

The Impact of ESG Ratings on Corporate Valuation: A Case Study of Kweichow Moutai

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Abstract. In today's rapidly evolving society, there is a growing emphasis on high-quality corporate development. Consequently, even a relatively traditional issue—corporate valuation—must keep pace with the times by incorporating high-quality development into its assessment framework. This necessitates introducing a new metric to reflect the proportion of a company's investment in high-quality development. Therefore, this paper proposes adjusting corporate valuations by referencing ESG ratings. Taking Kweichow Moutai as a case study, this paper examines the impact of environmental, social, and governance factors within ESG on corporate valuation. Among valuation models, the cost approach, market approach, and income approach are compared, with the income approach identified as the most suitable for Moutai. In practical adjustments to the general income approach model (DCF model), ESG metrics are incorporated to more accurately reflect Moutai's long-term corporate value. Finally, the paper reflects on the model development process and identifies limitations in experimental methodologies. This study better highlights how ESG factors contribute to a company's sustainable growth from a long-term perspective. By integrating these factors into valuation, it encourages greater societal emphasis on corporate ESG performance.

Keywords: ESG Ratings, Corporate Valuation, DCF Model, Kweichow Moutai.

1. Introduction

ESG stands for Environmental, Social, and Governance. This term gained prominence in the 1960s as Western left-wing movements rose, sparking growing societal concern for environmental protection, corporate social responsibility, and government oversight—thereby elevating ESG's importance. Since the 21st century, ESG has progressively become a vital component of corporate core competitiveness, increasingly adopted by major investment firms, particularly in corporate valuation. ESG factors exert comprehensive and profound impacts on corporate investment decisions and financial risks, significantly altering investment risk-return profiles by influencing operational performance, financial outcomes, and valuation [1]. Furthermore, companies with strong ESG performance proactively disclose environmental, social, and governance information, enhancing transparency and effectively mitigating information asymmetry issues [2]. On the London Stock Exchange website, environmental considerations encompass three dimensions: emissions, resource utilization, and innovation [3]. Companies must control pollutant emissions and optimize resource usage, driving pollution control through corporate management methods and technological innovation in energy conservation and emissions reduction. Governance encompasses corporate management, equity distribution, and social responsibility. Companies must establish sound management systems and equitable equity allocation to prevent potential conflicts. They should also contribute to society; inadequate governance may trigger internal disputes that hinder long-term development. Social responsibility covers community engagement, human resources, product accountability, and human rights. Companies must ensure employees adhere to ethical standards, comply with legal working hour limits, provide sustainable career development opportunities, deliver quality product after-sales service, and maintain a healthy work environment. In summary, environmental, social, and governance factors form the three core pillars of ESG. This framework not only enables enterprises to better fulfill their social responsibilities but also continuously enhances their core competitiveness within the industry over the medium to long term. Furthermore, ESG performance correlates with factors such as market characteristics, internal governance features,

ownership structures, risk profiles, and corporate performance and value [4]. This actively responds to the global call for achieving net-zero carbon emissions by 2050. Additionally, domestic institutions are progressively integrating ESG considerations into valuation frameworks. In late July 2023, the General Office of the State-owned Assets Supervision and Administration Commission of the State Council issued a notice outlining Reference Indicator System for ESG Special Reports of Centrally Controlled Listed Companies [5]. This further underscores the critical importance for enterprises to prioritize ESG management.

2. Core Concepts and Theoretical Foundations

There are three primary methods for predicting corporate valuations: the income approach, the market approach, and the cost approach. Since different methods suit different types of enterprises, we will first outline the strengths and weaknesses of each valuation technique.

The core logic of the cost approach involves reassessing the price of a company's assets, then subtracting depreciation, amortization, impairment, and liabilities. It evaluates a company's value from the perspective of total assets. This approach is suitable for large asset-based enterprises, including but not limited to real estate and manufacturing sectors. However, it fails to fully capture a company's potential growth drivers, overlooks future growth prospects, and undervalues brand-driven enterprises. Kweichow Moutai is not a capital-intensive enterprise; it is a light-asset, high-profit company with an exceptionally strong brand premium. Moreover, Moutai possesses numerous growth opportunities that cannot be quantified by assets alone. Its brand value is unmatched by other liquor brands.

The core logic of the market approach involves identifying comparable companies for valuation. This method requires the existence of a company of similar scale. Moreover, it is highly susceptible to market sentiment, particularly in volatile markets like China's A-share market. During bull markets, valuations are often inflated, while bear markets tend to undervalue companies. Both scenarios demonstrate why the market approach is unsuitable for valuing Moutai. First, within China's baijiu market, no brand can be compared to Moutai. For instance, Wuliangye, another premium brand, cannot match Moutai's scale. As of September 1, 2025, Moutai's market capitalization stood at approximately RMB 1.82 trillion, while Wuliangye's was only about RMB 487.03 billion. making Moutai 3.73 times larger than Wuliangye.

The core concept of the income approach is to estimate a company's value by discounting the present value of its projected future free cash flows. This valuation approach is suitable for companies with stable cash flows, strong brand influence, and clear sustainable growth potential. Moreover, compared to other DCF valuation methods based on ESG factors, the income approach considers both the company's future profitability and the time value of money. It thus overcomes the shortcomings of the cost approach—failing to reflect the company's overall profitability—and the market approach—struggling to find comparable companies—better reflecting the company's intrinsic value[6]. Moutai perfectly aligns with these characteristics. First, Moutai enjoys stable sales driven by China's inelastic demand for banquets, high-end gifting, and collecting. For some consumers, purchasing Moutai serves not primarily as hospitality or gifting, but rather as a financial product for collection or value preservation. Vintage Moutai from the 1990s or early 2000s commands 3-8 times the value of standard bottles. Therefore, the income approach was ultimately selected.

3. Research Method and Introduction to Kweichow Moutai

Definition of the Income Approach

$$V = \sum \frac{FCF_t}{(1+WACC)^t} + \frac{TV}{(1+WACC)^n} \quad (1)$$

Among these, FCF_t represents the company's freely disposable cash flow in year t , i.e., the company's free cash flow. WACC denotes the company's weighted average cost of capital, while TV is the long-term value of the company after the predictor, i.e., the terminal value. The formula for calculating WACC is as follows:

$$WACC = \frac{E}{D+E} \times R_e + \frac{D}{D+E} \times R_d(1 - T) \quad (2)$$

E represents equity value, D represents debt value, R_e represents the cost of equity, R_d represents the cost of debt, T represents corporate income tax. The formula for calculating TV is as follows:

$$TV = \frac{FCF_{n+1}}{WACC - g} \quad (3)$$

Here, g represents the long-term stable growth rate, which is close to the national GDP growth rate. The formula for calculating the cost of equity capital R_e is as follows:

$$R_e = R_f + \beta(R_e - R_f) \quad (4)$$

Kweichow Maotai was founded in 1999 in Maotai Town, Guizhou Province, and stands as the leading enterprise in China's baijiu industry. Its flagship product, 'Feitian Maotai,' undergoes a complex production process involving a one-year manufacturing cycle and five years of aging and maturation. Due to natural constraints on output imposed by geographical limitations and craftsmanship, Maotai has long faced persistent market shortages. In the capital market, Kweichow Moutai ranks among the highest-valued consumer companies on the A-share market and holds the title of China's most valuable spirits brand. Given its dominant position in the domestic liquor sector, its stock performance partially reflects trends in China's high-end consumption market and serves as a reliable barometer for macroeconomic conditions. However, the company faces certain pressures from public opinion. First, it has been linked to government corruption to some extent. For instance, it frequently appears in government banquets and official receptions. However, with the implementation of the Central Committee's Eight-Point Decision on Conduct, this aspect of public pressure has gradually eased. Second, although Moutai possesses unique scarcity, the secondary market commands a severe premium for it, undermining consumers' fair purchasing experience.

4. Kweichow Moutai's ESG Practices

4.1. Introduction to Kweichow Moutai's ESG Practices

As the leading enterprise in China's baijiu industry, Kweichow Moutai not only commands market attention for its traditional product attributes but, more importantly, for its sustainable development strategy. As the industry leader, Kweichow Moutai maintains a pioneering position in pollutant treatment and recycling, clean production, and investments in energy conservation and emissions reduction research [7]. Kweichow Moutai continuously enhances its long-term competitiveness across three dimensions: green production, social responsibility, and corporate governance. For investors, greater emphasis on ESG within the company's governance framework would influence investor behavior and impact corporate value [8]. This reflects the company's multifaceted efforts and its contribution to aligning China's traditional manufacturing sector with global ESG governance standards. First, according to Huazheng Securities' official website data, as of August 28, 2025, Kweichow Moutai holds an AAA ESG rating—the highest possible—with a specific score of 98.4. Next, we will analyze Kweichow Moutai's current ESG status from environmental, social, and governance perspectives.

4.1.1 Kweichow Moutai's Governance in ESG

According to Huazheng Securities' official website, Kweichow Moutai achieved a corporate governance score of 93.8 points, ranking first in the industry [9]. As China's most valuable baijiu company by market capitalization, the comprehensiveness of its governance structure is unquestionable. The company has established robust mechanisms including shareholder meetings, a board of directors, and a board of supervisors, with directors maintaining a 100% attendance rate. The company regularly discloses internal data and annual reports, enhancing corporate transparency while enabling investors to better monitor governance implementation. Additionally, it comprehensively discloses its ongoing efforts to optimize institutional frameworks, ensuring standardized management practices. However, management-level challenges persist while state ownership ensures leadership stability, it also raises concerns about governance independence. Secondly, there is room for improvement in the gender ratio among senior executives. Among board members, there are five male members but only two female members, indicating a significant imbalance in gender representation. Overall, while Kweichow Moutai faces certain challenges in governance, it still possesses a relatively sound foundation for corporate governance.

4.1.2 Kweichow Moutai's Environment in ESG

According to Huazheng Securities' official website, Kweichow Moutai Co., Ltd. achieved an environmental score of 85.2 points, ranking first in the industry [10]. As one of the longest-established baijiu companies in the sector, its environmental governance capabilities are unquestionable. Notably, per Moutai's ESG report, the Board of Directors established a decision-making layer through its Strategy Committee in 2024 to enhance the climate change response governance framework, convening annual meetings on climate-related issues. The company's environmental governance capabilities are collectively enhanced by three departments: the Board Strategy Committee as the decision-making body, the ESG Promotion Committee as the management layer, and the ESG Task Force as the operational unit. In its governance practices, the company implements tailored risk responses to different climate change scenarios while actively promoting energy conservation and emissions reduction. By 2024, it achieved a 14% reduction in comprehensive energy consumption per unit of industrial output compared to 2020 and achieved full coverage of green electricity across its production facilities. However, challenges persist. Primarily due to the liquor industry's inherently high energy consumption and carbon emissions, Moutai faces significant pressure to reduce carbon footprints and conserve energy. Overall, however, Moutai has demonstrated strong performance in green production and resource utilization efficiency.

4.1.3 Kweichow Moutai's Society in ESG

According to Huazheng Securities' official website, Kweichow Moutai Co., Ltd. achieved a social responsibility score of 88 points, ranking ninth in the industry [11]. While its governance and environmental scores lagged behind, its overall performance was commendable. Through the "China Moutai · Pillars of the Nation" public welfare initiative, the company has invested over 1.3 billion RMB to support 250,000 students in realizing their university dreams. It also fulfills its social responsibilities internationally by extensively engaging in public welfare activities. In 2024, the company's cumulative volunteer activity hours exceeded 3,500, with its volunteer task force organizing environmental initiatives that attracted enthusiastic participation from 1,600 individuals. Finally, the company actively responds to rural revitalization efforts by integrating cultural and tourism industries to expand consumer markets, stimulate industrial momentum, advance project development, facilitate product distribution beyond local areas, and boost employment and income generation.

4.2. Modification of the Formula

4.2.1 Statistics for the ESG rating

Modifying asset valuation based on corporate ESG performance effectively prevents mispricing of assets and significantly narrows the information gap between companies and investors, reducing market inaccuracies in corporate value assessments [12]. Furthermore, research indicates a significant positive correlation between corporate ESG investments and financial performance [13]. Before modifying the DCF valuation model for Kweichow Moutai using ESG factors, ESG data must first be obtained to effectively integrate these modified values into the foundational DCF valuation. The London Stock Exchange's systematic ESG rating for Kweichow Moutai was selected (as shown below Table 1). The primary reason for choosing LSE ESG data is its comprehensive representation of Kweichow Moutai's performance across environmental, social, and governance dimensions, along with the percentage contribution of each sub-category to the overall score.

Table 1. Kweichow Maotai ESG Rating

[1] project	[2] rating
[3] Environment	[4] 77
[5] Emissions	[6] 99
[7] Resource Utilization	[8] 79
[9] Innovation	[10] 10
[11] Society	[12] 56
[13] Human Rights	[14] 21
[15] Product Responsibility	[16] 73
[17] Labor	[18] 63
[19] Community	[20] 86
[21] Governance	[22] 38
[23] Management	[24] 48
[25] Equity	[26] 17
[27] Sustainability Strategy	[28] 69

Table 2 shows the different positions corresponding to different ratings.

Table 2. Ratings Corresponding to Different Positions

[29] score	[30] explanation	[31] level
[32] 0 to 25	[33] The first quartile	[34] Poor
[35] 25 to 50	[36] The second quartile	[37] Relatively satisfied
[38] 50 to 75	[39] The third quartile	[40] Relatively well
[41] 75 to 100	[42] The fourth quartile	[43] Perfect

4.2.2 Specific Modification of the Formula

Secondly, when ESG considerations are incorporated into corporate valuation, the overall cost of capital (WACC) for companies generally decreases, with the exception of those with significant pollution issues. However, based on Huazheng Securities data, Kweichow Moutai already holds the highest ESG rating within China's liquor industry. Therefore, in this analysis, it is assumed that WACC will decrease after integrating ESG factors. For quantifying ESG, we can use the following formula:

$$WACC_{\text{esg}} = WACC_0 - (WACC_0 - WACC_{\text{min}}) * ESG_{\text{avg}} \quad (5)$$

To control valuations within a reasonable range, this paper employs a slight mapping to prevent excessive valuation growth. The value of $WACC_{\text{min}}$ is set to 6.

Beyond WACC, after integrating ESG practices, a company's long-term growth rate also increases accordingly—particularly for enterprises like Kweichow Moutai that implement robust ESG measures. To quantify the company's long-term growth rate g , we can use the following formula:

$$g_{ESG} = g_0 + ESG_{avg} * 0.01 \tag{6}$$

To control valuation within a reasonable range, this paper employs a small-scale mapping to prevent excessive valuation growth. Specifically, the impact of ESG_{avg} on g_0 is reduced to one percent of ESG_{avg} .

Before substituting values for calculation, the first step is to compute the value of ESG_{avg} .

This approach initially draws on the underlying concept of the entropy method, where projects with poorer performance carry greater weight. The overall ESG level is ultimately calculated through a weighted average.

First, for any value x_j within the table, the following holds:

$$d_j = 1 - x_j \tag{7}$$

Subsequently, calculate the weights

$$w_j = \frac{d_j}{\sum d_j} \tag{8}$$

Then, calculating its weighted average

$$ESG_{avg} = \sum w_j * x_j \tag{9}$$

Finally, the calculated ESG_{avg} result is approximately 0.356.

Second, from the Value Masters website, the WACC values obtained for the years 2020 to 2024 are: 8.55%, 8.48%, 11.92%, 11.98%, and 11.71%. Taking the average of these values yields $WACC_0$ as 10.528%. Next, regarding the selection of g , due to uncertainties in macroeconomic conditions and Kweichow Moutai's future development trajectory, this article provisionally adopts a value of 3%. Finally, based on data from Kweichow Moutai's official website and the company's free cash flow over the past five years, as shown as Table 1.

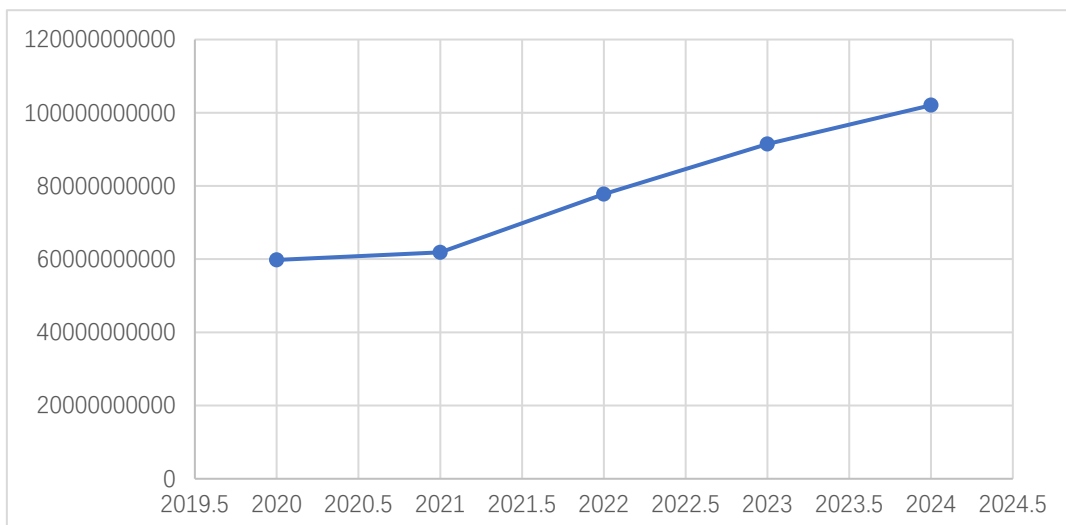


Figure 1. Cash flow of Kweichow Moutai from 2020 to 2024

As shown in the Figure 1, Kweichow Moutai's free cash flow has been steadily increasing. Therefore, based on the average growth rate over the past five years, the projected free cash flow for the next decade is shown as Figure 2.

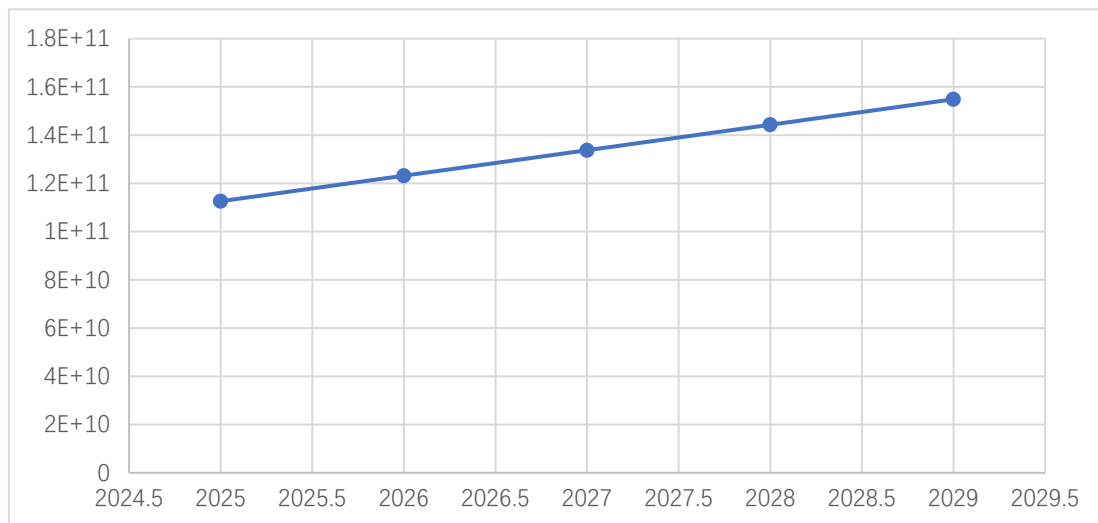


Figure 2. Cash flow of Kweichow Moutai from 2020 to 2024

4.3. The Assessment of Value and Comparison to The Current Value

Substituting the above data into the DCF model yields an estimated DCF valuation of approximately RMB 2.168 trillion for the company when incorporating ESG factors. This represents an increase of roughly RMB 200 billion compared to Kweichow Moutai's total market capitalization of RMB 1.857117 trillion based on its closing price as of September 5, 2025. This is reasonable and reflects the positive impact of Kweichow Moutai's ESG initiatives on its valuation.

5. Reflections on Model Construction

The method for calculating the ESG_{avg} value is somewhat subjective. While the modified value partially reflects the positive impact of Kweichow Moutai's ESG actions on valuation, the data weighting in the revised formula remains significantly influenced by subjective judgment. For instance, in the g_{esg} calculation formula, multiplying ESG_{avg} by 0.01 successfully keeps g_{ESG} within a reasonable range, yet this step still involves some subjectivity. Furthermore, Ou Kaiwang notes that mainstream international rating systems exhibit limited adaptability to China's market characteristics. Particularly in scenarios involving state-owned enterprise reforms and regional variations in low-carbon policies, these systems struggle to adequately reflect the advantages of local institutional frameworks [14].

6. Conclusion

This study examines the impact of ESG ratings on corporate valuation using Kweichow Moutai as a case study. By incorporating ESG factors into the standard DCF model, the research concludes that Moutai's superior ESG performance reduces its weighted average cost of capital (WACC) and enhances its valuation. This perfectly demonstrates the positive role of environmental, social, and governance practices in driving long-term corporate growth. Compared to traditional valuation methods, the ESG-adjusted DCF model more comprehensively reflects the positive impact of non-financial factors (ESG) on a company's long-term value.

The findings underscore the importance of incorporating ESG factors into corporate valuation. This not only helps investors more accurately assess a company's intrinsic value but also imposes higher sustainability standards on enterprises themselves. The Moutai case, in particular,

demonstrates that sound ESG practices can reduce information asymmetry, enhance transparency, and bolster investor confidence.

However, this study has certain limitations. First, the model adjustment process involves subjective assumptions, such as the weighting allocation across ESG dimensions and the mapping approach for WACC and growth rates. Second, internationally dominant ESG rating systems may not perfectly align with China's market policy characteristics, potentially introducing biases in scenarios like state-owned enterprise reforms or regional carbon reduction disparities, thereby affecting the accuracy of localized applications.

Future research could validate the applicability of the ESG-DCF framework across a broader sample of Chinese listed companies. Incorporating dynamic ESG data for time-series analysis could further reduce model subjectivity. Additionally, cross-country comparative studies could offer valuable insights into how ESG performance relates to corporate valuation under varying cultural, regulatory, and institutional environments.

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