ESG Trends and Investment Feasibility based on Real Estate Companies

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Abstract. This paper conducts a study based on the development of Chinese real estate in recent years and the initial application of ESG ratings in China. The objective is to find whether the performance of real estate companies was correlated with ESG ratings. This paper adopts a quantitative research approach, using ESG ratings of Chinese A-share listed real estate companies and annual financial statements for analysis. Also, a linear regression analysis was conducted to obtain the coefficients. The results of the study showed that only the debt-asset ratio of the company, as well as the operating gross margin had a linear and negative relationship with ESG rating. This result may be due to the fact that Chinese real estate was very restricted by policies in the previous years, although it is said that there will be an emergence of easing policies in 2021 but because the real estate industry was not optimistic in the previous years. As a result, consumers no longer have the same enthusiasm for real estate investing that they previously did. On the other hand, they are spectators.

Keywords: ESG Real Estate Industry, Indicator Construction, Investment.

1 Introduction

All of humanity faces the challenge of climate change. China, the world's largest emitter of greenhouse gases, has made climate change a part of its national plan and is taking steps to reach carbon neutrality by 2060. China has adopted a set of evaluation indicators known as ESG, which can be used to analyze a company's environmental, social responsibility, and governance aspects and effectively control the behavior of the enterprise. China also places a high priority on the development of sustainability in the business sector. This study mixes these two sections because real estate is also a significant pillar of business in China, contributing 30% of the country's GDP.

According to Broadstock, ESG is particularly effective at lowering financial risk during times of economic danger like COVID-19 [1]. Furthermore, it discovered that high ESG portfolios outperform low ESG portfolios. The most significant of the three ESG factors in ESG ratings is governance (G), which is also the most significant.

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Environmental (E) and social (S) variables various in different industries since they are evaluated using various methods. Giese investigates how ESG is an important tool for achieving financial objectives in portfolio management, in addition to assessing a firm's risk profile and quantifying its performance [2]. Thus, financial analysis and policy benchmarking can both benefit from using ESG evaluations. Alareeni discovers that environmental (E) and corporate social responsibility (S) disclosures are inversely related to ROA and ROE when examining the three ESG factors separately [3].

According to Sassen, an effective ESG risk management program can increase a firm's ability to respond to a general economic downturn, which in turn lowers the systemic risk of the organization [4]. Other research indicates that systemic risk and overall risk can be successfully decreased by firms' social performance (S) in ESG. Environmental performance (E) can only lower risk in a unique method. More importantly, business strategy should take ESG factors into account to make sure that management and shareholder objectives are aligned. Pagano holds a different perspective on ESG, contending that the ESG index also has inherent drawbacks [5]. This is due to the fact that ESG primarily identifies data from a small number of significant industrialized country corporations, whose diversity and worth are constrained. However, in fact, ESG data providers have been modifying and increasing their indices to improve the situation.

Cho suggests the establishment of women's funds and the inclusion of gender equality and diversity in ESG indicators, which would help to improve the status of women in Korean society and the workplace [6]. More importantly, companies invested in by women's funds have higher return on assets and return on equity compared to companies without women's funds. Friede finds that ESG is widely used in North America and some emerging markets [7]. Furthermore, sensible investors need to take ESG into account when making decisions. This makes it possible for them to carry out their fiduciary duties, balance the interests of investors, and accomplish socially significant goals. According to Baraibar, companies with CSR committees score significantly higher on ESG and economics [8]. For those countries that lack strict CSR governance, the social tendencies of companies are stronger. On the other hand, the lack of a CSR committee does not necessarily imply that the company does not carry out CSR initiatives since other team members or organizational entities may be tasked with identifying and overseeing these initiatives.

Duuren finds that when it comes to ESG ratings, specialized asset managers view corporate governance (G) as a more important indicator than environmental sustainability (E) and social responsibility (S) [9]. Landier states that ESG funds can boost assets and enhance social welfare despite capital market search friction. ESG funds can also use supply chains to place constraints on the businesses they invest in [10].

1.1 Research Objective

The objective of the study is to explore whether real estate companies in China are associated with ESG ratings. Chapter 2 presents the specific ESG scoring criteria, the status of their application in the Chinese market, and the challenges. In Chapter 3, the 2021 annual statements of the required A-share listed companies are screened for analysis with the 2021 ESG ratings and linear regressions are performed in Excel. Tobin's Q is used as the dependent variable, and total asset growth rate, total asset turnover, total assets, gearing ratio, firm age, gross margin, and ESG rating are used as independent variables. In Chapter 4, the results of Chapter 3 are analyzed and interpreted, and the potential problems of Chinese real estate are also discussed.

2 Current status of ESG investments

2.1 ESG Investing Strategy

Environmental, Social, and Governance are referred to as ESG. ESG investment methods encourage investors to put money into companies with positive social and ecological benefits and lead by management teams prioritizing achieving matching goals through open corporate governance processes [11]. "Environmental, Social, and Governance" are the three main pillars of this kind of investment, and their abbreviation is ESG.

Environmental impacts include a company's impact on climate change, carbon footprint, water consumption, resource conservation, pollution, and adoption of clean technology. Society refers to the company's interactions with its workforce, vendors, clients, and communities and its support of societal causes. Governance refers to the organization’s structure, ethics, and management, including board diversity and independence, compensation of management staff, transparency, and shareholder rights [12].

ESG investment techniques come in seven different varieties [13]. ESG integration is the first. In other words, the three ESG components are integrated into a conventional financial analysis to enable investors to recognize businesses with more significant development potential. Corporate involvement and shareholder action fall under the second category. Shareholders have voted rights and an impact on how the company is operating. This encourages firms to create environmental-friendly policies. Screening based on norms is the third technique. ESG ratings allow investors to exclude companies that harm the environment. Screening for exclusion comes in fourth. Investors employ this tactic to eliminate enterprises or organizations harmful to the environment, such as fossil fuel sellers. The best screening method is the sixth tactic. Investors should take into account companies with strong ESG scores when making investments. Sustainable investing is the sixth. Can fund businesses that advance sustainability objectives like renewable energy. Impact investment is the seventh kind. This also refers to the money set aside for environmental advocacy.

2.2 ESG Investment in China

2.2.1. What makes ESG significant to China?

Because China has made a significant commitment to reduce its carbon emissions, it is one of the world's major carbon emitters. By 2030, peak carbon emissions are expected [14]. China is shifting its government policy and development philosophy toward renewable energy to meet its carbon neutral-aim. The Chinese government encourages the growth of electric vehicles and alternative energy sources. These steps will improve China's competitiveness in numerous industries, lowering carbon emissions and promoting green transition.

2.2.2. What is the current state of ESG in China?

Since China adopted the green financing system in 2016, ESG has been expanding quickly. 1,020 Chinese A-share businesses had published yearly ESG reports as of mid-2020 [15]. In 2020, more than a quarter of A-share businesses produced yearly CSR/ESG reports, an increase from only 371 companies in 2009. Forty-eight new ESG products were published in the first three quarters of 2021, about the same as the total number of ESG public funds produced in the preceding five years.

2.2.3. Challenges of ESG development in China.

Firstly, the Chinese understanding of ESG needs to be improved and largely restricted to the policy level, with few specific actions and pertinent data. This has also caused ESG data to be less transparent [14]. The second issue is that different ESG grading criteria and judging standards apply to other complex indicators. Additionally, this results in a need for more data comparability among companies in diverse industries. The third point is the challenge of balancing financial and non-financial factors. Even though some businesses with high ESG scores are not doing well in the short run, they are really able to provide investors with superior returns over the medium to long term. However, such returns may take time to realize, which could lead to an imbalance between short-term performance and long-term returns.

3 Mathod and Data

3.1 Model

Tobin’s Q was selected as the dependent variable in the model in the article. Tobin’s Q ratio was first proposed by economist Nicholas Kaldor in 1966 [16]. Tobin’s Q is a financial ratio used to measure whether the market is overvalued or undervalued. When Tobin's Q is higher than its long-term average, the market is overvalued; when it is lower than the long-term average, it is undervalued [17].

According to the previous work, this paper also selected some other indicators as control variables to examine the ESG and Tobin Q relationship and further determine if ESG affects the valuation condition of real estate firms. For instance, total asset growth rate, total asset turnover, total assets, gearing ratio, firm age, gross profit rate, and ESG rating.

The formula used to calculate Tobin’s Q ratio is:

$$\text{Tobin's Q} = \text{Total Asset Value of Firm} / \text{Total Market Value of Firm} \quad (1)$$

3.2 Data

The industry data was downloaded from CSMAR, and the ESG ratings were found in SynTao green finance; also, the data for the A-share market for the year 2021 was chosen. In terms of quantity, 113 real estate firms were chosen, leaving 103 real estate firms after omitting State firms. Due to their two straight years of losses and delisting risk warnings, ST businesses have been removed. Total asset growth, turnover, liabilities, total assets, gearing, firm age, gross operating margin, and ESG rating were chosen as independent variables to standardize the data. Moreover, Tobin's Q was used as the dependent variable.

The decision to use data from real estate companies was made for several reasons. First of all, real estate is one of the biggest industries in China, employing a sizable workforce. It has a significant and lasting impact on the Chinese economy as a pillar industry of the country's economy. Real estate investment accounted for 27% of fixed asset investment in 2021 and totaled RMB 14.8 trillion, making it a significant factor in China's economic growth [18].

Secondly, the absence of speculative limitations has been the critical factor contributing to China's rising real estate prices in recent years. As speculation has taken over the real estate market, developers have also devoted more resources to real estate speculation. But this has yet to bring any substantial return to society. As a result, this inefficient use of resources is also the reason for the recent economy slowdown. The nation promoted the "three red lines" strategy to solve this issue. The "three red lines" regulation was also implemented to restrict real estate businesses' excessive debt ratios and get rid of any underlying financial issues.

In this paper, ESG ratings are converted to numerical ratings. For example, A+ is a 9, A is an 8, A- is a 7, B+ is a 6, B is a 5, B- is a 4, C+ is a 3, C is a 2, and C- is a 1. Overall, the scores are mainly concentrated in the range of three to six. In other words, the ESG grade of China's real estate industry is basically between C+ and B+.

3.3 Result and Discussion

As shown in Table 1, only Gross Profit Margin and Debt Asset Ratio are related to Tobin's Q at the 95% confidence interval. However, ESG is not related to Tobin's Q, which means the rating of ESG doesn't influence the valuation of the listed companies. The effective formula is shown in Equation 2.

$$\text{Tobin's Q}=-2.23 \text{ Debt Asset ratio}-1.39 \text{ Gross profit rate} \quad (2)$$

Table 1. The regression results of Tobin's Q with different factors.

	Coefficients	Standard Deviation	t Stat	P-value

Total Assets Turnover A	-0.07	0.25	-0.28	0.78
Total Assets Growth Rate A	0.23	0.31	0.73	0.46
Total Asset	-5.05	3.35	-1.51	0.14
Total Liabilities	6.17	4.26	1.45	0.15
Asset-liability ratio	-2.23	0.31	-7.24	0.00
Companies Age A	0.02	0.01	1.14	0.26
Gross Profit Margin TTM	-1.39	0.34	-4.13	0.00
ESG Rating	-0.04	0.08	-0.56	0.58

4 Real estate and RE Search result

4.1 The difference between real estate and other industries

Real estate is a cash-driven industry characterized by long cycles, high risk, and illiquidity. Real estate has a long cycle since its processes are intricate. Building the house must come first, acquiring land ownership and commissioning the building. Real estate consequently has a protracted cycle. The fact that real estate investments can range from a few million to several hundred million dollars illustrates the substantial risk involved. It requires significant cash and has a lengthy capital turnaround period. Because of this and other factors, there is a chance that the money won't be recovered on time, which creates financing risks. The third reason, which refers to real estate's low liquidity, is more important than the first two. Liquating funds in the short term since real estate is more difficult to sell than stocks and investments.

However, one benefit is that real estate prices can increase consistently and are not affected by inflation. This has resulted in an increase in the number of people purchasing homes recently, not for habitation but rather for investment, which has caused a rapid rise in housing costs in China's first and second-tier cities. People can’t afford such expensive prices, even if they genuinely need to buy a house. That is why the “three red lines” policy must be implemented as a result. Additionally, most of the carbon dioxide emissions in many nations are caused by the construction industry. Buildings are said to be responsible for 60% of all carbon emissions in big cities like Hong Kong, which is a relatively high percentage. Therefore, controlling the carbon emissions of real estate structures is essential [19]. This also explains why ESG investments ought to be included in the real estate sector.

4.2 Interpretation of the results of Tobin's Q

4.2.1 Why debt asset ratio and gross profit margin related to Tobin’s Q?.

Tobin's Q is the most suitable indicator to measure the market value of a company. The findings of this study suggest a connection between debt ratio and gross margin and Tobin's Q. Firstly, the gross profit margin of a firm has a significant positive correlation with Tobin's Q value [20]. Secondly, a firm's market value is impacted by Tobin's Q, which decreases when a firm's debt load increases. As a result, the debt ratio negatively correlates with Tobin's Q [21].

Tobin's Q is a crucial gauge of a company's success and potential for expansion, which is why there is a linear link between it and the debt-to-asset ratio. The bigger the gross margin, the greater the company's market recognition, and the greater its ability to earn money, the lower Tobin's Q. But at the same time, the debt is also more significant. This is so that real estate businesses may purchase land and construct housing, both of which require financing. Secondly, the real estate industry is a cash-driven industry, and it is essential to prepare the capital for the initial projects. It is difficult for real estate corporations to start construction projects without sufficient cash flow.

4.2.2 How does ESG affect assets and liabilities?

As mentioned in the Financial Accounting Standards Board (FASB), ESG directly and indirectly relates to the company's financial statements. For example, if ESG scores are to be considered, the company will invest additional money in this area, which will increase the cost of the company's operations [22].

Higher ESG rankings for companies translate into cheaper capital costs. Furthermore, companies with high ESG scores are exposed to less systemic risk [23]. This also implies that these businesses have lower equity costs and stock markets less vulnerable to business hazards. More significantly, organizations with high ESG ratings have average loan costs lower than those of enterprises with low ESG ratings. This is because it is well known that one of the markers of ESG ratings is corporate governance standards. A company's default risk, which directly impacts on the cost of debt, can be decreased with a high G rating.

Additionally, similar studies demonstrate that businesses with higher ESG scores perform better long-term and are better able to adapt to economic downturns. Additionally, companies that implement ESG programs experience more excellent rates of customer retention: 82% of adopters have an average customer duration of more than ten years, compared to 52% of businesses that do not implement ESG programs. Companies with better ESG ratings have shown more market stability over the past year [24].

According to the research in this article, Tobin's Q is not related to ESG because the real estate industry is still in a period of rectification in China. Additionally, it has been under the influence of various national policies in the previous years and has been in a state of restraint. Furthermore, real estate companies in China had reached a low point, and housing sales volume had also dropped greatly. A few formerly extremely substantial real estate corporations are also under great debt pressure. It was only in 2021 that the Chinese government began to release the real estate related policies, such as lowering the down payment ratio on mortgages and relaxing the number of real estate purchase restrictions. This set of regulations has promoted the expansion of the real estate market and reduced issues like skyrocketing housing prices.

4.2.3 Potential Issues of real estate in China.

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The Evergrande Group is a prime illustration. The Evergrande Group employs about 200,000 people and has developed projects in many international cities [13]. But since 2021, many of its real estate projects have had to be postponed because of the firm's cash flow issues. With a $300 billion debt, Evergrande Group has overtaken all other Chinese developers as China's most indebted. Evergrande's failure to pay its obligations has harmed the nation's real estate industry's reputation. As a result, some investors who want to make investments need to think about doing so in real estate firms. This phenomenon not only affects the amount of real estate sales in China but in turn, also has a negative impact on the development of the country's economy; after all, real estate and its related industries account for 30% of China's GDP.

The fact that Evergrande has explicit share, but actual responsibilities is another issue. It works with trust funds to achieve a specific amount of fixed income in order to address the issue of funding challenges. However, several hazards are involved, including the credit risk of Evergrande and its ability to keep its promises. More critically, Evergrande's current predicament may damage the reputation of other Chinese companies in the eyes of global businesses and make it more challenging to attract foreign investment. Secondly, the results leading to this study may also be related to the ESG ratings. In this paper, there is a small gap in the ratings set by ESG, which is also the result that leads to no relationship between ESG coefficients and Tobin's Q.

5 Conclusions

This paper investigates the correlation between Tobin's Q and ESG ratings and finds that only the debt asset ratio and gross margin have a linear and adverse relationship with Tobin's Q. There is no correlation between Tobin's Q and ESG, which suggests that Chinese real estate firms do not have a strong relationship with ESG ratings either. This is because China's real estate market has been affected by constraints in the past few years, and some large real estate companies have experienced severe debt problems, which have seriously affected consumers' trust in real estate developers. More importantly, there are also significant challenges in attracting foreign investment.

At present, the development of China's real estate industry has slightly deviated from the normal track, the price of housing has risen too fast, has far exceeded the speed of economic growth. Real estate companies also have some bad status such as high turnover. Additionally, this has also led to the quality of construction not being guaranteed, and certain large real estate developers are also burdened with huge debts. Furthermore, Tobin's Q of this article is unable to produce a linear relationship with ESG because of the real estate sector's current big issues. In this regard, the government should tighten its control over real estate developers in the future while also imposing more liberal and advantageous rules for the growth of the real estate industry. This will also boost consumers' confidence in real estate investment.

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