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Post Covid Surge In ESG Mutual Funds In India: Is It A Structural Break?

Monali Dhal Samant[1] , Dr. R S P Singh[2]

[1]*Fellow Research Scholar, Institute for Technology and Management, Navi Mumbai, monalidhalsamant@gmail.com, ORCiD: 0000-0002-8960-2184*
[2]*Visiting Faculty,Bharati Vidyapeeth(Deemed to be) University,Navi Mumbai Campus rspsingh63@gmail.com, ORCiD: 0000-0002-2210-5095*

Abstract

Wide range of issues that some years ago were considered 'non-financial' such as climate change, environment, biodiversity, human rights and fair wages and remuneration are now coming to the fore as factors that can have a significant impact on investment value. Globally, there has been an increase in the number of large-scale market participants who have become socially conscious and want to allocate their investments toward businesses that acknowledge the relevance of environmental, social, and governance (ESG) factors.

In line with what's happening globally, India too is witnessing an increasing focus on ESG, especially after Covid-19 emerged as a pandemic. AUM of Indian ESG mutual funds increased from ₹ 2747.66 Cr as on 31st January 2020 to ₹ 12,544.02 Cr on 31st December 2021, which as a percentage of the total AUM of the Indian Mutual Fund industry increased from 0.10% to 0.33% during this period.

We try to find out whether the Post Covid Surge in AUM of ESG Mutual Funds in India indicates a Structural Break. Our findings, based on Chow Test outcomes, confirm that this surge is indeed a structural change.

Key words: Mutual funds, ESG, Covid-19, India

JEL classification: C1, E7, Q0,

Introduction

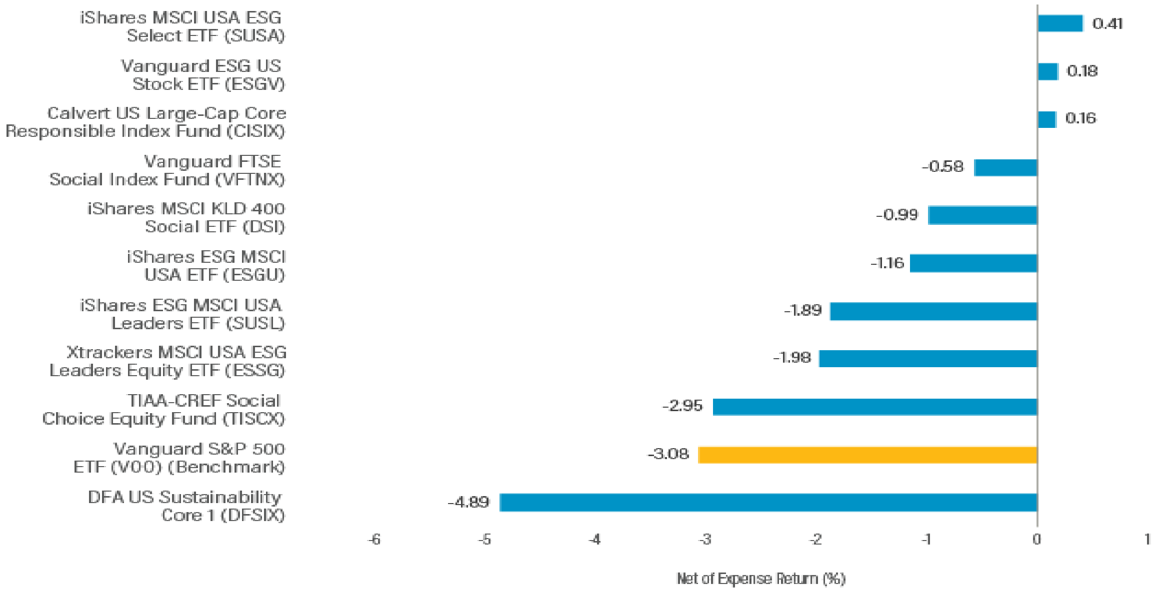
The investor community in the West was taken aback when Norwegian Ministry of Finance announced the exclusion of Walmart from the $280 billion government pension fund's global portfolio, citing serious and systematic violations of human rights and labour rights. Bound by principles of socially responsible investing(SRI), the Norwegian fund sold around $416 million of Walmart shares not caring about future returns from retail behemoth(Menon, 2007).

Wide range of issues that some years ago were considered 'non-financial' such as climate change, environment, biodiversity, human rights and fair wages and remuneration are now coming to the fore as factors that can have a significant impact on investment value.

Investors believe easy compliant companies are better managed and have lower risk and better long-term growth this is one reason why such products are very popular there. Globally there are several ESG funds that cater to investors with an ethical bend of investment preferences. Globally, there has been an increase in the number of large-scale market participants who have become socially conscious and want to allocate their investments toward businesses that acknowledge the relevance of environmental, social, and governance (ESG) factors.

Between 2018 and 2020, total U.S.-domiciled sustainably invested assets under management, both institutional and retail, grew 42%, to $17.1 trillion, up from $12 trillion(Nason, 2020).

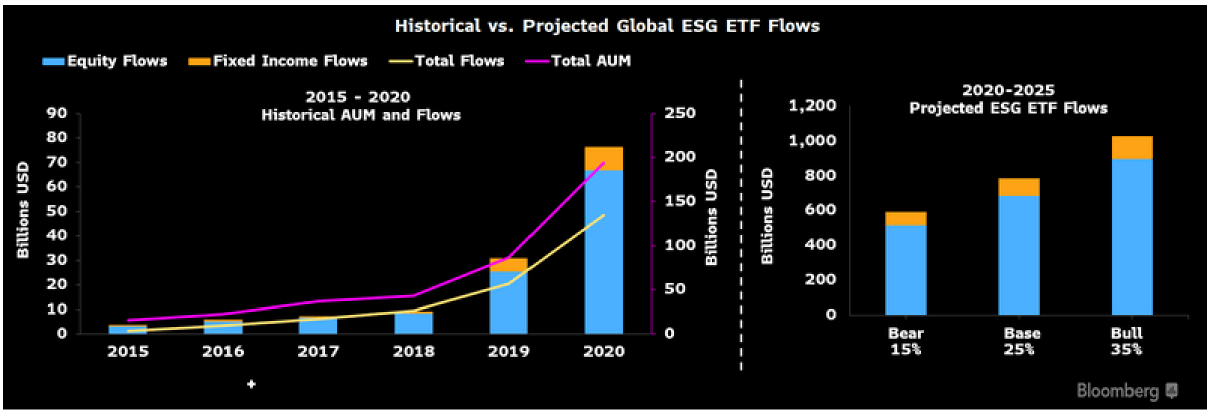
Most of the largest US ESG Index Funds outperformed Vanguard S&P 500 ETF in the first half of the year 2020(Zhou et al. , 2020)



Source: World Resources Institute

One bright spot in the unprecedented stock market volatility brought on by the COVID-19 pandemic is that most U.S. environmental, social and governance (ESG) index funds are outperforming traditional index funds.

Global ESG assets are on track to exceed $53 trillion by 2025, representing more than a third of the $140.5 trillion in projected total assets under management. A perfect storm created by the pandemic and the green recovery in the U.S., EU and China will likely reveal how ESG can help assess a new set of financial risks and harness capital markets(Bloomberg intelligence, 2021).



Source: Bloomberg Intelligence

The sensitivity of the developed market towards issues that could impact the human race is still elegant or new to Indian investors. However, in line with what's happening globally, India too is witnessing an increasing focus on ESG. Assets under management(AUM) of ESG themed funds rose to $650 million in FY21 from $275 million in FY20(Sangani, 2022).

That several financial services markets have included socially responsible and sustainable investments in both emerging as well as developed jurisdictions. Such positive impact portfolios may usually offer low risk, return investment prospects, ranging from below market to market rate, depending on the individual investors' strategic goals(Leite & Cortez, 2015).

One attraction for ESG compliant companies is that they may get higher foreign inflows in future. Many countries and investment funds world over give a lot of weightage of ESG. It is thus obvious that when FIIs look for Indian stocks to invest, the ESG compliant Indian companies will gain from such inflows. In India, the rating agency CRISIL has now got into ESG rating and has begun ESG scoring with 225 companies. This is one more piece of evidence that, slowly but surely, ESG is getting into the decision matrix of the governments, regulators, investors, lenders, and corporates(Ashish, 2021). With increasing interest and inflows in ESG compliant Indian companies, stock exchanges have launched indices to track it. As of date, there are 4 indices, viz., S&P BSE 100 ESG Index, Nifty 100 ESG Index, Nifty 100 Enhances ESG Index and Nifty 100 ESG Sector Leaders Index

This makes a strong case for Indian Mutual Funds to have ESG Funds. Though the first ESG Fund was launched by SBI Mutual Fund way back in 1991, it has gained traction after Covid-19 Pandemic. From February 2020 to March 2021, 8 new ESG funds have been launched. As a result, the total Assets Under Management (AUM) of ESG Funds which was ₹ 2,747.36 Cr as on 31st January 2020 more than quadrupled in less than 2 years and stood at ₹ 12,544.02 Cr on 31st December 2021 led by SBI Magnum Equity ESG Fund with ₹ 4,606.97 Cr. Following is the list of ESG mutual funds in existence as on 31st December 2021: :

Name of the Fund	Inception Date	AUM as on 31-12-2021
SBI Magnum Equity ESG Fund	01-01-1991	4606.97
Quantum India ESG Equity Fund	12-07-2019	57.35
Axis ESG Equity Fund	12-02-2020	2064.80
ICICI Prudential ESG Fund	09-10-2020	1714.38
Quant ESG Equity Fund	05-11-2020	35.73
Mirae Asset ESG Sector Leaders ETF	18-11-2020	175.01
Mirae Asset ESG Sector Leaders FoF	18-11-2020	143.04
Kotak ESG Opportunities Fund	07-12-2020	1753.72
Aditya Birla Sun Life ESG Fund	24-12-2020	1151.37
Invesco India ESG Equity Fund	20-03-2021	841.65
Total		**12544.02**

Source: www.valueresearchonline.com\

Structural break is said to occur when an event has affected a trend of a particular series, or when movement in a particular series is distorted or truncated or when there is a visible difference between the past and future movements in a particular series. We tried to find out whether the surge in ESG mutual fund assets indicates a structural break in its trend.

Using Chow test, our research finds that it indeed is a case of structural break.

Literature Review

Globally, large number of research has been conducted about ESG investments, however very few studies have been made in India. The reason behind it may be that ESG is still at a nascent stage in India. As a result, we are able to quote many research on the ESG theme in general, and developed economies but very few from India.

Once treated as a standalone function within the business, ESG is now being embedded throughout the organisation. In parallel, methods of integration are growing in their sophistication. Negative screening is no longer the dominant approach, superseded now by ESG integration and trailed by a marked upswing in thematic investing(Allen et al., 2021). ESG has risen from an obscure and niche concept to a widely used term around the world. Companies now implement ESG strategies, investors develop ESG products, and regulators design ESG policies. This activity has been fuelled by a significant increase in the number of ESG data that has in turn fuelled ESG evaluations(Serafeim, 2021). Investors are now willing to pay a social premium called "socium" – when a firm issues a social rather than a conventional bond. Some obstacles – such as "ESG washing" – stand in the way of further ESG market deepening, limiting contributions to sustainable development(Xia et al., 2021).

People are now becoming more and more aware of the environment and its effect on planet and people. The investors- individual investors as well as institutional investors- are now interested in investing in those companies which are ethical and have societal concerns. These investors aim at having not only financial returns but also ensure that the companies they are investing in are conscious of the impact they are making on the society and its environment because of its business activities(Shah, 2018).

ESG metrics play an important role in the SRI field, as they play two crucial roles, namely, as a proxy for sustainability performance and an enabler of the SRI market. However, there are two main issues related to ESG metrics that undermine their reliability: a lack of transparency and a lack of convergence(Widyawati, 2020).

Given the early-stage nature of many of emerging and frontier markets and the sometimes-uneven understanding of sustainability issues at a company level, active ownership can be an important driver of alpha generation by fund managers. Engaging constructively with board members and management teams to improve a company's ESG profile can help drive operational improvements, strengthen the risk management function, and upgrade investors' perception of the quality of the management team(Odell & Ali, 2016).

The massive level of interaction between investors, issuers and borrowers experienced in 2021 is expected to push sustainable finance, particularly green and sustainability-linked bonds (SLBs), into the mainstream of financial markets in 2022. This is evidenced by the global sustainable issuances having almost doubled to US$902 billion as on November 22 2021, with the volume of SBLs alone skyrocketing to US$105 billion in 2021 from only US$13 billion in 2020, according to market data from Natixis Green & Sustainable Hub(Bayani, 2022).

SRI and conventional funds show significant differences in risk exposures during non-crisis periods but exhibit much more similar investment styles during crises. SRI funds significantly underperform characteristics-matched conventional funds during non-crisis periods, but match the performance of their peers during market downturns(Leite & Cortez, 2015).

Majority of conventional mutual funds have ESG data and staff at their disposal, but they only use it when these factors are likely to have a material influence on financial returns. Usually this is in the case of managing downside risk, translating into avoiding the worst ESG performers. Although various ESG factors, especially governance, influence returns, there is no unambiguous evidence that this information can be used ex-ante to improve the risk-return profile of an investment portfolio(Duuren, 2013).

ESG investing is still in its infancy and a novelty to many investors, and how it evolves in the years ahead is far from clear. How ESG investing develops will be shaped in large measure by the management teams and stakeholders of asset owners from across the globe(Brigandi, 2019). A diverse profile of investors of all age groups is paying attention, contrary to the notion that ESG investing is strictly a millennial proclivity. The coronavirus pandemic shook investors and markets to their core in 2020.

Investors looking to make a difference with their money have sought ESG funds in record-breaking fund flows, and fund companies have noticed, leading to record-setting ESG fund launches. Global sustainable funds pull in $45.6 billion during the first quarter of 2020, compared to an outflow of $384.7 billion for the overall fund universe amid the coronavirus pandemic market sell-off. In Europe, flows into ESG funds add up to EUR 233 billion. European asset managers launch a record number of 505 new ESG funds and repurposed more than 250 conventional funds, bringing the total European sustainable funds universe to 3,196 funds(Hale & Ginty, 2020).

Sustainable funds in the United States continued to attract record flows from investors in 2020, just as they did the year before, and the year before that. During 2020, flows into sustainable open-end and exchange-traded funds available to U.S. investors reached $51.1 billion. That was a significant increase over 2019, when flows were $21.4 billion, and a nearly tenfold increase over 2018, when flows were $5.4 billion.

ESG Mutual Funds in India

Investors who choose to place their money in socially responsible investing product accept that their savings are invested in activities related to activities that help people in difficulty, improving housing of society, protecting the environment or even in international solidarity. However, Indian investors have a feeling (even among high net worth investors) that ESG fund managers will compromise on returns for the sake of meeting social objectives(Arpana, 2013).

Socially responsible investing in India is slowly but surely gaining importance, as there has been a paradigm shift in the investment strategy adopted by market participants. Market participants have now started to give importance to ESG aspects while assessing companies' long-term strategy for wealth creation(Malla, 2017). Although the concept of ESG investing is new among investors in India, they have started to look into the important aspects of socially responsible investing while making investment decisions.

Significant higher returns of ESG index and socially responsible stocks across different sectors make Socially Responsible Investing (SRI) a better investment vehicle for investors in India. The regulators, policy makers and mutual funds should come up with different socially responsible products and sectoral indices to initiate the movement of SRI across different sectors in India(Tripathi & Bhandari, 2016). Though the daily compounded returns to the ESG India Index are not statistically different from those of the Nifty or those of the CNX 500, annualised returns of the ESG India Index have been better than the returns of the other two indexes. Thus, focussing on environmental and social sustainability is a win–win situation for companies, investors and the society at large(Sudha, 2015).

Medium rated ESG funds had a lower differential flow, but the Socially Responsible Mutual Funds(SRMF) in the lowest tertile had higher differential flows compared to the SRMF in the highest tertile of ESG scores. When compared with the SRMF in the top tertile of ESG scores, the lower rated funds have higher differential flow and medium rated SRMF funds have lower differential fund flow(Das et al., 2018).

Outperformance of the three sustainability indices of India, viz. S&P BSE Carbonex; S&P BSE Greenex and S&P BSE 100 ESG over the broader market (Sensex) during the ongoing Covid-19 crisis clearly indicates the importance of sustainability index investing in India(Maiti, 2021).

Statement of Problem

World over ESG Mutual Funds have seen unprecedented surge in AUM after Covid-19 pandemic. While the Mutual Funds should be happy with this, it also poses the challenge of sustained growth in the AUM. And hence, they must be interested to know the reasons for this surge. One of the ways to know this is to find out whether there was a structural change in the trend. We try to find answer to this problem in this research. Even though during the literature review we do not come across any such study, this research restricts itself to the ESG Mutual Funds only in India.

Research Objective

The objective of this research is to find out whether the surge in AUM of Indian ESG Mutual Funds after Covid-19 pandemic indicates a structural break.

Research questions/Hypothesis

We test the following hypotheses:
H_o: There is no significant break in S&P BSE 100 ESG Index because of Covid-19 Pandemic
H_1: There is significant break in S&P BSE 100 ESG Index because of Covid-19 Pandemic

Research Methodology

This research is a secondary research based on already published data.

There are two ways to detect structural breaks:

1. Exogenous detection if the time of the event is known.
2. Endogenous detection if the time of the event is not known.

Since we know the time of the event, March 2020 to be precise, we go for Exogenous detection, most popular of which is Chow Test. Chow test was developed by econometrician Gregory Chow in 1960 to test whether the coefficients in two different regression models on different datasets are equal. The Chow test is typically used in the field of econometrics with time series data to determine if there is a structural break in the data at some point.

There are 2 ways of doing this:

1. Plotting the graph of the series- If there is visible huge bend in the graph, it may be concluded that there is a structural break.
2. We calculate the F Statistic and compare it with the critical value. If calculated value of F is greater than the tabular value of F, it may be concluded that there is indeed a significant structural break.

We have used both the ways in this research.

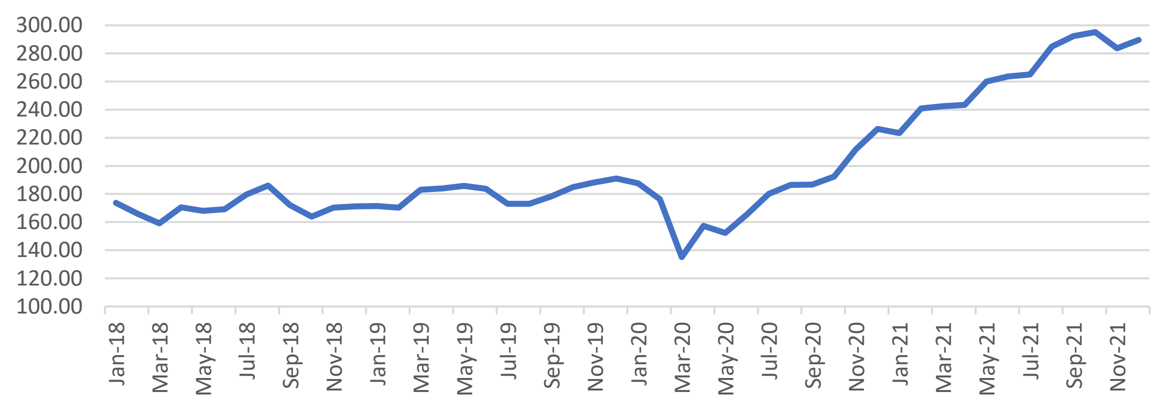
Data Collection and Analysis

We collect the data related to BSE indices from www.bseindia.com and those related to mutual funds from www.amfiindia.com, www.valueresearchonline.com and the web sites of respective mutual funds.

Because of the multiple new ESG funds launched from February 2020, comparison of movement of the total AUM before and after that may not be appropriate. To handle this problem, we take a representative trend. We take S&P BSE 100 ESG Index as the representative value.

Firstly, we first plot the graph of the series to identify the breakpoint.

Chart 1: S&P BSE 100 ESG Index



Source: Researchers' Analysis

From the graph, we find that a visible bend in the graph after January 2020, which indicates a structural break.

We now perform the Chow Breakpoint Test. For which we execute the following steps:

I. Estimate the parameters using the entire sample to compute the restricted RSS(RSS_R).
II. Create a dummy variable(d) which takes the values of 0 for the period till the event and 1 after the event. We then sort the data into two appropriate subgroups.
III. Estimate the equation separately in each subsample and save the Residual Sum of Squares(RSS) for each equation. The unrestricted RSS equals the sum of the RSS in these two equations.

We get the following outputs on execution of the following steps.

Step I:

Regression Statistics	
Multiple R	0.996444
R Square	0.992901
Adjusted R Square	0.992747
Standard Error	3.626284
Observations	48

ANOVA

	df	SS	MS	F	Significance F
Regression	1	84606.49	84606.49	6433.986	4.44E-51
Residual	46	604.897	13.14993		
Total	47	85211.39			

Step 2 & 3:

Subgroup 1: Before the Covid-19 Pandemic

Regression Statistics	
Multiple R	0.993181
R Square	0.986408
Adjusted R Square	0.985817
Standard Error	1.027867
Observations	25

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1763.495	1763.495	1669.168	5.64756E-23
Residual	23	24.29976	1.056512		
Total	24	1787.795			

Subgroup 2: After the Covid-19 Pandemic

Regression Statistics	
Multiple R	0.999246
R Square	0.998494
Adjusted R Square	0.998422
Standard Error	2.002459
Observations	23

ANOVA

	df	SS	MS	F	Significance F
Regression	1	55811.68002	55811.68	13918.68	4.02E-31
Residual	21	84.20664439	4.00984		
Total	22	55895.88666			

We now calculate the F-Statistic using the formula

$$F = \frac{(a-b)/p}{b/(n-2p)}$$

where, $a = RSS_R$

$b = RSS_0 + RSS_1$

n= Number of observations

p= Number of parameters

By putting the respective values in the formula, we get

$$F = \frac{(604.897 - (24.29976 + 84.20664))/2}{(24.29976 + 84.20664)/(48 - 2 * 2)}$$

= 100.6449

The critical value for F(2,44) for 5% level of significance is 3.2093

As the calculated value of F is greater than the tabular value of F, we reject the null hypothesis. It means that there indeed is a significant structural break in S&P BSE 100 ESG Index because of Covid-19 Pandemic.

Findings and conclusion

We have seen an unprecedented increase in the AUM of ESG mutual funds, both globally and India, coinciding with Covid-19 pandemic. We however, in this research, concentrate on Indian ESG mutual funds which increased from ₹ 2747.66 Cr as on 31st January 2020 to ₹ 12,544.02 Cr on 31st December 2021. As a percentage of the total AUM of the Indian Mutual Fund industry, it increased from 0.10% to 0.33% during this period. It is a remarkable achievement as it shows increasing interest of investors in sustainable investing.

To find out whether it is a structural change, we plot the graph of the AUM of ESG mutual funds and also calculate F statistic. From both the tools, we find enough evidence of structural break. Thus, we may conclude that the surge in ESG Mutual Funds happened because of the structural change which followed the Covid-19 Pandemic.

With increasing interest of the Indian Asset Management Companies, which is evident by launch of 8 new ESG funds after January 2020, we may see more of ESG funds as also increased allocation to ESG themes. It bodes well for the society too, as the very concept of ESG inherits sustainable investing for sustainable growth.

We suggest undertaking future research on similar topics for ESG mutual funds worldwide. Research can also be conducted on changes in other indices, both in India and abroad.

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