

Sustainable Investing in Emerging Asian Countries: Comparison of India and China

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Abstract: Sustainable investing is an investment approach making reference to environmental, social and governance (ESG) factors in the selection and management of investments. Green or socially responsible investing (SRI) refers to making investment decisions according to both financial and ethical criteria. Over the past decade, socially responsible investments (SRI), frequently also called ethical investments or sustainable investments have grown rapidly around the world. The objective of this paper is to analyze the extent and pattern of Socially Responsible Investing (SRI) funds in emerging Asian economies, to undertake inter-country comparison of ethical mutual funds of India and China with respect to their number, age, size, performance and to recommend the interested parties about sustainable investing performance and throwing light on the belief that the Social considerations are at the cost of returns generated by the portfolio. The sample of 5000 mutual funds of China and 2202 funds of India have been taken from Bloomberg database to draw a comparison of their age, size, sharpe ratio, treynor ratio and jensen's alpha. It was found that the ethical funds have not underperformed the conventional funds according to these performance indicators so the ESG criterion for investment is not at the cost of returns.

Keywords: Sustainable Finance, Socially Responsible Investment (SRI), Environmental Social Governance (ESG)

1. INTRODUCTION

“Invest with your brain and heart. Invest for our planet. The Funds give investors the ability to unite their financial goals with environmental progress”

from the prospectus of Sierra Club Funds.

According to the Forum for Sustainable and Responsible Investment, USSIF, Sustainable, responsible and impact investing (SRI) is an investment discipline that considers environmental, social and corporate governance (ESG) criteria to generate long-term competitive financial returns and positive societal impact.

ESG – the acronym for Environmental, Social and Governance – is a generic term for evaluating corporate behaviour and nowadays used interchangeably with sustainable, responsible, impact or ethical investment. It may be viewed as a successor to Socially Responsible Investment (SRI), which is gaining popularity worldwide. But unlike SRI,

which relies on negative screening, ESG propounds an underlying philosophy of larger good without overlooking financial or economic viability. Corporate Social Responsibility (CSR) – an India economy/regulatory phenomenon that is often mistaken for ESG – is actually only a small part of ESG.

There are several options for ethical investment. First: community or cause-related investment reflecting savings accounts held at socially directed organisations. Second: purchasing units in socially responsible mutual funds. Third: direct investment in corporations in order to engage in dialogue with the purpose of changing the company ethics (Hiagh and Hazelton, 2004).

Ethical funds will be defined as funds that have a limitation on their investment universe by the application of social, environmental or ethical criteria. Socially Responsible Investing (SRI), also known as sustainable, socially conscious, or ethical investing, describes an investment strategy that seeks to maximize both financial return and social good for an investor. While SRI may be good from a moral perspective, it is less clear how well SRI portfolios perform against their non-SRI peers, both on a pure-return and risk-adjusted basis.

SRI mutual funds have demonstrated an important growth pattern since the beginning of the Seventies, when the first one was created. The ethical screening of corporate behaviour has become fashionable in the wake of recent reports of environmental and accounting scandals. However, it has also been argued that imposing ethical constraints on equity investment can adversely affect portfolio performance (Bauer et al., 2007). The SRI mutual funds industry refers to the practice of directing investment funds using techniques that combine investors' financial objectives with their commitments to social concerns; for example, social justice, economic development, peace or a healthy environment (Hiagh and Hazelton, 2004).

Styles of sustainable investment

The GSIA defines sustainable investing as an approach that relies on ESG screening in portfolio selection. This is now

accepted as the global standard of classification in sustainable investing and is classified into:

1. negative/exclusionary screening: It involves steering clear of sectors, companies or practices based on certain ESG criteria, e.g. refraining from investments in tobacco and liquor companies.
2. Positive/best-in-class screening: It advocates investments in sectors, companies or projects with positive ESG performance, e.g. ones with track records of enhancing stakeholder value via periodic ESG disclosures.
3. norms-based screening: Screens investments based on minimal standards of business practices, much like negative screening, but strikes out ones that do not comply with norms such as the Koyoto Protocol.
4. esg integration: Systematic and explicit inclusion of environmental, social and governance factors into financial analysis by investment managers.
5. sustainability themed investing: Investment in specific themes or assets related to sustainability such as clean energy, green technology and sustainable agriculture.
6. Impact/community investing: Aimed at solving social or environmental problems by directing capital towards underserved individuals or communities, and is typically seen in private markets.
7. corporate engagement and shareholder action: This approach favours companies whose strategies are susceptible to investor activism via direct corporate engagement, proxy voting based on ESG guidelines, etc.

2. OBJECTIVES OF THE STUDY

The previous literature on this topic has to a large extent focused on investigating if fund performance can be improved by investing in socially responsible companies in developed nations. A common concern about socially responsible investing (SRI) is that there is a premium to be paid for being socially responsible that necessarily diminishes investment returns. Socially responsible investing (SRI) has been practiced for more than a century. Almost from the beginning, practitioners, academics and the investing public have asked if the inclusion of social and environmental considerations in the investment decision-making process hurts investment returns.

The broad objectives of the study will be as follows:

- To analyze the extent and pattern of Socially Responsible Investing (SRI) funds in emerging Asian economies.

- To undertake intercountry comparison of ethical mutual funds of India and China with respect to their number, age, size, performance.
- To recommend the interested parties about sustainable investing performance and throwing light on the belief that the Social considerations are at the cost of returns generated by the portfolio.

3. INDUSTRY BACKGROUND

Over time, ESG has risen from being a fuzzy concept to a business, investing and political priority – whether global or Indian – and it shall, eventually, command overriding importance in the world of business as well as investments. We see ESG increasingly driving: a) the quality of companies and the way they conduct business; b) higher economic returns that such businesses generate over the long term – in spite of short-term or upfront financial costs or trade-offs; c) investor orientation and investment mandates, and the flow of capital; d) higher financial returns – for businesses and investors; e) regulatory tightening or operating risks for businesses, particularly that are not compliant; and f) goodwill for businesses within the sociopolitical space they operate in. It's a wide ambit. In general, ESG norms are tightening and, therefore, profit preservation would nudge companies to meet the statutory ESG requirements. In this constantly evolving operating landscape, only companies that have built businesses on ESG foundations shall eventually thrive.

Sufficient evidence of superior returns at lower risk

Several empirical studies indicate that investors and markets reward companies that score highly on ESG parameters. For instance, MSCI ESG Indices for India and overseas have consistently outperformed their respective broader benchmarks delivering superior risk-adjusted returns. Similarly, we note that ESG-focused companies not only command valuation premiums, but portfolios comprising strong ESG companies have sustainably outperformed non-ESG portfolios, generating greater risk-adjusted returns and showing lower drawdown risks. In fact, most well-known global MSCI ESG indices have outperformed their respective broader country indices over periods of three–five-years.

4. REVIEW OF LITERATURE

Since the 1960s a relatively large amount of literature has been documented on the performance of SRI funds (Kreander et al., 2005). By comparing historical returns of SRI funds and regular funds and/or a market index, the empirical link between socially responsible practices and financial performance has been investigated. Previous literature has shown that SRI funds, on average, perform similarly to regular funds.

Previous research has primarily focused on the US and UK markets where there historically has been relatively more data available (Wagner, 2001). The studies employ a variety of benchmarks and methods. The question of the appropriate benchmark is often raised and is still a problem within the SRI fund performance field (Bauer et al., 2007). Most research applies some type of index benchmark in combination with a regular fund benchmark.

There are two different ways of comparing SRI funds with regular funds. First of all, the matched pair method matches the SRI fund with one or more regular funds to control for factors like fund size and start date. Another method of comparing SRI funds' to regular funds' performances is through a constructed fund benchmark. In this method, portfolios of funds are created and then compared on an aggregate level. One selects certain criteria for funds which are to be included in the sample to make sure that the only difference between the groups is the investigated variable, e.g. SRI screening. The proposed study may use the constructed fund benchmark as it gives a greater flexibility when selecting the sample of funds. In a small market like the Indian, it otherwise becomes difficult to get a large enough sample. For constructed fund benchmarks, selection criteria can for example be equity orientation, as in Bauer et al. (2007) where 8 SRI funds and 267 regular funds were selected.

Luther et al. (1992) investigated the returns of 15 ethical unit trusts. Their results provided some weak evidence that ethical funds tend to out-perform general market indices. In addition, a bias towards smaller companies for ethical funds was documented. Luther and Matatko (1994) confirmed this small cap bias and demonstrated that comparing ethical funds to a small cap benchmark, improved their relative performance substantially. Subsequently Mallin et al. (1995) attempted to overcome this benchmark problem by conducting a matched pairs test. After matching by fund size and formation date, they reported Jensen's alphas suggesting that ethical mutual funds outperformed their conventional counterparts.

Managi, Okimoto, and Matsuda (2012) concluded that conventional indices do not outperform SRI indexes, and that "investors can take ESG criteria into consideration without sacrificing risk or return." However, while Schroder (2005) also confirmed this, he found that 20 of the 29 international SRI indices he looked at had higher risk (volatility) than their benchmarks. This suggests that on a risk-adjusted basis, SRI indices may underperform conventional indices.

Cortez, Silva, and Areal (2009) found that SRI mutual funds have shown superior performance in Europe as opposed to the United States. This may be attributed, according to the authors, to differences in SRI investment style. The European SRI approach generally used positive criteria (security selections based on the most socially responsible companies), whereas the American approach was more oriented towards

negative screening (security selection based on excluding the least socially responsible companies).

Evidence from mutual fund literature is predominantly focused on the US and UK retail markets. Hamilton et al. (1993) and Statman (2000) compared the returns of ethical and regular US funds to each other, and to both the S&P 500 and the Domini Social Index (DSI). Their Jensen's alpha estimates suggest that the risk-adjusted returns of ethical mutual funds are not different from those of conventional funds. Goldreyer et al. (1999) used an extended sample of ethical funds including equity, bond and balanced funds. Using Jensen's alpha, Sharpe and Treynor ratios, they found that social screening does not affect the investment performance of ethical mutual funds in any systematic way.

Sirri and Tufano (1998) and Huang, Wei and Yan (2007) state that investors are reluctant to change funds because it is costly for investors to research different funds - both financially and in terms of time. For SRI investors, search cost may be higher than those of conventional investors since SRI investors need to investigate both financial and non-financial factors when choosing a fund. SRI investors may therefore be less inclined to withdraw money from an SRI fund should the fund begin to deliver inferior performance.

5. SLOWER ESG INVESTING UPTAKE IN ASIA

Despite these global drivers, adoption of ESG Investing in Asia has been comparatively slow. Assets devoted to ESG Investing as a proportion of total managed assets are much lower for Asia as compared to Australia, Europe, and North America. As shown in Figure 1, Asia ex-Japan has the lowest ratio recorded (less than one percent), in contrast to Europe and Australia/New Zealand (both over 50 percent) in 2016.

REGION	2012	2014	2016
Europe	49.0%	58.8%	52.6%
United States	11.2%	17.9%	21.6%
Canada	20.2%	31.3%	37.8%
Australia/NZ	12.5%	16.6%	50.6%
Asia (ex-Japan)	0.6%	0.8%	0.8%
Japan			3.4%
Global	21.5%	30.2%	26.3%

Fig. 1. ESG Investing as percent of total managed assets by region 2012-2016, in percent

Source: Global Sustainable Investment Alliance

Figure 1 illustrates the growth of ESG Investing assets (equivalent to ESG AUM) for different geographic regions from 2012 to 2016. Total ESG AUM in Asia ex-Japan pales in comparison to the size of total assets in other regions. Despite starting from a lower base, the ESG AUM growth rate in Asia

ex-Japan is significantly slower than the growth seen in most other regions

REGION	2012	2014	2016	GROWTH(2012-2016)
Europe	8,758	10,775	12,040	37.0%
United States	3,740	6,572	8,723	133.0%
Canada	589	729	1,086	81.0%
Australia/NZ	134	148	516	285.0%
Asia (ex-japan)	40	45	52	16.0%*
japan		7	474	6,771%*
Total	13,261	18,276	22,890	73.0%

Fig. 2. Growth of ESG Investing assets by region 2012-2016, in \$US BN and percent

Source: *Global Sustainable Investment Alliance*

Notably, Japan has made significant strides in expanding its ESG Investing efforts and is a frontrunner in Asia: ESG AUM grew almost seventy-fold by 2016, albeit from a low base and a sliver to the total global share in 2014. Japan's high CAGR (724 percent) was made possible by a combination of revised reporting standards, the emergence of a Japanese stewardship code and a growing focus on ESG among Japanese institutional investors, especially pension funds such as the Japanese Pension Investment Fund (GPIF).

CHINA

China's 13th Five-Year Plan, which will guide Chinese government policy from 2016 to 2020, outlines a series of reforms and targets to aid in greening China's economic development. It has been estimated that approximately US \$274-468 billion of green investment each year from 2014 to 2020 will be required for China to transition into a green economy. To ensure the development of the requisite financing channels, the Plan includes commitments to encourage a green bond market, recommendations for the establishment of market-based green development funds, and expectations that the banking sector restrict lending to entities with industrial over-capacity (such as steel and coal mining).

In accordance with the general deployment of the *Guidelines for Establishing a Green Financial System*, China will make it mandatory for listed companies to disclose environmental information by 2020.

In September 2018, the China Securities Regulatory Commissions (CSRC) established an environmental, social and corporate governance (ESG) information disclosure framework for listed companies in the revised *Corporate Governance Code for Listed Companies*.

The UN supported Principles for Responsible Investment (PRI) has recruited several Chinese mutual funds as its new signatories in 2018. Joining the PRI will motivate mutual

funds to develop ESG investment products. Therefore, it is anticipated that more Chinese funds will adopt ESG investment strategies in 2019, and the more aggressive ones will introduce ESG-themed mutual fund products. Companies like China Securities Index Co., Ltd. (CSI) and MSCI are expected to launch more ESG-themed indices.

In 2018, China's green bond market witnessed continued and stable growth, with the issuance of more than 120 labelled green bonds worth around RMB220bn. However, green bonds remain a small share of China's bond market. How to motivate issuers and investors and scale up the market remains a key challenge for China's green bond market in 2019.

The Green Bond Standard Committee was established in December 2018 under the guidance of the People's Bank of China (PBoC), the CSRC and other regulators, and has the National Association of Financial Market Institutional Investors (NAFMII) as the Chair. This Committee is China's first self-regulatory and coordination mechanism for green bonds, and is expected to play an important role in 2019, especially in the harmonisation of green bond standards and market access of green bond verifiers.

INDIA

It's still early days for ESG investing in India. There is one large, and only somewhat prominent, domestic ESG fund. We believe there is another on the anvil, but that is likely to be more focussed on global pools of capital. This would change in our view, albeit the start and getting the momentum going is typically the most challenging phase, and this is where domestic ESG assets are currently positioned. Nevertheless, ESG funds have not shied away from investing in India. According to the GSIA, as many as 41 Global E&S seeking funds (aggregating USD 15 billion) have invested on an average 25% of their funds in Indian equities. 95 global socially responsible funds have invested in India and allocated on an average 18.5% to Indian companies (their total fund corpus is USD 25 billion). This is sizeable, and reflects the hectic activity among these funds. And that assets mandated under the ESG umbrella are likely to spike in India seems to be a foregone conclusion.

The enabling environment for sustainable investment in Indian listed equities is currently weak. Despite some notable exceptions from companies such as HSBC, CLSA, Trucost, KLD and Innovest, ESG research coverage is still relatively limited. Numerous organisations, such as TERI, the Confederation of Indian Industry (CII), the UN Global Compact and IFC itself, are active in promoting corporate responsibility and sustainability reporting. ESG transparency and disclosure by Indian companies in the form of corporate sustainability reports and responses to the Carbon Disclosure Project are slowly improving, but from a very low starting point.

India's sustainability goals India is in sync with the UNO's SDGs. The country's top planning body NITI Aayog has finetuned the 17 SDGs to Indian realities and inked a Sustainable Development Framework (SDF) for 2018–22 with the UNO. It is entrusted with implementing 'Transforming our world: the 2030 Agenda for Sustainable Development Framework' (called SDF). The SDF covers 17 goals and 169 related targets thrashed out at the UN Sustainable Development Summit over 25–27 September 2015 over the 15-year period. More than anything else, the SDF is a reflection of India's commitment to attaining SDGs. sizeable budget to promote sustainability goals The Government of India has earmarked a sizeable budget of INR 110 trillion for the programme. The focus areas: post are poverty and urbanisation; health, water, and sanitation; education; nutrition and food security; climate change, clean energy and disaster resilience; skilling, entrepreneurship and job creation; and gender equality and youth development. The task at hand for NITI Aayog is not merely to collate data on SDG, but to act proactively to fructify the goals and targets quantitatively while maintaining high ESG standards. The Ministry of Statistics and Programme Implementation (MoSPI) has already undertaken a parallel exercise—it interacted with various ministries to formulate measurable indicators for SDF.

The Social disclosure levels more than doubled from 2010 through 2017; in fact, India dramatically outscores USA on Social disclosures. The country's Environmental score too has improved over the years and is set to improve further amid rising awareness. While regulatory push and the government's pull (read 'incentives') are marshalling companies into compliance with ESG standards, corporate India's newfound willingness to adopt cleaner business processes too is an encouraging dynamic pushing up compliance.

The csr push in India

India promulgated a landmark CSR law in 2014. It changed the landscape and approach to social support that businesses provide. The law stipulates that companies of a particular scale and profitability must spend 2% of average profits for preceding three years towards a wider defined set of social activities and objectives. The law further specifies that CSR initiatives must be run under the direct supervision of a board committee. While the law seeks to sustainably funnel a sizeable corpus towards social funding, it has – importantly and most likely inadvertently – made such spends centre stage for corporate CEOs and brought in significant attention and focus to the task. Programmes pertaining to women empowerment, girl child, education, etc have thus spawned across corporate India and are run either independently or under the guidance of reputed non-governmental organisations. We understand funding for CSR initiatives is significant and should fundamentally grow ahead of India corporate sector profitability as businesses increasingly toe the statutory line and growing companies fall into the ambit of

CSR framework. The actual CSR spend moved up progressively to almost INR 90 billion in 2018 and is rising. In addition, businesses are increasingly meeting their minimum requirements, up from 75% to 92% over the last three years. While there is still a gap, it's only moderate 8%, and is typically on account of glitches and execution issues rather than intent. The corporate sector always did have social initiatives and commitments, but CSR has boosted and widened these spends, and in many ways coalesced and quantified them.

To its credit, the Government of India has formulated many **regulations and offers great incentives** for promoting environmental, social and governance standards. To be precise, on the one hand, there are a myriad of incentives and subsidies in the form of business opportunities to embrace environment friendly businesses and practices. On the other hand, the government enforced stricter regulations and norms to drive home its intent on the matter. The number of such mandatory government regulations and incentives throw ample light on the broad scope of ESG in India. Ranging from the Bharat Stage VI Standards (pollution emissions) to the Namami Gange Project, the Government of India has been introducing schemes, regulations and incentives to preserve the environment. The two-pronged countervailing approach comprises regulatory norms for curbing hazardous business practices with severe penalties for noncompliance and incentives for promoting environment-friendly businesses.

Despite the implementation of these policies in pockets across Asia, many **challenges** remain in the widespread adoption of ESG Investing in Asia:

- The combination of limited knowledge and a skill resource gap has made ESG a daunting prospect for some Asian investors. Apart from their lack of awareness and misconceptions about ESG hampering financial performance, these investors do not have the requisite expertise and team to interpret the multitude of ESG standards.
- Moreover, there has been a slow adoption rate of ESG Investing among investors in Asia, a heterogeneous region comprising of numerous emerging markets that prioritize economic growth and traditionally focused on short-term returns.
- These issues are further exacerbated by the lack of consequences for inaction and the lack of collective efforts by Asian regulators and governments in enforcing ESG policies as opposed to their peers in Europe.

Barriers to SRI in Emerging Markets

In developed countries, social investors are not unlike other investors in that those who lack experience or technical expertise in emerging markets often have a homogeneous

view of such markets, believing them to be highly risky and volatile, with unfavorable securities regulations, few investment worthy stocks, and poor liquidity.

In developed countries, social investors are not unlike other investors in that those who lack experience or technical expertise in emerging markets. Investors also express practical concerns about the “salability” and profitability of emerging market investments. Meanwhile, for emerging-market investors, barriers to SRI in their own markets include competing traditional investment in land or fixed-income instruments, as well as the relative novelty of securities investments in general and SRI products specifically.

Aside from direct financial obstacles, there are also analytical challenges impeding the assessment of the social and environmental performance of companies in emerging markets. Foremost is the dearth of credible, standardized data on business practices related to social and environmental concerns. A second challenge is more complex, pertaining to the very role of SRI in emerging markets as a tool for sustainable development: the sometimes uncertain question of what objectives are appropriate for SRI to attempt to achieve, given the varying priorities of sustainable development in differing countries.

Underlying all these challenges is the inadequate, fragmented and uncoordinated infrastructure for supporting knowledge development and information networking in emerging markets. A healthy infrastructure not only is vital for the generation, pooling and distribution of SRI-related information but also is needed to facilitate critical SRI-sector development activities such as conferences, training workshops and sector promotion and advocacy.

The Case for More SRI in Emerging Markets

From a sustainable development perspective, the positive impact that SRI can have in emerging markets is clear. Its past contributions to sustainable development around the world range from divestment in South Africa and sweatshop reform in Central America and Asia to human and labor rights in Myanmar (Burma), China and Mexico, to name a few examples. And modest investments can achieve significant results, as exemplified by Green Cay Asset Management’s investment in Vestel, a Turkish electronics manufacturer and once chronic polluter: the SRI fund helped turn the company into a model environmental performer, recognized internationally.

Greater SRI in emerging markets can also bring the weight and credibility of private sector finance to an area of national development that is often left largely to government and NGOs. Social investors, as relatively large investors within the context of emerging markets, may also have a favorable impact on sustainable development in those countries that is

orders of magnitude larger than it has been in developed countries.

Data and Methodology

Primarily, the data for the said purpose has been collected from the Bloomberg Database pertaining to the list of all mutual funds of Indian and Chinese markets. The total number of mutual funds in china came out to be 5000 and in India there are 2202 mutual funds. After that certain filters are used to extract the data for ESG funds of both the countries. The Bloomberg database categorises the mutual funds according to their attribute, so we chose ESG, religiously responsible, socially responsible, Islamic, environment friendly and clean energy attributes to become part of our sample.

Then the daily return data for these funds was mined in order to calculate the performance measures of these ESG funds and Conventional mutual funds. Then the t-test was run using the Microsoft excel in order to find the statistical significance of these ratios computed.

While it is fairly easy to obtain information with regard to the *current* holdings of active ethical funds, retrieving *historical* data on funds’ portfolio holdings is more challenging. In particular, while SRI are well-established in developed markets, it is only a fairly recent phenomenon in some of the emerging markets we wish to consider. At the same time, we need sufficiently long track-records to be able to perform a meaningful analysis. This implies that we need to ensure that we incorporate ethical funds with sufficiently long track-records for which historical information on their holdings is available.

Methodology

In the present investigation the same performance measures are calculated for all funds and these are then compared with t-tests and the non-parametric Friedman test for the ethical and non-ethical groups. The traditional risk-adjusted Sharpe, Treynor and Jensen measures are employed. A first analysis of ESG funds performance is based on their Sharpe ratio. In particular, we test whether the difference in Sharpe ratio of the ESG funds and the all mutual funds is statistically significant. In particular, the Sharpe reward to risk measure which estimates the ratio of the average return to the standard deviation of the fund return was estimated according to equation [2]:

$$SHARPE = \frac{\bar{r}_j - \bar{r}_f}{\sigma_j} \quad (2)$$

where r_j is the average fund daily return σ_j is the standard deviation of the daily returns of fund j and r_f is the return

earned by a risk free asset which is proxied for by the government treasury bill rates.

Sharpe ratio = (average return of portfolio – risk-free rate of return)/standard deviation of portfolio returns

This ratio has been criticised because it focuses on total risk (standard deviation) rather than market risk (as measured by the fund beta); portfolio theory suggests that the unique risk of a security should be diversified away in a large fund and only the remaining undiversifiable risk should be priced by the market. Therefore the Treynor ratio is also estimated which calculates the ratio of the average return to the Beta of the fund (β_j) according to equation [3]:

$$TREYNOR = \frac{\bar{r}_j - \bar{r}_f}{\beta_j} \tag{3}$$

where, β_j is estimated by equation [4] below.

$$r_{jt} - r_{ft} = \alpha_j + \beta_j (r_{mt} - r_{ft}) + \mu_{jt} \tag{4}$$

Treynor ratio = (average return of portfolio – risk-free rate of return)/beta of portfolio

The Jensen measure assesses whether a fund has outperformed or underperformed a market portfolio by testing whether the constant (alpha) in equation [4] is significantly different from zero.

Where, μ_{jt} is a random error term.

Jensen’s alpha helps an investor determine how much extra return a fund has earned above the expected return while considering the non-diversifiable risk of the market. The expected return is calculated using the CAPM (capital asset pricing model). A positive Jensen’s alpha indicates that the managers of the fund, through careful stock selection, have been able to extract higher returns than the market (which in our case is the underlying indexes). Jensen’s alpha is calculated as follows:

Jensen’s alpha = (portfolio return – expected return (CAPM))

Data Analysis

One of the objectives of the study is to analyse the extent of ethical investing in emerging Asian countries. We all have witnessed the rise of socially responsible investing in developed economies because the nature of developed economies provide the support for ethical investing. People are more aware consciously, institutions are grown and regulators are supportive. But this phenomenon of ethical investing is relatively new in emerging economies.

As shown in the table1, China and South Korea amongst the emerging Asian countries has the most number of mutual funds i.e. 5000 and 4918 respectively, but the ESG funds is not even 1% of all mutual funds in china at 0.78% and 1.03% in South Korea, that clearly tells us about the extent of popularity of ESG funds in these countries

TABLE 1: number of total mutual funds and ESG funds in the emerging Asian countries

COUNTRY	ESG Funds	conventional Funds	ALL Mutual Funds	%of ESG Funds
INDIA	15	2187	2202	0.681199
CHINA	39	4961	5000	0.78
INDONESIA	161	855	1016	15.84646
MALAYSIA	334	844	1178	28.35314
TAIWAN	5	987	992	0.504032
PHILIPPINES	3	354	357	0.840336
SOUTH KOREA	51	4867	4918	1.037007
THAILAND	27	1085	1112	2.428058
PAKISTAN	66	88	154	42.85714

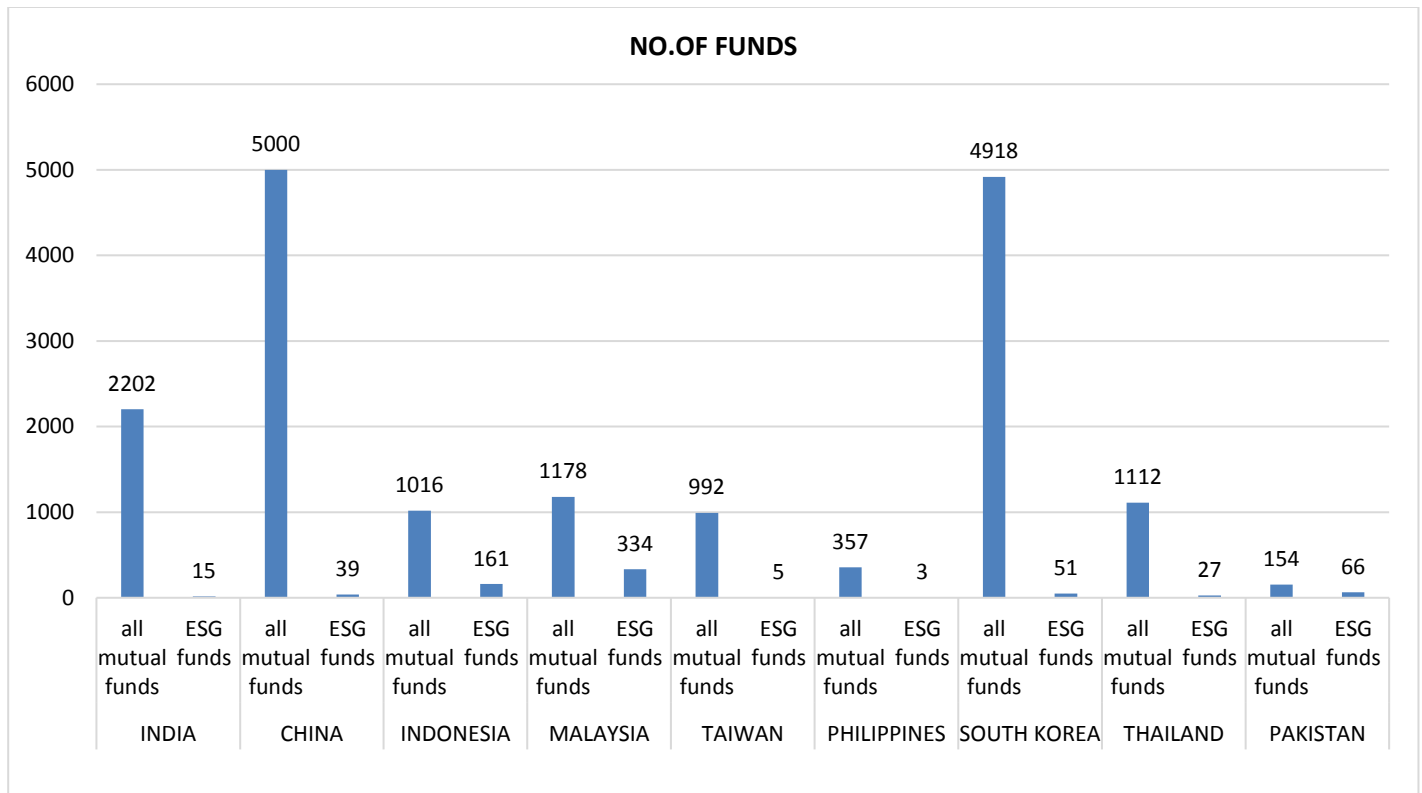


Fig. 3. showing the total number of mutual funds and ESG funds in the 9 emerging Asian countries

One thing is clear from the figure3 that the phenomenon of Ethical funds is still new in the emerging Asian countries. The percentage of ethical fund is more in Indonesia, Malaysia and Pakistan because of presence of Islamic funds in these countries. So this piece of research is really helpful in throwing light on the importance of Ethical funds as an investment avenue in Emerging Asian countries.

TABLE 2: Table showing average assets under management in US\$ (million) for all mutual funds and for ESG funds in INDIA and CHINA

Country	Type of fund	No.of funds	Average assets under management	Standard Error	Median	Standard Deviation	Kurtosis	Skewness	Range	Minimum	Maximum
INDIA	all mutual funds	2156	178.4991735	13.4968469	18.9975	626.6956782	126.4864	9.517134	12076.24	0	12076.24
	ESG funds	14	61.93742857	25.57749933	16.314	95.70223931	3.883744	2.032509	324.254	0.06	324.314
CHINA	all mutual funds	4449	413.6073574	40.42348481	52.044	2696.279769	1951.386	37.94319	146371.3	0.016	146371.3
	ESG funds	39	124.9491282	31.57463524	32.56	197.1835339	6.718374	2.495225	904.173	1.639	905.812

Asset under Management (AUM) is one of the indicator for investors in choosing a mutual fund. The more capital is deposited by the investor into a mutual fund, the greater the managed fund. Assets under management are the overall market value of assets/capital that a mutual fund holds. The fund manager manages these assets and takes investment decisions on behalf of investors. AUM is an indicator of the size and success of a fund house.

One can easily compare its assets under management in various timelines and market phases performed as opposed to its peers. The AUM-value also includes the returns that a mutual fund earns. The asset manager can invest this in securities, distribute to investors as dividends or hold as per the investment mandate.

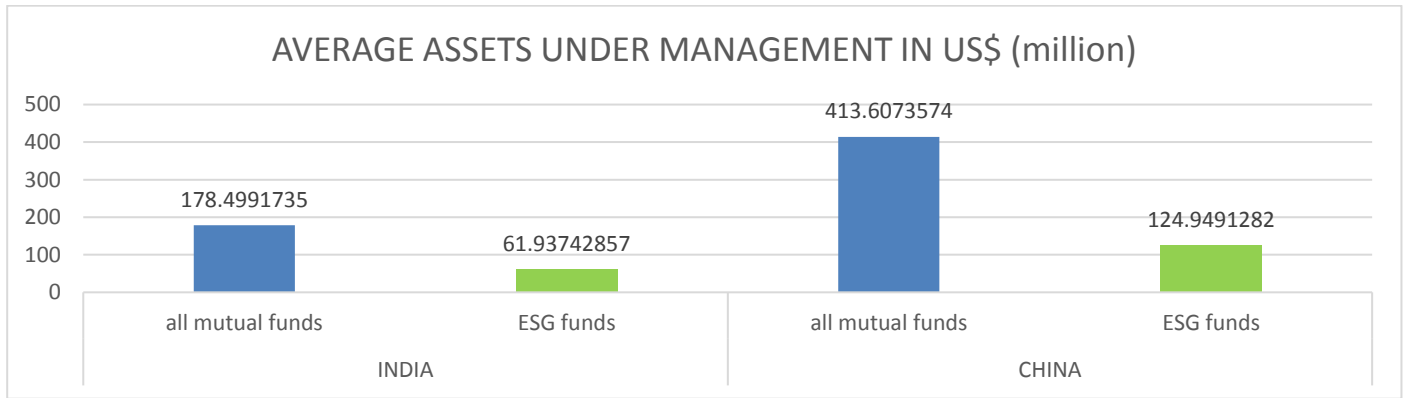


Fig. 4. showing average assets under management in US\$ (million) for all mutual funds and for ESG funds in INDIA and CHINA

Sometimes, an equity fund’s bloating AUM can affect its performance negatively. Nevertheless, there is practically no evidence to indicate that a higher AUM affects the fund performance negatively or aids it. It is the fund manager who should grasp the market opportunities – enter or exit a stock at the ‘right’ time. In many cases, a larger asset-under-management has hindered the manager in taking quick investment calls.

It can be seen from the figure 4 that the Average assets under management is more in China for both conventional funds and ESG funds. In the mutual fund industry, a fund's size must be looked at in relation to the context of its investment style. Some funds suffer when the fund outgrows its investment style.

TABLE 3: table showing average history length (in number of days) for all mutual funds and for ESG funds in INDIA and CHINA

COUNTRY	TYPE OF FUND	no. of funds	Average History length (in no. of days)	Standard Error	Median	Standard Deviation	Kurtosis	Skewness	Range
INDIA	all mutual funds	2192	3379.477646	44.60255	3497	2088.238	-0.28608	0.388723	10427
	ESG funds	15	3528.8	757.2037	3595	2932.637	1.087789	1.013194	10389
CHINA	all mutual funds	5000	1680.5782	18.07814	1279.5	1278.318	1.609215	1.420548	6975
	ESG funds	39	1876.923077	136.819	1537	854.4346	-0.11538	0.878912	3462

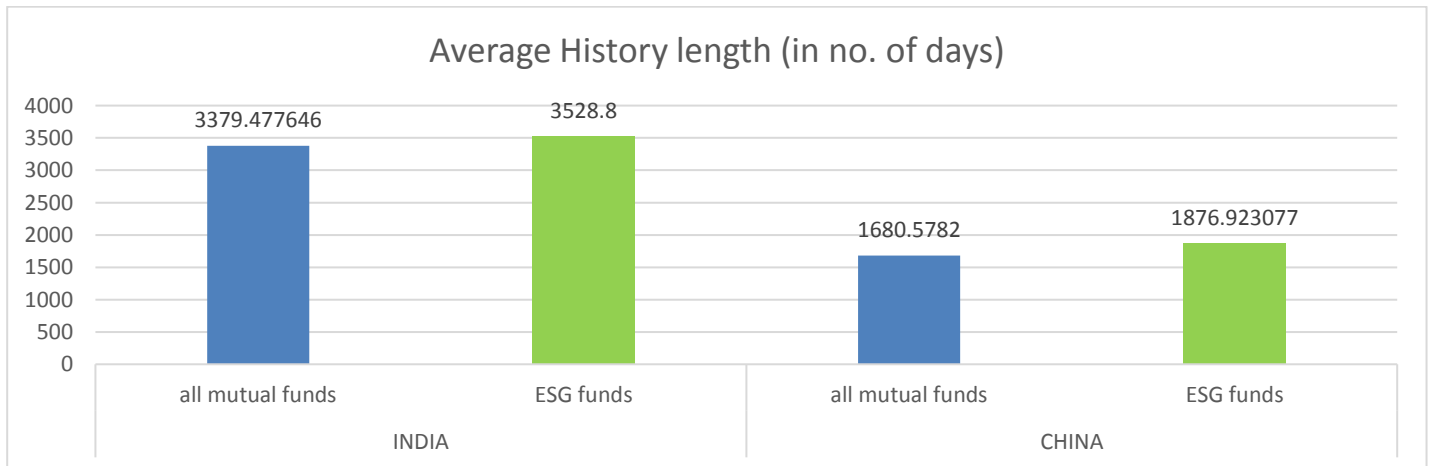


Fig. 5. Showing average History length (in no. of days) for all mutual funds and for ESG funds in INDIA and CHINA

Sharpe Ratio

Measures like standard deviation and beta are used as a proxy for risk in calculating risk-adjusted measures of return. One of the most common measures is the Sharpe Ratio, which is a portfolio’s return in excess of the risk-free rate divided by the standard deviation of the portfolio. This measure tells us the

ratio of reward per unit of risk: the higher the number the better.

It can be witnessed from the table4 that China is an outperformer by having the highest Sharpe ratio and if we consider the Indian scenario then the Sharpe ratio is better for the ESG funds which shows that the risk adjusted returns are higher for the ethical funds.

TABLE4: Table showing average Sharpe Ratio (1 month) for all mutual funds and for ESG funds in INDIA and CHINA

COUNTRY	TYPE OF FUND	Mean sharpe ratio 1M	Standard Error	Median	Mode	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum	Count
INDIA	all mutual funds	-3.23304	0.611928	-2.6845	-2.886	26.39106	696.488	698.6812	-25.729	820.306	-771.236	49.07	6013.45	1860
	ESG funds	-1.86331	0.310207	-2.008	-2.008	1.118467	1.250968	2.408983	-0.2233	4.516	-4.445	0.071	-24.223	13
CHINA	all mutual funds	4.259266	0.095744	3.8615	1.778	6.767446	45.79833	30.85772	-1.7167	132.94	-100.396	32.544	21279.3	4996
	ESG funds	3.328949	0.764008	2.351	#N/A	4.771227	22.76461	3.192916	0.21937	29.428	-11.632	17.796	129.829	39

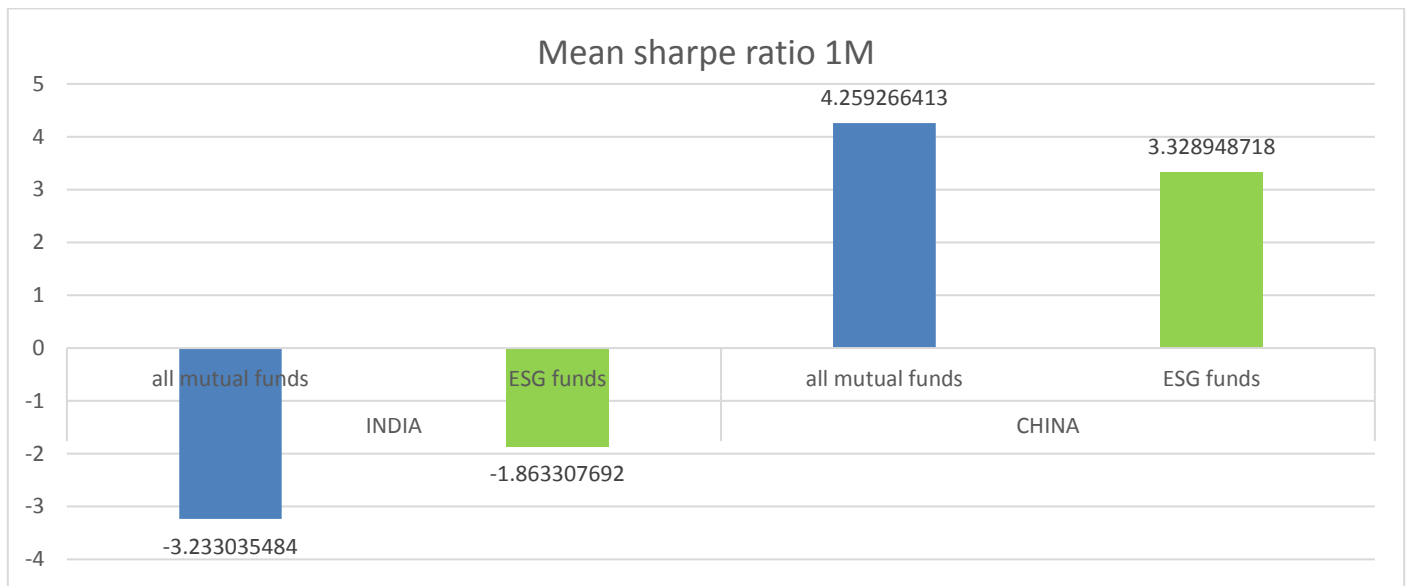


Fig. 6. showing average Sharpe Ratio for all mutual funds and for ESG funds in INDIA and CHINA

Jensen’s alpha helps an investor determine how much extra return a fund has earned above the expected return while considering the non-diversifiable risk of the market. The expected return is calculated using the CAPM (capital asset pricing model). A positive Jensen’s alpha indicates that the managers of the fund, through careful stock selection, have been able to extract higher returns than the market (which in our case is the underlying indexes). Jensen’s alpha is calculated as follows:

$$\text{Jensen's alpha} = (\text{portfolio return} - \text{expected return (CAPM)})$$

The Chinese ESG funds has an alpha of 9.60, the highest alpha in the group. This means that fund manager has been able to pull out a return 9.60% higher than the benchmark index. So, it can be seen that the Chinese fund managers have outperformed the Indian fund managers

TABLE 5: Table showing average Jensen Alpha (3 month) for all mutual funds and for ESG funds in INDIA and CHINA

COUNTRY	TYPE OF FUND	Count	Mean Jensen Alpha	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum
INDIA	all mutual funds	1217	-2.90508	0.572033	-3.375	19.95567	398.2289	159.7673	9.824321	483.893	-131.305	352.588	-3535.48
	ESG funds	11	-5.47927	1.2352	-6.436	4.096694	16.7829	0.818521	1.025862	13.783	-10.61	3.173	-60.272
CHINA	all mutual funds	738	9.551537	1.247447	2.8645	33.88835	1148.42	328.3956	15.41703	811.64	-52.976	758.664	7049.034
	ESG funds	13	9.617231	2.983068	7.025	10.7556	115.683	0.398811	-0.03221	40.777	-12.324	28.453	125.024

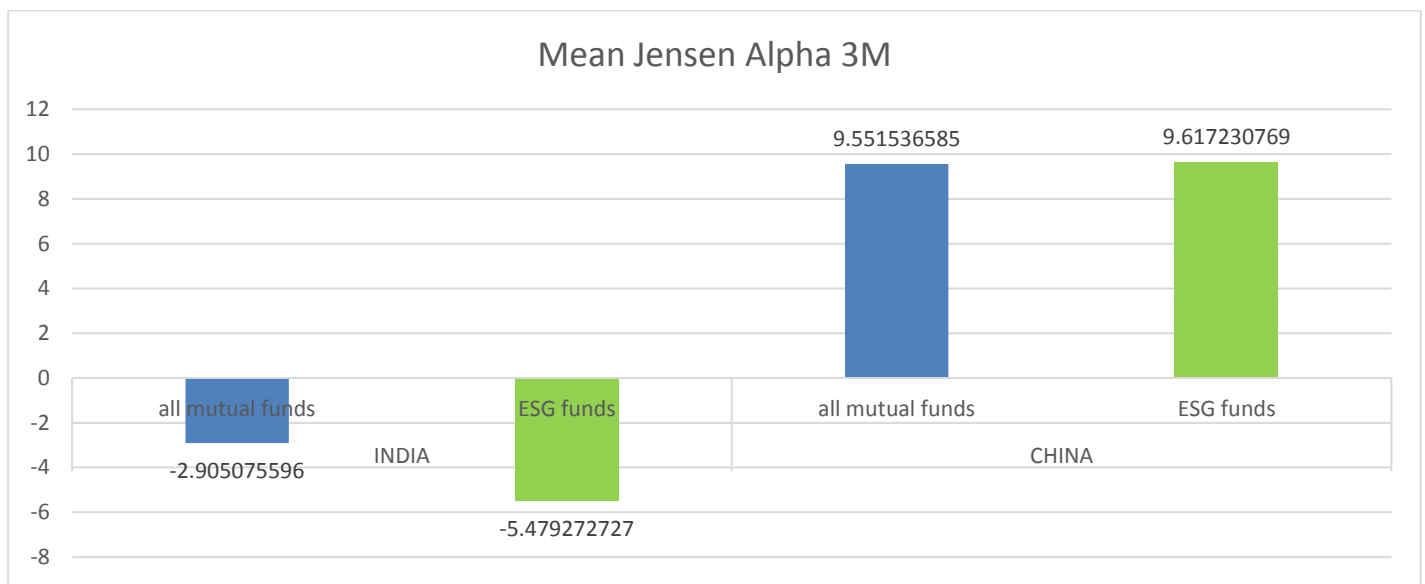
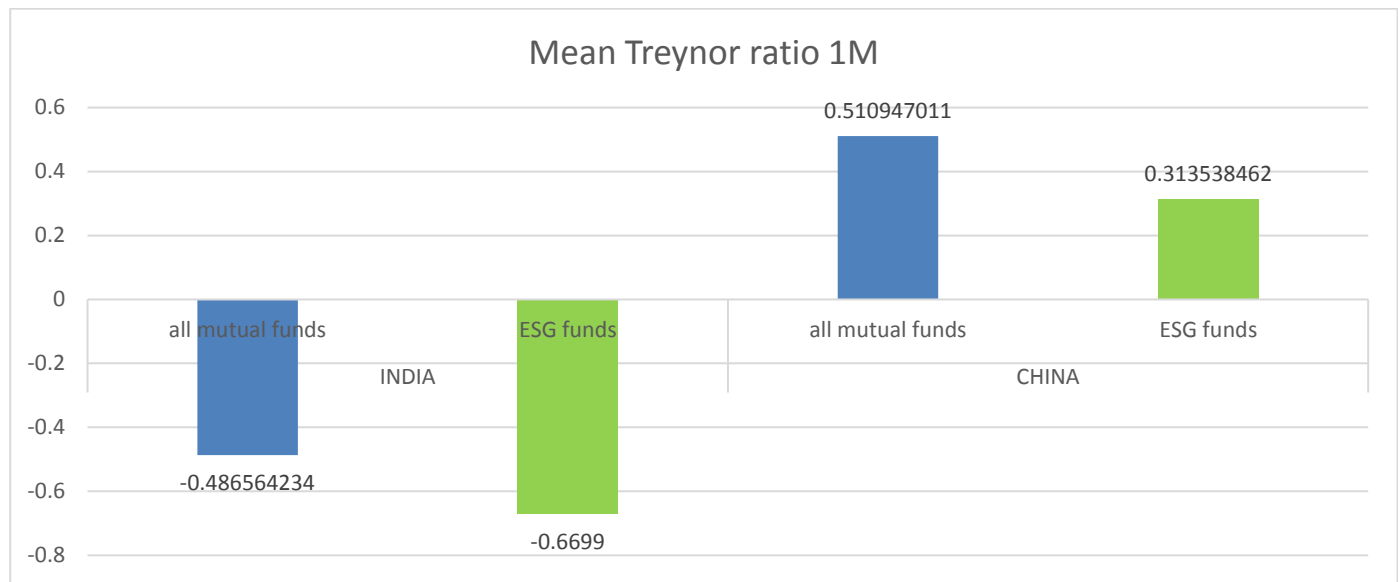


Fig. 7. showing average Jensen Alpha (3 month) for all mutual funds and for ESG funds in INDIA and CHINA

The Treynor ratio calculates how much an investment has earned above the risk-free market rate for every unit of risk assumed. Although it is similar to the Sharpe ratio, its measure of risk is different. Whereas the Sharpe ratio considers the total risk of the investment, the Treynor ratio only considers the systematic risk, assuming that the non-systematic risk is fully diversified in developing the portfolio. Risk in the Treynor ratio, represented by beta, is the systematic risk or non-diversifiable risk.

TABLE 6: Shows that the mean treynor ratio is slightly better for all funds in both the countries but the difference is statistically insignificant.

COUNTRY	TYPE OF FUND	Mean treynor ratio	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Count
INDIA	all mutual funds	-0.48656	0.208664	-0.296	6.508834	42.36492	878.6917	-28.8338	226.762	973
	ESG funds	-0.6699	0.445359	-0.2735	1.408347	1.983442	9.876536	-3.13475	4.68	10
CHINA	all mutual funds	0.510947	0.069246	0.1575	1.878587	3.529089	183.8163	11.07098	41.712	736
	ESG funds	0.313538	0.11053	0.19	0.398521	0.158819	2.699375	1.525821	1.473	13

TABLE 6: Table showing average Treynor Ratio (1 month) for all mutual funds and for ESG funds in INDIA and CHINA**Fig. 8: Showing average Treynor ratio (1 month) for all mutual funds and for ESG funds in INDIA and CHINA**

6. POLICY RECOMMENDATIONS

- To support a stronger knowledge and networking infrastructure: the people, organizations and companies that will drive emerging-market SRI in the future.
- To support the creation of corporate social and environmental performance data services focused on emerging markets.
- To motivate more institutional and retail SRI, including engaging institutional investors on the subject and supporting the launch of high-profile emerging-markets funds.

To encourage people to invest in ESG funds as they have more risk adjusted returns as shown by the mean Sharpe ratio of ESG funds

Regulators should support the ESG funds by giving incentives to people who invest in ESG funds by way of Income tax exemptions etc.

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