Is ESG a 'Scam'? Correlation between ESG and Corporate Performance

Yuxuan He[1, *], Yangshan Liu[2], and Qian Pu[3]

[1]School of Civil Engineering, Central South University, Changsha 410083, China

[2]Department of Business School, University of Wisconsin-Madison, Madison WI 53706-1481, US

[3]College of Art and Science, New York University, New York, NY 10012, US

*Corresponding author: 8210200405@csu.edu.cn

Abstract. Environmental, Social, and Governance (ESG) are three factors to evaluate a corporation's growth opportunity and investment risk. With the increasing attention to environment protection and corporate relationship and governance, ESG has become a hot and controversial topic in the investment world. The article focuses on the correlation between ESG performance and corporate performance in two typical corporations, Tesla and First Solar. Utilizing the PEST model to analyze Tesla's performance and compare it with ESG, the article finds that Tesla's performance is exceptional while its ESG is poor. By contrast, excavating First Solar's financial data and analyzing a series of corporate indicators, the article discovers that First Solar is well known for ESG and sustainability but its profitability is very poor. Therefore, ESG is an important indicator but not a decisive one. ESG and corporate performance are not in a positive proportion. Poor ESG does not necessarily undermine Tesla's prosperity and commitment to sustainable development. First Solar's great ESG does not mean strong profitability. The article aims to instruct investors to put ESG into perspective, evaluate a corporation from multiple angles, and make a good investment.

Keywords: ESG; Corporate Performance; Indicators; Tesla; First Solar.

1. Introduction

Environmental, Social, and Corporate Governance (ESG) are three factors that are taken into account by socially conscious investors to screen potential investments [1]. Investors are increasingly using this as a non-financial component to identify significant risks and growth opportunities. ESG-related assets under management (AuM) are expected to grow to $33.9 trillion by 2026, accounting for more than one-fifth of total global assets under management [1].

Environmental factors indicate how a corporation safeguards the environment, including everything from the impact of climate change, material sustainability, and biodiversity to Greenhouse gas emissions, resource availability, and waste recycling.

Social factor reveals a company's social relationship such as that with its customers, suppliers, and employees [2].

Corporate Governance contains corporate architecture, the compensation of executives, and stockholder's rights, transparency of internal governance.

In recent decades, more and more people have realized companies' negative impact on the environment. Global warming, water contamination, and resource availability have become big problems for human beings to living on Earth. Investors are paying increasing attention to the environmental factor. In addition, with the increase in people's life quality and corporations' competition, the requirement for companies is higher. Customer assessment, employee salary, and corporate welfare are taken into account. In these cases, some people propose that ESG is a significant, even a key, indicator to assess a corporation when investing. Indeed, More than 90 percent of S&P 500 companies now publish ESG reports in some form [3]. Investors use it as a risk assessment criterion, which has led to many investment opportunities. In the long run, ESG is also used as a sustainable investment strategy, involving more and more governments in formulating policies to promote ESG disclosure by companies, but some prominent economists and entrepreneurs are skeptical about it. ESG has been called a "scam" by Elon Musk, a "socialist" by Milton Friedman, an

"unholy mess" by the Economist, and a “mirage" by Bloomberg. Friedman maintained that companies sacrifice their bottom lines when concentrating on purely external social responsibilities. “That may be true” [4]. Does ESG Rationalize? Because of the purely social and environmental impact of this indicator, most of the debate around it is that the theory is correct but the data are contradictory.
This article stands for the idea that ESG is an important but not a decisive indicator and illustrates the point by comparing ESG and the corporate performance of two typical companies, Tesla and First Solar.

2. Tesla's ESG and Corporate Performance

2.1. Corporate Introduction and ESG Analysis

2.1.1 Corporate Introduction and Environment

Tesla is a company where new energy vehicles replace fuel vehicles and clean energy replaces fossil. ESG scores range from 0-100, with scores below 50 deemed relatively poor and scores above 70 deemed good, and Tesla only scored 37. Tesla scored 9.1 out of 10 on environmental grounds, against an industry average of 6.5. This made up 30% of its total ESG score. On social issues, however, it ranked 1.4 compared with an average of 3.5, while on governance it scored 5.1 against an average of 3.2 [5]. Tesla's supercharger uses renewable energy by 2021, and Tesla at public charging facilities produces no net emissions. Tesla's battery recycling program is also an area of excellence in terms of sustainability, as Tesla can recycle 100% of the waste batteries generated during the manufacturing process, allowing it to reuse most of its end-of-life batteries to make new ones. Tesla's 2021 Impact Report shows that Tesla's 2021 cumulative savings of 8.4 million tons of carbon dioxide equivalent from the use of its cars and solar panels globally is equivalent to the emissions reductions of more than 3,400 acres of forest for one year [6].

However, the discrepancy between Tesla's operations and the comprehensiveness of the ESG rating creates a conflict, leading to a low overall ranking. Its environmental factor meets the criterion, but social and governance don’t.

2.1.2 Social Responsibility

Social issues include labor management that means challenging work conditions, long hours, and mandatory overtime in some Tesla facilities; product safety and quality according to data from the “Tesla Deaths” website, there have been as many as 101 recorded fatalities involving Tesla vehicles from the beginning of 2022 to the present. This raises concerns regarding the safety of Tesla's automotive products. Additionally, problems in society are poor working conditions.

2.1.3 Corporate Governance

Diversity and independence are big issues when it comes to Tesla’s governance. Over half of the board members at Tesla Inc. have personal affiliations or close relationships with Mr. Elon Musk, the company's CEO. Furthermore, Tesla's problem in government is that employees are lagging behind in gender diversity, with 25% female representation and racial discrimination. In February 2022, the Department of Fair Employment and Housing (DFEH) in California initiated litigation against Tesla Inc. The lawsuit contends that Tesla has been implicated in racial discrimination and harassment, with specific allegations highlighting disparities in work assignments, disciplinary actions, remuneration, and promotional opportunities, disproportionately affecting Black employees. This legal action was precipitated by complaints from several hundred workers, underscoring the gravity of the accusations.

2.2. Performance Disclosure



Figure 1. Tesla Revenue

However, from Figure 1, Tesla's revenue has shown continuous growth from 2013 to 2022 even though Tesla's ESG rank and score have been low.

2.2.1 Financial Performance

Tesla's financial results have grown significantly, driven by growing car sales, especially electric vehicle sales. The company's revenue and net income have been trending upward, largely due to strong demand for its Model 3 and Model Y vehicles. Tesla occasionally reports profitability every quarter which is a remarkable achievement for the electric car maker. Although the prices of its cars have declined, costs are expected to continue to decline as sales expand and operating leverage is optimized. In addition, the company's total sales are also expected to grow significantly, with growth expected to be as high as 23%, and will increase by another 25% in 2024, reaching a level of US$125.81 billion.

2.2.2 Vehicle Production

Tesla continues to expand its vehicle production capacity. Their main manufacturing facility is located in Fremont, California, and they also have gigafactories in Shanghai, China, and elsewhere. The Model 3 and Model Y have become some of the best-selling electric vehicles in the world. Elon Musk has set ambitious production growth targets and expressed plans to build new factories in Europe and Texas.

2.2.3 Challenges

The company's gross profit margin dropped by nearly 10 percentage points from the first quarter of 2022, and its free cash flow fell by 80% year-on-year. Meanwhile, the company's EBITDA margin has also rebounded after peaking recently. This was primarily driven by several simultaneous factors such as rising revenue costs, high labor costs, and increased net interest expense.

2.3. PEST Model to Analyze Tesla's Excellent Performance

2.3.1 Politics

Many countries have policies to encourage electric vehicles, offering tax breaks, subsidies for car purchases, and other incentives. Some local governments have restrictions or bans on polluting vehicles, such as China's policy of restricting travel with single and double license plates.

2.3.2 Economic

Empirical data underscores an augmented consumer inclination towards EVs, primarily attributed to perceived long-term economic efficiencies and enhanced understanding of EVs' sustainable economic model. Tesla's strategic escalation in production, particularly through its gigafactories, enables a reduction in per-unit manufacturing costs, reinforcing its cost-competitive stance in the EV landscape.

2.3.3 Society

Today's society is more aware of sustainability and environmental protection, and consumers prefer new energy vehicles. Tesla's brand image is considered as a leader in innovation and trolley cars, attracting a large number of consumers who are looking for technology and innovation.

2.3.4 Technology

Tesla's innovations in battery technology, autonomous driving, and other in-vehicle software provide a competitive advantage. The company is constantly iterating on technology and updating software to ensure that its products remain ahead of the market.

2.3.5 Brief Summary of PEST

All in all, with a growing number of national markets, Tesla benefits from policies that prioritize electric vehicles. Through PEST analysis, Tesla's success is the result of the interaction of multiple external and internal factors. The company has successfully capitalized on the opportunities of the contemporary environment with its innovative products, strong brand, and policy support.

2.4. Results

The ESG metrics have not influenced Tesla's exceptional performance. This indicates that for an innovative electric vehicle company like Tesla, a diminished focus on ESG is justifiable. From this perspective, one can argue that ESG is merely a methodological framework, devoid of any stance. Historically, Tesla has demonstrated a trajectory of sustainability, laying the groundwork for a new epoch. While its ESG scores might be perceived as suboptimal, it does not necessarily undermine Tesla's commitment to sustainable development. Thus, it is not accurate to label ESG as a mere “deception” based on such evaluations while it is incorrect to put ESG as the priority to evaluate a corporation.

3. First Solar's ESG and Corporate Performance

3.1. Corporate Introduction

First Solar is a solar technology company and a leading American manufacturer of solar panels [7]. As the world’s largest solar cell producer, it is well known for its wonderful ESG performance and high score. However, the company’s performance and profitability are not as great as ESG. The article tends to figure out the reasons behind the inconsistency.

3.2. ESG Analysis

3.2.1 Environmental

First, faster decarbonization is enabled through lower embodied carbon. The company produces ultra-low-carbon solar to enhance decarbonization [7].

Second, waste is transformed into resources. The semiconductor is made from zinc and copper. First Solar combines Cadmium (Cd), which is a waste byproduct of zinc refining, with tellurium (Te), a waste byproduct of copper refining, thereby transforming them into a stable CadTel (CdTe) compound, which offers a sustainable use for materials.

Third, high-value recycling helps to recover materials. Modules of First Solar are made for high-value recycling. It helps to recover over 90% of module materials [7].

3.2.2 Social Responsibility

First Solar has a culture of agility, collaboration, and accountability to instruct the work. Also, the company prioritizes employees' health and safety, establishing a clean, injury-free, and safe hi-tech environment. According to Figure 2, the recordable Injury Rate (RIR) remains stable at a very low level.

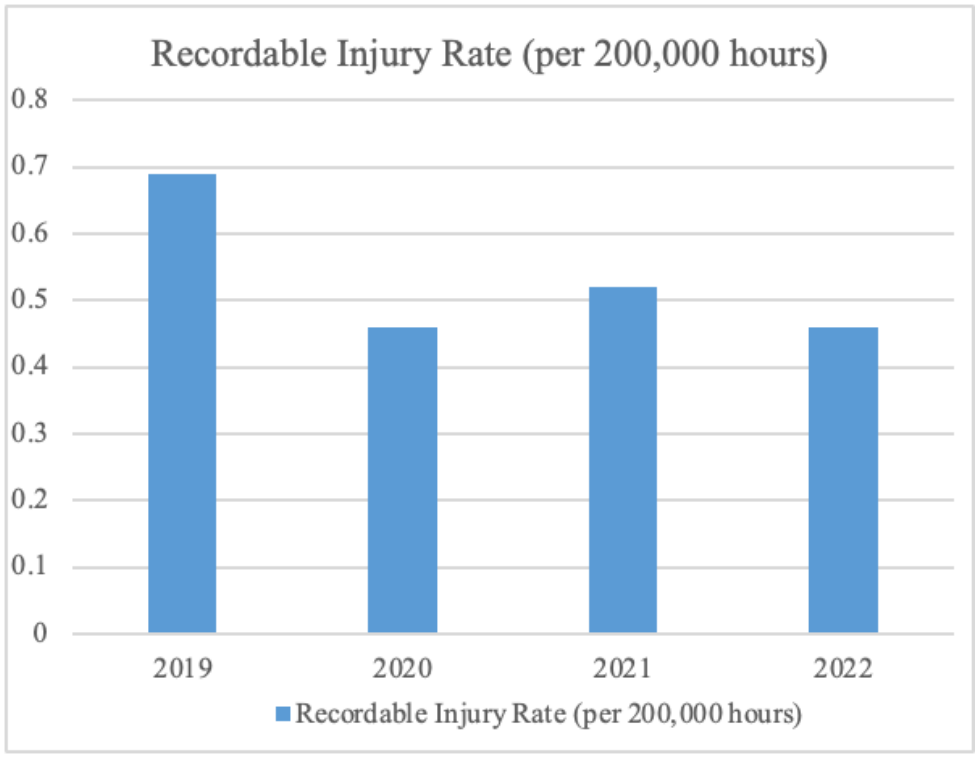


Figure 2. First Solar's RIR

Furthermore, at First Solar, inclusion, diversity, and belonging are not only programs or initiatives but also transformations. The company encourages and values different voices including everything from race, ethnicity, gender, and sexual orientation to military generation, status, generation, personalities, backgrounds, and perspectives[7].

First Solar provides a global charitable giving program. From Table 1, First Solar donated over $619,000 in in-kind contributions and total cash in 2022[7].

Table 1. Global Charitable Giving Program in 2022

Global Charitable Giving Program	Sort	2022
Manufacturing and Office Site Donation	Community	$236,835
Business Development Donation	Community	$287,550
Corporate Charitable Fund Donation	Charitable	$95,000
	Total	$619,390

3.2.3 Corporate Governance

In First Solar's Board, the Governance and Nominating Committee are responsible for monitoring progress on environmental targets, supervising the company's climate change goals and strategy, and supervising the company's human rights due diligence efforts[7].

First Solar takes ethical business conduct as a priority and tries to spread the concept from BOD to normal employees to suppliers. Every one of them feels free to report any concern through the third-party operated Ethics Hotline which offers a confidential and anonymous solution [7].

First Solar requires all of its employees to observe the U.S. Foreign Corrupt Practices Act (FCPA) and all the other appropriate local anti-corruption laws and provides FCPA training for the employees.

The company also conveys the anti-corruption and anti-bribery values to its customers and service contracts [7].

3.3. Performance Analysis

3.3.1 Performance Disclosure

Profitability and cash flow are the best indications of performance. Although First Solar has achieved good performance in ESG, according to Figure 3 and Table 2, its gross profit and net income do not reflect a high correlation with its ESG performance.

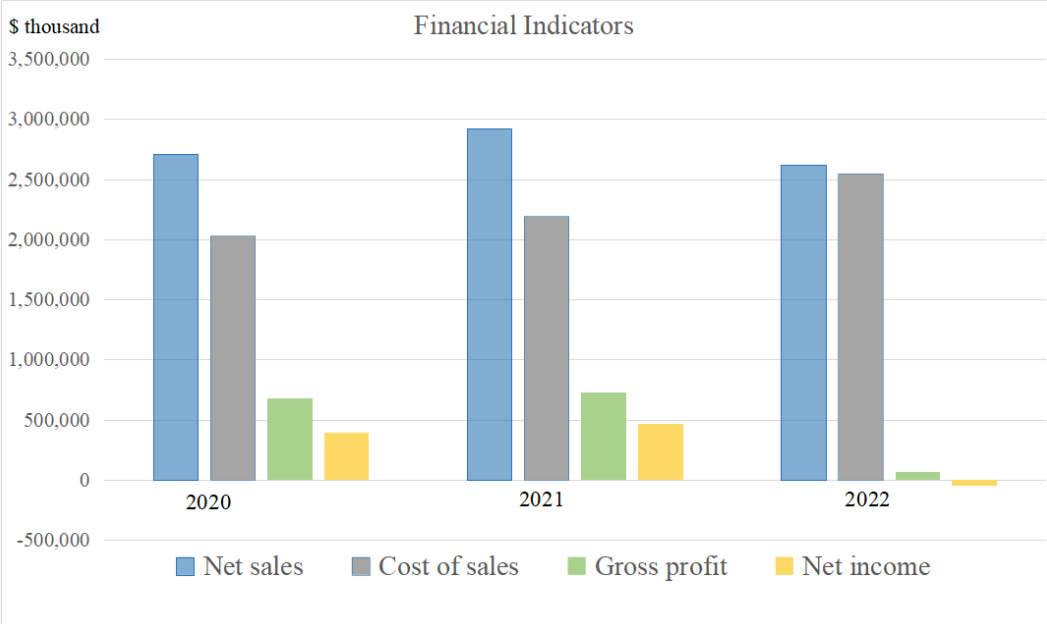


Figure 3. Financial Indicators Histogram

Table 2. First Solar's Financial Indicators

Unit	Financial Indicators	2020	2021	2022
$ Thousand	Net sales	2,711,332	2,923,377	2,619,319
$ Thousand	Cost of sales	2,030,659	2,193,423	2,549,461
$ Thousand	Gross profit	680,673	729,954	69,858
$ Thousand	Net Income	398,355	468,693	(44,166)

There could be multiple reasons for its poor profitability and these could include as follows.

3.3.2 Policy and Regulatory

The solar energy industry is affected by government policy and regulation, and policy changes may affect the company's profitability.

Government support, tax incentives, and tariff protection can pay dividends for First Solar for a period of time, but such favorable policies will not always be available, and any limitations on the value or availability of tax incentives to potential investors that benefit solar projects, such as the ITC, which is currently scheduled to fall to 22% in 2023 and 10% in 2024, with accelerated deductions, may result in reduced financial returns to these investors, resulting in less affordable financing and, therefore, a reduced demand for PV solar modules [8].

Because First Solar, as a solar company, produces more than 30 raw materials, its costs are also affected by the policy that, under Section 232 of the Trade Expansion Act of 1962, the U.S. imposes tariffs on certain imports of aluminum and steel from certain foreign jurisdictions, generally at the rates of 10 percent and 25 percent, respectively [8].

3.3.3 Material Cost Volatility

The manufacturing of solar panels requires some raw materials such as silicon and silver, the prices of which may fluctuate and adversely affect the company's costs (see Figure 4). CdTe (Cadmium telluride) is one of the key raw materials used by First Solar to manufacture its products. However, the price of Cadmium has fluctuated greatly in the past, and several of the key raw materials and components are either single-sourced or sourced from a limited number of suppliers[9]. This indicates that First Solar's supply chain is very inelastic. Therefore, First Solar is prone to cost overruns, which can compress corporate profits. At the same time, cost volatility and uncertainty in market demand have frustrated First Solar's long-term plans.



Figure 4. Price Trend of Cadmium

3.3.4 Competition

Intense competition in the solar industry: the solar industry is highly competitive and there are many competitors in the market, which may negatively affect the company's profitability. The adoption of solar energy has been on an upward trend since 1988 until now, and more companies and capital will enter the market in the following years to divide First Solar's market share.

In addition, other renewable energy technologies are maturing. For instance, wind, tidal, hydroelectric, geothermal, and nuclear are all growing and gradually capturing the market at a lower cost. In comparison, solar energy is not as competitive as them, which might explain the constrained performance of the company.

3.3.5 Customers

80% of customers exist in the United States, with Southern (SO), NextEra Energy, and Recurrent Energy being the major customers of First Solar. Due to the homogenous nature of the customer base, the loss of any major customer would have a significant impact on First Solar's sales.

In addition, the market for electricity generation products is largely affected by state, federal, foreign, and local government policies and regulations which concern the electric utility industry, and policies publicized by electric utilities [10]. Those regulations may affect the price of PV modules, resulting in fluctuation in performance.

3.3.6 Technology

Significant financial resources need to be invested in R&D to improve module conversion efficiency to be on par with the most advanced solar technology companies. The return on this huge expenditure is difficult to estimate. R&D costs may not cover the benefits of technological advances, while other companies may master new technologies faster.

3.3.7 International operations

First Solar plans to expand globally, which subject the company to the risks of foreign currency exchange rate fluctuation, different law and labor conditions and tax escalation. Also, expansion means uncertainty: new customers, resources along with more competitors and increasing cost. This is a double-edged sword and a risky move. In the long run, the expansion does good for the world and benefits the company at the same time. Nonetheless, in the short term, it is difficult to see positive feedback, and is a tortuous and bumpy road.

3.4. Results

First Solar's performance is not in positive correlation with the proportion of ESG performance. In the long term, First Solar is a wonderful ESG company that might attract investment because it benefits the world and society in sustainable development. However, another measure of a corporation is its profitability. First Solar's gross profit and net income are considerably low, which shows poor profitability. In the short term, this tends to cause high pressure and risks of failure. Thus, ESG might be a significant indicator to evaluate a corporation but not a decisive one.

4. Conclusion

The article mainly studies two typical corporations, Tesla and First Solar, and focuses on the correlation between ESG performance and corporate performance.

Tesla's performance is exceptional but it does not care too much about its ESG. Through the analysis with the PEST model, Tesla's excellent performance ascribed to several factors including everything from capitalizing on the opportunities of the market with its innovative products, strong brand, and policy support to its advanced technology and sustainable ideas. To some degree, ESG is just a methodological framework. While its ESG score might be perceived as suboptimal, it does not necessarily undermine Tesla's flourish and commitment to sustainable development.

By contrast, First Solar's ESG is superior but the profitability is poor. From the financial data, it is clear that the company's gross profit and net income are low. High material cost, costly technology, unfavorable policy, fierce competition, homogenous customers, and challenged expansion constrains the profitability of First Solar. Therefore, ESG might be a significant indicator to evaluate a corporation but not a decisive one.

In light of the article's discoveries and limitations, the way to put ESG into perspective is to take environmental, social, and governance as three normal indicators. Investors should apply ESG to different scenarios and industries, put several indicators together, and make an assessment. When adding the factor of time, investors are suggested to make a balance between long-term sustainable development and short-term return to run the snowball.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

References

[1] The Investopedia team. What is Environmental, Social, and Governance(ESG) Investing. Investopedia, 2023.

[2] Dame Vivian Hunt. Emphasizing the S in ESG. Mckinsey & Company, 2022.

[3] Lucy Pérez, Dame Vivian Hunt, Hamid Samandari, Robin Nuttall, and Krysta Biniek. Does ESG really matter—and why?. McKinsey Quarterly, 2022

[4] Jason S and Phyllis C. ESG: Right Thesis, Wrong Data. The University of Chicago, 2022.

[5] Simon Jessop and Ross Kerber. Analysis: Musk's ESG attack spotlights $35 trillion industry confusion. Reuters, 2022.

[6] Eva Fox. Tesla Enabled its Customers to Avoid Emitting 8.4 Million Metric Tons of CO2e in 2021. Tesmanian, 2022.

[7] Sustainability Report 2023. First Solar, 2023.

[8] Inflation Reduction Act Extends and Modifies Tax Credits for Solar Projects. McGuireWoods, 2023.

[9] Sustainability Report 2023. First Solar, 2021.

[10] Lauren Murphy, Lexie Pelchen. Solar Tax Credit By State in 2023: The Ultimate Federal Solar Energy Tax Credit Guide. Forbes, 2023.