

The Impact of ESG on Financial Performance: The Indian Scenario

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Abstract

Purpose: This study attempts to find out the impact of ESG investments on the financial performance of Indian listed public companies, and the effect of using the ESG criterion on index portfolio, and sector-wise portfolios.

Design/methodology/approach: A sample of the top 50 Indian companies listed on National Stock Exchange of India was used in two periods of nine years each – pre-ESG and post-ESG to analyse the impact of ESG on the performance of individual companies as well as on general and sectoral portfolios created using pre-ESG and post-ESG data, using the Sharpe ratio.

Findings: The results show an upward movement in the share prices of all the sample companies, along with an increased volatility. The evaluation of the performance of the overall portfolio shows a decrease in the post-ESG portfolio as compared to the pre-ESG portfolio. In terms of performance of sectoral portfolios, ESG is found to lead to a very small improvement for sectoral portfolios, but not for portfolios of diversified companies.

Practical implications: The results of this study have important implications for investors looking to invest in funds or portfolios that use ESG as a metric for portfolio selection. It can also help fund managers make decisions about the selection of stocks to be included in a portfolio. Additionally, it may signal to green investors that as of now, investing in companies with an environmental perspective may not be profitable.

Originality/value: This study makes an important contribution to the literature on ESG and financial performance of companies and portfolios in India.

Keywords: ESG, financial performance, portfolio performance, India

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I. Introduction

ESG is an acronym that was created in 2004 by 20 financial institutions in reaction to a request from Kofi Annan, the Secretary-General of the United Nations. ESG, as the name suggests, is a way for businesses and investors to think about how they deal with environmental, social, and governance issues (Gillan, Koch and Starks, 2021).

ESG evolved from the broader concept of Corporate Social Responsibility (CSR), which is broad and thus widely understood by different people with different approaches and contexts. CSR and ESG have been around at the same time and practitioners, standard setters, and academics have often thought of them as the same thing (Sandberg et al., 2009). Hence the literature on causal relationship between CSR and corporate financial performance (CFP) can be used to understand the relationship between ESG and CFP.

Responsible investing or socially responsible investment (SRI) is the process of analyzing an investment based on sustainability criteria, such as ESG ratings. In the past few years, SRI has become more popular, and the value of SRI portfolios has increased substantially.

Previous studies that looked at the link between CSR and CFP found either positive, negative, or insignificant results. This led Nelling and Webb (2009) to call it a "virtuous circle", indicating that CSR enhances CFP and vice-versa.

Some studies such as Simpson & Kohers (2002) say that CSR and CFP have a strong positive relationship, while other studies say that CSR and CFP have a strong negative relationship (Han, et. al., 2016). Some academic studies, on the other hand, have found no relationship between CSR and CFP or even found a U-shaped relationship between the two (Griffin & Mahon, 1997; McWilliams & Siegel, 2000).

It needs to be noted that all these studies are based outside of India. Even in India, the concept of socially responsible investing is on the rise, but there is no definite empirical evidence on the impact of ESG related expenditure on the financial performance of the firm or using ESG as a tool for screening investments on returns generated by the portfolio that includes such firms.

In such a scenario, it is very important to understand whether ESG investments lead to better returns for investors who invest in companies, or portfolios focused on sectors or the overall market in India. To the best of the researcher's knowledge, there is very little research on this in the Indian context.

Therefore, this study aims to explore the relationship between ESG activities and financial performance of the firm, and portfolios focused on individual sectors and the overall market for companies in India.

More specifically, the study addresses the following research questions:

RQ1: Is there a relationship between ESG activities and financial performance of companies in India?

RQ2: Is there a relationship between ESG activities and returns on the market portfolio in India?

RQ3: Is there a variation in the impact of ESG activities on financial performance of companies in India based on the sector they belong to?

The paper is organized as follows. The next section deals with an in-depth literature review about ESG and its evolution world-wide and in India, socially responsible investing, and the current research on ESG and financial performance. The next section discusses the research methodology adopted. This is followed by the findings of the analysis conducted on the top 50 Indian companies. The conclusions from the findings are presented next. Finally, the discussion section provides the practical implications of the study, limitations and further scope for research.

II. Literature Review

Meaning and evolution of ESG

ESG is an abbreviation created in 2004 by 20 financial institutions in accordance with an appeal by Kofi Annan, the Secretary-General of the United Nations. ESG, as the acronym suggests, refers to the manner in which firms and investors integrate environmental, social, and governance considerations into their business models (Gillan, Koch and Starks, 2021). CSR has traditionally meant that a company is trying to be a better corporate citizen by being more socially responsible. One difference between ESG and CSR is that ESG includes governance issues directly, while CSR involves governance issues indirectly through how they interact to with environmental and social issues. As a result, ESG is a broader term than CSR (Gillan, Koch and Starks, 2021).

The kind of ESG metrics used to measure sustainability is based on the scope and model of the study. ESG or SRI indices are looked at in a number of studies about performance. The majority of these studies compare the performance of SRI portfolios to traditional portfolios or market benchmarks (Widyawati, 2019).

ESG metrics can also be used to instruct and raise understanding about SRI. Previous research (Escrig, Muoz & Fernández, 2013; Giamporcaro & Pretorius, 2012) shows that investors who do not know or understand the available ESG metrics are less likely to invest in SRI. ESG metrics help investors understand the process of integration by showing them the different ESG dimensions and measurements they can use to turn their beliefs into investment criteria (Heinkel et al., 2001).

ESG metrics are primarily used to screen out unethical businesses. Because of this, most first-generation ESG metrics, like the original KLD rating, use binary codes to show whether or not certain sustainability criteria are met (Hart & Sharfman, 2015; Sharfman, 1996). However, the criteria are controversial because no one can agree on what social responsibility is (Michelson et al., 2004). This kind of ESG metric is very subjective and may not always be consistent, especially when the method is not made public (Widyawati, 2019).

When evaluating and selecting the best performing companies, it is difficult to use binary-based ESG metrics. As a result, ESG metrics have changed to more accurately show how well a company is doing in terms of sustainability. This has caused a change in SRI practices over time (Renneboog et al., 2008b). In this second generation of ESG metrics, an overall score is given, more specific criteria are made for each dimension, the weights for each dimension are reevaluated, and the binary code is expanded. This creates a scoring model that shows different levels of performance.

Research on SRI investor behaviour, SRI development, and ESG metrics shows that ESG metrics give legitimacy to the SRI market, speed up its growth, and make more people aware of it. When building an SRI market, ESG metrics are very important. An ESG metric is a tool that helps SRI stakeholders adapt and align their mental models with professional standards in the financial sector. ESG metrics help make sure that SRI is a legitimate new financial market (Déjean, Gond & Leca, 2004) by making it easy for the wider financial community to understand and use. As SRI markets grow, ESG rating agencies work with other big players in the financial market to maintain their legitimacy (Giamporcaro & Gond, 2016).

Therefore, it is important for promoting new markets, especially in emerging economies, to understand the role of ESG metrics in setting up SRI markets. According to reviews of SRI market growth in different countries, SRI portfolios have grown a lot since ESG metrics or ESG rating agencies were introduced (Widyawati, 2019).

ESG evolved from the broader concept of Corporate Social Responsibility (CSR), which is broad and thus a lot of people understand it in different ways and for different reasons. For the purpose of this paper, the

literature on CSR has been used for describing the relationship between ESG and CFP, due to the paucity of research on ESG and CFP.

Mohr (1996) says that CSR has multiple definitions that describe the main duties of a business. Carroll's (1991) study mentions four kinds of obligations of CSR: (1) economic, (2) legal, (3) ethical, and (4) philanthropic, which are with respect to various stakeholders such as company owners, customers, employees, communities, and society as a whole.

Godfrey (2005) says that CSR is a multidimensional construct made up of three main parts with the goals of (1) helping businesses operate in a transparent way, (2) helping businesses make all well-thought-out choices about the interests of their stakeholders, and (3) developing positive capabilities to proactively yield benefits for society in a voluntary way that goes beyond social expectations and the law. Fombrun et al. (2015) maintain that CSR can be measured by the quality of products and services, creativity and innovation, the working environment, compliance, citizenship, leadership, and performance. CSR stands for a company's responsibility to society, but it also means that businesses selling goods and services to customers have to be good citizens and are hence becoming more concerned with social welfare and environmental, ecological balance. (Saeidi et al., 2015; Van Beurden&Gosling, 2008). In real life, CSR implies different things to different people depending on their situation and point of view.

Socially responsible investing

Responsible investing or socially responsible investment (SRI) is the process of analyzing an investment based on sustainability criteria, such as ESG. In recent years, SRI has become popular, and the value of SRI portfolios has grown a lot, which is good for the environment. CSR and ESG have been around at the same time, and practitioners, standard-setters, and academics have often treated them as the same thing.

However, investors interested in SRI have several concerns including the fact that there is no clear definition of when investments can be called (socially) responsible, that there are not many standards for SRI investments, and that the data on companies' ESG ratings is not very good (Sandberg et al., 2009).

The origins of SRI in institutions reflect this complexity: the presence of competing stakeholders (Fligstein and McAdam, 2012; Scott, 2014) and contradictory prescriptions from multiple logics (Kraatz and Block, 2008; Greenwood et al., 2011).

SRI is a well-known term that became more popular in the 1980s and 1990s, but its roots go back two thousand years. They were shaped by thinkers during the civil rights movement, faith-based organizations, especially Christian churches, which "played a pioneering role in the development of SRI globally", and women (Sparks, 2006, p.8). John Wesley, one of the founders of the Methodist movement in the 18th century, was against investing in sinful things like the slave trade, the arms trade, and alcohol. This is where SRI got its start in the USA. The PAX World Balance Fund was the world's first modern SRI mutual fund. It was set up in 1971 by United Methodist ministers who were worried about making money from the Vietnam War.

The Norwegian Sovereign Wealth Fund's decision in 2004 to use SRI policies also became important (Vasudeva, 2013), because it led to decisions that got a lot of attention, such as the fund's decision to exit Walmart in 2008. In 1997, the UK Labor government enacted SRI disclosure regulations for pension assets, marking a pivotal event with global ramifications (Sparkes, 2003). France, Germany, Sweden, Belgium, Norway, Austria, and Italy followed suit immediately (Vitols, 2011). Today, millennial analysts at Wall Street firms, financial engineers, pension trustees, heads of family offices, sovereign wealth funds, and regular investors are among the people who support it. Even though SRI has social goals and aims, it is a form of investment and is therefore deeply rooted in the logic of finance (Besharov and Smith, 2014).

Studies on motivation for SRI (Anand & Cowton, 1993; Mackenzie & Lewis, 1999; Beal, Goyen, & Phillips, 2005) show that both financial and non-financial motivations play a role in the SRI decision. But the balance between these two reasons for investing in SRI varies from investor to investor. This affects an investor's willingness to take on the risk of SRI's lower financial returns (Webley, Lewis, & Mackenzie, 2001).

Sethi (2005) maintains that institutional investors or pension funds could play a very important role not only as investors but also as SRI advocates, because their actions could encourage other investors, including credit investors (like banks, private equity, and project financing providers), to do the same (Scholtens, 2006). Nongovernmental organizations also play important roles as investors and advocates by engaging in shareholder activism, creating SRI funds, campaigning for SRI, or consulting with SRI funds (Guay, Doh, & Sinclair, 2004). These studies show that the SRI market is unique because every participant can play more than one role (Widyawati, 2019).

CSR and ESG have been around at the same time, and practitioners, people who set standards, and academics have often treated them as the same thing. But the superficial similarities hide some important differences. Investors are worried that there isn't a clear definition of when investments can be called (socially) responsible, that there aren't any standards for SRI investments, and that the data on companies' ESG ratings isn't very good (MacNeil and Esser, 2022).

CSR and ESG are subsets of sustainability that work in the corporate and financial fields, respectively. Sustainability focuses most directly on externalities and, from the point of view of corporate governance, on how the de facto norm of shareholder primacy has limited the internalization of externalities by putting the focus on shareholder interests. The fact that CSR is based on ethics means that the focus should be on doing the right thing in the context of how the business works. In this way, the ethical choice is not framed as a way to improve financial performance, even though it may be thought that following ethical standards will have this effect in the long run. ESG is mostly about financial risk and return, so the main goal of adding ESG factors to the investment process is to improve long-term returns by reducing the risks that come with those ESG factors. There is definitely an overlap between the different approaches, especially at the level of implementation, where techniques like metrics or key performance indicators (KPIs) may address concerns that are common to both (MacNeil and Esser, 2022).

The concept of SRI is gaining traction with the United States Social Investment Forum (USSIF, 2018) reporting that sustainable, responsible, and impact investing now make up 38% of all investments in North America, or \$12 trillion. This is up from \$8.4 trillion in 2016. Most of this growth is due to the fact that people with a lot of assets now take into account ESG criteria for their \$11.6 trillion worth of assets, which is up 44% from their \$8.1 trillion worth in 2016.

Effect of ESG on Corporate Financial Performance

In the last few decades, the relationship between CSR and Corporate Financial Performance (CFP) has become a very controversial topic among researchers and academics. Also, the empirical evidence about the nature of this relationship is not clear.

Even though there have been a lot of empirical studies on the link between CSR and firm financial performance (Kim et al., 2018b; Petrenko et al., 2016; Wang and Choi, 2013), there is still not a lot of agreement on how this link works (McWilliams and Siegel, 2000; Wang et al., 2016b). Previous studies that looked at the link between CSR and CFP found either positive, negative, or insignificant results. This led Nelling and Webb (2009) to call it a "virtuous circle" (suggesting that CSR boosts CFP and vice-versa).

Some research shows that there is a moderately positive link between CSR and the financial performance of a company (Kang et al., 2016; Wang and Choi, 2013). Others have said that CSR hurts or does not affect how well a company does (Smith and Sims, 1985; Wright and Ferris, 1997). Recent meta-analyses and reviews comment on these different results (Lu et al., 2014; Endrikatt et al., 2014; Dixon-Fowler et al., 2013; Aguinis and Glavas, 2012; McWilliams and Siegel, 2000).

Recent reviews and meta-analyses show a slight positive link between CSR and financial performance (Wang et al., 2016a). Most studies that maintain that CSR has a positive effect on performance have done so from a stakeholder and an instrumental point of view (Cheng et al., 2014; Orlitzky and Shen, 2013; Graves and Waddock, 1994). According to this line of research, CSR can improve a company's reputation, external links, and access to resources (Arendt and Brettel, 2010). (Campbell, 2007; Tuzzolino and Armandi, 1981). It can also help a company's credit rating and lower its cost of capital (Ye and Zhang, 2011).

Researchers also maintain that CSR has many benefits and helps an organisation grow and make money (Skare&Golja, 2014; Weber, 2008). Yoon and Chung (2018) state that CSR is a key part of improving the long-term growth strategy of any organism. Abugre and Anlesinya (2019) also found that when companies engage in more CSR, their stakeholders give them a lot of value in terms of their reputation, which is good for their business as a whole (Santis et al, 2016).

Waddock and Graves (1997) found a correlation between CSR and CFP. These researchers conducted research on 469 KLD-registered companies and looked at the effects of CSR from two perspectives: the view of scarce resources and the notion of good governance. Their conclusions showed that CSR and a company's past and future financial performance are significantly positively correlated. Similar to this, Kim and Kim (2014) showed that CSR increases the value of shareholders' capital while having a favourable impact on financial performance.

Negative relationship

On the other hand, some researchers posit that CSR activities would cost extra money that could be used for market-oriented strategies (Darnall and Edwards, 2006). Some empirical studies have found a negative or no relationship between CSR and CFP (Aupperle and Pham, 1989; Margolis and Walsh, 2003; McGuire et al., 1988).

The association between environmental activism and a company's performance measured as earnings per share was predicted by Sarkis and Cordeiro (2001) using data from 523 US corporations and a DEA analysis. They then showed a negative association between short-term CFP and environmental performance which was indicated by the TRI data DEA score assessed by Return on Share. Also, they found that the effects of pollution prevention were worse than the effects of pollution at the end of the pipe. Such discoveries could hurt the company's success by lowering the return on share.

The performance of socially conscious mutual funds (SRMF), the NYSE Composite index, and a portfolio of the companies that SRMF values the most were compared in a different study by Shank, Manullang, and Hill (2005). They eventually discovered that the performance of companies that professional money managers had deemed to be socially responsible did not outdo the general market.

Similar to this, Johansson, Karlsson, and Hagberg (2015) examined 167 Swedish companies' CFP and CSR relationships. From 2006 to 2009, there was no clear relationship between CSR and financial performance (as measured by ROA and Tobin's Q), consistent with other prior studies.

The existing evidence from literature indicates that there is no clear link between CSR activities and spending by corporations and how well they do financially. Due to the limited literature on the effect of ESG ratings on CFP, this paper uses the above evidence for the relationship between ESG and CFP too.

ESG metrics are now being used to create portfolios or select investment assets. Studies have found a huge increase in the number of investment assets that have ESG features built in. Sarangi (2021) found that SRI/ESG equity funds nearly doubled in 2020 and that SRI/ESG bonds also went up by 100%. Importantly, stocks and bonds with ESG features have performed better than their peers in terms of returns (Sarangi, 2021).

ESG factors are becoming more and more important to Indian businesses as they make business decisions. Numerous asset management companies, such as Axis Mutual Fund, ICICI Prudential, and Aditya Birla Sun Life, have initiated ESG-integrated schemes (Jethmalani, 2021) and are increasingly using ESG norms to make investment decisions. Data from the National Stock Exchange (NSE) shows that companies with an ESG index performed better than companies without an ESG index (Sarangi, 2021).

There is very little empirical evidence on the relationship between ESG and financial performance of a firm. To address this gap in the research, the present study aims at analysing the impact of ESG on financial performance of companies in the Indian context, and more specifically of the NSE 50 (NIFTY) listed Indian companies.

III. Research Methodology

As mentioned earlier, this study attempts to answer the following research questions:

RQ1: Is there a relationship between ESG activities and financial performance of companies in India?

RQ2: Is there a relationship between ESG activities and returns on the market portfolio in India?

RQ3: Is there a variation in the impact of ESG activities on financial performance of companies in India based on the sector they belong to?

To answer these research questions, a sample of 50 public companies listed on the National Stock Exchange of India (NSE) as on 1st August 2022 was created. The share price data for these companies was obtained from the NSE website.

Since there is no currently available set of ratings or database for ESG expenditure for Indian companies, it was decided to use CSR activities as a proxy variable for ESG activities (Sandberg et al., 2009). On April 1, 2014, India became the first country to legally mandate expenditure on CSR. Section 135 of The Indian Companies Act 2013 created a requirement for companies having net worth of at least INR 500 crores or turnover of at least INR 1,000 crores or net profit of at least INR 5 crores in the previous financial year, to expend 2 per cent of the average of its net profits of the past three years on CSR activities.

In light of this regulatory environment, this paper designates the period of nine years 2014 to 2022 as "Post-ESG" period, and an equal period from 2005 to 2013 as the "Pre-ESG" period.

This paper attempts to check whether there was any change in the Sharpe ratios of the overall portfolio comprising all the sample companies, as well as on the sectoral portfolios that divide the sample companies into separate portfolios based on their GICS sector.

For both, the "Post-ESG" period, and the "Pre-ESG" period, the market return and standard deviation of the scrips have been calculated. Further, the Sharpe Ratio has been calculated for the same. Owing to a wide timeline, the average of each year's return and deviations have been used for calculation of the Sharpe Ratio. The Sharpe ratio has been calculated for the overall portfolio comprising all the sample companies, as well as on the sectoral portfolios.

IV. Findings

Table 1: Descriptive Analysis

Particulars	Pre-ESG				Post-ESG				Δ - Change Pre and Post ESG			
	Mean	Min	Max	SD	Mean	Min	Max	SD	Mean	Min	Max	SD
Shree Cement	1547.40	51.90	4699.90	1471.07	17386.16	4340.00	27000.00	5502.6	15838.76	4288.10	22300.10	4031.56
Nestle India	2246.29	515.60	5297.25	1666.80	11354.84	5310.15	19708.55	5645.2	9108.55	4794.55	14411.30	3978.36
Bajaj Finance	47.45	4.76	157.43	43.00	2938.61	157.50	7288.50	2498.0	2891.16	152.74	7131.07	2455.03
Maruti Suzuki India	936.04	158.40	1763.00	478.11	6475.58	1764.10	9749.00	1842.7	5539.54	1605.70	7986.00	1364.56
Divi's Laboratories	282.13	8.06	610.90	104.73	1990.39	613.70	4680.00	1448.2	1708.25	605.64	4069.10	1343.43
Apollo Hospitals Enterprises	345.63	53.08	945.95	243.90	1983.06	942.65	5050.00	1423.2	1637.43	889.57	4104.05	1179.31
UltraTech Cement	945.51	257.75	1995.00	533.81	4256.34	1769.00	7600.00	1618.6	3310.83	1511.25	5605.00	1084.84
Britannia Industries	163.24	51.26	460.20	87.71	2407.38	462.46	3752.85	976.9	2244.14	411.20	3292.65	889.23
Asian Paints	165.41	21.96	490.75	147.26	1663.10	493.75	3432.30	1005.8	1497.69	471.79	2941.55	858.57
Titan Company	95.38	3.91	285.00	90.62	1062.60	230.00	2661.15	810.8	967.22	226.09	2376.15	720.19
TCS	385.68	119.53	1085.48	247.19	1985.55	1090.00	3744.00	931.8	1599.87	970.47	2658.52	684.58
Reliance Industry	356.29	74.29	730.55	186.08	1208.54	438.58	2597.60	754.7	852.25	364.29	1867.05	568.58
Hindustan Unilever	283.43	143.50	570.95	125.52	1544.23	570.00	2580.30	673.1	1260.81	426.50	2009.35	547.53
Bajaj FinServ	49.82	14.59	90.99	25.92	684.16	74.70	1715.78	526.7	634.34	60.11	1624.79	500.79
Dr. Reddy Laboratories	966.97	360.50	1766.50	287.24	3164.16	2080.55	4516.00	758.5	2197.18	1720.05	2749.50	471.26
Kotak Mahindra Bank	161.48	8.90	364.53	120.54	1215.87	364.83	1995.40	524.5	1054.39	355.93	1630.87	403.96
Infosys	244.88	74.41	435.69	115.47	843.93	436.38	1890.00	503.2	599.04	361.97	1454.31	387.75
Eicher Motors	95.89	8.50	497.68	141.64	2237.57	499.50	3523.40	527.0	2141.67	491.00	3025.72	385.36
Housing Development Finance Corporation	445.74	71.60	829.00	256.27	1835.01	799.30	2587.00	567.9	1389.27	727.70	1758.00	311.66
Tech Mahindra	232.58	61.91	459.51	118.76	801.47	460.75	1791.50	423.5	568.89	398.84	1331.99	304.70
HDFC Bank	152.48	21.98	341.48	100.78	969.07	333.38	1492.20	386.1	816.58	311.40	1150.72	285.30
HCI Technologies	88.32	23.38	315.78	63.06	625.74	317.50	1318.40	325.0	537.42	294.12	1002.62	261.94
HDFC Life Insurance Corporation	1257.20	195.55	2147.00	166.98	2937.59	1915.00	3866.50	426.5	1680.40	1719.45	1719.50	259.49
Grasim Industries	1259.24	195.60	2150.05	169.35	2935.74	1911.00	3865.65	424.5	1676.50	1715.40	1715.60	255.11
SBI Life Insurance					897.11	596.45	1323.75	244.6	897.11	596.45	1323.75	244.58
Tata Consumer Products	85.74	17.40	160.55	35.70	346.58	122.00	849.00	249.7	260.84	104.60	688.45	214.03
IndusInd Bank	149.56	15.75	420.10	137.90	1135.11	424.00	1650.25	324.7	985.55	408.25	1230.15	186.77
JSW Steel	56.87	0.55	134.50	47.24	295.13	102.01	686.35	195.1	238.26	101.46	551.85	147.84
ICICI Bank	137.38	25.76	224.55	63.88	426.15	200.36	907.05	210.4	288.77	174.60	682.50	146.55
Adani Ports and Special Economic Zone	141.07	65.06	255.80	55.75	419.04	154.55	938.50	196.2	277.96	89.49	682.70	140.49
UPL	82.71	0.79	131.87	20.73	468.75	132.63	755.80	158.5	386.04	131.84	623.93	137.74
Hero Motor Corp	82.83	0.81	131.97	20.68	468.46	131.97	755.70	158.1	385.62	131.16	623.73	137.42
Wipro	121.26	52.55	209.65	45.79	305.00	177.75	718.30	172.5	183.74	125.20	508.65	126.73
Cipla	249.12	72.32	415.05	83.89	661.13	403.00	1058.90	182.2	412.01	330.68	643.85	98.34

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Bharat Petroleum Corporation	83.94	36.25	119.17	20.91	367.20	116.71	518.00	84.6	283.26	80.46	398.83	63.65
Hindalco Industries	138.52	49.51	248.00	63.34	234.37	84.75	475.60	121.6	95.85	35.24	227.60	58.21
Coal India	315.72	290.00	356.05	26.23	252.63	135.40	383.85	75.6	-63.09	-154.60	27.80	49.42
Larsen and Turbo	468.09	23.87	936.04	318.94	1252.64	716.70	1961.65	365.6	784.54	692.83	1025.61	46.69
Tata Motors	158.16	29.86	372.41	93.97	358.83	172.60	492.25	138.0	200.66	142.74	119.84	44.02
Bharti Airtel	248.34	10.59	455.05	124.32	425.51	275.06	768.90	161.4	177.17	264.47	313.85	37.11
Mahindra & Mahindra	224.94	14.19	472.10	152.76	708.89	474.00	1299.85	183.6	483.95	459.81	827.75	30.80
Sun Pharma Industries	162.38	15.05	567.75	136.86	651.64	430.65	868.70	166.9	489.26	415.60	300.95	30.05
Axis Bank	140.98	8.82	274.00	93.10	574.55	260.61	801.15	116.8	433.57	251.79	527.15	23.74
Power Grid Corporation of India	79.67	62.40	108.75	14.54	142.99	74.70	224.00	34.8	63.33	12.30	115.25	20.30
State Bank of India	152.83	26.70	283.01	80.50	314.42	177.40	554.85	92.4	161.59	150.70	271.84	11.91
Tata Steel	42.00	8.54	89.36	21.00	57.64	24.73	111.15	28.5	15.64	16.19	21.79	7.52
ONGC	150.07	38.66	217.34	51.02	161.41	93.05	227.58	37.3	11.34	54.39	10.24	-13.68
ITC	84.22	14.75	214.38	58.37	243.35	209.00	330.80	33.0	159.13	194.25	116.42	-25.32
NTPC	135.71	58.33	211.67	45.95	126.09	99.30	167.35	17.2	-9.61	40.97	-44.32	-28.70
Bajaj Auto	1259.24	195.60	2150.05	709.39	2935.74	1911.00	3865.65	424.5	1676.50	1715.40	1715.60	-284.93

The above table shows the mean, minimum and maximum of the selected companies' share prices. The delta change denotes the difference between pre- and the post-ESG era. It can be observed that for majority of the companies, the maximum value of share price has increased considerably over the two decades. However, it cannot be said with certainty that this increase is due to the positive effects generated by ESG expenditure. It needs to be noted that the standard deviation of most of the companies has increased, which indicates greater volatility in share prices. However, for four companies the volatility has decreased as well.

Table 2: Sharpe Ratio of NSE 50 portfolio (Market Portfolio)

Particulars	Sharpe Ratio	
	Pre ESG	Post ESG
Return of Portfolios	0.100	0.082
Risk free	0.803	0.717
Difference	-0.703	-0.636
Std	108.212	368.129
Sharpe Ratio	-0.006	-0.002

From the above table, it can be observed that the Sharpe ratio for the overall NSE 50 portfolio, which is the equivalent of the market portfolio, has decreased post ESG era i.e., 2014-2022. It can be observed how owing to the increased standard deviations and the decreased average rate of return of portfolio, the Sharpe ratio suffers a 0.4% decrease. However, this reduction cannot be solely attributed to ESG expenditure, as there may be various other systemic and non-systemic factors that may have led to decline in performance.

Table 3: Sectoral Portfolios

GICS Sector	Sharpe Ratio	
	Pre-ESG	Post-ESG
Conglomerates	-0.0050	-0.0028
Consumer discretionary	-0.0143	-0.0042
Energy	-0.0300	-0.0165
Financials	-0.0133	-0.0042
Healthcare	-0.0109	-0.0027
Information and technology	-0.0160	-0.0046

Materials	-0.0159	-0.0096
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For understanding the impact on ESG on combined portfolios, the company scrips were clubbed according to the sectors as per the Global Industry Classification Standards classification. As a result of this classification, seven portfolios have been formed – Conglomerates, Consumer Discretionary, Energy, Financials Healthcare, Information and Technology and Materials. It can be observed that Conglomerates faced the least decrease in the Sharpe ratio in the pre and post ESG period while the Energy sector witnessed the greatest improvement. Financials, Healthcare, Consumer Discretionary, Informational Technology and Materials sectoral portfolios saw the Sharpe ratio improve by around 0.07%.

This table shows that in terms of risk-adjusted returns for sectoral portfolios, ESG leads to a very small improvement for sectoral portfolios.

V. Discussion

This study attempts to find out the impact of ESG investments on the financial performance of Indian listed public companies, and the effect of using the ESG criterion on index portfolio, and sector-wise portfolios.

The results show that there is an upward movement in the share prices of all the sample companies. This is consistent with earlier studies such as Kim and Kim (2014). However, it cannot be said with certainty that this increase is due to the positive effects generated by ESG expenditure. On the other hand, the volatility in share prices has also increased for all but four of the sample companies.

The evaluation of the performance of the overall portfolio shows a decrease in the post-ESG portfolio as compared to the pre-ESG portfolio. This supports existing research which posits that the additional cost of ESG activities would lower financial performance (Darnall and Edwards, 2006; Margolis and Walsh, 2003). However, this reduction cannot be solely attributed to ESG expenditure, as there may be various other systemic and non-systemic factors that may have led to decline in performance.

In terms of performance of sectoral portfolios, the post-ESG portfolio for the sector of Conglomerates saw a decrease in performance, whereas the other sectoral portfolios i.e. Energy, Financials, Healthcare, Consumer Discretionary, Informational Technology and Materials saw an increase in performance as compared to the pre-ESG portfolio. Thus, in terms of risk-adjusted returns for sectoral portfolios, ESG leads to a very small improvement for sectoral portfolios, but not for portfolios of diversified companies.

Implications

This study makes an important contribution to the literature on ESG and financial performance of companies and portfolios in India.

The results of this study have important implications for investors looking to invest in funds or portfolios that use ESG as a metric for portfolio selection. It can also help fund managers make decisions about the selection of stocks to be included in a portfolio. Additionally, it may signal to green investors that as of now, investing in companies with an environmental perspective may not be profitable.

Limitations

The study has some limitations. The average share price of the sample companies has been used to carry out the analysis, which may lead to fluctuations in the share prices during the year to be ignored. Additionally, the pre-ESG performance has been considered only for the last nine years. Including earlier years in the analysis may lead to slightly different results.

Scope for Future Research

Future research could compare the performance of individual companies and portfolios created using ESG as a criterion for a larger period. In the future, availability of data about the ESG investments of companies may also help in carrying out a similar analysis using ESG itself as a variable, instead of the proxy variable of CSR.

VI. Conclusion

This quantitative study investigates the impact of ESG on financial performance of individual companies and portfolios using a proxy variable. It makes an important contribution to the literature on ESG and financial performance of companies and portfolios in India.

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