growth rate} = \frac{\text{Operating income growth amount}}{\text{Total operating income of the previous year}} \tag{4}$$

$$\text{Net profit growth rate} = \frac{\text{Net profit} - \text{Net profit of the previous year}}{\text{Net profit of the previous year}} \tag{5}$$

Subsequently, the article will measure bank risk using the Z-value, which measures the bank's solvency and insolvency risk and is calculated as follows. The reciprocal of Z is the bank's probability of bankruptcy. The larger the Z value, the lower the bank risk.

$$\text{Z} = \frac{\text{ROA+CAR}}{\sigma(ROA)} \tag{6}$$

Finally, this article will analyze the changes of various supervisory indicators of Industrial Bank before and after the change of ESG rating, and further analyze the impact of ESG rating on the company.

3. Results & Discussion

3.1. ESG Performance

According to the latest MSCI ESG rating shown in Figure 2, Industrial Bank is the only bank in China that has maintained the highest rating (A grade) in China's banking sector for four consecutive years since Nov, 2019. As a pioneer and leader in the domestic ESG field, Industrial Bank has always had the "greatness of the nation" in mind, and has incorporated national strategies such as serving the high-quality development of the real economy, the "double carbon" strategy, rural revitalization and common prosperity into its ESG practice. While continuously improving its own ESG performance, it also strives to contribute to the sustainable development of the economy and society.

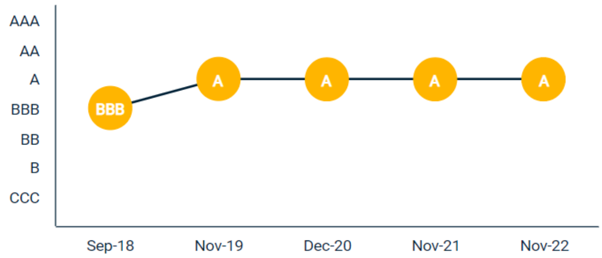

Figure 2. Rating history of Industrial Bank

In terms of E, Industrial Bank focuses on building a 'green bank'. In the past 16 years, Industrial Bank has continued to improve its green financial products and services system, focusing on 'carbon reduction, pollution reduction, green expansion and growth' and promoting comprehensive green and low-carbon transformation of economic and social development. In addition, with the launch of China's unified carbon market, Industrial Bank has gradually improved the layout of carbon finance business at three levels: basic financial services, carbon finance product innovation and carbon market ‘trading + market making’, actively responding to the implementation of the "dual carbon" strategy. What’s more, Industrial Bank was the first bank in China to adopt the UNFCCC's ‘Climate Neutral Now’ initiative.

In terms of S, Industrial Bank always sticks to being a finance for the masses, continues to improve the accessibility, coverage, and satisfaction of financial services, and strengthens the protection of the rights and interests of financial consumers. Industrial Bank has continuously increased its services for small and micro enterprises. Additionally, it has continued to support rural revitalization and strived to build a distinctive financial service model for rural revitalization. In addition to these, it has committed to public charity, continued to improve the charity system, and promoted common prosperity. It has taken a differentiated and distinctive path of inclusive finance.

In terms of G, Industrial Bank has amended its Articles of Association to establish the "Strategy and ESG Committee", which clearly assigns the ultimate responsibility for ESG management to the Board of Directors. It is the first in the industry to establish the "ESG Management Center", which is responsible for comprehensively promoting the construction of the ESG management index system. At the strategic level, the bank has incorporated ESG strategic planning into the group's five-year development plan. In terms of risk management system, ESG and climate risk management are incorporated into the comprehensive risk management system.

3.2. Profitability

The calculated ROA, ROE of Industrial Bank for 2017-2021 and the average ROA and average ROE of China banking industry are shown in Table 1. All data are obtained from Industrial Bank's annual report and investing.com. The table shows that ESG has a positive, but not significant, effect on the performance of banks.

Table 1. ROA and ROE

	2017	2018	2019	2020	2021
ROA of Industrial Bank	0.92%	0.93%	0.96%	0.90%	1.02%
ROE of Industrial Bank	14.90%	13.70%	13.08%	11.52%	12.72%
ROA of Banking Industry	0.87%	0.89%	0.91%	0.79%	0.83%
ROE of Banking Industry	14.04%	13.34%	12.95%	10.97%	11.32%

In terms of ROE, Industrial Bank's ROE has shown a trend of decreasing and then increasing in the past five years, which is the same as the industry situation, but has been higher than the industry average. As one of the first companies in China to be exposed to the ESG concept, Industrial Bank's ESG rating has been at the top of the industry. As a result, Industrial Bank has accumulated a certain customer reputation base, and continues to innovate and develop in terms of business expansion and cost control. Due to the COVID-19 and the update of banking regulations, Industrial Bank's ROE has been on a downward trend until 2020, but steadily rebounded during 2020-2021. This is because investors have gradually started to pay attention to ESG factors in recent years. The emergence of the COVID-19 in 2020 has led consumers to intentionally pay more attention to health and safety-related information, and to pay more attention to whether they have better survivability and sustainability when making investments, while the improved ESG rating of Industrial Bank in late 2019 has led it to accumulate a more excellent reputation, making it the preferred choice of many The improvement of Industrial Bank's ESG rating at the end of 2019 has enabled it to accumulate a better reputation, making it the first choice of many investors, and while advancing its business, it has also enabled Industrial Bank to better control other non-essential costs, making Industrial Bank's ROE start to rebound.

In terms of ROA, in 2019, Industrial Bank's ROA declined and fell to the lowest point in the past five years. This is because with the expansion of business scale, the bank has made non-high-yielding assets also the direction of business development when it carries out asset expansion (issuing high-interest bond financing, etc.). Therefore, though Industrial Bank's total assets and net profit are growing, it is obvious that the growth rate of total assets is higher than the growth rate of net profit. Thus, ROA shows a downward trend and is still higher than the industry level. From 2020 to 2021, Industrial Bank's ROA increases significantly, and the increase is much higher than the industry average, which shows that in the background of the sluggish industry environment, the growth rate of Industrial Bank's profitability is considerable. The impressive growth rate is due to the rise of Industrial Bank's ESG rating to A at the end of 2019, indicating that ESG practices have helped Industrial Bank reduce the risk of asset expansion to a certain extent. On account of its good reputation, Industrial Bank has been able to minimize costs and thus improve profitability. In addition, the mature internal structure and sound management system have helped Industrial Bank to conduct effective cost control and thus achieve improved profitability.

3.3. Operational capacity

By calculation, the total asset turnover ratio of Industrial Bank is comparable to the industry average of the banking industry, both at 3%, and only slightly fluctuating, which indicates that the ESG rating has less impact on the operation capability of the banking industry. This is caused by the special characteristics of the banking industry. The main profit source of banks is still the deposit and loan spread, but the deposit and loan time is generally long, in addition to the high non-performing rate of banking business. In addition, Chinese banks are in a monopoly situation, so the asset turnover rate is generally lower than other industries.

3.4. Growth capacity

The calculated operating income growth rate and net profit growth rate of Industrial Bank for 2017-2021 and the average operating income growth rate and net profit growth rate of banking industry are summarized in Table 2. All data are obtained from Industrial Bank's annual report and investing.com.

Table 2. Operating income growth rate & Net profit growth rate

	2017	2018	2019	2020	2021
Operating income growth rate of Industrial Bank	-10.88%	13.07%	14.53%	12.02%	8.91%
Net profit growth rate of Industrial Bank	6.22%	5.98%	8.66%	1.15%	24.09%
Operating income growth rate of Banking Industry	4.91%	9.14%	10.42%	4.93%	7.75%
Net profit growth rate of Banking Industry	5.60%	5.21%	6.68%	0.10%	12.31%

From the perspective of operating income growth rate, in 2017, Industrial Bank's operating income growth rate was negative and well below the industry average, but after 2018, Industrial Bank's operating income growth rate increased significantly and exceeded the industry average. This may be due to the inclusion of Industrial Bank in the MSCI ESG rating after 2018, which has improved Industrial Bank's operating conditions in terms of internal structure and business layout, etc. Since 2018, Industrial Bank has been committed to adjusting its internal governance system, focusing on the two priorities of "commercial banking + investment banking”, improving its indirect financing services and strengthening the advantages of the company's direct financing services. Meanwhile, it has taken the initiative to grasp the changes in the economic situation, reasonably determine the credit layout of mainstream business, and continue to maintain the stable and balanced development of key businesses. Besides, starting from 2018, Industrial Bank paid more attention to the national strategy, actively responded to the national call, insisted on green credit and green finance, and actively supported the national key industries, focusing on supporting weak cyclical industries, such as medicine, education, tourism, communication, and other industries. Therefore, although still affected by factors including economic growth slowdown, industrial restructuring and macroeconomic deleveraging. The company maintains a high pressure on asset quality control, continues to strengthen the disposal of non-performing loans and strictly controls new exposure to risk, and the non-performing rate has decreased compared with the beginning of the period. As a result, operating income has improved. After 2018, Industrial Bank's net profit growth rates have all far exceeded the industry average, which indicates that Industrial Bank is not sacrificing profits in exchange for higher operating income, but has further improved its operating conditions, bringing about increased growth capacity.

From the perspective of net profit growth, the banking industry's net profit growth rates all dropped significantly in 2020 due to the epidemic, and Industrial Bank was no exception, but even so, its net profit growth rate was well above the industry average. Faced with the impact of the epidemic, the company insisted on both safety and stable development, and its better performance in ESG rating enabled Industrial Bank to take effective measures quickly and adjust its business strategy flexibly in response to the changes in external situation, increase credit allocation in a timely manner, and increase financial support for key areas (e.g., small and medium-sized enterprises and medium and long-term manufacturing industries). The bank was able to increase its credit allocation in a timely manner in response to the changes in the external situation and adjust its business strategy flexibly, and increase its financial support to the key areas such as small and medium-sized enterprises and medium and long-term manufacturing industries, thus achieving a steady growth in loan business for the year. The total amount of loans and advances granted by the company increased by 524.223 billion, an increase of 16.854 billion year-on-year. In 2021, Industrial Bank's new assets are mainly loans, focusing on meeting the financing support for retail finance, green finance, industrial chain upgrading, new urbanization and other fields. This shows that the high ESG rating has enabled Industrial Bank to expand its market and increase its customers.

3.5. Z value

Seen from Table. 3, the Industrial Bank's insolvency risk decreases to 0.29% in 2019 and further decreases to a five-year low in 2020, suggesting that Industrial Bank's business condition and operational capabilities have improved and credit risk has decreased following the ESG upgrade from BBB to A in 2019.

Table 3. Z Score of Industrial Bank

Indicators	2017	2018	2019	2020	2021
ROA	0.92%	0.93%	0.96%	0.90%	1.02%
CAR	12.19%	9.30%	13.36%	13.47%	9.81%
Z	313.9	244.9	342.9	344.1	259.3
Bankruptcy Probability	0.32%	0.41%	0.29%	0.29%	0.38%

Table 4. Supervisory indicators of Industrial Bank

Category	Indicators	Statutory value	2017	2018	2019	2020	2021
Liquidity risk	Liquidity ratio	≥25%	-	66.52%	75.53%	67.39%	56.26%
	Liquidity Coverage Ratio	≥100%	-	105.07%	179.64%	137.86%	141.77%
Credit risk	Non-Performing Loan Ratio	≤5%	1.59%	1.59%	1.54%	2.16%	1.15%
	Provision coverage ratio	≥150%	211.78%	209.55%	199.13%	218.83%	268.73%
Capital position	Capital Adequacy Ratio	≥10.5%	12.19%	12.20%	13.36%	13.47%	14.39%

3.6. Supervisory Indicators

As listed in Table 4, for liquidity risk, Industrial Bank's liquidity ratio and liquidity coverage ratio have been improved after the ESG rating of Industrial Bank was upgraded to A in 2019. For credit risk, Industrial Bank's NPL ratio decreased after the ESG rating upgrade, and the provision coverage ratio improved significantly after a slight decline. For capital position, Industrial Bank's capital adequacy ratio continued to rise with the ESG rating upgrade. This is because the ESG rating improvement has made more customers and investors pay attention to Industrial Bank. As the public pays more and more attention to ESG, Industrial Bank's high ESG level has undoubtedly become one of its strengths. While expanding its market, Industrial Bank has also received recognition and support from the government to sustain its development, which has led to the improvement of all indicators.

4. Conclusion

In summary, based on the calculation and analysis of each indicator, ESG rating improvement has a positive impact on the valuation of listed banking companies. The improved ESG rating has helped the company to accumulate a better reputation in the industry and promote peer-to-peer cooperation and transactions. Meanwhile, the improved ESG rating has also enabled the company to build a larger customer base and attract more investors, thus reducing the possible risks in the company's operation to a certain extent. In addition, ESG has been one of the key topics in China in recent years, and the government attaches great importance to it. Industrial Bank has been praised by the government for its high ESG rating for four consecutive years, which undoubtedly adds to its reputation. In addition, Industrial Bank's high ESG rating is also a recognition of its management system reform, and has pushed the company to further optimize its management structure and upgrade its strategy. Hence, all evaluation indicators have a positive trend, thus the higher ESG rating has also helped the company's development at the management level.

A strong ESG rating can send a positive signal to investors and customers, especially in the post-epidemic era, when investors and customers generally place more value on the long-term viability of banks. On the one hand, the good reputation brought by high ESG ratings can, to a certain extent, counteract the risks brought by industry fluctuations in the face of market shocks. On the other hand, the ESG concept advocates human rights, environmental protection and other concepts that are now a topic of concern and importance to the public. In the short term, ESG considerations may cause companies to make new institutional changes or strategic adjustments or to improve their internal management structure, and the difficulty of adapting to new changes may lead to expenses that do not pay off in a short period of time. However, in the long term, ESG ratings have a positive impact on corporate value. From this study, one can see that Industrial Bank's profitability and growth ability are higher than the industry average, except for its operating ability, which is not much affected for the nature of the banking industry. With the elevation of ESG rating of Industrial Bank to A in 2019, all the capabilities of Industrial Bank have improved. This indicates a positive relationship between enterprise value and ESG rating.

The value-enhancing effect of high ESG ratings on corporate value is determined by several reasons. First, in order to obtain a high ESG rating, companies must make efforts to improve in many aspects besides economic benefits to achieve the simultaneous development of ESG governance and corporate performance, i.e., companies can enter a virtuous cycle of development. The improvement of environmental benefits is in line with China's development strategy to protect the environment, while the fulfillment of social responsibility can improve corporate reputation, and efficient corporate governance can improve the internal management structure of companies. Moreover, as the ESG concept becomes more popular, external stakeholders are more sensitive to changes in ESG ratings, and investors are beginning to pay more attention to ESG ratings and realize that a high ESG rating sends a message to investors that the company is in a good position to grow. Such positive feedback is inseparable from Industrial Bank's long-term investment in ESG. In 2019, Industrial Bank's rating was upgraded from BBB in previous years to A. During this period, Industrial Bank has undergone continuous reform and improvement, and in the long-term practice, investors have realized that Industrial Bank has implemented long-term investment in ESG, not just short-term operation. The company has indirectly enhanced its corporate value by conveying positive information to investors and building a positive corporate reputation.

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