



THE INTERACTION BETWEEN SOCIALLY RESPONSIBLE INVESTMENT AND MACROECONOMIC INDICATORS IN THE DEVELOPING COUNTRIES

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ABSTRACT

Purpose- The purpose of this study is to examine the interaction between the change in the sustainability index and macroeconomic indicators in developing countries in order to be able to set forth the significance of the impact level of economic conditions on sustainability in the developing countries. Sustainability is a multidimensional concept that expresses not only sensitivity to environmental policies, biodiversity and climate change, but also corporate governance principles and human rights. Accordingly, socially responsible investment is a kind of investment considering not only financial criteria but also environmental, social and corporate governance factors as well. In today's world, both the increase in social chaos, disasters and epidemics all over the world reveal the importance of addressing the issue of sustainability at the institutional and even governmental level and taking urgent action. In this context, sustainability indices have been created in many international stock markets since the end of the 1990s, which are created according to various criteria. These indices follow the companies that comply with the concept of sustainability. Today, many developing country stock markets also have sustainability indices.

Methodology- The study employs panel data obtained from 7 developing countries, namely Brazil, China, India, Indonesia, Malaysia, South Korea and Türkiye for the period of 2015-2022. As the indicator of sustainability, annual percentage change in sustainability index of the related country is taken into consideration. Selected macroeconomic variables are economic growth, change in consumer price index, change in dollar based exchange rates and the ratio of current account balance-GDP. Within the scope of the subject, the importance of adapting to sustainability in the developing countries and the activities carried out are also discussed.

Findings- The analysis reveals that only changes in exchange rates and consumer price index have statistically significant effect on the change in sustainability index. Accordingly, while increases in exchange rates have negative effects, increases in consumer price index have positive effect on the sustainability index.

Conclusion- Despite the fact that countries have started to provide sustainability indices within their stock exchanges quite recently, and hence analysis had to be conducted by limited data, this study is expected to be among the first studies aiming to set forth the interaction between sustainability and macroeconomic conditions. Hence, this study is expected to make a significant contribution in the existing literature. Based upon the analysis, it may be concluded that the policies should be implemented so as to compensate the negative effects of exchange rates. Furthermore, it should also be analysed more closely what the components behind inflation affecting sustainability in the selected countries, and the trigger behind these findings are.

Keywords: Sustainability, socially responsible investment, macroeconomic indicators, developing countries, panel data.

JEL Codes: C23, G15, Q50

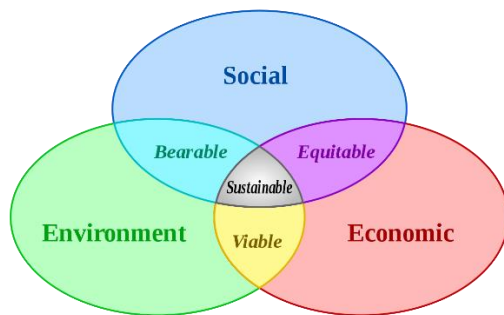
1. INTRODUCTION

Socially responsible investments (SRI) have been seen to be increasingly popular for the last few years following the instability both in the social and economic environment caused by increasing social chaos, disasters and epidemics all over the world. Hence, it is now inevitable to understand the linkages between various dimensions, find a solution, and take urgent action for the issue both at the institutional level and the governmental level.

In assisting the society to address these challenges and to achieve a sustainable development, companies and investors are channeling their capital towards investment strategies that promote environmental, social and corporate governance (ESG) issues (Social Investment Forum, 2006). SRI is defined by the Forum for Sustainable and Responsible Investment (SIF, <http://www.ussif.org>) as an investment process which

integrates environmental, social and governance (ESG) considerations into investment decision making to generate long term competitive financial returns and positive societal impact. SRI has a direct and long-term linkage with sustainable development as it determines how financial resources are converted into economic and business activities for sustainable developments of the world (Artie, 2019). Investors show increasing interest in SRI as an instrument to achieve a sustainable development. Kahn (1995) reports that sustainable development can be achieved by three conceptual pillars as shown in Figure 1. Accordingly, both social, environmental, and economic sustainability must be in equilibrium in order to have sustainable success (Biswas and Ghosh, 2019: 2). Without integration of these three pillars, there could be no sustainable development. On the other hand, because of the challenging pressures regarding changing needs, the balance between these dimensions cannot be constant over time (Saccomani, 2013: 3).

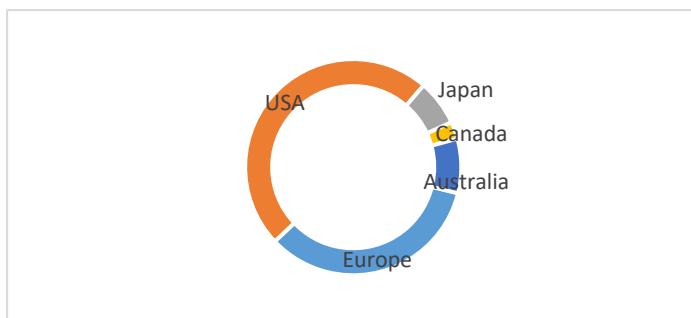
Figure 1: Three Pillars of Sustainable Development.



Source: Biswas and Ghosh (2019); Saccomani (2013).

Despite the fact that SRI is given quite high importance and increasing in developed countries, it is not being realized at the same level in developing countries. According to the last Global Sustainable Investment Review in 2020, the global SRI market has surmounted to \$35.3 trillion and the USA has the biggest share. Following the USA, Europe, Australia, Japan, and Canada have the other biggest shares in the market respectively (Figure 2).

Figure 2: SRI Market Shares in 2020



Source: Global Sustainable Investment Review (2020).

An important development regarding to evaluate compliance level of companies to sustainability practices in both developed and developing countries is the sustainability indices which have been published since the end of 1990s. As of 2022 many developing countries are also computing sustainability indices. In this direction, the aim of this study is to set forth the possible interaction between macroeconomic variables and SRI which will be represented by aforementioned sustainability indices in the developing countries. The research is expected to be among the first studies investigating this interaction and shed light to the importance of compliance to sustainability from the macroeconomic perspective in the literature.

2. LITERATURE REVIEW

From the 1990s the SRIs, also known as ethical investing, responsible investing, green investing, impact investing or sustainable investing, increased in the financial market and called the academic area attention in the beginning of 2000 (Renneboog et al., 2008). Widyawati (2019) identifies three main research themes in the SRI literature: investor behavior, SRI development, and SRI performance. Other studies dealing with sustainability in the literature are represented below.

Boulouta and Pitelis (2014) draw on an eclectic-synthetic framework of international economics, strategic management and corporate social responsibility (CSR) literatures to explore conceptually whether and how CSR can impact on the competitiveness of nations, and test their hypotheses empirically with a sample of 19 developed countries over a 6-year period. Ahn and Kim (2015) examine the role of social services

as the key instrument of social investment strategy, presenting an empirical analysis of its impact on economic performance. Kwarteng et al. (2016) indicate that economic and social have a positive impact on the corporate image but not the environment. Harrison and Berman (2016) suggest that firms neglect some areas associated with CSR during economic downturns, resulting in increased concerns about community and employee relations, product safety/quality, and the environment. Xiaoyan et al. (2020) investigates whether the development and adoption of firm-level environmental, social and governance (ESG) practices affects national macroeconomic performance, and whether this differs between developed countries and emerging economies. While further research is needed, these results may be of particular interest to policymakers, as they suggest that encouraging the adoption of SRI practices could support macroeconomic performance (Xiaoyan et al., 2020).

3. DATA AND METHODOLOGY

This study analyses the interaction between the annual percentage change in SRI indices (ESGCH) and a set of macroeconomic variables from 2015 to 2021 by the panel data take from Brazil, China, India, Indonesia, Malaysia, South Korea and Türkiye. Macroeconomic variables are the economic growth (GROWTH, %), change in consumer price index (CPICH), annual percentage change in dollar based exchange rates (EXCHG), and the ratio of current account balance-GDP (CAGDP, %). The data is obtained from the World Bank and the investing.com. The data is analysed by the panel regression method. The null hypothesis to be tested is that the selected macroeconomic variable has no statistically significant effect on the SRI index.

Descriptive statistics are given in Table 1 for the whole variables. Accordingly, annual change in the SRI index is 6.4% in average in the selected developing countries while they show 3.621% economic growth, 4.5% annual change in consumer price index, 6.8% annual change in exchange rates with having a 0.316 current account balance to GDP ratio in average.

Table 1: Descriptive Statistics (2015-2021)

Total	Mean	Max.	Min.	Std. Dev.
esgch	0.064	0.481	-0.228	0.162
growth	3.621	10.986	-6.596	3.768
cpich	0.045	0.196	-0.011	0.043
exchg	0.068	0.414	-0.086	0.108
cagdp	0.316	7.172	-4.936	3.003

4. FINDINGS

In accordance with their aim of the study, this part represents the Pearson correlation and panel data regression findings respectively. Examining Table 2, it is seen that there is higher and positive correlation between the CPICH and EXCHG, and higher and negative correlation between the CPICH and CAGDP. Correlation between the EXCHG and CAGDP is seen to be negative and higher. All these findings are statistically significant at 1% significance level. On the other hand, findings indicate that ESGCH has negative correlation with EXCHG and CAGDP, while it has positive correlation with GROWTH and CPICH. However, these findings are weak and statistically insignificant.

Table 2: Pearson Correlation Coefficients

	esgch	growth	cpich	exchg	cagdp
esgch	1.000000				
growth	0.046007	1.000000			
cpich	0.209013	0.074823	1.000000		
exchg	-0.053924	-0.179619	0.671614*	1.000000	
cagdp	-0.143382	-0.103276	-0.577803*	-0.457488*	1.000000

* indicates statistical significance at the 1% level.

Although correlation coefficients indicate the strength and direction between the variables it is insufficient in explaining the impact level of one variable on another. Hence, panel data regression analysis is conducted in order to reveal any possible relationship between the variables statistically. Table 3 represents regression analysis findings with pooled, fixed effects and random effects models respectively. Hausman test statistics indicates that the random effects model is the appropriate model for the variables utilized. Accordingly, only CPICH has positive effect on ESGCH, and the rest of the variables have negative effect on ESGCH. However, only the findings for EXCHG and CPICH are statistically significant at 10% significance level. Moreover, findings have low adjusted R² and insignificant F-statistics.

Table 3: Panel Regression Findings

Variable	Pooled	Fixed	Random
c	0.043559	0.080815	0.043559
growth	-0.002776	-0.002853	-0.002776
cagdp	-0.004333	-0.011084	-0.004333
exchg	-0.584567***	-0.645677***	-0.584567***
cpich	1.604168**	0.916840	1.604168***
Hausman Test Stat.	-	-	1.590724
Adjusted R ²	0.039526	-0.057174	0.039526
F-stat	1.493829	0.740405	1.493829
Durbin-Watson	2.693864	2.775264	2.693864
*, ** and *** indicate statistical significance at the 1, 5 and 10% levels respectively.			

5. CONCLUSION

Ongoing turmoils and chaos all over the world indicate that sustainability must be taken into action inevitably in all aspects of life today. However, developing countries have invested lower in sustainability compared to those in developed countries. In this context, this study aims to set forth the relationship between macroeconomic variables and socially responsible investments in the developing countries.

Seven countries computing sustainability indices within their stock exchange market have been considered for the analysis in order to utilize these data as the representation of SRI in developing countries. Findings are expected to shed light on the issue from macroeconomic perspective.

According to the findings considering 2015-2021 period, of all the variables, only the change in consumer price indices and exchange rates have statistically significant effect on change in SRI indices.

Despite the weak test findings, this study still shed light on the interaction between sustainability and economy in the developing countries, and it is worth and need to be supported with further research and longer available data.

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